

Chapter 5 Initial Power-up

Overview

This chapter describes the initial power up of the system after the components have been installed and connected to all cabling.

Contents

5.1	Initial Powering Procedure.....	5-2
5.2	System Setup	5-3
5.3	Management—Datafill, Configuration and Optimization.....	5-8
5.3.1	Datafill.....	5-8
5.3.2	Parameters that Do Not Apply	5-9
5.3.3	Recommended Datafill Parameters.....	5-9
5.3.4	rxTxGain = 0	5-9
5.3.5	defaultTxPower.....	5-10
5.4	System Manager, Configuration, and Optimization	5-10
5.4.1	Navigating System Manager.....	5-10
5.5	Functionality Test.....	5-13
5.6	Configuring the MC-Series Standard Capacity system.....	5-14
5.6.1	Navigating the System Configuration	5-14
5.7	Optimization Procedures	5-24
5.7.1	Local Performance Monitoring.....	5-24
5.7.2	iDEN Uplink Analysis	5-26

5.1 Initial Powering Procedure

1. Verify that the AC power to the Air Conditioner (A/C) is on and the A/C is operating.
2. Verify that all breakers in the PDU are in the OFF position.
3. Ensure that the power switches on the iSCIII and the EAS are all in the OFF position.
4. Using the breakers on the PDU, turn up the equipment by completing the following steps, verifying that each component is operational before proceeding to the next step.
5. Using the breaker on the PDU and the power switch on the front of the iSCIII, turn up the iSCIII, and then verify that it is operational and that GPS lock has been established before proceeding. For more information, refer to the Motorola document Gen 3 Site Controller System Manual, 68P80801E30-O.
6. Using the breaker on the PDU and the power switch on the front of the EAS, turn up the EAS, and then verify that it is operational before proceeding. For more information, refer to the Motorola document Gen 3 Site Controller System Manual, 68P80801E30-O.
7. Using the breaker on the PDU, turn up the CSU.
8. Configure the CSU according to the manufacturer's documentation and standards.
9. Using the breaker on the PDU, turn up the ABIC and DRBS, and then verify that both components are operational before proceeding.
10. Wait approximately 3 minutes for the following indications:

DRBS:

- The STATUS LED for each Group will turn green.
- The RADIOBLADE TRANSCEIVER STATUS LEDs will turn red and then green for each present RadioBlade transceiver. If no RadioBlade transceiver is present, the LED will not light. To verify the contents of the DRBS, pull out the shelf (powering off is not required) and inspect the RadioBlade transceivers and their respective status LEDs. Referring to Figure 5.1, reinsert the DRBS. To do this, press up on one side rail locking arm and press down on the other side rail locking arm, and then push the unit into the cabinet.

CRIC

- The POWER and STATUS LEDs will turn red and then green. All ABIC card LEDs will turn green.

- Using the breaker on the PDU, turn up the RF Shelf and then verify that the RF Shelf is operational before proceeding. The POWER and ALARM LEDs on the front of the RF shelf will turn green.

Figure 5.1 Location of DRBS Side Rail Locking Arms

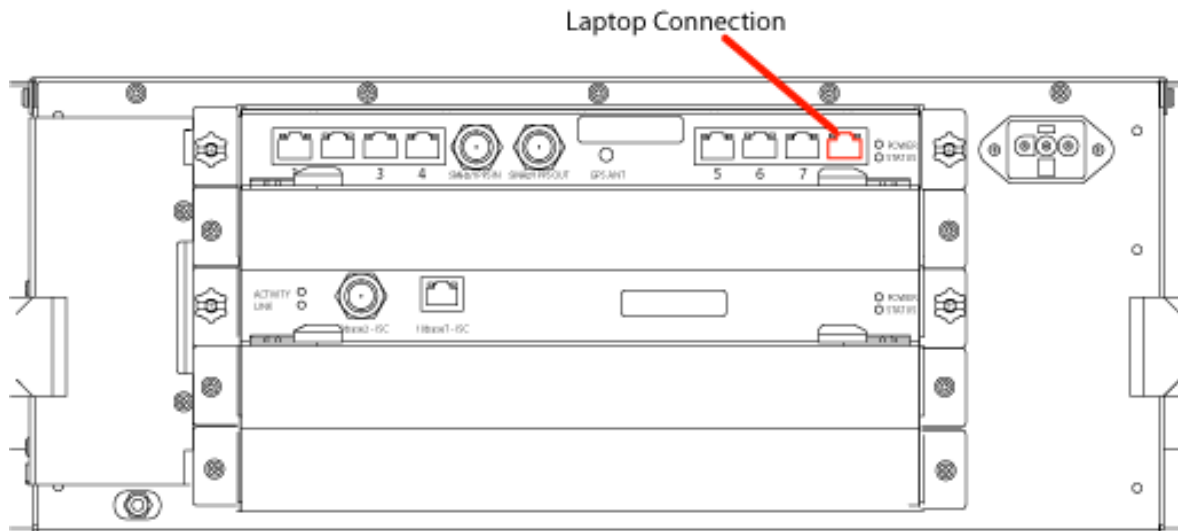


Note: Image shows Group "A" installed, Group "B" cover in place, and Group "C" with cover removed. For the single sector MCSC system, Group "B" and Group "C" are not installed.

5.2 System Setup

- Connect the laptop to port 7 of the ABIC CRIC using an Ethernet (CAT-5) cable.

Figure 5.2 Location of ABIC CRIC Laptop Connection Port



2. Set the laptop to DHCP. It will automatically assign an IP address.
3. Start System Manager.
4. Launch a browser session and enter the MCSC system IP address: <http://192.168.200.5>. The System Manager Home page appears, which contains five tabs to select from:

Home

Displays a welcome banner and a link for setting up users and changing the MCSC system password.

System Configuration

Depicts the status of the ABIC and DRBS.

Alarms

Displays alarm information.

Performance Monitoring

Displays real-time performance information.

Diagnostics

Provides tools for testing.

Support

Displays support information, including online help.

