Remote Office and MIG RLC
1.2.1 Release Notes for Remote Office and MIG RLC

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NORTEL NETWORKS

Publication history

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This is the Standard 1.0 issue of the Remote Office and MIG RLC Release Notes for Product Release 1.2.1. This release includes support for TAPI (Telephone Application Programming Interface), improved IP Network statistics storage capability and updated Known problems and Fixed problems sections.

Contents

In this document

About this document

This document applies to the following firmware:

- Release 1.2.1 firmware for the MIG RLC and Remote Office 9150 unit
- Release 1.2.1 software for Configuration Manager
- Version 29 firmware for U-interface and ST-interface

Document purpose

This document describes the features, known problems, and workarounds for the Remote Office 9150 system and the Meridian Internet Gateway Reach Line Card (MIG RLC). It also provides

- information that is not provided in the *Meridian Internet Gateway Reach Line Card Installation and Administration Guide* (NTP 555-8421-210) and the *Remote Office 9150 Installation and Administration Guide* (NTP 555-8421-215).
- clarification for items that can prevent the system from operating correctly if they are not configured correctly (See "How to achieve a successful implementation" on page 5 for more details.)

Who should read this document

This document is written for individuals who are responsible for the installation, configuration, and day-to-day management of the Remote Office 9150 unit and MIG RLC such as:

- Nortel Networks distributors
- Telecom network managers and administrators
- Data network managers and administrators
- Branch office managers and administrators

Do you have the most recent version of these Release Notes?

This document contains known information at the time of printing. There may have been hardware or software changes since then.

You can obtain the most up-to-date version of this document from your Nortel Networks distributor or, if you have access to the Internet, from the Nortel Networks web site. The URL is *http://www.nortelnetworks.com/remoteoffice.*

How to achieve a successful implementation

The instructions provided in the *Meridian Internet Gateway Reach Line Card Installation and Administration Guide* (NTP 555-8421-210) will help you achieve a successful implementation. Specifically, pay close attention to the instructions for configuring the following:

- PBX configuration for ports, Auto DN Discovery and Caller ID security
- PSTN numbers used to contact remote units
- Prefix configuration in PSTN numbers on the MIG RLC
- BRI trunk configuration on the Remote Office 9150 unit

What's new in this release?

The following new features are supported by the Remote Office 9150 unit and MIG RLC in Release 1.2.1:

- TAPI (Telephone Application Programming Interface) Support

  TAPI and CTI (Computer Telephony Integration) telephones controlled by a personal computer or Meridian Link can now be enabled by the MIG RLC.

- IP Network statistics

  IP Network statistics are now stored for 1-hour intervals over a 24-hour period. The statistics can be used to detect when the IP bandwidth is restricted by other processes, such as when you run nightly backups.

Features not available in this release

The following features are not supported in Release 1.2.1:

- Phantom TN (for example, voice mail on incoming local calls, local call transfer to PBX, etc.).

- Toll bypass

- 56k data connections between the MIG RLC and the Remote Office 9150 unit.

- ECM (Error Correction Mode) on fax machines using G.729 Fax Relay.

- Direct wiring (Local TCM) of sets to the second half of a double-wide, 32 port MIG RLC.

- RNGI Class of Service (COS).

Note: If you have purchased this software and intend to implement any of the above features contact your Nortel Networks distributor or sales representative.

Hardware, software, and documentation requirements

This section identifies the following items that are required to support this release:

- Supported PBX platforms and software releases
- Current hardware, firmware, and software versions
- Administration PC requirements
- Documentation requirements

Meridian 1 software and platforms

The following Meridian 1 platforms are supported if you are using software release 17 (or later), or are using the Enterprise Business Package:

- Options 11, 11(C) Mini, 11(E), 51(C), 61(C), 71(C) and 81(C)

Please note the platform restrictions shown in the following tables:

Option 11c Mini Slot Restrictions

(Single-slot) 16 Port Reach Line Card NTDR68xx	supported in slots 1, 2, 3 in the main chassis and 7, 8, 9, 10 in the expander chassis.
(Double-slot) 32 Port Reach Line Card NTDR71xx	slot 1 or 2 in the main chassis (maximum of 1) and 7, 8 or 9 in the expander chassis (maximum of 2).

Note: Since the 32 Port Reach Line Card requires 2 backplane connections it cannot be provisioned in slot 10 - which is double width but only provides 1 backplane connection.)

CISPRB EMI Restrictions

MIG RLC	RLC Cable	Option 11C Mini	Option 11C	Option 61 - 81C
16 Port	Basic NTDR79Bx	No restrictions	No restrictions	No restrictions
	Enhanced NTDR80Bx	No restrictions	7 per shelf Do not insert in slots 9, 10	No restrictions
32 Port	Basic NTDR79Bx	No restrictions	No restrictions	No restrictions
	Enhanced NTDR80Bx	No restrictions	3 per shelf1 Do not insert in slots 9, 10	No restrictions

1. If you have three 32 port cards on the shelf you can add an additional 16 port card to the shelf.

■ Fax support requires Release 22 or higher

MSL-100 software and platforms

The following MSL-100 platforms using software release MSL10 or later are supported:

■ SuperNode (with Series 70 Processor)
■ SuperNode SE (with Series 70 Processor)

Note: MSL-100 platforms require a patch to support M39xx telephones with QoS transitioning. Refer to ""M3900 Release 2 telephones with MCAs" on page 51 for more information.

Hardware, software, and firmware

The following table identifies the hardware, software, and firmware supported by the Meridian 1 release.

Note: To determine the hardware, software, and firmware supported by the MSL-100 release, contact your Nortel Networks support representative.

Product	Current Nortel Product #	Minimum Nortel Product #	Current Firmware Available
RLC 16 Port NA	NTDR68AB	NTDR68AA	1.2.1
RLC 32 Port IPE-NA	NTDR70AB	NTDR70AA	1.2.1
RLC 32 Port Opt 11-NA	NTDR71AB	NTDR71AA	1.2.1
9150- North American	NTDR69AB	NTDR69AA	1.2.1
9150-CALA and Asia-Pac	NTDR92AB	NTDR92AA	1.2.1
9150-Australia/New Zealand	NTDR92BB	NTDR92BA	1.2.1
RLC 16 Port - Euro	NTDR68BB	NTDR68BA	1.2.1
RLC 32 Port IPE - Euro	NTDR70BB	NTDR70BA	1.2.1
RLC 32 Port Opt 11 - Euro	NTDR71BB	NTDR71BA	1.2.1
9150 - European	NTDR92CB	NTDR92CA	1.2.1
DSP Module	NTDR73AA	NTDR73AA	N/A
BRI-U Interface	NTDR74AB	NTDR74AB	V29
BRI-ST Interface	NTDR75AA	NTDR75AA	V29

	Version	Minimum Compatible Firmware	Maximum Compatible Firmware
Configuration Manager	1.2.1	1.0.11	1.2.1

1. If you are running a 1.2.1 version of Configuration Manager, you can log on to a unit with an earlier version of firmware to upgrade the firmware.

Remote Office 9150 ISDN BRI Interface information— for Norway and Sweden only

EN 60950:1992 Annex ZB, Special National conditions, Clause 6.2.1.2 states that in Norway and Sweden, supplementary insulation for a primary circuit is required between any TNV circuit and any circuit that has a connection to a protective earthing terminal.

The Remote Office 9150 has the ability to support up to a maximum of 4 ISDN BRI connections. To comply with the aforementioned specification for supplemental insulation, an isolation adapter must be placed between each of the 9150 BRI inputs and the BRI lines from the service provider.

Isolation adaptors are available from local vendors. Alternatively, you may order this part from Nortel Networks as a merchandise item. The Nortel Networks part number is P0935714.

Administration PC

To use the Configuration Manager software, the administration PC must be an IBM-compatible PC. It must also:

- use Windows 95, Windows 98, or Windows NT Workstation with the TCP/IP networking component installed.

  Note: Windows 2000 and Windows NT Server are not supported.

- be equipped with a CD-ROM drive.

- have an available COM port for establishing a direct serial connection to the RS-232 serial port on the MIG RLC or Remote Office 9150 unit.

- be equipped with a pointing device.

- have 32 Mbytes of RAM for Windows 95 and 98, or 64 Mbytes of RAM for Windows NT.

- have 48 Mbytes of available storage for Windows 95 and 98, or 64 Mbytes of available storage for Windows NT.

Year 2000 compliance

The MIG RLC, Remote Office 9150 unit, and Configuration Manager software are Year 2000 compliant. However, you must ensure the administration PC is Year 2000 compliant by verifying that the Windows operating system is listed in this table:

Operating system	Year 2000 compliance requirement
Windows 95	Version 95b
Windows 98	OK as is
Windows NT Workstation	Service Pack 5 or higher

Documentation and training

To ensure a successful, trouble-free installation of the MIG RLC and Remote Office 9150 unit into your network, ensure you have the following items on hand before you proceed:

- Core documentation as follows:
  - *Remote Office and MIG RLC 1.2.1 Release Notes*, (latest version of this document).
  - *Meridian Internet Gateway Reach Line Card Installation and Administration Guide* (NTP 555-8421-210)
  - *Remote Office 9150 Installation and Administration Guide* (NTP 555-8421-215)
  - Remote Office Product CD-ROM (NTDR81AD)

    The *Remote Office Product CD-ROM* contains firmware and software as well as documentation in PDF format.

    Confirm that you have the most up-to-date documents by checking the Nortel Networks website, as noted below under "Obtaining the documentation and training")

- Supplementary documents and job aids as follows:
  - *Installer's Notes* for your hardware component (provided in the box)
  - Remote Office and MIG RLC Planning Forms
  - Remote Office and MIG RLC Configuration Quick Start

- Training: *Remote Office Technical Training CD-ROM* (NTDR83AA)

  The *Remote Office Technical Training CD-ROM* contains a web-based training course that describes how to install and configure this product.

Obtaining the documentation and training

If you have access to the Internet, go to the following Nortel Networks web site *http://www.nortelnetworks.com/remoteoffice.*

About upgrades

Nortel Networks provides the following types of upgrade files:

■ Configuration Manager software upgrade

■ Remote Office 9150 and MIG RLC motherboard firmware

 Note: This includes any firmware updates that have been made for DSP application modules.

■ ISDN BRI module firmware (for the Remote Office 9150 unit only)

Upgrade file names for this release

Firmware and software files are initially provided on the *Remote Office Product CD-ROM*. Upgrade files that are downloaded from the Nortel Networks web site are provided in self-extracting executable files. You must extract the upgrade files before you can perform the upgrade.

The table on page 15 identifies the upgrade files supported by this document for the Meridian 1 release.

Notes:

■ If you are using the MSL-100 release, contact your Nortel Networks support representative to determine the upgrade file names for the MSL-100 release.

■ To determine the firmware version currently installed on your unit, see "Verifying the installed firmware version" on page 15.

■ To determine if these are the latest upgrade files, first ensure that you obtain the most up-to-date version of these Release Notes. See "Obtaining the documentation and training" on page 13.

Component	Nortel Networks delivery file name	Upgrade file name
MIG RLC	rlc1_2_1.exe	rlc-1_2_1.upg
Remote Office 9150 unit	91501_2_1.exe	9150-1_2_1.upg
ISDN-U trunk interface module	isdn29u.exe	ubri-29.upg
ISDN-S trunk interface module	isdn29s.exe	sbri-29.upg
Configuration Manager	cm1_2_1.exe	not applicable

Note: The setup.exe file provided within the cm1_2_1.exe file is used to perform the Configuration Manager upgrade.

Verifying the installed firmware version

1   From the menu, choose System Information › System Data.

2   The System Configuration Details screen appears.
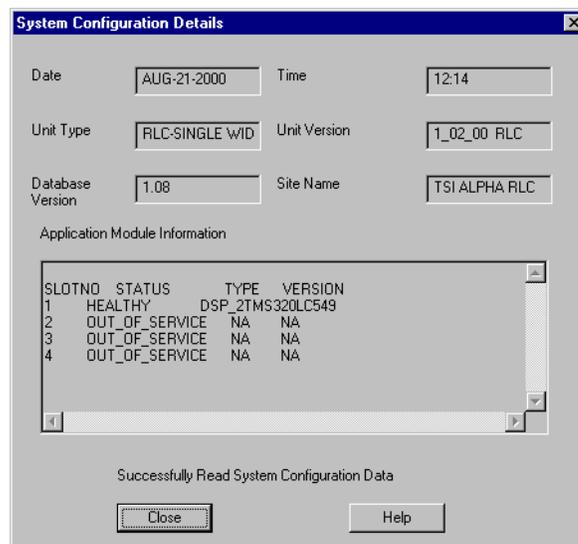
3   Identify the firmware version as described in the following table:

To identify the firmware version for	Review the
motherboard firmware	Unit Version box.
ISDN BRI application module firmware on the Remote Office 9150 unit	Application Module Information box.

Obtaining the latest upgrade files

If you need to upgrade the firmware or software, you can obtain the latest upgrade files from your Nortel Networks distributor or, if you have access to the Internet, from the Nortel Networks web site. The URL is *http://www.nortelnetworks.com/remoteoffice.*

Performing upgrades

WARNING

To simplify the confusion in board numbering, the MIG RLC will automatically set its Unit ID to 254 with this release when upgrading from releases prior to 1.2.0.

The MIG RLC will now identify the Remote Office 9150 units by their Unit Number, not by their Unit ID. Therefore, if the Unit ID is not the same as the Unit Number in the Remote Connection Configuration on the MIG RLC, the Unit ID in the 9150 System Configuration must be changed to match the Unit Number.

To maintain compatibility with all installations that support a single 9150 unit, the upgrade process assigns the default Unit ID of "1" to each 9150 unit to match the default at the RLC. Following an upgrade, administrators responsible for multiple 9150 units on a single RLC must configure the correct Unit ID at each 9150 unit.

This section explains how to upgrade firmware and software for the MIG RLC and Remote Office 9150 unit.

ATTENTION

The protocol for communication between the MIG RLC and the Remote Office 9150 has been changed in this release. As such, the MIG RLC and Remote Office 9150 will not establish communication until both have been upgraded to Release 1.2.1 or higher.

You should perform a firmware upgrade if you are using older versions of firmware (Release 1.2.0 or earlier). To check the version of firmware you are using, do one of the following:

■ If you are not connected to the device, open Configuration Manager and connect to the Remote Office unit. A window will appear displaying the MIG RLC or Remote Office unit firmware version.

■ If you are already connected to the device, choose System Information > System Data. The unit firmware version will be displayed.

Each time you perform a firmware upgrade, the configuration database is converted (if necessary) to a format that is compatible with the new firmware. The conversion does not affect configuration settings.

Before you perform an upgrade, make sure you do the following:

■ Obtain the latest upgrade files from your Nortel Networks distributor. If you need to upgrade the firmware, or software for the Meridian 1 release, you can download the latest upgrade files from the Nortel Networks web site at *http://www.nortelnetworks.com/remoteoffice.*

■ Extract the upgrade files. The upgrade files are enclosed in self-extracting executable files.

To ensure that the MIG RLC and Remote Office 9150 unit do not experience communication problems during or after the firmware upgrade, Nortel Networks recommends that you perform the upgrades in the steps shown below.

1. Create backup files for the Remote Office 9150 unit and MIG RLC configurations. Refer to "Creating a backup configuration file" on page 22.

2. Upgrade the Configuration Manager software.

3. Disable the slot in which the MIG RLC is installed.

4. Upgrade the MIG RLC firmware.

5. Upgrade the Remote Office 9150 unit firmware.

6. Upgrade the BRI module firmware for each BRI module on your Remote Office 9150 units.

7. Restart both units.

8. Re-enable the MIG RLC slot.

To download the upgrade file

1 With your web browser, connect to the Nortel Networks web site at http://www.nortelnetworks.com/remoteoffice.

2 Locate the software and firmware you need.

3 Download the files into a temporary location on your PC.

4 Extract the files into a temporary location on your PC.

To upgrade the Configuration Manager software

1   Use Windows Explorer to navigate to the directory that contains the upgrade files you extracted.

2   Locate and double-click the setup.exe file.

3   Follow the prompts on the screen.

ATTENTION   InstallShield will overwrite the previous version. Do not ignore any warning messages that InstallShield displays about versions of files (such as DLL files) that already exist on your PC. If you overwrite these files, you may inadvertently cause other applications on your PC to stop working. It is recommended that you do not overwrite DLL files.

Performing a MIG RLC and Remote Office firmware upgrade

Before performing an upgrade to the Remote Office products, keep in mind the following:

■   Firmware upgrades are performed over the IP network using Trivial File Transfer Protocol (TFTP). You must have a TFTP server application running on your administration PC and the TFTP server's base directory must point to the directory that contains the upgrade files.

   Note: The procedures that follow do not include instructions for installing or using the TFTP application. Refer to your TFTP documentation for the applicable information.

■   Each time you perform a firmware upgrade, it is recommended that you create a backup copy of the configuration file, and store it in a safe and secure location.

ATTENTION   The protocol for communication between the MIG RLC and the Remote Office 9150 has been changed in this release. As such, the MIG RLC and Remote Office 9150 will not establish communication until both have been upgraded to Release 1.2.1 or higher.

The procedures below outline the steps to follow in upgrading your firmware:

1   Extract the files from the upgrade file you received from Nortel Networks.

2   Start the TFTP server application.

    Ensure that the TFTP base directory reflects the directory where the firmware upgrade file that you want to use is located.

3   Start Configuration Manager and log on to the MIG RLC or Remote Office 9150 unit using a Telnet connection.

    For instructions, refer to the "Meridian Internet Gateway Reach Line Card Installation and Administration Guide" for your unit.

4   From the menu, choose Upload/Download › Upload S/W.

    Result: The Software Upload screen appears.
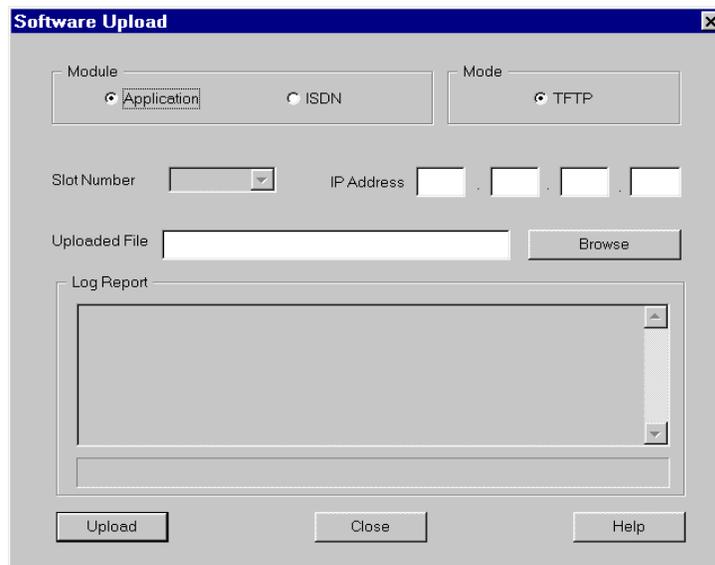
5   In the Module section, click Application.

6   Enter the IP address of the TFTP server into the IP Address boxes.

    Note: If the TFTP server application is running on your administration PC, this is the IP address of your PC.

7   Click Browse.

Result: The Open dialog box appears.
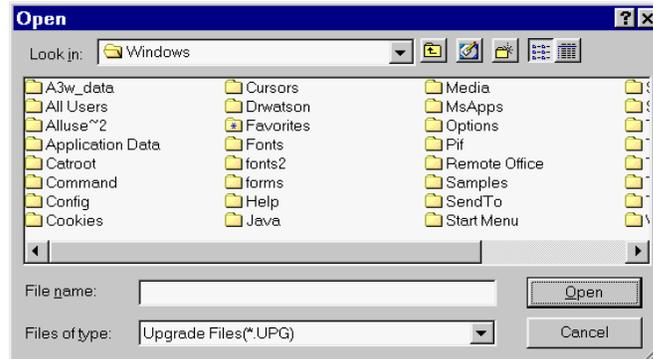
8   Ensure the Files of type box shows Upgrade Files(*.UPG).

9   Navigate to the folder where the firmware file is located.

10   Select the file, and then click Open. For example, rlc-102.upg.

Result: The Software Upload dialog box will appear showing the file you selected in the Uploaded File box.

11   Click Upload.

Wait until the file is uploaded before entering other commands. The Log Report box displays a confirmation message when the upgrade is finished.

12   Click OK.

13   To complete the upgrade, select Connect>System Reset>Restart

14   Repeat steps 3 to 13 for all MIG RLC and Remote Office 9150 units. Restart each unit when completed.

15   Repeat steps 3 to 13 for all BRI modules in each of your Remote Office 9150 units with the following changes in the procedure:

■   In Step 5 - Select ISDN and then select the Slot Number which corresponds to the BRI module you have installed.

■   In Step 10 - Select the BRI module firmware for the ISDN module type you are using—U or S variant. Reset the Remote Office 9150 unit once all BRI modules on the unit have been upgraded.

Creating a backup configuration file

It is recommended that you create a backup of your MIG RLC and Remote Office 9150 unit's configuration file whenever you make configuration changes, or after you perform a firmware upgrade.

ATTENTION | It is extremely important that you keep a backup copy of the MIG RLC's configuration file. In the event that the MIG RLC's flash memory or configuration becomes corrupted, or is lost, you can easily restore it with your backup file.

Once you have created the backup configuration file, you should keep a copy of it offsite, in a safe, secure location.

Use the procedures below to create a backup of your MIG RLC and Remote Office 9150 unit's configuration file

1   In Configuration Manager, choose Upload/Download -> Download Config.

    Result: The Save As dialog box appears.

2   Navigate to the folder where you want to put the configuration text file.

3   Enter a name for the file in the File name box.

    Note: This configuration file will become your backup file, so ensure the file name is meaningful. The file name's extension is .TXT.

4   Click Save.

    Result: The Save As box closes, and the following message appears in the status bar at the bottom of the screen: "Downloading Config From Board".

5   When completed, "OK" will appear.

Important installation notes

This section provides important information about the installation of this product.

Free standing key system

Nortel Networks DOES NOT support a Remote Office system as a free-standing key system.

PSTN number configuration

The PSTN numbers including the ISDN numbers must be configured in a specific manner. Please carefully read the examples below.

- If the service documents supplied by the BRI service provider contains a 7-digit ISDN number, then the configuration is as follows:

  9150 BRI configuration
  Configure the PSTN numbers with the 7 digits provided by the Central Office without area codes.

  For example: 5551000 configured against the first B-channel, not 2145551000

  RLC Remote Connection Configuration
  Use the # delimiter to separate the Trunk Access code and area code part of the PSTN number.

  For example:

  - #9#5551000 (not 95551000) where "5551000" is the primary 9150 B-channel
  - #91214#5551000 (if long distance between units), not 92145552000

Special Configuration for Callback for PSTN

The Callback for PSTN field in the RLC Remote Connection Configuration sheet allows you to enable and disable Callback. The default is Callback for PSTN disabled, which means that during normal operation, the MIG RLC places data calls to the 9150 to establish additional bandwidth. If you enable Callback for PSTN, the 9150 places the call to the MIG RLC to establish additional bandwidth.

Note: During a RLC or 9150 reset, or during a sudden IP network failure, both the MIG RLC and the 9150 will attempt to call each other to establish the Primary Signaling Link. When this occurs, either system may actually establish the first connection.

To ensure that PSTN bandwidth will be successful, please follow these guidelines:

If Callback is Disabled (MIG RLC places the call):

■ Ensure the Primary Network Port is configured with a DID number on the PBX that is routed over a data capable PRI.

■ All other Network Ports (one per B Channel) can be configured with internal DNs.

To ensure that the request for additional PSTN bandwidth is successful, follow these guidelines.

If Callback for PSTN is disabled:

■ Configure the Primary Nework Port with a DID number on the PBX that is routed over a data capable PRI

■ Configure either DID numbers or internal DNs on all other Network Ports (one per B Channel)

If Callback is Enabled (9150 places the call):

■ Ensure the Primary Network Port is configured with a DID number on the PBX that is routed over a data capable PRI.

■ All other Network Ports (one per B Channel) are configured with DID numbers.

If Call for PSTN is enabled:

- Configure the Primary Network Port with a DID number on the PBX that is routed over a data capable PRI.

- Configure DID numbers on all other Network Ports (one per B Channel).

RLC Network Port configuration

Enter the Network Port PSTN Number exactly as the 9150 must dial it.

For example:

- 5552000 (for 7 digit local call) where 5552000 is a PBX DID data port number

- 12125552000 (if long distance)

- 912125552000 (if long distance and the 9150 BRI CO uses a 9 access code)

- **If the CO provides a 10-digit number:**

  Note: For important information about Callback for PSTN configuration see "Special Configuration for Callback for PSTN" on page 24.

  9150 BRI configuration
  Configure the PSTN numbers with the 10 digits provided.

  For example: 2145551000 configured on the first B-channel.

  RLC Remote Connection Configuration
  Use the # delimiter to separate the Trunk Access code from the PSTN number.

  For example:

  - #9#2145551000 (not 92145551000) where "5551000" is the primary 9150 B-channel and "9" is the Trunk Access Code.

  - #91#2145551000 (if long distance)

RLC Network Port configuration
Enter the Network Port PSTN Number exactly as the 9150 must dial it.

For example:

■ 5552000 (for 7 digit local call) where 5552000 is a PBX DID data port number

■ 12125552000 (if long distance)

■ 912125552000 (if long distance and the 9150 BRI CO uses a 9 access code)

Testing circuit-switched operations

To avoid common configuration mistakes, it is recommended that you test the circuit-switched operation after you have finished configuring the PSTN numbers.

1 Disable IP on the RLC and 9150.

2 Reset both units and verify by making a telephone call over BRI.

   Wait until the idle timer clears the B-channel. All B-Channel LEDs should be off, or blinking.

3 Place a call from the Remote Office 9150 to the MIG RLC by taking the telephone off-hook.

   Wait for the idle timer to clear the B-channel. Once again, all B-Channel LEDs should be off or blinking.

4 Place a call from the MIG RLC to the Remote Office 9150 by dialing the telephone number of a remote telephone from the PBX.

5 Bring up enough calls to test all the extra-bandwidth channels that are provisioned. Observe the B-Channel LEDs going active to verify they are being utilized. To pull bandwidth up quickly, configure the MIG RLC Port compression for G.711 during testing.

DN Discovery

MADN appearances of the DN Discovery port will ring periodically during DN Discovery. To avoid this, do not start DN Discovery more frequently than once per half-hour and add a unique SCR key for DN discovery.