Figure 5.3 System Manager Welcome Screen



5. Log in to System Manager.
6. Select the System Configuration tab to display the login window. For **User Name**, type **Sysadmin** (case sensitive). For **Password**, type **Radioframe** (case sensitive), and then select **OK**. To change the password, refer to section Changing the System Password “Changing the System Password”.

Figure 5.4 System Manager Log-in Window



Note: Before proceeding to iDEN Configuration, it is a good idea to ensure that the MCSC system software is the latest released version. Refer to section 5.6.1 .E. (Viewing Hardware and Software Versions).

7. Select the iDEN Configuration link at the bottom of the System Configuration page.
 - a. On the iDEN Configuration page, make sure the configuration agrees with the site datafill and also the RF cabling. The sector assignments must match the cabling inn the rear of the enclosure. All cab/pos values must be associated with the appropriate sector. The MCSC system will attempt to register all BRs with the cab/pos values selected in this menu. An example configuration is shown in Figure 5.5. For more information, refer to section 3.4 (iDEN Configuration).

Figure 5.5 iDEN Configuration Page

The screenshot shows the 'System Manager' interface with the 'iDEN Configuration' page. The 'Cabinet / Position Configuration' section is active, displaying a table for three sectors. Sector 1 is selected, and its configuration is shown in the first column. The table has columns for BR Instance, Cabinet, Position, Quad, and 900 MHz. In Sector 1, BR Instance 3 is selected with a checkmark in the Quad column. The other sectors (2 and 3) are currently empty.

Sector: 1					Sector: 2					Sector: 3				
BR Instance	Cabinet	Position	Quad	900 MHz	BR Instance	Cabinet	Position	Quad	900 MHz	BR Instance	Cabinet	Position	Quad	900 MHz
1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	1	2	<input type="checkbox"/>	<input type="checkbox"/>	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	1	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	34	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	36	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Buttons: Save Changes, Clear Form

8. After iDEN configuration is updated (by clicking on Save Changes), a System Reset is required. (Refer to section 3.4 (iDEN Configuration) if necessary).
9. Go to the Performance Monitoring page (section Local Performance Monitoring “Local Performance Monitoring”) and confirm that are BRs that were intended to be brought up are in the UEA state. If there are BRs that are not active, select the **Alarms** tab and review the **Active Alarm Manager** for any active alarms.

For more information, refer to section 8.4.3 (System Manager Alarms).

10. Validate ToR output power or go to step 12 .
11. Connect the General Dynamics R2660 Series Communication System Analyzer to the rear of the enclosure Tx /Rx1. Then set up the R2660 for iDEN Base mode. Enter the control channel frequency for sector 1, and then measure the output power of that frequency.

Note: For specifications, refer to section 2.4.2 (Transmitter Performance Summary). The default is +33 dBm per carrier, assuming that the datafill parameter defaultTxPower is set to 9.5. If necessary, adjust the datafill parameter (refer to section 5.3.5 (defaultTxPower)).

12. Measure the SQE and frequency error for the control channel to see if they are within specifications.
13. Verify that all BRs have the same output power.

For each channel, enter the frequency into the R2660 and verify that the SQE, frequency error, and power level are all within specifications (refer to Table 2.9).

14. Repeat steps 7 through 13 as needed for each sector.
15. Review the **Active Alarm Manager** for any un-cleared alarms.

Refer to the section (System Manager Alarms) for more information.

5.3 Management—Datafill, Configuration and Optimization

This section describes configuration techniques that affect the behavior of the MCSC system. The Datafill section covers the datafill parameters as they differ from the Motorola EBTS. Section System Manager, Configuration, and Optimization covers configuration options using System Manager, with sections Navigating System Manager and Configuring the MC-Series Standard Capacity system introducing basic operations and Optimization Procedures presenting optimization procedures.

The MCSC system is designed for compatibility with the Motorola EBRC and QUAD Base Radios (BRs). However, due to architecture differences between the two systems, not all datafill parameters apply equally to the MCSC system.

5.3.1 Datafill

This section describes only those datafill parameters that need to be taken into consideration when used with the MCSC system. Any datafill parameter not described here can be assumed to behave identically to the Motorola EBTS. This section includes:

- 5.3.2 (Parameters that Do Not Apply) Parameters that have no effect on the MCSC system
- 5.3.3 (Recommended Datafill Parameters) Parameters that RadioFrame Networks supports, but which need to be setup differently from the typical setup for a Motorola BR

5.3.2 Parameters that Do Not Apply

The following parameters have no effect on the MCSC system. There is no functional equivalent in the MCSC system, and as such the parameters can be ignored.

A. **combinerType**

This parameter specifies the type of combiner used to connect the cells Base Radios to the antenna. The options are hybrid and cavity. The MCSC system is similar to a cavity type combiner physically but it does not have the same frequency limitations as the cavity combiner that this parameter is used for.

5.3.3 Recommended Datafill Parameters

The following parameters need to be set differently than what is currently set with Motorola BR. These settings are not required but recommended for best operation.

A. **PCC**

The power control constant is broadcast on the BCCH and is used by the MS to calculate a target value for its transmit power. For Indoor Pico and Micro-Cell applications this value will vary depending upon the RF environment (i.e., if used outdoors the value will be quite different from an indoor scenario). For the MCSC system, the setting of this parameter depends on what is connected between the MCSC system and the antenna. The default value should be calculated in accordance with Motorola guidance detailed in the Datafill Parameter Guide. Lowering this parameter forces the mobile to operate at fairly low Tx level thus conserving battery life. In cases where the MCSC system is connected to a DAS, the gains and losses of the paths should be taken into consideration. Additionally the level of uplink interference should be considered when determining this value.

B. **Pto (transmit power)**

The Cells outbound transmit power referenced at the output of the RF Distribution System Antenna Port. It is used as a reference point value when computing the link budget of the system. RadioFrame Networks recommends that the value of this parameter be set appropriate to the TOR output power, which is determined by the defaultTxPower parameter (see below).

5.3.4 rxTxGain = 0

This parameter is the difference in gain between the receiver and transmit antenna paths expressed in dB. The MCSC system does not use this parameter directly.

5.3.5 defaultTxPower

Note: Refer to release notes for the proper range information.