If Make Set Busy is active, DN Discovery will fail and will result in blank DN displays on M39xx sets. To avoid this, do not activate Make Set Busy for the port designated for DN Discovery.

Note: Start DN Discovery is located on the MIG RLC System Configuration sheet in Configuration Manager.

For DN Discovery to work the following Class of Service (CLS) must be enabled on the PBX: CNIA, CNDA, DNDA, TDD. Without TDD, DN Discovery will only work on key 0.

Stutter dialtone

A stutter may be heard during a remote dialtone. This is a normal occurrence and is caused by the DSP activating a dialtone relay.

International Tone

The Tone Code field specifies frequency and levels with respect to the NT8D17 TDS card. These codes are valid for all countries and Option11/IPE Controller cards.

The Tone Code field is located on the 9150 System Configuration sheet in Configuration Manager under International Tones.

M3901 and M2006 support

To use an M3901 telephone, configure it on the PBX as an M3902. Remote Office requires that remote service telephones have display capability, even if a display is not present. An exception to this rule is the M2006, which the M1 supports, but the MSL-100 does not support.

Euro ISDN

When configuring EuroISDN and ETSI variants. the BRI Configuration SPIDs must be set to NC (not configured). To change EuroISDN SPID values:

1   Go to Configuration Manager > 9150 > BRI Configuration.

2   Click on the Default button.

3   Configure the DNs, SPIDs and ISDN line type.

Note: Only A-Law configuration is fully supported with ETSI configurations.

Automatic TEIs (terminal endpoint identifiers)

With automatic TEI assignment, the BRI modules cannot be used in a multi-point configuration, but require a point-to-point configuration. No other ISDN devices must be on this line.

Companding Algorithm

If you select the automatic Companding Algorithm, the coding law will be determined from the ISDN Line Type of the last equipped BRI module (whether enabled or disabled).

The Companding Algorithm option is located on the 9150 System Configuration sheet in Configuration Manager.

National ISDN

If you select National ISDN as the line type there are minor protocol differences between National ISDN -1, -2, -3 and -4. The Proprietary Switch line type is more general and should be the preferred selection.

The ISDN Line Type option is located on the 9150 BRI Configuration sheet in Configuration Manager

Local TCM telephone support

Local TCM telephone support is only available for the 16 port card, or the first slot of a 32 port card. The MIG RLC supports up to 16 Local TCM sets in this release.

PBX and Local Feature Keys

When assigning a local calling key to a phone on the Remote Office 9150, ensure that the selected key does not have a feature programmed against it on the PBX.

Multiple Appearance DNs (MADN)

Any active SCR/SCN key will cause the Remote Office unit to allocate DSP and WAN bandwidth for that port. This is necessary to support a privacy over-ride feature available with the SCR/SCN key. To avoid unnecessary bandwidth from being utilized, it is recommended that MCR/MCN keys be used for MADN appearances at remote sites.

BRI upgrade

The Remote Office 9150 unit must be rebooted after uploading new BRI firmware.

Permanent BRI connection

The Permanent BRI connections on the MIG RLC can only be configured for Primary Trunks. Additional permanent connections can be provided by configuring extra bandwidth.

The Permanent Allocation option is located on the 9150 BRI Configuration sheet in Configuration Manager.

Fallback recovery

Due to the requirement to support on-demand routers, the IP network is not continually tested during QoS transition situations. It is tested only when there are active voice calls over ISDN. As a result, transitioning needs active calls for the configurable recovery period in order to switch back to IP.

If you are testing QoS fallback by disconnecting the Ethernet cable from the Remote Office 9150 unit, or MIG RLC, expect up to a 20 second delay before the 9150 unit can make or receive a call. You will not encounter this delay when the network degrades and the QoS switches to BRI as designed.

Local SwitchOver

Local SwitchOver is a mechanism by which the Remote Office 9150 determines that a remote service call (PBX, not Local Call) that originated on the Remote Office 9150 is actually destined for a DN on the same remote office unit. In this situation, the Remote Office 9150 will switch to a local 64K channel and cross-connect the voice-paths of the phone without using Wide Area bandwidth.

There are times when the Remote Office 9150 unit does not know that an incoming and outgoing call are part of the same call. For example, a call transfer/forward within the same PBX or the last number is redialed. Although the call will still function, it will consume Wide Area bandwidth.

The Local SwitchOver option is located on the 9150 System Configuration sheet in Configuration Manager.

MIG RLC port configuration

A common mistake in programming a circuit-switch connection is to enable only a single port (typically Port 16) at the MIG RLC. One port must be programmed for each BRI connection back to the PBX. Refer to the PBX configuration notes for Class of Service requirements.

MIG RLC Ports are configured on the RLC Port Configuration sheet in Configuration Manager.

PBX network port configuration for Remote Office 9150

To support a Remote Office 9150 unit on an M1, the RLC Network port must be configured with Class of Service: DTA, FLXD. In addition, the DTAO prompt must be configured as MCA. The BRI CLS should include: VCE DTA, and the TSP should set: USID = 0. For MSL100, similar configuration rules apply.

MIG RLC Ports are configured on the RLC Port Configuration sheet in Configuration Manager.

Local trunk calls

Local Trunk numbers cannot be pre-dialed. You must wait for Local Trunk dialtone before dialing the number.

TAPI support

When configured for TAPI support, DSP and Bandwidth resources will be allocated whenever a line key indicator goes active and will stay active for Multiple appearance DNs. To prevent over-allocation of resources during Midnight routines either: disable LD 35; or configure the MIG RLC at Offline during this period.

The following must also be configured for TAPI support in order to function properly:

- SL-100 ATA sets
- SL-100 AAB tone

The TAPI Support option is configured on the RLC Port Configuration sheet in Configuration Manager.

M3900 call log

When an incoming local call is made it is recorded in the Call Log. However, you cannot dial directly from the Call Log as the Trunk Access code and country code may not be displayed. For example, the Call Log for an ISDN number may be displayed as 22334455, but a National code prefix (e.g. 0) may also be required to redial the number and it is not shown.

Power requirement

If you want to connect the Remote Office 9150 unit to an uninterruptible power supply (UPS), ensure the UPS has a minimum of 100 Watts available.

Telco 1 and 2 cable connections

As described in the *Remote Office 9150 Installation and Administration Guide* (NTP 555-8421-215), two telephone cables are required, based on the number of telephones and trunks installed.

Each telephone cable provides support for up to 16 digital telephones and two ISDN BRI lines providing two B-channels each. The Telco 1 cable also provides support for one analog station, such as a fax machine.

Note: The Remote Office 9150 Telco 1 and 2 connections provide the opposite gender of that provided by a M1 IPE or Option 11 cabinet line card slot. Therefore, different cables must be used when connecting to the Remote Office 9150 than those used to connect to M1 line cards.

Nortel Networks recommends that you use straight-through Amphenol cables instead of side-entry Amphenol cables.

The diagram on the following page shows cable attachment:

Cables must be connected and routed away from the 9150 unit at a right angle

Telco 1

Ethernet

Telco 2

Power

V.35
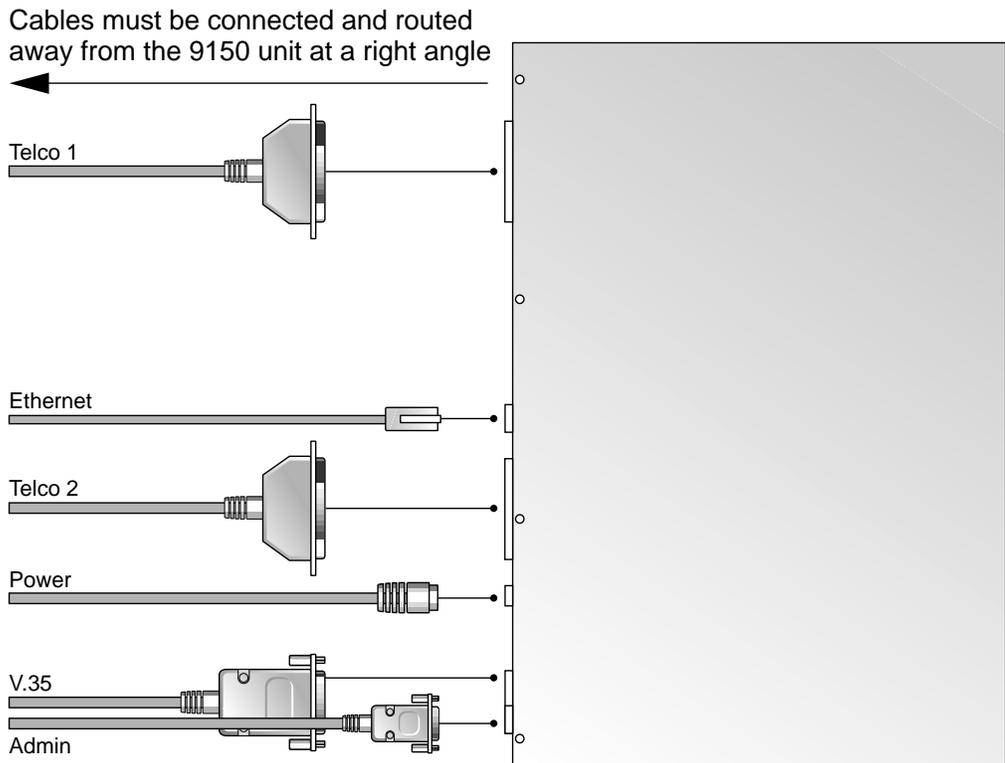
Admin

G101399

Uninstalling the Configuration Manager software

If you need to remove the Configuration Manager software from your administration PC, do the following:

1   Click Start › Settings › Control Panel.

2   Double-click Add/Remove Programs.

3   Select Remote Office from the list, and then click Add/Remove.

Result: The following dialog box appears:
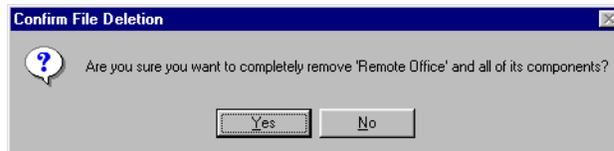
4   Click Yes.

Result: The Uninstall Shield begins the uninstall and displays the progress. When the uninstall is completed, the screen appears as follows:

Configuration

This section provides important information about the configuration of this product.

Command line interface

The *Installation and Administration Guides* for the MIG RLC and Remote Office 9150 unit do not describe the command line interface that can be accessed through a serial port connection. Configuration Manager is the supported tool for administering these units over both the serial port and Ethernet connections.

Network port configuration limitation

As outlined in "Special Configuration for Callback for PSTN" on page 24, when configuring the Network Ports on the MIG RLC, you must enter the PSTN Number exactly as the 9150 must dial it. When configuring the Dedicated Primary Network Port for a given 9150, the PSTN number will be as the specific 9150 must dial it.

A problem occurs when configuring the non-Primary Network Ports and the following configuration occurs:

- Callback Enabled
- On Demand Primary BRI connection
- Multiple 9150s - some 7 digit Local calls and some Long Distance

When this occurs, configure as follows:

For the Local 9150

- Set the Primary BRI channel as Permanent
- Disable Callback

For the Long Distance 9150

- Program the Primary Network Port and all other non-Primary ports exactly as this 9150 must dial it

- Callback can remain Enabled

- Primary BRI Channel can remain On Demand

Required PBX configuration

Note: For details about configuration on the MSL-100 PBX, see "MSL-100 configuration requirements" on page 48.

MIG RLC and Remote Office 9150 unit connection paths

The MIG RLC network ports that are used to connect the Remote Office 9150 units and the MIG RLC carry HDLC-framed data and must be configured so they can transparently pass this data.

The MIG RLC network port can be any port configured as a data port on the Meridian 1 (M1):

- Release 22 and above of the M1 allow this to be any port configured as a data port, usually Units 16-31 of the M1.

- Releases 17-21 of the M1 require this to be in the range of Units 16-31 of the M1.

You must configure the MIG RLC Network port on the PBX (LD 11 on the Meridian 1) as follows:

1 Configure the port as a digital telephone with data capability by setting DTAO to MCA.

2 Ensure that CLS includes DTA.

If the 9150 ISDN is being provided from the M1 in a lab environment instead of from a PSTN or PTT, you must configure the line on the PBX (LD 27 on the Meridian 1) as follows:

1 Set B1CT to VCE and DTA.

2 Set B2CT to VCE and DTA.

3 Set USID to 0.

Auto DN Discovery and Caller ID security

The Auto DN Discovery feature is necessary for the Local SwitchOver feature to work properly. The Remote Office 9150 unit uses the discovered DN's to determine when calls can be switched locally. Auto DN Discovery will also configure the DN's for the local call keys to match the first line key DN discovered in the PBX configuration of the MIG RLC port.

If you want to use the Auto DN Discovery feature, Caller ID security level, or both, you must enable the following on the PBX for each MIG RLC port (LD 11 on the Meridian 1):

■   Call Party Name Display Allowed (CNDA)

■   Call Number Information Allowed (CNIA)

■   Tandem Digit Display (TDD)

See the following table:

MIG RLC feature	PBX configuration requirement
Auto DN Discovery	Enable CNDA, CNIA and TDD on voice and data ports that are assigned to remote telephones or fax machines.
Caller ID security	Enable CNDA, CNIA and TDD on data ports that are configured as network connections to Remote Office units.

PBX trunks and MIG RLC network ports

When using the Remote Office with PSTN connectivity, the PBX trunks must provide data capability. To make sure that the PBX is ready for data calls, please follow the checkpoints outlined below.

1   Use the PRT command in LD20 on the PBX to print out the Network Port TNs that have been provisioned against the MIG RLC slot. Make note of the TGAR and NCOS values.

    Note: For specific printing instructions, refer to your PBX documentation.

2   Print out the PBX Route Data Block (RDB) in LD 21. For each PRI:

    ■   Review the TARG values - if it matches the Network Port TGAR, calls will NOT be allowed via the PRI.

    ■   Review the trunk capability at the DSEL prompt. It should be "Voice or Data" (VOD) or "Data Only" (DTA).

    ■   Check that the ICOG prompt is Incoming and Outgoing (IAO).

    Note: If you make changes to the DSEL or the ICOG prompt, make sure that the central office is configured likewise, i.e. changing the DSEL from VCE to VOD may not be effective because the CO will still reject data calls.

3   Print out the PBX trunk time slot configuration information in LD 22 CEQU. Ensure that there are an adequate number of time slots provisioned with data capability. Here is an example of the printout:

```
(data omitted)
DLOP NUM DCH FRM LCMT YALM TRSH
    TRK 001 24 D4 AMI DG2 00 <-- DTI trunks
012 24 D4 AMI DG2 00
PRI 003 24 ESF B8S FDL 00 <-- PRI trunks - voice or data
    0051 00 ESF B8S FDL 00
```

    A DCH setting of 0 indicates that 0 time slots are usable for data call capability. You should have 24 by default.

    Note: The above example displays the North American default values.

4   If the MIG RLC is dialing to the Remote Office 9150, and the number being dialed is using the PBX routing (for example. 9 or 6 access code), you need to make sure that the call will be presented to the PRI trunk and not a standard CO trunk.

Verify that the Network Port TN NCOS has the capability to access the PRI. One way to ensure that the PRI is accessed is to use the Trunk Access code (ACOD) which was printed in step 2.

You can modify the MIG RLC Remote Connection PSTN information to use the ACOD to directly access the trunk.

For example, set the Remote Connection number to be #8002#5551212 assuming that 8002 is the trunk ACOD and you are making a local call.

Configuration Manager and display settings on the administration PC

The Configuration Manager software application is best viewed when your monitor settings are configured as 1024 by 768 pixels using Small Fonts at 96 dpi. If you use larger fonts, some fields and buttons might be hidden. You must use the horizontal and vertical scroll bars to view the hidden fields or buttons.

For instructions on changing your display settings, refer to the Windows online Help on your PC.

DSP application module configuration on the Remote Office 9150 unit and MIG RLC

If DSP application modules are installed on both the MIG RLC and the Remote Office 9150 unit, they are equipped with all of the compression algorithms supported by this product. The compression algorithm (G.711, G.726, or G.729) used on calls to or from Remote Office 9150 stations is dictated by the compression setting configured for the remote port over which the call is processed.

For this release, no further configuration of the DSP application module is required on either the MIG RLC or the Remote Office 9150 unit. The other properties on the MIG RLC's DSP Configuration property sheet are for future use.

ISDN BRI configuration on the Remote Office 9150 unit

The Remote Office 9150 BRI Configuration property sheet in Configuration Manager was not finalized when the documentation was printed. The *Remote Office 9150 Installation and Administration Guide* (NTP 555-8421-215) instructs you to select the ISDN line and switch type being used by your ISDN service provider, but does not provide the details you might need. See the following table:

If you are in	Select one of the following ISDN line types	Select one of the following switch types
North America	National ISDN 1 (NI1) Proprietary	AT&T Northern Telecom
Europe or the Pacific Rim	EuroISDN	Unknown
Japan	Japan	Unknown
Australia	Australia	Unknown

ISDN configuration

In order to configure European ISDN the PSTN must support the following features:

- Multiple Subscriber Numbering (MSN)
- Two directory numbers (one per B channel)

The default configuration setting for BRI SPIDS is NC (Not Configured). Ensure that no supplemental ISDN services, e.g. Call Waiting, are provided as this may disrupt the data path and drop calls.

Primary trunk on the Remote Office 9150 unit

The *Remote Office 9150 Installation and Administration Guide*
(NTP 555-8421-215) states that the primary trunk on the Remote Office 9150
unit is automatically defined as Module 4, B-channel 1. The firmware has been
changed so that the primary trunk on the Remote Office 9150 unit is defined to
be one of the following:

- The lowest-numbered B-channel defined as Remote only.
- The lowest-numbered B-channel defined as Local & Remote.

Since a local call can cause blocking of an incoming host-controlled call on a
B-channel defined as Local & Remote, or prevent QoS transitions from
occurring, Nortel Networks recommends the following:

- Configure the primary trunk as Remote only, i.e. Module 4 first B channel.
- Do not include the primary trunk in any trunk groups.

Fax relay support

The following compression algorithms can be used for fax transmission:

- G.711
- G.729/Fax

If G.711 is selected, then faxes are transmitted at 64 Kbps. In this mode, the fax
protocol is not interpreted. Therefore, all non-standard fax features are
supported independent of manufacturer.

If G.729/Fax is selected, then the fax protocol is interpreted, and the fax modem
is demodulated in an attempt to reduce the amount of bandwidth that is
consumed. In this mode, the fax transmission is restricted automatically to
9.6 Kbps. G.729/Fax provides more bandwidth efficiency at the expense of
greater protocol-sensitivity and potentially lower fax speeds.

Note: Error Connection Mode (ECM) is automatically disabled during fax relay.

To configure for fax relay support

On the PBX, you must configure the TN associated with any remote analog ports (ATA or the Remote Office 9150 unit analog port) as a voice port.

This is done by ensuring that the remote ATA devices, or the Remote Office analog port map to an ATA port on the MIG RLC. ATA ports were introduced in Release 22 of Meridian system software. The ATA appears in the data port range, but the class of service treats the TN as a voice TN. It is also possible to map remote analog ports to non-ATA voice ports on the MIG RLC that appear in the voice port range on any supported release of Meridian software.

Configure the Remote Office 9150 unit, MIG RLC, and PBX using the instructions that follow.

PBX

1   Program the data TN for a digital set.

   a. If you have a phone programmed against the voice TN, then the data TN phone type must be the same as the voice TN phone type. For example, if the telephone on voice TN 6 15 is a 2008 then the fax data TN 6 31 should be programmed as 2008.

   b. Set DTA0 = MCA

   c. Set the DN of the fax machine or ATA on Key 0 of the data TN.

2   After programming the data TN, go back in again to change the CLS. Do one of the following:

   ■ Add CLS=FLXA VCE WTA CPTA (The PBX must be release 22 or more to implement the above mentioned CLS).

   ■ If programming an ATA. add CLS=FLXA VCE CPTD (If system software includes package 186). If you do not have package 186 then, add CLS =FLXA VCE.

3   Enable the TN in LD 32.

MIG RLC

Configure the corresponding ports on the MIG RLC as follows:

1   Go to Configuration Manager > RLC - RLC Port Configuration.

2   On the MIG RLC port which matches the data port (i.e. TN 6 31 is RLC port 31), configure the compression, priority and usage.

3   Click OK on the RLC Port Configuration window, send to unit, save configuration to flash and reboot the unit.

   Note: When you save configuration changes to Flash, the system suspends new call processing for approximately 30 seconds.

   Note: If you intended to use a fax on the ATA device, or you are programming the 9150 fax port, the G.729/Fax compression is recommended.

Remote Office 9150

1   For the Remote Office 9150 fax port, do the following:

   ■ Go to Configuration Manager > 9150 > 9150 Port Configuration

   ■ Map port 64 on the Remote Office 9150 unit to the data port on the MIG RLC.

   ■ For an ATA adapter, map the 9150 port that is16 ports above the phone that will house the ATA adapter. For example, if the telephone that will house the ATA is on the Remote Office 9150 and is wired to port 0, then the ATA is configured on the Remote Office 9150 port 16).

   ■ Map the ATA port to the MIG RLC data port configured on the PBX.

2   Verify that any other unused Remote Office 9150 port, that has the same MIG RLC port number as the Fax or ATA, is configured as Local.

   For example, if the MIG RLC data port 31 (mapped to 9150 port 64) is being used for Fax, make sure the Remote Office 9150 port 31 is set to local only. This prevents any possibility of port contention occurring at the host side.

   Also, make sure that the telephone type for the ATA port is selected as ATA not as a digital set.

3   For LOCAL 9150 access only from the Remote Office 9150 unit, configure the ATA port Local Call Key1 to Key Number 0.

4   If the Port is configured for local and remote, verify that Forward Busy/no answer is disabled.

5   Click OK on the 9150 Port Configuration window, send to unit, save configuration to flash and reboot the unit.

Note: When you save configuration changes to Flash, the system suspends new call processing for approximately 30 seconds.

Quality of Service configuration

You can configure Nortel Networks' patented QoS transitioning technology to automatically move calls from the IP network to the circuit-switched network when the voice quality of service (QoS) falls below a predetermined threshold.

Configuring the QoS thresholds

The slide controls with which you mark threshold settings on the Quality of Service property sheet allow ten settings ranging from poor to superior, as follows:

- Poor is equivalent to a mean opinion score (MOS) of 3.0, as described by the ITU E-Model.

- Superior is equivalent to a MOS of 4.0.

Since the ITU E-Model is based solely on network delay, the Remote Office product adjusts these values using a calculated average packet-loss value. For example, you might have set the threshold to a MOS value of 3.5 (center tick of slide control), and the measured delay on the network might indeed be within a score of 3.5. However, excessive packet loss lowers the product's measured value, causing a transition from the IP network to the circuit-switched network. This ensures an acceptable quality of service for the user based on real network conditions.

Note: Ensure that the degrade threshold is set to a lesser value than the recover threshold and that the two thresholds are sufficiently removed from one another, based on the volatility and activity of your particular network.

Determining duration values

You can configure duration parameters for both transition to the circuit-switched network and recovery to the IP network. These values designate the

- allowable time (in seconds) that the QoS can remain lower than the degrade threshold before transition occurs.

- allowable time (in minutes) that the QoS must remain above the recover threshold before the connection is restored to the IP network.

Measurement of acceptable recovery in minutes minimizes the tendency of the connection to experience *transition thrashing*. Transition thrashing is the rapid transition and recovery between networks should the QoS hover around degrade and recover thresholds. This phenomenon can result in higher than normal charges being incurred on the circuit-switched network.

Local station configuration

This section describes changes made to the Local Profile Configuration screen since the *Remote Office 9150 Installation and Administration Guide* (NTP 555-8421-215) went to print. The following is an example of the revised screen:

Support for specific telephone models in local-controlled mode

To ensure that digital telephones, ATAs, and MCAs operate as expected, you must specify the telephone model when configuring a station with local calling capability.

Preventing calls to specific telephone number strings

You can configure up to five telephone number strings to prevent outgoing local-controlled calls to numbers that contain matching strings.

Call Forward for busy or unanswered calls

You can configure the number of rings that should occur and the DN to which the unanswered or busy call should be forwarded. The Remote Office 9150 unit can only forward local calls to local DN's in this Release.

Remote Station configuration

You must specify the telephone model to ensure that digital telephones, ATAs, and MCAs operate as expected.

International Tone configuration

International Tone configuration uses NT8D17 card Tone Codes for all countries. To configure the four international tones you need to obtain the following FTC values for DIAL, RGBK, BUSY and OVFL from LD 56 of your PBX.

```
>ld 56
REQ prt
TYPE FTC        Look for the DIAL,RGBK, BUSY and OVFL values
…
DIAL
XTON 129        Enter the XTON value as the "Tone Code" value for this tone
XCAD 000        XCAD is used below to determine the Repeat, No. of Cycles and Cadence Time
RGBK
XTON 132
XCAD 32
BUSY
XTON 130
XCAD 30
OVFL
XTON 130
XCAD 0
```

In the following example there are three different values for XCAD. Collect the
LD 56 WCAD details for each different XCAD value.

```
>ld 56
REQ prt
TYPE FCAD
WCAD 0          for XCAD 0
CDNC 00000 00000 00000 00000 00000 00000 00000 00000 0000 00000
END OFF
WTON NO

REQ prt
WCAD 30
CDNC 100 50 00000 …
END REPT
CYCS 1
WTON NO

REQ prt
WCAD 32
CDNC 102 102 205 819 00000 ….
END REPT
CYCS 1 2
WTON NO
```

Note the values printed for CDNC, END and CYCS.

If END = REPT, then the value entered into the End Repeat field is "Repeat".
CYCS will usually have "1" or "1 2". Enter the largest number as the No. of
Cycles. Enter the non-zero CDNC values into the Cadence Time fields.

Local Tone configuration

It is not necessary to configure Local Tone configuration. The parameter will be removed in future releases.

Device information and ISDN Module Information

The Device Information and ISDN Module Information options in Configuration Manager are for future use and have not been implemented in this release.

When you should restart a unit

Nortel Networks recommends that you perform a Save to Flash, and then restart the unit each time you make any configuration changes. This ensures that all configuration changes are saved in flash memory and take effect.

Note: When you save configuration changes to Flash, the system suspends new call processing for approximately 30 seconds.

Note: Some configuration changes do not take effect until the unit has been restarted.

MSL-100 configuration requirements

This section describes the MSL-100 PBX configuration that is needed to support this product.

Note: Remote Office 9150 and MIG RLC interoperation with the MSL-100 PBX is currently in field trial.