This is the average output power of the PA, measured at the RF connector of the BR. For the MCSC system, this parameter can be used to adjust the output power of the system. The gain at the shelf is fixed and cannot be altered. The MCSC system has a different range of output levels than a standard Motorola EBTS, and as such, these values will map to a different set of actual Tx output power levels. Refer to the Datafill Guide for the values and more information.

5.4 System Manager, Configuration, and Optimization

5.4.1 Navigating System Manager

A. Logging into System Manager

1. Connect a laptop computer to port 7 of the ABIC CRIC using an Ethernet (Cat-5) cable.
2. Start System Manager by typing the IP address of the MCSC system into Internet Explorer (default 192.168.200.5).
3. The System Manager Home page appears and displays five tabs to select from to set up and monitor the RadioFrame MCSC system.

Figure 5.6 System Manager Home Page



Home

Displays a welcome banner and a link for setting up users and changing the MC-Series system password.

System Configuration

Depicts the status of the ABIC, DRBS, and RadioBlade transceivers.

Alarms

Displays alarm information.

Performance Monitoring

Displays real-time performance information.

Diagnostics

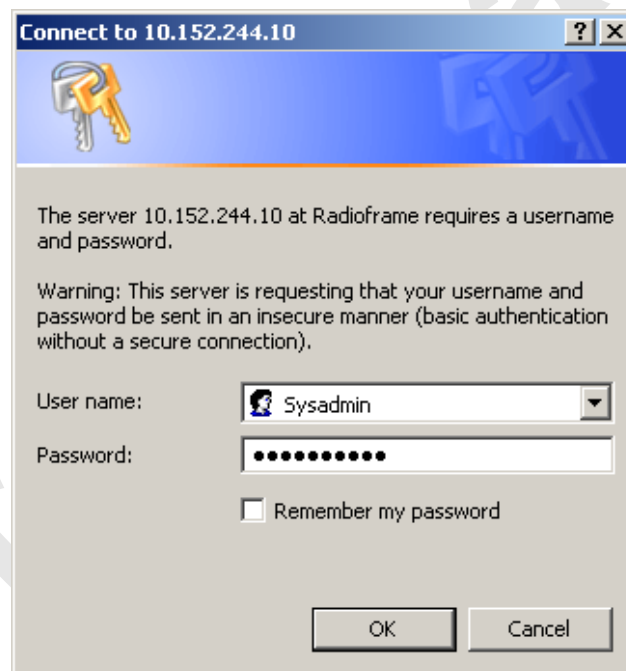
Provides tools for testing.

Support

Displays support information, including online help.

4. To log in, select any tab.
5. For **User Name**, type the MCSC system user name.
6. For **Password**, type the MCSC system password.
7. To save the password, check '**Save this password in your password list**' check box.
8. Select **OK**.

Figure 5.7 Network Password Pop-up Dialog Box

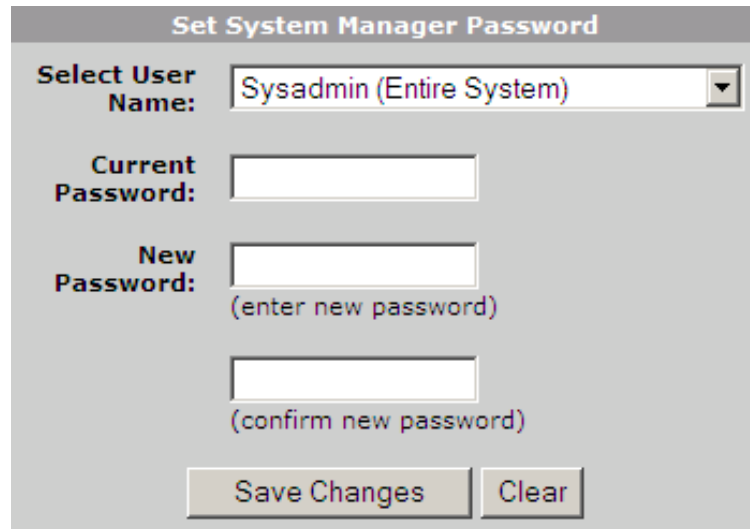


B. Changing the System Password

1. Select the Home tab, and then select the User Provisioning link.
2. For Select User Name, choose the appropriate system title from the drop-down menu.
3. Typically, choose Sysadmin (Entire System) unless instructed to do otherwise.

4. Type the Current Password.
5. Type the New Password and confirm it, then select Save Changes.

Figure 5.8 Set System Manager Password Dialog Box



The dialog box is titled "Set System Manager Password". It contains the following fields and controls:

- Select User Name:** A dropdown menu with "Sysadmin (Entire System)" selected.
- Current Password:** A text input field.
- New Password:** A text input field with the prompt "(enter new password)" below it.
- Confirm Password:** A text input field with the prompt "(confirm new password)" below it.
- Buttons:** "Save Changes" and "Clear" buttons at the bottom.

5.5 Functionality Test

RadioFrame Networks recommends that a certification process be completed to ensure proper operational performance and to verify the integrity of the following services:

- Voice quality for 3:1 Interconnect Voice
- Voice quality for 6:1 Private Group Dispatch Voice
- Call setup reliability for 3:1 Interconnect Voice
- Call setup reliability for 6:1 Private and Group Dispatch Voice
- Call stability for all of the above voice services
- Connection quality, stability, delay and perceived throughput for the Packet Data service
- Connection setup reliability for Packet Data
- Idle SQE quality and variation
- Call up SQE quality and variation
- Short Message Service
- Handover and cell reselection
- Performance will also be validated by collecting at least one week of

performance statistical data

Refer to Appendix C (Functionality Test Procedures) for procedures to conduct functionality testing.

Note: MCSC system does not support Circuit-Switched data.

5.6 Configuring the MC-Series Standard Capacity system

5.6.1 Navigating the System Configuration

The System Configuration page displays icons depicting the ABIC and the DRBS (see Figure 5.1). The colored bar beneath each icon represents the status of that component as listed in Table 5.1.