M2000 phoneset key numbering

The key numbering convention for M2000 series telephones on the Remote Office 9150 unit is different from the key numbering convention on the Meridian MSL-100 PBX. On the Remote Office 9150 unit, keys are numbered from 0 through 15, whereas on the MSL-100 PBX, keys are numbered from 1 through 16. See the following figure for a comparison:

```
              M2616
     15   16   —— 8    7
     14   15   —— 7    6
     13   14   —— 6    5
     12   13   —— 5    4
     11   12   —— 4    3
     10   11   —— 3    2
      9   10   —— 2    1
      8    9   —— 1    0
     M1  SL100    SL100  M1
```

M0200 option on phoneset

M0200 must be assigned to the M2616 phone set configuration on the MSL-100 PBX. Without this option, the M2616 phone set does not function properly.

Port configuration

The port numbering on the MIG RLC is different from the port numbering on the MSL-100 PBX. See "MIG RLC and MSL-100 port numbering comparison" below.

MIG RLC and MSL-100 port numbering comparison

Port type	MIG RLC port numbering	MSL-100 port numbering
Voice ports	0–15 and 32–47	Even-numbered ports
Data ports	16–31 and 48–63	Odd-numbered ports

MIG RLC and MSL-100 port mapping

The following table identifies the port mapping between the MIG RLC and the MSL-100:

16-port MIG RLC				**32-port MIG RLC**			
MIG RLC voice ports	**IPE voice ports**	**MIG RLC data ports**	**IPE data ports**	**MIG RLC voice ports**	**IPE voice ports**	**MIG RLC data ports**	**IPE data ports**
0	0	16	1	32	0	48	1
1	2	17	3	33	2	49	3
2	4	18	5	34	4	50	5
3	6	19	7	35	6	51	7
4	8	20	9	36	8	52	9
5	10	21	11	37	10	53	11
6	12	22	13	38	12	54	13
7	14	23	15	39	14	55	15
8	16	24	17	40	16	56	17
9	18	25	19	41	18	57	19
10	20	26	21	42	20	58	21

16-port MIG RLC				32-port MIG RLC			
MIG RLC voice ports	IPE voice ports	MIG RLC data ports	IPE data ports	MIG RLC voice ports	IPE voice ports	MIG RLC data ports	IPE data ports
11	22	27	23	43	22	59	23
12	24	28	25	44	24	60	25
13	26	29	27	45	26	61	27
14	28	30	29	46	28	62	29
15	30	31	31	47	30	63	31

Sample datafill for Table IPECARDS

Configure the PEC code in table IPECARDS before you install the MIG RLC. The following is an example:

```
Table IPECARDS
DR68AA NT8D02 BASIC DFAULT LINES_32
```

Sample datafill for Table LNINV

The following is a datafill example for Table LNINV:

```
Table LNINV
HOST  20 2 05 00   DR68AA  NPDGP  WORKING   N  NL   Y
NIL
```

Sample datafill for network ports

For ISDN BRI connectivity and QoS transitioning functionality, each 64 Kbps trunk requires a dedicated data port on the MIG RLC. On the MSL-100, you must configure this data port as a Meridian Communications Adapter (MCA) and datafill it as a 64K synchronous adapter. The following is an example of the SERVORD command used to provision a synchronous MCA adapter:

```
NEW $ 2386152 MCA MTL1 0 12 214 Y MCA N S 64000 I N N N
N N 0 HAYES $ HOST 20 2 01 03 $
```

```
>QLEN  2386152
LEN:     HOST  20 2 01 03
TYPE: SINGLE PARTY LINE
SNPA: 214
DIRECTORY NUMBER:     2386152
LINE CLASS CODE:  MCA
CUSTGRP:           MTL1  SUBGRP: 0  NCOS: 12  RING: Y
DATA UNIT PROFILE:
CLASSDU: MCA       IDLETO: 0  DOWNLOAD: N
CONFIG:  DTE                 DTEIF: RS232C
SYNCHRO: S   DATARATE: 64000  CLOCKSRC: I
DUPLEX:  F                   KBDTYP: HAYES
HOTLINE: N   VLL: N   V.25: N   HDLC: N   RTS: N
DPOPTS:
CARDCODE:  DR68AA GND: N  PADGRP: NPDGP  BNV: NL MNO: Y
PM NODE NUMBER     :    105
PM TERMINAL NUMBER :    36
OPTIONS: NDC


KEY     FEATURE
NONE
```

M3900 Release 2 telephones with MCAs

When configuring MIG RLCs for Quality of Service (QoS) transition, you must configure a data port as a Meridian Communications Adapter (MCA). MSL-100 sites using only M3900 Release 2 telephones and PBX software versions MSL14 or earlier require a patch to allow QoS transition. This is due to the fact that MSL-100 PBXs using software version MSL14 or earlier and configured for only M3900 Release 2 telephones do not recognize MCAs. The patch numbers are:

- JDT01.xxx
- JDT04.xxx

where xxx denotes the PBX version number.

Contact your Nortel Networks distributor to receive the patch.

Operation

This section provides important information about the operation of this product.

Operation in ACD environments

If communication is lost to the remote device, or the remote goes offline, the agent is put in MSB.

Voice mail messages left during Quality of Service transitions

It takes several seconds of sustained errors to cause a Quality of Service (QoS) transition to the circuit-switched network. During this time, voice quality suffers due to errors. If a message to a voice mailbox is being recorded during these errors, portions of the message can be unintelligible.

Fax transmissions during Quality of Service transitions

If a QoS transition occurs while a fax is being sent or received, the packets lost prior to the transition can result in

- a fax that is not readable at the receiving end.
- error messages that appear on both the sending and receiving fax machines.

If this occurs, resend the fax.

Echo Cancellation

Due to the network delay introduced by the IP network, echo is much more noticeable in VoIP networks than traditional networks. All Echo Cancellation algorithms need a small amount of time to adjust if the echo path changes. This results in the initial syllable, or word, of the first sentence having echo. After that, however, no echo will be apparent.

This is a normal characteristic of the transition point between the VoIP network and traditional, analog facilities. If echo is not mitigated after the beginning of the first sentence, a more serious problem (such as impedance mismatch) may be present. Also note that some environments, such as conference calls, may change the echo path. This will also result in an adjustment period for Echo Cancellation.

Note: Nortel Global Customer Care Services indicates that the source of echo on the majority of installations has been from incorrectly configured analog trunks. Please ensure that the trunks are configured correctly in the areas of trunk card type (EXUT/XUT), TIMP and BIMP settings, and jumper settings on the actual trunk card itself. Please refer to the NTP for trunk cards 553-3001-106. Also, if you are connecting recording equipment, or RAN devices to an analog trunk, ensure that the trunk impedance matches the equipment impedance, or echo can occur.

Recovering from a catastrophic failure

If you experience a catastrophic failure (such as corrupted firmware or configuration), contact your technical support organization.

Issues corrected in Release 1.2.1

Major Issues corrected

Call establishment for 3rd-party TAPI and CTI applications (MP 11245)

The algorithm for detecting call establishment did not work properly for all 3rd party TAPI and CTI applications. A configuration parameter has been added to allow a much less restrictive algorithm for establishing a voice path.

a-Law / μ-Law configuration (MP 11363)

Earlier versions of software determined a-Law or m-Law from the ISDN configuration. This presented a problem with the M2216 (NT2K18CN) telephone which requires a-Law only if there were no BRI cards installed. A configuration parameter has been added.

Keymaps on M3900 Release 2 telephones (1574)

On M3900 Release 2 phones, the size of the keymap can be larger than was expected by the MIG RLC / Remote Office 9150 unit if more than 7 SCR/SCN keys were programmed. This would cause a failure of the Remote Office 9150 unit to register the phone with the MIG RLC.

B-channel allocation (MP 11077)

There was a problem in call establishment over ISDN that could result in a B-channel not being allocated correctly. This would cause all subsequent calls over this channel to fail.

Emergency calls from Local keys on DBAs (Dynamic Bandwidth Allocations) (110)

An emergency call could not be made when Local Keys were programmed on a DBA.

ATA dropping calls for Emergency Call support (1672)

The ATA would detect the change in the call path and immediately hang up the call when the Remote Office 9150 unit transitioned to make a local call for Emergency Call support.

No voice path on M3900 Release 2 telephones (1095)

Local SwitchOver could interfere with certain call operations on the M3900 Release 2 telephones resulting in no voice path.

Audible error indications for ISDN local calls (994)

Audible error indications were not generated on all error cases for ISDN local calls.

Minor issues corrected

Remote connect (MP 08478)

The remote connect option from the Configuration Manager had problems exiting and retaining context.

Remote Office 9150 unit hanging up on incoming Local calls (1598)

The Remote Office 9150 unit hung up on incoming Local Calls answered during the ringer-on portion of the ring cycle.

Jitter buffer overruns(1704)

Errors caused by jitter buffer overruns were not correctly counted in fallback calculations. This could cause a delay in transitioning to fallback in networks with large jitter.

Local Call transfer on the Remote Office 9150 unit (1694)

The Local Call transfer on the 9150 would immediately connect to the called phone. If the called phone were active on another call, this would connect the transferred party to the voice path of the active call.

M3904 transition from handsfree to headset (977)

Prior to release 1.2.1 you had to press the Headset key twice to transition from handsfree to headset. This has been resolved and you can now press the Headset key once to make the transition.

M3900 Release 2 telephone calls forwarded to wrong number (MP 11723)

A race condition existed where the first digit of a Call Forwarded call (all calls) on a M3900 Release 2 telephone would be dropped. This could cause the call to be forwarded to the wrong number.

Issues corrected in Release 1.2.0

Major issues corrected

Additional recovery for incomplete key maps and registration

Error recovery and requests for key maps from the PBX have been improved. Some customers received incomplete key map information from the PBX following configuration changes on the PBX, PBX reset and RLC reset. As a result they experienced no voice path or a block of signaling information to the remote set.

ISDN connection problem on some lines (548)

There have been a few reported cases of trouble establishing connection to the PSTN. In each case, installing line extenders solved the problem.

Failure to transmit and receive fax pages

Transmitting and receiving pages would fail on fax machines running Error Correction Mode (ECM) configured for G.729/Fax Relay. Error Correction Mode (ECM) is now automatically disabled during fax relay to prevent this problem.

Port lockup due to Frame Slips

After several hours of operation, some customers were experiencing port lock-ups due to a frame slip issue. The only way to recover was to reset the MIG RLC.

Echo Cancellation problems

Users connecting to analog ports experienced significant echo on 2-4th callers on a DSP.

Synchronization problems after reset

There were several problems corrected that occurred when the Remote Office 9150, or MIG RLC, were reset independently of each other. Most of these resulted in phone status being out-of-synch, but in some cases, QoS transitioning synchronization might result in the two having trouble establishing their initial connection.

Bi-directional failure in high traffic environments (MP 08289)

An error was detected in call-box testing that could result in communication being lost between the MIG RLC and the Remote Office 9150.

Configuration problems with trunk groups and Trunk Access Codes (MP 08556)

Users could not enter a 3-digit trunk access code for the 8th trunk group.

Keys on add-on modules not supported

You can configure 2 local keys on any of the 76 possible keys available with add-on modules.

Supervisor to agent one-way voice

Supervisor to agent interactions no longer result in a race condition that causes one-way voice.

Minor issues corrected

ISDN supplemental services

Some ISDN supplemental services (for example, Call waiting) may have caused the B-channel to clear and disrupt the established call. Although these supplemental services are still not supported, and should be disabled by the provider, the established B-channel will not clear.

Display sometimes overprints when logging in ACD agents on 3903/4 (677)

When logging in an agent on 3903 or 3904 telephones, the login information intermittently gets mixed up.

Emergency Access Code entry

You can configure the Emergency Access Code with any number up to 7 digits.

First key press gets lost when IP Is down

If the IP path is disconnected after the IP signaling has cleared, the first telephone to go off-hook will not receive a dial-tone unless the key is pressed again.

Ring/No-Answer on forwarded phone corrected

A problem was corrected in establishing the voice path for ring/no-answer on local incoming calls from ISDN.

Incorrect establishment of signaling link

A few PBX messages were not being forwarded correctly. This would result in the establishment of a signaling path between the MIG RLC and the Remote Office 9150. This could result in unnecessary ISDN line charges in the case of fallback or circuit-switch operation.

BRI line left active

If a large number of calls transition simultaneously, then some users may see their BRI line stay active. This was due to a race-condition that has now been corrected.

Auto-DN Discovery on power-on

Auto-DN Discovery now automatically takes place during power-up instead of waiting for a scheduled time.

Ethernet port statistics in Configuration Manager

Some of the Ethernet port statistics were incorrect.

Call forward on busy/no answer

Call Forward on Busy configured in a loop caused infinite call forwarding or 9150 unit shutdown. This has been corrected.

Known problems in this Release

This section describes known problems with this release and suggests solutions to these problems if they are available.

If reporting problems relating to these Release Notes to technical support personnel, give your technician the PRS number associated with the problem in question, as well as the Product release number of these Release Notes (Product release 1.2.1). The PRS number is shown in parenthesis beside the known problem.

Fax machine compatibility (MP11618, 43)

Some compatibility issues have been detected when dealing with fax relay and certain manufacturer's fax machines.

To solve the problem, configure for G.711 to avoid fax relay.

Local calling at the Remote Office 9150 unit (1488)

Local Calling at the Remote Office 9150 unit will always result in a call being placed to the first port with the dialed number. As a result, if there are multiple DN appearances only the first appearance will ring.