Figure 5.9 BIC Configuration Page Showing ABIC and DRBS Status

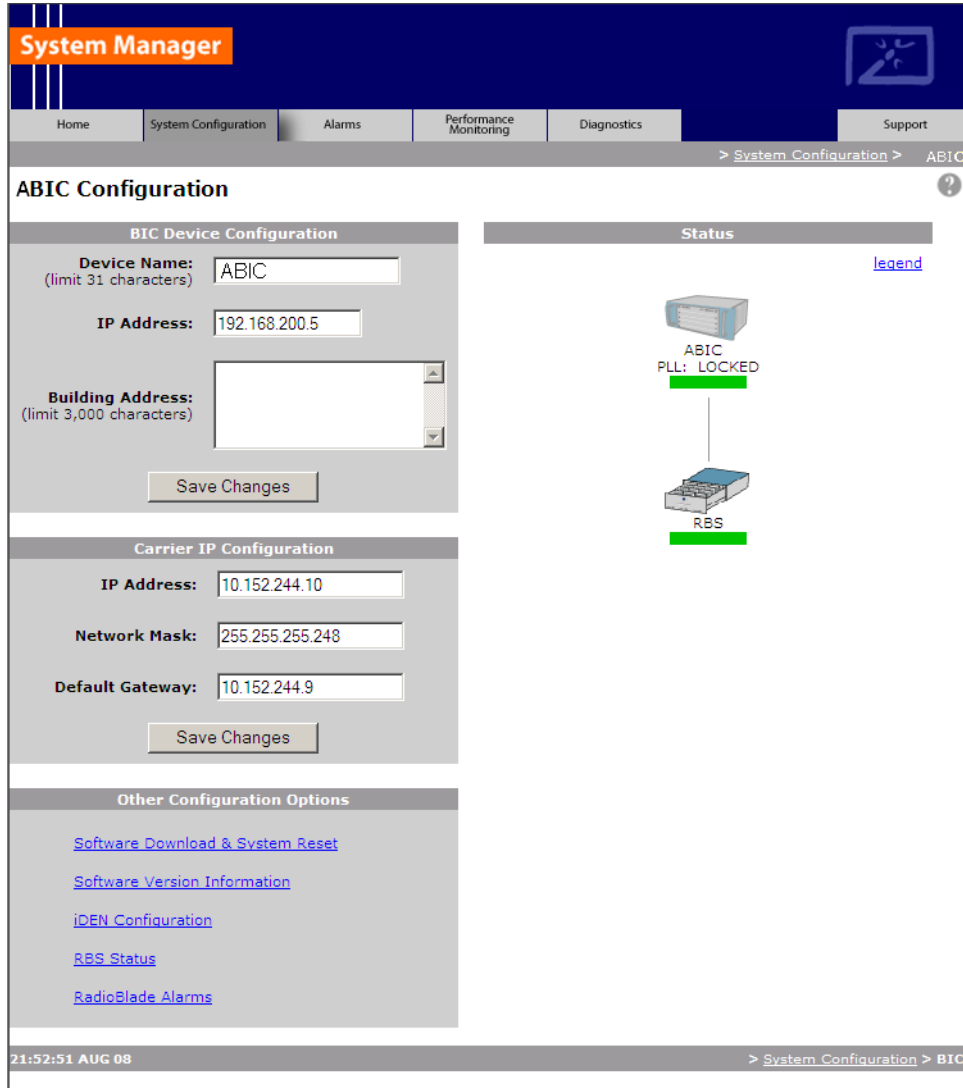


Table 5.1 Status Color Interpretations

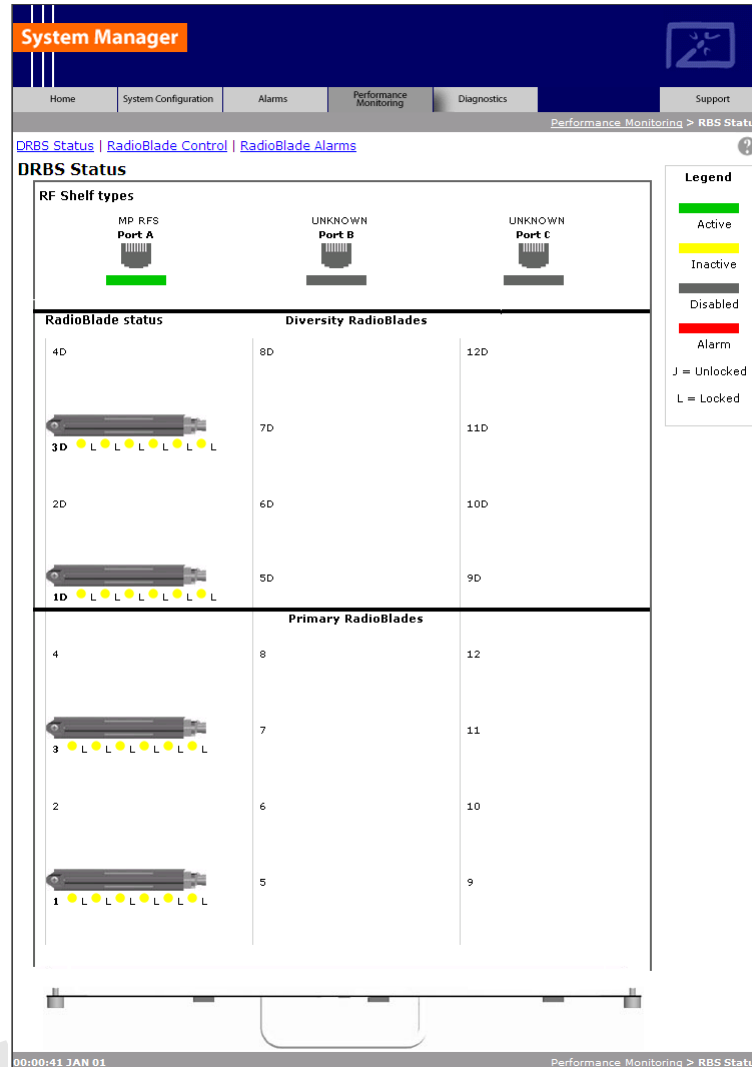
Color	Status Indicator	Description
Green	Active	The component is installed, configured and operational.
Yellow	Inactive	The component is installed but has not been configured.
Gray	Inactive	Unit not installed or Port disabled
Red	Alarm	The component has returned an alarm condition. Refer to 8.4.3 (System Manager Alarms) for specific alarm conditions.