In view of this problem, multiple DN appearances are not supported for local calling on the Remote Office 9150 unit.

Local DN display on Dynamic Bandwidth Allocation (111)

The Local DN does not display on the Dynamic Bandwidth Allocation.

Since this is a display-only issue, no solution is required.

Test failure in second slot of double-wide card in MSL-100s (1540)

On the MSL-100, the second slot of a double-wide card fails during diagnostic tests.

You should simply ignore the diagnostic test.

Incoming Local Calling Key calls cannot be transferred using Trunk Access code (1670)

If an incoming call appears on a Local Calling Key, and is transferred using the Trunk Access code to dial an outbound local call, the corresponding voice path is not established.

This function is not supported.

Timing out in Configuration Manager

Configuration Manager will time out after 15 minutes if the user does not send information to either the Remote Office 9150 or MIG RLC.

To solve the problem, periodically press SEND to transfer the data to the Remote Office 9150 or MIG RLC.

DN discovery cannot be configured to second slot of double-wide MIG RLC (1157)

DN Discovery cannot be configured to use a port on the second slot of a double wide card.

To solve the problem, configure the DN Discovery Port on the first slot.

Editing set-to-set messaging and the idle timer (MP 10354)

If the user takes longer than the idle timer to complete editing of the set-to-set messaging, then the phone will appear hung until the RLS key is pressed. Press Release Key to exit menu.

To solve the problem, increase the idle timer.

IDU command in LD 32 times out (1022)

The IDU command from LD 32 in the PBX times out in this release. The IDU command is used to gather information about the actual set connected to the Remote Office 9150 unit.

Since this is a display-only issue, no solution required.

Registration of M3900 Release 2 telephones after a conflict (1045)

If multiple M3900 Release 2 telephones are registered for the same MIG RLC port, a conflict may occur and the telephones may not attempt to register.

To solve the problem, use SPRE codes to register and de-register.

Local dialtone and ringback not heard

After you upgrade the Remote Office 9150 unit to Release 1.2.1, the unit may read International Tones incorrectly.

To solve the problem, reset the 9150 unit to restore International Tones settings.

Local SwitchOver

Local SwitchOver may stop the voice path on M3900 Release 2 telephones when using the transfer and emergency ACD functions.

To solve the problem, disable Local SwitchOver when using the transfer and emergency ACD functions.

Local SwitchOver and Hold

Local SwitchOver may cause calls to be put on Hold.

To solve the problem, press the CWT key to reconnect the call.

Documentation corrections

Incoming call process

Page 22 of the *"Remote Office 9150 Installation and Administration Guide" (NTP 555-8421-215) Standard 1.0"* states that an incoming local call that is not answered can be forwarded to the same voice mail provided by the host PBX. This feature is not supported.

Local DNs to alert

Page 248 of the *"Remote Office 9150 Installation and Administration Guide" (NTP 555-8421-215) Standard 1.0"* states that if you do not enter the DNs of the telephones you want to ring for incoming calls then all DNs will alert. The correct information is that if you leave the fields blank then no DNs will alert.

MIG RLC and analog port

Page 168 of the "*Meridian Internet Gateway Reach Line Card Installation and Administration Guide (NTP 555-8421-210) Version 1.1"* contains a reference to the "MIG RLC Port 64 as the analog port."

The analog port is actually Port 64 on the Remote Office 9150 unit. The MIG RLC does not have an analog port.

Administration PC

The Meridian Internet Gateway Reach Line Card and Remote Office 9150 *Installation and Administration Guides* state that the administration PC on which Configuration Manager is installed can use the Windows NT operating system. The guides should state that the Windows NT Workstation operating system (with Service Pack 5 or later) can be used. Configuration Manager is not supported on administration PCs that are running Windows NT Server.

Engineering Guidelines corrections

Web availability

You can obtain the most up-to-date version of the Network Engineering Guidelines from the Nortel Networks web site. The URL is *http://www.nortelnetworks.com/remoteoffice.*

TLAN Ethernet and WAN IP bandwidth usage per Remote Office port

The "Network engineering guidelines" appendix in the Meridian Internet Gateway Reach Line Card and Remote Office 9150 *Installation and Administration Guides* provide a table identifying the TLAN Ethernet and WAN IP bandwidth usage for each Remote Office port.

This table contains errors which result in the IP header being overstated by 12 bytes for each codec type. The table also provided, in error, information for T.38 G3 Fax Modem (14.4 Kbps). The T.38 G3 codec is not used by Remote Office.

The correct table (with its supporting notes) is shown on the following page.

Notes:

■   The first WAN bandwidth is without Frame Relay or ATM overhead.

■   The Frame Relay overhead is eight bytes (over IP packet).

■   The Link Layer Control SubNetwork Attachment Point (LLC SNAP) and AAL5 overhead for ATM is 16 bytes (over IP packet).

■   IP packet size over 53 bytes requires two ATM cells, IP packet size over 106 bytes requires three ATM cells, and so on. Within the same number of cells, the bandwidth requirements are the same for packets with different sizes.

Packet Size	G.711 [i]	G.726 [i]	G.729 [i]
Voice Payload (bytes/30 ms)	240	120	30
Voice Hdr (bytes)	12	12	12
UDP Hdr (bytes)	8	8	8
IP Hdr (bytes)	20	20	20
IP Packet Size (bytes)	280	160	70
LAN Overhead			
Ethernet Frame Size (bytes)	14	14	14
IP Packet Size (bytes)	280	160	70
LAN Packet Size (bytes)	294	174	84
Peak Data Rate (Kbps)	*78k*	*46k*	*22k*
Avg Data Rate - w/silence (Kbps) [ii]	*47k*	*28k*	*13k*
IP Over Frame Relay Overhead			
Frame Relay Overhead (bytes)	4	4	4
RFC 1490 IP Overhead (bytes)	2	2	2
IP Packet Size (bytes)	280	160	70
Frame size (bytes)	286	166	76
Peak Data Rate (Kbps)	*76k*	*44k*	*20k*
Avg Data Rate - w/silence (Kbps) [ii]	*46k*	*27k*	*12k*

i. Compression Algorithm

ii. Average data rate with silence suppression has been figured as approximately 60% of Peak. This number can be changed to reflect the site's actual values.

Note: The Remote Office 9150 and MIG RLC use TCP port number 12800 and UPD port numbers of 20480 and 20482. It may be necessary to open up firewalls to allow connection to these port numbers.

Telco 1 and 2 pin out tables

Pages 476—479 of the Standard 1.0 issue of the Remote Office 9150 Installation and Administration Guide (NTP 555-8421-215) contain incorrect pin out information for BRI connections made by the Telco 1 cable (Modules 4 and 5) and the Telco 2 cable (Modules 6 and 7).

Telco 1

The information for the Telco 1 cable should read as follows:

Interface	Module	Signal	Color	Pin
BRI-ST	4	Tip +	GR-Y	18
"	' '	Tip -	Y-GR	43
"	"	Ring +	BR-Y	19
"	"	Ring -	Y-BR	44
BRI-U	4	Tip	Y-BR	44
"	"	Ring	BR-Y	19
BRI-ST	5	Tip +	SL-Y	20
"	"	Tip -	Y-SL	45
"	"	Ring +	BL-V	21
"	"	Ring -	V-BL	46
BRI-U	5	Tip	V-BL	46
"	"	Ring	BL-V	21

Telco 2

The information for the Telco 2 cable should read as follows:

Interface	Module	Signal	Color	Pin
BRI-ST	6	Tip +	GR-Y	18
"	"	Tip -	Y-GR	43
"	"	Ring +	BR-Y	19
"	"	Ring -	Y-BR	44
BRI-U	6	Tip	Y-BR	44
"	"	Ring	BR-Y	19
BRI-ST	7	Tip +	SL-Y	20
"	"	Tip -	Y-SL	45
"	"	Ring +	BL-V	21
"	"	Ring -	V-BL	46
BRI-U	7	Tip	V-BL	46
"	"	Ring	BL-V	21

Valid characters for configuring PSTN numbers

Remote Office documentation does not completely list the characters that may be used when entering a PSTN number during configuration of a Remote Office site. That list is as follows:

- 0–9
- #—before and after the prefix (such as trunk access digits)[1]
- *—for specialized dialing (such as SPRE codes)
- Comma (,)—for a delay of 1/2 second
- Period (.)—for a caller ID separator
- Dash (-)—for a null separator

[1]You cannot use a # character to configure the 9150 "PSTN Number to Connect to RLC" field, in the RLC Connection Configuration property sheet.

Display Log Changes

The display log functionality has been significantly improved. This section lists the display log error and status messages.

Statistic	Definition
LOG NUMBER	0
DESCRIPTION	This is a description of the Log that is being generated.
SEVERITY	NORMAL, WARNING, MINOR, MAJOR, CRITICAL (Assigns one of these levels to the Log.)
TASK	This is the task that originates the trap. This can be the full name or an abbreviation. (For development use only.)
PRODUCT	MIG RLC, 9150, 911x (Lists all products that can generate this log.)
CANCELLATION	This is a cross-reference to another log number that is the complement of the current log (e.g. QOS Transition/Recovery, Link Up/Down.) This should be a LOG NUMBER.
ACTION TO BE TAKEN:	If the Severity is higher than NORMAL, this should contain information that would help the end user correct the problem, if possible (i.e. A Config Change), or give them information about where the user should go for help.
PARAMETERS	description of parameter 1 2) description of parameter 2 . . . N) description of parameter N
DISPLAYED TEXT	This is the text that appears on the screen, where PI is parameter 1, P2 is parameter 2.

Statistic	Definition
LOG NUMBER	1
DESCRIPTION	This log indicates that system started.
SEVERITY	NORMAL
TASK	MMI
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	None
DISPLAYED TEXT	System started
LOG NUMBER	2
DESCRIPTION	This logs indicates that there was a failure in allocation of the TCM block
SEVERITY	CRITICAL
TASK	None
PRODUCT	9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	TCM buffer is exhausted. If the problem persists reboot the system and report back to vendor.
PARAMETERS	None
DISPLAYED TEXT	Out of TCM buffer

Statistic	Definition
LOG NUMBER	3
DESCRIPTION	This logs indicates that there was a failure in allocation of memory of size 'n'.
SEVERITY	MAJOR
TASK	None
PRODUCT	9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	Memory buffers exhausted. If the problem persists reboot the system.
PARAMETERS	Size of memory block that the system failed to allocate.
DISPLAYED TEXT	Couldn't allocate memory of size P1.

Statistic	Definition
LOG NUMBER	4
DESCRIPTION	This logs indicates that there was a failure in sending a message to a Remote unit.
SEVERITY	MAJOR
TASK	None
PRODUCT	9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) The destination host is unreachable check its status. 2) Check the configuration.
PARAMETERS	Unit ID of remote unit for which message was intended.
DISPLAYED TEXT	Couldn't send message to unit ID: P1

Statistic	Description
LOG NUMBER	5
DESCRIPTION	This log indicates that the QoS of the IP network degraded and the system transitioned to the Circuit Switched Network.
SEVERITY	NORMAL
TASK	QoS Transitioning
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	Log number 6
ACTION TO BE TAKEN	None
PARAMETERS	Unit ID of the remote unit for which the IP QoS has degraded.
DISPLAYED TEXT	Transition to remote site: P1

LOG NUMBER	6
DESCRIPTION	This log indicates that the QoS of the IP network recovered and the system transitioned to the IP Network.
SEVERITY	NORMAL
TASK	FallBack
PRODUCT	RLC, 9150, 911x
CANCELLATION	Log number 5
ACTION TO BE TAKEN	None
PARAMETERS	Unit ID of the remote unit for which the IP QOS has recovered.
DISPLAYED TEXT	Recovery to remote site: P1

Statistic	Description
LOG NUMBER	7
DESCRIPTION	This log indicates that a user logged onto the system
SEVERITY	NORMAL
TASK	Session Control
PRODUCT	RLC	9150	911x
CANCELLATION	Log number 8
ACTION TO BE TAKEN	None
PARAMETERS	Connection (serial or Telnet) through which user logged onto system.
DISPLAYED TEXT	User logged on: P1

LOG NUMBER	8
DESCRIPTION	This log indicates that a user logged off from the system.
SEVERITY	NORMAL
TASK	Session Control
PRODUCT	MIG RLC	9150	911x
CANCELLATION	Log number 7
ACTION TO BE TAKEN	None
PARAMETERS	Logoff type – normal or terminated.
DISPLAYED TEXT	User logged off: P1

Statistic	Description
LOG NUMBER	9
DESCRIPTION	This log indicates that Logon to the system failed.
SEVERITY	WARNING
TASK	Session Control
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	Reason – wrong user name, password, device busy etc.
DISPLAYED TEXT	User login failed: P1

LOG NUMBER	10
DESCRIPTION	This log indicates a debug Session Terminated. A debug session that was inactive for more than 15 minutes was automatically logged off from the system.
SEVERITY	NORMAL
TASK	Session Control
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	Reason for termination
DISPLAYED TEXT	Debug session terminated: P1

Statistic	Description
LOG NUMBER	11
DESCRIPTION	This log indicates that database reading from flash at Power on failed. This can be caused by corrupted flash. As a result, the system will start with the default configuration.
SEVERITY	CRITICAL
TASK	MMI
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) Reconfigure the system and then save it to flash. 2) Restart the system and log into the system and check the configured parameters. If the problem persists contact your vendor.
PARAMETERS	Reason reading from Flash failed.
DISPLAYED TEXT	Database reading from Flash failed - P1

Statistic	Description
LOG NUMBER	12
DESCRIPTION	This log indicates that user attempted to save a new configuration to Flash.
SEVERITY	NORMAL
TASK	MMI
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	Status of save to Flash – success or failure
DISPLAYED TEXT	Database save to Flash: P1

Statistic	Description
LOG NUMBER	13
DESCRIPTION	This log indicates that a user defaulted the configuration of the board using the Set default configuration command.
SEVERITY	NORMAL
TASK	MMI
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	None
DISPLAYED TEXT	Database defaulted

Statistic	Description
LOG NUMBER	14
DESCRIPTION	This log indicates that User tried configuration upload.
SEVERITY	NORMAL
TASK	MMI
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	1) Status - success or failure 2) Name of configuration file 3) IP address of source of configuration file
DISPLAYED TEXT	Database upload: P1 (P2 from P3)

Statistic	Description
LOG NUMBER	15
DESCRIPTION	This log indicates that an application module is enabled and not plugged in. This can happen when the user configures a module and then removes it from the system.
SEVERITY	MAJOR
TASK	MMI
PRODUCT	MIG RLC | 9150
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	1) Module type 2) Mismatch details
DISPLAYED TEXT	Application module configuration mismatch: P1 P2.