1. To view configuration information for a component, select its icon.
2. The ABIC configuration page displays the device name, IP address, building address and other pertinent information.
3. To return to a previous page, select the component pathname at the top of the tab (System Configuration>BIC...), or to return to the ABIC configuration page, select the System Configuration tab at any time.

A. Viewing the Status of the RadioBlade Transceivers

The DRBS Status, RadioBlade Alarms, and RadioBlade Control (formerly RadioBlade Statistics) pages show the MCRB. Select the **DRBS STATUS** link at the bottom of the System Configuration page. The DRBS Status page displays an icon for each RadioBlade transceiver installed in the DRBS, and indicates the status of the RadioBlade transceiver and whether or not it is locked. At the top of the page are three icons representing the status of each group (A and C) in the DRBS.

Figure 5.10 RadioBlade Status Page



B. Locking and Unlocking a RadioBlade Transceiver

Select the RadioBlade transceiver icon or the RadioBlade Control link at the top of the DRBS Status page. The RadioBlade Control page displays the following information for each iDEN RadioBlade transceiver:

- RadioBlade transceiver Slot (1-24)
- RB ID
- State
- RB PLL Status
- Carrier ID

- Transmit Frequency
- Cabinet
- Position
- Locked/Unlocked

To lock or unlock a RadioBlade transceiver, select the icon in the Locked/Unlocked column.

Preliminary

Figure 5.11 RadioBlade Control Page

System Manager

Home | System Configuration | Alarms | Performance Monitoring | Diagnostics | Support

Performance Monitoring > RadioBlade Control

DRBS Status | RadioBlade Control | RadioBlade Alarms

RadioBlade Control [lock_all](#) | [unlock_all](#)

Group A

RB Slot	RB ID	RB PLL Status	Tx Power	State	Carrier ID	Trans. Freq.	Cabinet	Position	Locked/Unlocked
1	8c:01	N/A (LOCKED)	0	-	-	-	-	-	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
2	empty								
3	8d:2d	N/A (LOCKED)	0	-	-	-	-	-	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
4	empty								
1D	8d:1f	N/A (LOCKED)	0	-	-	-	-	-	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
	-	-	-	LDI	0	0	0	0	🔒
2D	empty								
3D	empty								
4D	empty								

C. RadioBlade Alarms Page

The RadioBlade Alarms Page displays information for RadioBlade transceivers either on a per-channel or per-blade basis, as appropriate for that type of alarm. This page is shown in Figure 5.12.

Figure 5.12 RadioBlade Alarms Page

System Manager

Home
System Configuration
Alarms
Performance Monitoring
Diagnostics
Support

[RBS Status](#) | [RadioBlade Control](#) | [RadioBlade Alarms](#) ?

RadioBlade Alarms

Group A

RB Slot	RB ID	State	PLL 1 Errors ?	PLL 2 Errors ?	PLL 3 Errors ?	RF AdjRx Error	FPGA E2 Error	Rx Overflow / [PLL 4] ?	Tx Overflow / [PLL 5] ?	Tx Underrun / [PLL 7] ?	Slt Mismatch / [PLL 6] ?	TxSize Error	CRC Error
1	7b:e8	-	0	0	0	0	0	[0]	[7]	[7]	[0]	-	0
-	-	UEA	-	-	-	-	-	0	1	0	0	0	-
-	-	UEA	-	-	-	-	-	0	1	0	0	0	-
-	-	UEA	-	-	-	-	-	0	1	0	0	0	-
-	-	UEA	-	-	-	-	-	0	1	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
2	81:37	-	0	0	0	0	0	[0]	[1]	[1]	[0]	-	0
-	-	UEA	-	-	-	-	-	0	0	0	0	0	-
-	-	UEA	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
3	81:d6	-	0	0	0	0	0	[0]	[0]	[0]	[0]	-	0
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
4	87:77	-	0	0	0	0	0	[0]	[0]	[0]	[0]	-	0
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-
-	-	LEI	-	-	-	-	-	0	0	0	0	0	-

D. Changing the Device Name, IP Address or Building Location

The System Configuration page displays the configuration for the selected component (BIC and DRBS) including the Device Name, IP Address, and Building Address—this information can be changed at any time. For the ABIC, this page also displays External IP Configuration, the information that systems outside the MCSC system use to recognize it, including the Default Gateway (the IP address of the CSU).

1. Select the icon of the component to be changed.
2. For Device Name, enter up to 31 alphanumeric characters to uniquely identify the component.
3. The IP Address is assigned during the installation of the MCSC system, and doesn't need to be changed.
4. For Building Address, enter up to 3,000 alphanumeric characters specifying the location of the component. Enter information such as the street address, mailing address, building and other site information, as well as the building floor, Telco closet and cabinet location.
5. Select Save Changes.

Figure 5.13 System Configuration Page, ABIC Selected Component

System Manager

Home System Configuration Alarms Performance Monitoring Diagnostics Support

> System Configuration > ABIC

ABIC Configuration

BIC Device Configuration

Device Name: (limit 31 characters)

IP Address:

Building Address: (limit 3,000 characters)

Carrier IP Configuration

IP Address:

Network Mask:

Default Gateway:

Other Configuration Options

[Software Download & System Reset](#)

[Software Version Information](#)

[iDEN Configuration](#)

[RBS Status](#)

[RadioBlade Alarms](#)

Status

[legend](#)

ABIC
PLL: LOCKED

RBS

21:52:51 AUG 08 > System Configuration > ABIC

E. Viewing Hardware and Software Versions

Select the **Software Version Information** link on the System Configuration page. The Software Version Information page depicts each component in the MCSC system, and each board installed in each component. For each board the page lists:

- MAC—the MAC address
- HW—hardware version
- FPGA—Field Programmable Gate Array version (manufacturer defined)
- ROM—software loaded at time of shipment

- SW Selected—currently selected software version, A or B
- SW Loaded—currently loaded software version, A or B
- SW Versions A—Software version loaded in partition A
- SW Versions B—Software version loaded in partition B

Figure 5.14 Software Version Information Page

System Manager

Home System Configuration Alarms Performance Monitoring Diagnostics Support

> System Configuration > Software Version Information

Software Version Information

aBIC 192.168.200.5

SW Versions A	SW Versions B
Platform: RFN_MC_R15.0.604 HTTP: RFN_MC_R15.0.604 IDEN: RFN_MC_R15.0.604 HTTP: RFN_MC_R15.0.604	Platform: RFN_MC_R15.0.604 HTTP: RFN_MC_R15.0.604 IDEN: RFN_MC_R15.0.604 HTTP: RFN_MC_R15.0.604

bCRIC 192.168.200.5
MAC: 00:03:e0:40:15:9d
HW: 000c
FPGA: 000b
ROM: RFN_MC_R15.0.604
SW Selected: Version A
SW Loaded: Version A

SW Versions A	SW Versions B
Platform: RFN_MC_R15.0.604 HTTP: RFN_MC_R15.0.604 IDEN: RFN_MC_R15.0.604 HTTP: RFN_MC_R15.0.604	Platform: RFN_MC_R15.0.604 HTTP: RFN_MC_R15.0.604 IDEN: RFN_MC_R15.0.604 HTTP: RFN_MC_R15.0.604

aBPC 192.168.200.8
MAC: 00:03:e0:30:24:1d
HW: 0003
FPGA: 6009
ROM: RFN_MC_R15.0.604
SW Selected: Version A
SW Loaded: Version A

SW Versions A	SW Versions B
Platform: RFN_MC_R15.0.604 DSPRX: RFN_MC_R15.0.604 DSPTX: RFN_MC_R15.0.604 IDEN: RFN_MC_R15.0.604	Platform: RFN_MC_R15.0.604 DSPRX: RFN_MC_R15.0.604 DSPTX: RFN_MC_R15.0.604 IDEN: RFN_MC_R15.0.604

RBS GROUPS

GROUP A
MAC: 00:03:e0:50:28:75
HW: 0020
ROM: RFN_MC_R15.0.604
SW Selected: Version A
SW Loaded: Version A

SW Versions A	SW Versions B
Platform: RFN_MC_R15.0.604 RBS FPGA: RFN_MC_R15.0.604 IDEN: N/A IDEN FPGA: 0x080 MCRB FPGA: 0x015	Platform: RFN_MC_R15.0.604 RBS FPGA: RFN_MC_R15.0.604 IDEN: N/A IDEN FPGA: 0x080 MCRB FPGA: 0x015

04:21:56 > System Configuration > Software Version Information

F. Changing the iDEN Configuration

The MCSC system operates as a series of base radios. Each RadioBlade transceiver in the MC-Series is assigned a BR ID and sector (1, 2 or 3). And, each BR in the MCSC system is assigned a default cabinet position in the site datafill.

To change the default cabinet position:

- 1 Select the **iDEN Configuration** link at the bottom of the System Configuration tab.
- 2 Enter the **Cabinet** and **Position** for the specified BR(s).
- 3 Select any **Quad BRs** (only one per group), according to site datafill parameters.

- 4 In Figure 5.15, one Quad BR has been selected: **BR Instance 5 Cabinet 3 Position 5**, in the first group. In this example, BRs 5 through 8 make up the Quad BR.
- 5 Select the **Save Changes** button to save the changes.

Figure 5.15 iDEN Configuration Page

The screenshot shows the 'iDEN Configuration' page in 'System Manager'. The main content is a table titled 'Cabinet / Position Configuration' with three columns for Sector 1, Sector 2, and Sector 3. Each sector has a dropdown menu and a table of BR Instance, Cabinet, Position, Quad, and 900 MHz. In Sector 1, BR Instance 5 is selected at Cabinet 3, Position 5. The 'Save Changes' and 'Clear Form' buttons are at the bottom of the table.

Cabinet / Position Configuration														
Sector: 1					Sector: 2					Sector: 3				
BR Instance	Cabinet	Position	Quad	900 MHz	BR Instance	Cabinet	Position	Quad	900 MHz	BR Instance	Cabinet	Position	Quad	900 MHz
1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	1	2	<input type="checkbox"/>	<input type="checkbox"/>	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	1	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	34	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	36	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: The Sector 2 and Sector 3 groups of the DRBS is not available for use in the Base system.

5.7 Optimization Procedures

5.7.1 Local Performance Monitoring

1. In System Manager, select the Performance Monitoring tab.

Figure 5.16 Operational Status—Performance Monitoring Page

System Manager

Home | System Configuration | Alarms | Performance Monitoring | Diagnostics | Support

> iDEN Performance Monitoring

[RBS Status](#) | [RadioBlade Control](#) | [RadioBlade Alarms](#)