LOG NUMBER	16
DESCRIPTION	This log indicates that there is a DN clash. This can happen in the following cases:

- Same DNs configured for multiple ports.
- Same access codes configured for trunk groups.
- Same SPRE code is configured for different functions.
- A longer DN number exists.

SEVERITY	MAJOR
TASK	MMI
PRODUCT	9150
CANCELLATION	None
ACTION TO BE TAKEN	Check for duplication of configuration (Use "Get DN List" to see the data) and correct it.
PARAMETERS	1) Type of Data 2) First clashing port number 3) Second clashing port number
DISPLAYED TEXT	DN clash: P1 P2 P3

Statistic	Description
LOG NUMBER	17
DESCRIPTION	This log indicates that the User tried to upload software. This could be application software or ISDN module software. After an application software upload, the system is normally restarted. Therefore, it is possible that this log was lost.
SEVERITY	NORMAL
TASK	MMI
PRODUCT	MIG RLC| 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	1) Status - success or failure 2) Module type - application or ISDN 3) File name 4) Source of file (e.g. IP address)
DISPLAYED TEXT	Software upload: P1 (P2, P3 from P4)

Statistic	Description
LOG NUMBER	18
DESCRIPTION	This log indicates that User tried a cross connection to PBX over RS232 port using the Xconnect command.
SEVERITY	NORMAL
TASK	MMI
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	Status of cross-connect attempt - success or failure
DISPLAYED TEXT	User cross connect to PBX: P1

Statistic	Description
LOG NUMBER	19
DESCRIPTION	This log indicates that a User tried a Remote connection to another system using the Telnet command.
SEVERITY	NORMAL
TASK	MMI
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	1) Status of Telnet attempt - success or failure 2) Destination (e.g. IP address)
DISPLAYED TEXT	User remote connection: P1 P2

Statistic	Description
LOG NUMBER	20
DESCRIPTION	This log indicates the power on initialization of the ports completed.
SEVERITY	NORMAL
TASK	CallProcessing
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	None
DISPLAYED TEXT	Power-on initialization of ports completed.

Statistic	Description
LOG NUMBER	21
DESCRIPTION	This log indicates that the remote site re-initialized upon remote unit configuration change.
SEVERITY	NORMAL
TASK	CallProcessing
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	Unit ID of the remote unit re-initialized
DISPLAYED TEXT	Remote site: P1 is re-initialized

LOG NUMBER	22
DESCRIPTION	This log signals that the link to the specified remote unit went down.
SEVERITY	MAJOR
TASK	CallProcessing
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	Unit ID of the remote unit to which the link went down
DISPLAYED TEXT	Link down for remote site: P1

Statistic	Description
LOG NUMBER	23
DESCRIPTION	This log indicates that a remote unit registered.
SEVERITY	NORMAL
TASK	CallProcessing
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	Unit ID of the remote unit that registered.
DISPLAYED TEXT	Remote site: P1 is registered.

Statistic	Description
LOG NUMBER	24
DESCRIPTION	This log signals a port registration clash for a dedicated port.
SEVERITY	WARNING
TASK	CallProcessing
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	Possible mis-configuration on remote. Check the configurations
PARAMETERS	1) port number of first clashing remote port 2) unit ID of the remote on which first clashing port resides 3) number of dedicated MIG RLC port for which there is a clash 4) port number of second clashing remote port 5) unit ID of the remote on which the second clashing port resides
DISPLAYED TEXT	Registration clash for port P1 on remote site: P2 with port P3 on the MIG RLC. Dedicated port P3 is already registered with port P4 of the remote site: P5

Statistic	Description
LOG NUMBER	25
DESCRIPTION	This log indicates that a remote port registered with a multiuser/dynamic MIG RLC port.
SEVERITY	NORMAL
TASK	CallProcessing
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	1) Port number of remote port registered on multiuser/dynamic port 2) Unit ID of remote on which remote port resides 3) Port number of multiuser/dynamic port on MIG RLC
DISPLAYED TEXT	Port P1 on remote site: P2 is registered with multiuser /dynamic pool port P3.

Statistic	Description
LOG NUMBER	26
DESCRIPTION	This log indicates a port registration clash for a Multiuser port.
SEVERITY	MAJOR
TASK	CallProcessing
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	1) number of remote port for which there is a registration clash 2) unit ID of the remote unit on which port resides 3) port number of multiuser port on MIG RLC 4) port number of currently registered remote port 5) unit ID of the remote unit on which currently registered port resides
DISPLAYED TEXT	Registration clash for port P1 on remote site: P2 with multiuser port P3. Multiuser port P3 is already registered with port P4 on remote site P5

Statistic	Description
LOG NUMBER	27
DESCRIPTION	This log indicates that a port registration failed for a dynamic pool port. All ports in this dynamic pool are registered and no port is available for use.
SEVERITY	MAJOR
TASK	CallProcessing
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	1) Port number on remote for which there is a registration failure. 2) Unit ID of the remote unit on which port resides
DISPLAYED TEXT	Registration failed for dynamic pool port P1 on remote site: P2

Statistic	Description
LOG NUMBER	28
DESCRIPTION	This logs indicates that there was a failure in allocation of a new call register.
SEVERITY	CRITICAL
TASK	Device Control, Call Processing
PRODUCT	RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	The system memory allocation has failed and might have been exhausted. If the problem persists reboot the system.
PARAMETERS	port number
DISPLAYED TEXT	Call register allocation failed in local calling on Port P1.

LOG NUMBER	29
DESCRIPTION	This log indicates that there were insufficient DSP channels when a voice call was attempted.
SEVERITY	MINOR
TASK	Device Control/Call Processing
PRODUCT	9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) All the DSP channels on the system are in use. Wait for calls to be dropped.
	2) To avoid blocking, either distribute calls onto additional MIG RLCs/9150s/911xs, or add DSP modules to existing equipment, provided there is space available for additional modules. Otherwise action # 1 applies.
PARAMETERS	port number
DISPLAYED TEXT	DSP resource allocation failed on Port P1

Statistic	Description
LOG NUMBER	30
DESCRIPTION	This log indicates that allocation of a local trunk for a local call failed. The possible reasons for failure are: 1) All the trunks are in use. 2) There are no Local or Local/Remote trunks configured. 3) The BRI link may be down or the BRI module might not be plugged in completely.
SEVERITY	MINOR
TASK	Device Control
PRODUCT	9150
CANCELLATION	None
ACTION TO BE TAKEN	1) Check to see if the BRI modules are plugged in properly and the BRI link is UP. 2) Check to see if the BRI configuration is correct.
PARAMETERS	port number
DISPLAYED TEXT	Local trunk allocation failed on port P1.

Statistic	Description
LOG NUMBER	31
DESCRIPTION	This log indicates that a call failed because the dialed DN didn't exist.
SEVERITY	WARNING
TASK	Device Control
PRODUCT	9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	Verify the dialed digits with the configuration numbers.
PARAMETERS	Dialed digits.
DISPLAYED TEXT	Unassigned number P1

LOG NUMBER	32
DESCRIPTION	This log indicates that a call failed because the sequence of dialed digits is not allowed on the set attempting to place the call.
SEVERITY	WARNING
TASK	Device Control
PRODUCT	9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	Verify that the dialed digits don't match the disabled outbound digits.
PARAMETERS	dialed digits
DISPLAYED TEXT	Disabled outbound digits blocked P1

Statistic	Description
LOG NUMBER	33
DESCRIPTION	This log indicates that the DSP cross connect failed, which might have resulted in no voice path being established.
SEVERITY	CRITICAL
TASK	Device Control
PRODUCT	9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	Contact the vendor if the problem persists
PARAMETERS	port number
DISPLAYED TEXT	DSP cross connect failed on port P1
LOG NUMBER	34
DESCRIPTION	This log indicates a change in the system Mode
SEVERITY	NORMAL
TASK	Device Control, Call Processing
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	Status: online/offline
DISPLAYED TEXT	Changing system mode to: P1

Statistic	Description
LOG NUMBER	35
DESCRIPTION	This log indicates that there was a failure in registering to a remote MIG RLC. This would indicate that the Host is unreachable through both the IP and the PSTN.
SEVERITY	MAJOR
TASK	Device Control
PRODUCT	9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) Check for the IP/PSTN connectivity. 2) Check for the remote Host status. 3) Check the correctness of configuration. Units should be enabled.
PARAMETERS	Unit ID of remote site to which registration failed.
DISPLAYED TEXT	Failed to register to remote site: P1

Statistic	Description
LOG NUMBER	36
DESCRIPTION	This log indicates the success or failure of a Remote Office 9150 unit port's attempt to register with a Multiuser/Dynamic port on a MIG RLC.
SEVERITY	NORMAL
TASK	Device Control
PRODUCT	MIG RLC, 9150
CANCELLATION	None
ACTION TO BE TAKEN	1) Determine if the port was in use. 2) Configure the port as a Multiuser/Dynamic port. 3) The host MIG RLC is unreachable.
PARAMETERS	1) 9150 unit's port number attempting to register with the multiuser/dynamic port on the MIG RLC 3) registered or unregistered status of 9150 unit's port 4) port number of multiuser/dynamic port on MIG RLC
DISPLAYED TEXT	ROU port P1, P2 to RLC port P3

Statistic	Description
LOG NUMBER	37
DESCRIPTION	This log indicates that an attempt to connect to a remote unit on the specified medium failed. 1) If the same message is displayed with both IP and PSTN, in succession, the specified remote cannot be reached. 2) If only one message appears with a specific medium while connections on other medium are fine, it indicates a possible attempt to connect on the medium due to: a) Priority of the call that requires only that medium. Voice call would have failed. Check for log number 55 b) IP QoS state and priority level required a first attempt on the specified medium. A voice call would have succeeded on the other medium, though it cannot be guaranteed. c) Attempt was made on receiving a QoS status message.
SEVERITY	MAJOR
TASK	Network Manager
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	Verify the following: 1) correctness of configurations 2) whether the network connections are proper 3) status of the remote board
PARAMETERS	1) remote unit ID 2) medium on which the attempt failed
DISPLAYED TEXT	Not able to connect to remote site: P1 on P2 medium

Statistic	Description
LOG NUMBER	38
DESCRIPTION	This log indicates that an attempt to bring up an additional trunk failed due to the lack of an unoccupied, configured trunk. This could cause the failure of a voice call depending on the media allowed to communicate to that remote, the priority of the call, and the Extra Bandwidth configured. However, verify the presence of log number 55 on the MIG RLC to see if a voice call did not succeed. Look for the presence of log number 37 on the MIG RLC. It indicates that an attempt was made to connect the voice call on that medium, but that the medium was not reachable.
SEVERITY	MINOR
TASK	Network Manager
PRODUCT	MIG RLC, 9150
CANCELLATION	None
ACTION TO BE TAKEN	Verify for the specified log numbers and note them. If this happens frequently, new trunks may have to be added.
PARAMETERS	Remote unit ID
DISPLAYED TEXT	No free additional trunk available to remote site: P1

Statistic	Description
LOG NUMBER	39
DESCRIPTION	This log indicates that there an attempt was made to get an additional trunk on the PSTN.
	This message should have a corresponding message with same number on the Remote Office 9150 unit board. This might cause a voice call to fail, depending on the media allowed to communicate with that remote device and the priority of the call.
	However, check for the presence of log number 55 on the MIG RLC to see if a voice call did not succeed. Look for the presence of log number 37 on the MIG RLC. It indicates that an attempt was made to connect the voice call on that medium, but that the medium was not reachable.
SEVERITY	MINOR
TASK	Network Manager
PRODUCT	MIG RLC, 9150
CANCELLATION	None
ACTION TO BE TAKEN	1) Ensure the PSTN numbers shown in Trunk Configuration are correct on both the MIG RLC and Remote Office 9150 unit.
	2) Ensure the trunk route to that remote unit is not busy.
PARAMETERS	1) Remote unit ID
	2) PSTN number attempted
	3) A flag to indicate whether attempt is made by remote board or local board. 1 - indicates attempt made by local board 2 - indicates attempt made by remote board
DISPLAYED TEXT	Attempted bring-up additional trunk failed. remote P1, PSTN number P2, flag P3