iDEN Performance Monitoring

Number of System Interconnect Setups: 0

Number of System Dispatch Setups: 0

Number of System Interconnect LOTS: 0

Number of System Dispatch LOTS: 0

Number of System Percent LOTS: 0.00%

iSC Version: Not Regd

bCRIC Uptime: 00:46:14

Time since last reset: 00:46:14

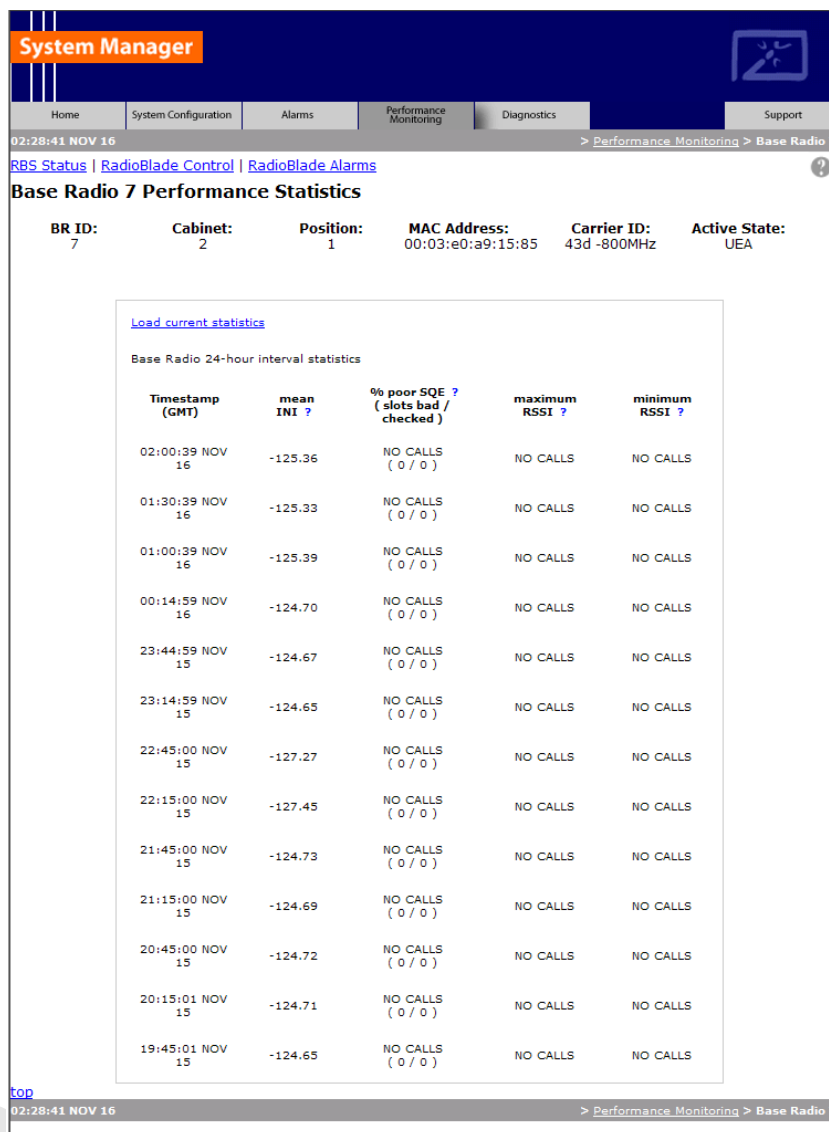
Group A	Group B	Group C
There are no BRs assigned to Group A	There are no BRs assigned to Group B	There are no BRs assigned to Group C

00:46:14 JAN 01 > iDEN Performance Monitoring

Note: Group “B” is not supported on the MCSC system main cabinet.

2. Select a BR icon to display the **Base Radio Performance Statistics** page.
3. Verify that the mean INI is within normal range (will vary depending on what is connected between TOR and the antenna).
4. Verify that the % poor SQE does not exceed 2% on a substantial number of packets (i.e., greater than 10,000 packets).
5. Repeat steps 2 through 4 for each BR in the system.

Figure 5.17 Base Radio Performance Statistics Page

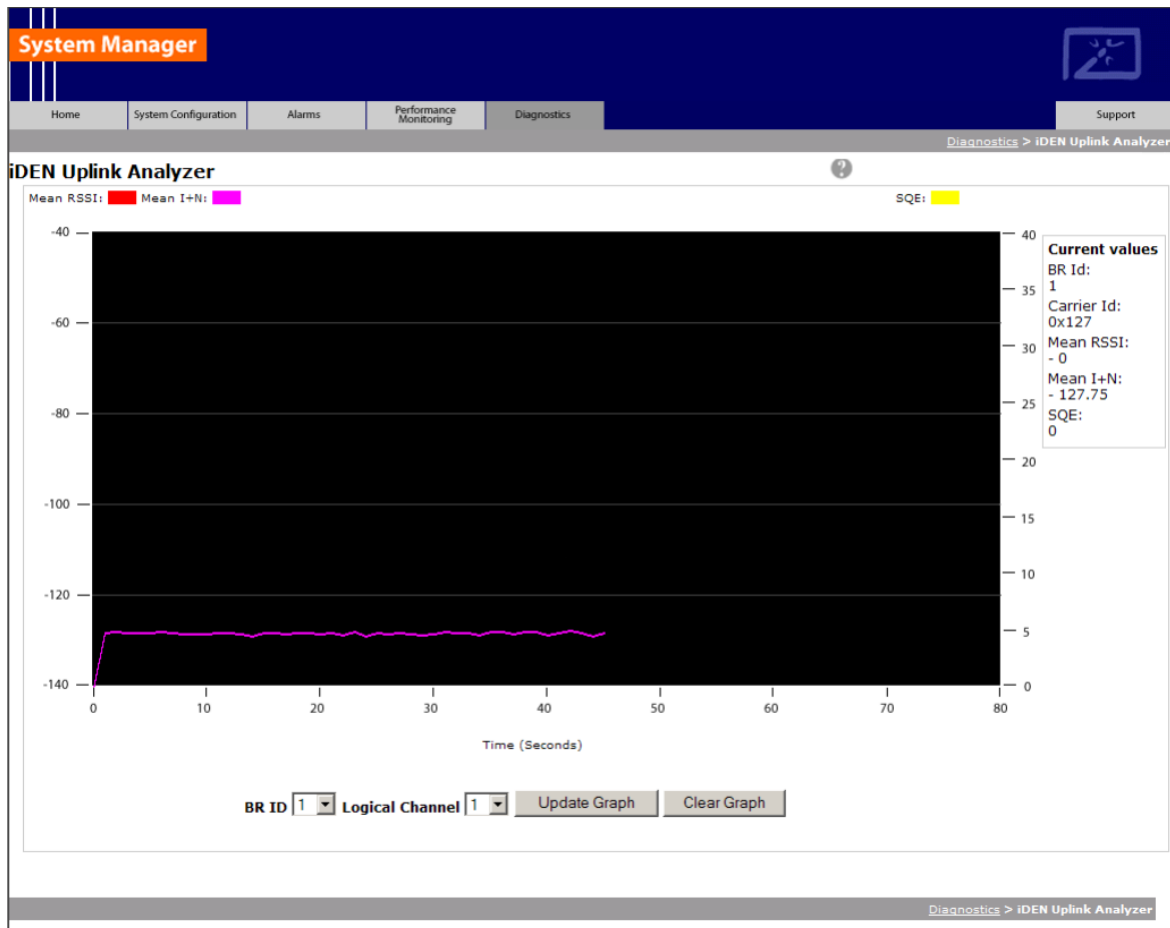


5.7.2 iDEN Uplink Analysis

RadioFrame Networks' iDEN Uplink Analysis Tool plots the Mean RSSI, Mean I+N and SQE for the last 80 seconds for the BR channel which has been selected. Figure 5.18 shows the System Manager page, accessible from the Diagnostics tab. The analyzer prints the following information:

- Mean RSSI (---- red): Average Received Signal Strength Indicator.
- Mean I+N (---- magenta): Average Interference Plus Noise.
- SQE (---- yellow): Signal Quality Estimate.

Figure 5.18 Uplink Analyzer Page



A. To use the Uplink Analysis Tool:

1. Select a radio and channel:
 - a. Select the base radio from the BR ID menu. Select the channel from the Logical Channel menu.
 - b. Click Update Graph to clear the screen and start a new graph with the new radio and channel.
 - c. Click Clear Graph to reset the graph and start fresh with the current base radio and channel.
2. Reset the graph by clicking Clear Graph, and start fresh with the current base radio and channel.

Note: The Carrier ID is displayed in Hex for the BR chosen.

B. Voice Loopback Diagnostic Test

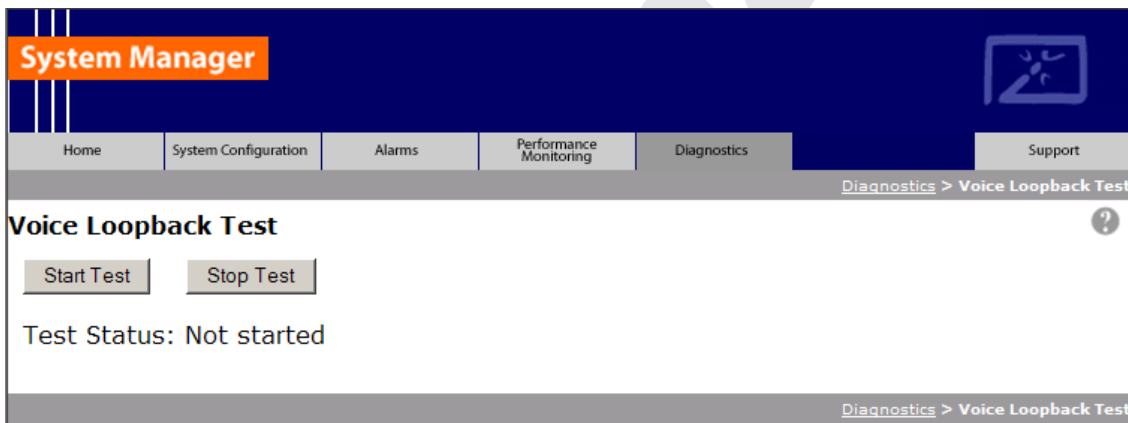
The Voice Loopback Diagnostic test provides the ability to loop all inbound voice traffic back out on the same logical channel for a given BR. This allows a person with a mobile to do uplink and downlink testing on a given BR without having to call someone else to monitor voice quality. The person on the Mobile simply speaks into the mobile and can hear his or her own voice.

Note: This test can also be used to isolate voice quality issue to the backhaul.

To use the Voice Loopback Test feature:

1. Click Start Test on the Voice Loopback Diagnostic Test Page to start the voice packet loopback. The first call, and only the first call, set up after Start Test is selected will be looped back. If a call other than the tester's happens to be set up after Start Test is selected and before the tester has the opportunity to set up the call, the other call will be looped back.

Figure 5.19 Voice Loopback Diagnostic Test Page



2. Speak into the handset, and listen to evaluate voice quality.
3. Click Stop Test to terminate the test.

The loopback will persist on the selected BR until the Stop Test button is selected.

The Test Status line will give a brief indication of the test state (Not Started; Waiting for Call Setup; Started).

C. System Parameter Information Page

The System Parameter Information Page displays the type 1 iDEN System Parameter Information that comes across the BCCH chain.

Note: Only a subset of the BCCH information is currently displayed.

Figure 5.20 System Parameter Information Page

System Manager

Home System Configuration Alarms Performance Monitoring Diagnostics Support

Diagnostics > System Parameters

System Parameters

brId 16 updated 34 seconds ago

PCC Value (dB):	-65
Color Code, Extension:	2, 0
PCCH Carrier Id :	47d
hdvrCINROutboundThreshold (dB):	6
hdvrCINROutboundHysteresis (dB):	8
rseICINROutboundThreshold (dB):	8
rseICINROutboundHysteresis (dB):	6
Neighbor 0:	Carrier 127 Color Code 2 Class 2
Neighbor 1:	Carrier 43d Color Code 2 Class 2
SCCH:	NA

Note: The datafill parameters “hdvrCINROutboundThreshold” and “rconCINROutboundThreshold” are modified in the iSCIII per the iDEN specification.

The value displayed as “rseI_threshold” in the System Parameter Information page reflects the observed BCCH value, which is the datafill value of “rconCINROutboundThreshold”, offset by + 14 dB. The value displayed as “hdvr_threshold” is the datafill value “hdvrCINROutboundThreshold”, offset by + 14 dB. For example, in the screen shot shown in Figure 5.20, the datafill value corresponding to “hdvr_threshold” would be equal to 6 (i.e., 6 + 14 = 20).

System Manager is the MCSC system web-based interface. System Manager provides status, performance, and alarm information for the MCSC system and its components, as well as diagnostic tools and online help. When new releases of System Manager are provided, download the new release as described in section 6.1 (Upgrading MC-Series Standard Capacity system Software).

If any of the following information is changed in System Manager, also note those changes on the Equipment Inventory or site as-built documentation:

- Physical location
- IP addresses
- Port connections
- Sector locations

Preliminary