Statistic	Description
LOG NUMBER	40
DESCRIPTION	This log indicates that an attempt to transition to the PSTN failed. Appearance of this message will not cause drop of any voice call. However, if MIG RLC Log numbers 42 or 56 appear, the system can drop voice calls and not be able to connect to the remote unit temporarily.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	a) Look for correctness of primary PSTN number. If PSTN is disabled, ignore this message b) Trunk route might be busy to that remote. c) If the specified logs also appear, IP network could be down
PARAMETERS	Remote unit ID
DISPLAYED TEXT	Transition did not happen to remote site: P1

Statistic	Description
LOG NUMBER	41
DESCRIPTION	This log indicates the failure of the system to connect to the specified remote on the IP network due to a network problem other than unacceptable QoS.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) Check for problems on IP network. 2) Wait for more attempts because connections can take more time depending on nature of the network.
PARAMETERS	remote unit ID
DISPLAYED TEXT	Attempt to recover to IP network failed to remote site: P1

Statistic	Description
LOG NUMBER	42
DESCRIPTION	This log indicates that the IP network failed abruptly while there were connections routed over IP, dropping active voice calls. To check for dropped voice calls, look for log number 56.
SEVERITY	MAJOR
TASK	Network Manager
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	Check if the IP connection is intact or if there is another problem on the IP network.
PARAMETERS	Remote unit ID
DISPLAYED TEXT	Abnormal failure of IP network. remote site: P1

Statistic	Description
LOG NUMBER	43
DESCRIPTION	This log indicates the failure of a non-primary trunk. This might lead to dropping of voice calls to compensate the BW loss in the absence of an IP connection to the remote unit. Look for log number 56 to see if any calls were dropped.
SEVERITY	MAJOR
TASK	Network Manager
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	1) Verify that the PSTN connections are OK. 2) If this appears on the MIG RLC, look for log number 46 on the 9150 unit. If this ID is there, it is a genuine closure. 3) Link might have failed somewhere in the PSTN.
PARAMETERS	Remote unit ID
DISPLAYED TEXT	Abnormal failure of one of the trunks. remote site: P1

Statistic	Description
LOG NUMBER	44
DESCRIPTION	This log indicates an abnormal failure of the primary signaling link. This leads to the dropping of all active connections to the remote unit.
SEVERITY	CRITICAL
TASK	Network Manager
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) Check IP and trunk connections. (physical connections)
	2) If this appears on the MIG RLC, look for log number 45 on the 9150/911x unit. If this log is there, it is a genuine closure.
	3) Link might have failed some where in the Public network.
PARAMETERS	Remote unit ID to which communication is lost
DISPLAYED TEXT	Abnormal failure of primary signaling to remote site: P1

Statistic	Description
LOG NUMBER	45
DESCRIPTION	This log indicates that the primary signaling was dropped due to a request for a 911 (emergency) call, resulting in a temporary loss of communication with MIG RLC.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	This indicates that there are not enough trunks and the primary trunk had to be used for a 911 (emergency) call. Check if number of trunks can be increased (9150 only).
PARAMETERS	None
DISPLAYED TEXT	Primary trunk dropped to place 911 call

LOG NUMBER	46
DESCRIPTION	This log indicates that the system dropped one of the additional trunks to place a 911 (emergency) call as there were no available trunks.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	9150
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	None
DISPLAYED TEXT	Closing an additional trunk to place 911 call

Statistic	Description
LOG NUMBER	47
DESCRIPTION	This log indicates that inactivity timer creation failed. This could lead to the primary signaling channel not closing to the remote. If the IP QoS is BAD, the trunk will stay on. Otherwise, IP will stay on.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	To overcome this situation, make sure no one is using the remote unit phones, and then go to offline mode and come back to on-line. Normal operation will be restored. Use online/offline spree codes on 9150/911x sets.
PARAMETERS	Remote unit ID
DISPLAYED TEXT	Timer creation failed. Signal will not be closed to remote site: P1

Statistic	Description
LOG NUMBER	48
DESCRIPTION	This log indicates the failure of a connection because of incorrect security information due to one of the following situations: 1) A Valid remote tried to connect with inappropriate Security data. 2) The remote unit rejected a connection initiated by the local unit. 3) There is a security issue with bringing up an additional trunk.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) Check that the security levels and security IDs are correct in configuration. 2) Security issue for additional trunks will come up if security level is CLID security and configuration is improper. 3) This may be an indication of an unauthorized remote unit attempting to connect.
PARAMETERS	1) remote unit ID 2) medium
DISPLAYED TEXT	Security failure to remote site: P1 on medium P2.

Statistic	Description
LOG NUMBER	49
DESCRIPTION	This log indicates that an unknown remote tried to connect and the attempt failed.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) Confirm that the configuration of the unit IDs are OK between the units. 2) This may be an indication of an unauthorized remote unit attempting to connect.
PARAMETERS	unit ID of the remote unit
DISPLAYED TEXT	Message from invalid remote site: P1

Statistic	Description
LOG NUMBER	50
DESCRIPTION	This log indicates that a connection came in on an unconfigured port and was rejected by the system. (PSTN connections)
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	MIG RLC, 9150
CANCELLATION	None
ACTION TO BE TAKEN	1) Check for proper port configurations on the MIG RLC and 9150 unit.
	2) Check if a local call came in on a remote-only BRI port. Ensure that non-remote only BRI trunk numbers only are given to outsiders to call 9150's local sets.
	3) Unauthorized unit may be trying to connect. Verify!
PARAMETERS	PSTN number from which the call originates
DISPLAYED TEXT	Incoming connection rejected. Address P1

Statistic	Description
LOG NUMBER	51
DESCRIPTION	This log indicates that an incoming connection from the specified remote unit failed because the specified medium is not allowed to connect to that remote unit.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) Check the correctness of configurations. 2) Verify that unit trying to connect has needed authorization.
PARAMETERS	1) Unit ID of the remote unit 2) The medium to which it attempted to connect
DISPLAYED TEXT	Signaling clash to remote site: P1 [on medium: P2]

LOG NUMBER	52
DESCRIPTION	This log indicates that no activity was found on the signaling link and all remote service phones were idle.
SEVERITY	NORMAL
TASK	Network Manager
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	None. This is part of normal system operation.
PARAMETERS	remote unit ID
DISPLAYED TEXT	Signaling closed to remote site: P1 due to no activity

Statistic	Description
LOG NUMBER	53
DESCRIPTION	This log indicates that the remote unit went Offline. No communication is possible until the unit goes Online again or Online time occurs. In Offline mode, all connections, including permanent trunks, if any, will be closed.
SEVERITY	NORMAL
TASK	Network Manager
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	remote unit ID going offline
DISPLAYED TEXT	Close signal as unit goes offline. remote site: P1

Statistic	Description
LOG NUMBER	54
DESCRIPTION	This log indicates an attempt to reach an invalid remote.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	1) Check for proper configuration 2) Check for updates completed while system was active. 3) If the message is consistent, even after proper configuration, report to vendor.
PARAMETERS	unit ID of remote unit to which connection was attempted.
DISPLAYED TEXT	Connection attempted to invalid remote site: P1

Statistic	Description
LOG NUMBER	55
DESCRIPTION	This log indicates the system was unable to place a voice call, which could be caused by the following conditions: 1) No connection to the remote. Attempts failed. 2) HIGH/NORMAL priority: No BW on trunk and IP not available. 3) CIRCUIT only call: No BW available, trunk disabled, or trunk not reachable. 4) IP only call: IP not reachable or not enabled. 5) Some inconsistency within the system - Synchronization between RLC - 9150/911x.
SEVERITY	NORMAL
TASK	Network Manager
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	1) Verify correctness of configurations. 2) Verify physical connections on the medium as per information in 1), above. **Note:** If this happens consistently for all calls, and is not an obvious problem due to configuration or BW limitations, view the statistics and report the problem.
PARAMETERS	1) remote unit ID 2) amount of bandwidth the system needs to place the additional call
DISPLAYED TEXT	Voice call did not succeed to remote site: P1 [BW required P2]

Statistic	Description
LOG NUMBER	56
DESCRIPTION	This log indicates an abnormal failure of a call. Possible reasons include:
	1) sudden link failure on the given medium
	2) drop of remote trunks on the 9150/911x side for a 911 (emergency) call
	3) sudden primary signaling failure
SEVERITY	MAJOR
TASK	Network Manager
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	Look for log numbers 42, 43, and 44 to ascertain the reason active calls were dropped.
PARAMETERS	1) bandwidth of the call
	2) unit ID of remote to which call is connected
	3) medium on which the call was active at the time of failure
DISPLAYED TEXT	Call of P1 BW got dropped to remote site: P2, medium: P3

Statistic	Description
LOG NUMBER	57
DESCRIPTION	This log indicates a failed attempt to switch a voice connection to the specified medium. This is an indication of a loss of one of the following: 1) signaling packets 2) synchronization between MIG RLC - 9150/911x
SEVERITY	MINOR
TASK	Network Manager
PRODUCT	MIG RLC
CANCELLATION	None
ACTION TO BE TAKEN	This should not happen in general. If it does, report the problem.
PARAMETERS	1) bandwidth of the call 2) medium from which the system attempted to switch the call 3) medium to which the system attempted to switch the call 4) remote unit ID
DISPLAYED TEXT	Call of P1 BW did not switch from medium: P2 to medium: P3. remote site: P4

Statistic	Description
LOG NUMBER	58
DESCRIPTION	This log indicates that there is no available trunk in the given trunk group to place a local trunk call.
SEVERITY	MINOR
TASK	Network Manager
PRODUCT	9150
CANCELLATION	None
ACTION TO BE TAKEN	If this happens consistently, think of reconfiguring B-channel allocations on 9150
PARAMETERS	None
DISPLAYED TEXT	Local call did not succeed.

Statistic	Description
LOG NUMBER	59
DESCRIPTION	This log indicates that a local call was dropped because of an abnormal link failure.
SEVERITY	MAJOR
TASK	Network Manager
PRODUCT	9150
CANCELLATION	None
ACTION TO BE TAKEN	■ Confirm that physical trunk connections are intact ■ Check for failure on the PSTN.
PARAMETERS	None
DISPLAYED TEXT	Local trunk call abnormally failed.

Statistic	Description
LOG NUMBER	60
DESCRIPTION	This message indicates that a local trunk call was dropped for an emergency (911) call because there were no free trunks.
SEVERITY	WARNING
TASK	Network Manager
PRODUCT	9150
CANCELLATION	None
ACTION TO BE TAKEN	None
PARAMETERS	None
DISPLAYED TEXT	Local call dropped for 911.

Statistic	Description
LOG NUMBER	61
DESCRIPTION	This log indicates that the signaling link to a remote unit was established on the specified medium.
SEVERITY	NORMAL
TASK	Network Manager
PRODUCT	MIG RLC, 9150, 911x
CANCELLATION	None
ACTION TO BE TAKEN	Nothing. This is part of normal system operation.
PARAMETERS	1) remote unit ID 2) medium on which connection was established.
DISPLAYED TEXT	Signaling is UP to remote site: P1 on medium: P2.

LOG NUMBER	62
DESCRIPTION	This log indicates that the IDVR server has gone down. (This log is not generated in the 1.2.1 release.)
SEVERITY	MAJOR
TASK	Device Control, Call processing
PRODUCT	MIG RLC, 9150, IDVR
CANCELLATION	None
ACTION TO BE TAKEN	1) Check for the IP connectivity to server. 2) Check for the IDVR server status.
PARAMETERS	IDVR server's IP address.
DISPLAYED TEXT	IDVR server status: P1

Statistic	Description
LOG NUMBER	63
DESCRIPTION	This log indicates a circuit-switched connection to a peer unit failed. This could be caused by several possible problems, including:
	1) A cabling issue at the remote unit could keep that unit from being able to connect on the PSTN.
	2) The data port on the MIG RLC could be disabled.
	3) For BRI connections between a 9150 and an MIG RLC the circuit switched path may not be a 64K clear channel (the required path).
	4) Incorrect dial numbers could be keeping the circuit from establishing.
	5) Bit errors could be occurring preventing communication from working. This could be due to bad cables or a bad connection.
SEVERITY	MAJOR
TASK	TP
PRODUCT	MIG RLC | 9150 | 911x
CANCELLATION	None
ACTION TO BE TAKEN	To check for the possible problems named above, take the associated action listed below:
	1) Check the PSTN connections at the remote unit.
	2) Confirm that the MIG RLC's data port is enabled.
	3) Confirm that BRI connections between a 9150 unit and its MIG RLC are 64K clear channel (the required path).
	4) Confirm that the correct numbers are configured on both ends.
	5) Confirm that cables and connections on both ends are good.
PARAMETERS	N/A
DISPLAYED TEXT	Circuit switch connection failed to initialize.

Statistic	Description
LOG NUMBER	64
DESCRIPTION	This log appears when the remote attempting to connect has a software load that is incompatible with the software load on the local unit. This log appears on both units when a mismatch occurs.
SEVERITY	CRITICAL
TASK	Network Manager
PRODUCT	RLC, 9150, 911x
CANCELLATION	A Log that indicates signaling is up on any medium to that remote unit
ACTION TO BE TAKEN	Ensure that compatible loads are running on both units attempting to communicate.
PARAMETERS	UnitID of the unit that tried to connect.
DISPLAYED TEXT	Communication with Remote P1 is not possible due to software incompatibility.