

Prepared (also subject responsible if other) / XSNBRKI		No. 4/1532-LZA 701 0001 Uen		
Approved EAB/ FJG/RSP (Louise Cederlund)	Checked	Date 2008-05-14	Rev G	Reference

Verifying RBS Installations at Site

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1 Introduction

This document describes the tests that must be performed to verify the installation of the RBS cabinet. The RBS cabinet has already been tested at the factory.

The following units are involved when testing the site installation:

- RBS main power switch, located outside the cabinet
- Distribution power switches on the Internal Distribution Module (IDM)
- Operation and Maintenance Terminal (OMT) interface and controls on the Distribution Switch Unit (DXU)

For information about the required test equipment, tools and documents, see Section 2 on page 4 .

Preconditions

Before starting the tests, ensure the following:

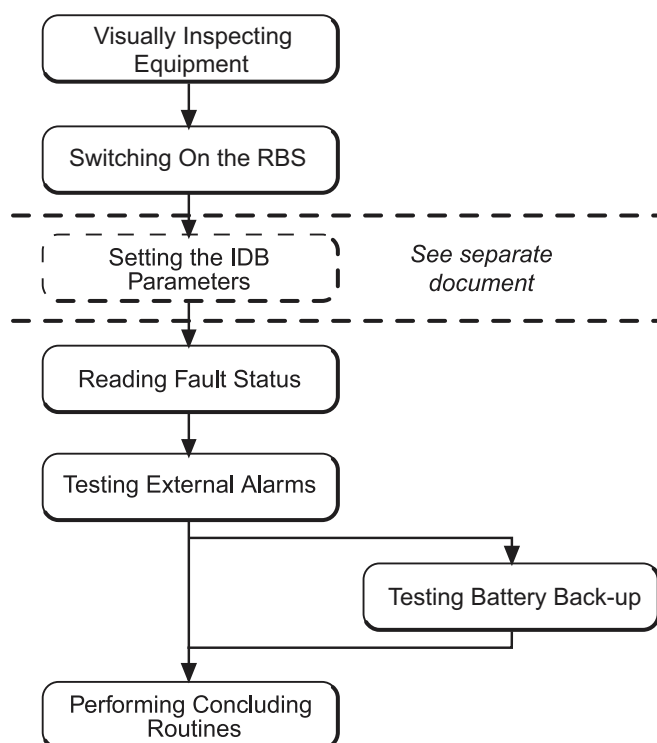
- A completed test record for Antenna System Tests is available in the *Site Installation Documentation*
- A test record for Site Installation Tests at site is available
- Documents Personal Health and Safety Information and System Safety Information have been read
- In specific markets where the RBS is supplied without software, the software must be loaded from the OMT according to the instructions given in the document RBS SW Update, using the alternative “New IDB created, using the OMT, is to be used” or “The IDB on flash card is kept”.

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Work Process for Site Installation Verification

This section describes the order in which to perform the tests. When the exit criteria are fulfilled, the tester should enter the results in the test record, see (Page 11) and return to the work process for the next step.

Note: For instructions on setting the Installation Database (IDB) parameters, see document Setting IDB Parameters*.



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Figure 1 Work Process

The work order can be altered, or tests can be removed owing to local circumstances, but if this is the case, then an investigation of the consequences must be carried out. If the work order is changed or tests are removed then the department responsible for this document must be notified and agree to the changes, or responsibility is automatically transferred to the person making the decision.

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1.1 Revision Information

Other than editorial changes, this document has been revised as follows:

- Information on loading software added to section Preconditions and section Switching On the RBS

2 Prerequisites

2.1 Documentation

Ensure that the following documents, referred to in this document, are read and understood:

- Personal Health and Safety Information, 124 46-2885
- System Safety Information, 124 46-2886

Ensure that the following documents are available:

- *Site Installation Documentation*, specific for the site
- *OMT User's Manual*, included in the OMT kit
- Setting IDB Parameters*
- Installation Troubleshooting, 2/1545-LZA 701 0001
- Optical Indicators and Switches, specific for the RBS
- RBS SW Update
- *DF-OVP Installation Instructions*, EN/LZT 751 0040

2.2 Tools and Equipment

This section provides information on site installation verification equipment.

Table 1 Site Installation Verification Test Equipment

Product Name	Description	Product No.
Digital multimeter	Measuring instrument for voltage, current, and resistance	LPK 102 024/3

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3 Visually Inspecting Equipment

1. Ensure that all cable connections at the front of the cabinet are correctly connected.
2. Check that all screws are tightened.
3. Check that no cables are damaged.

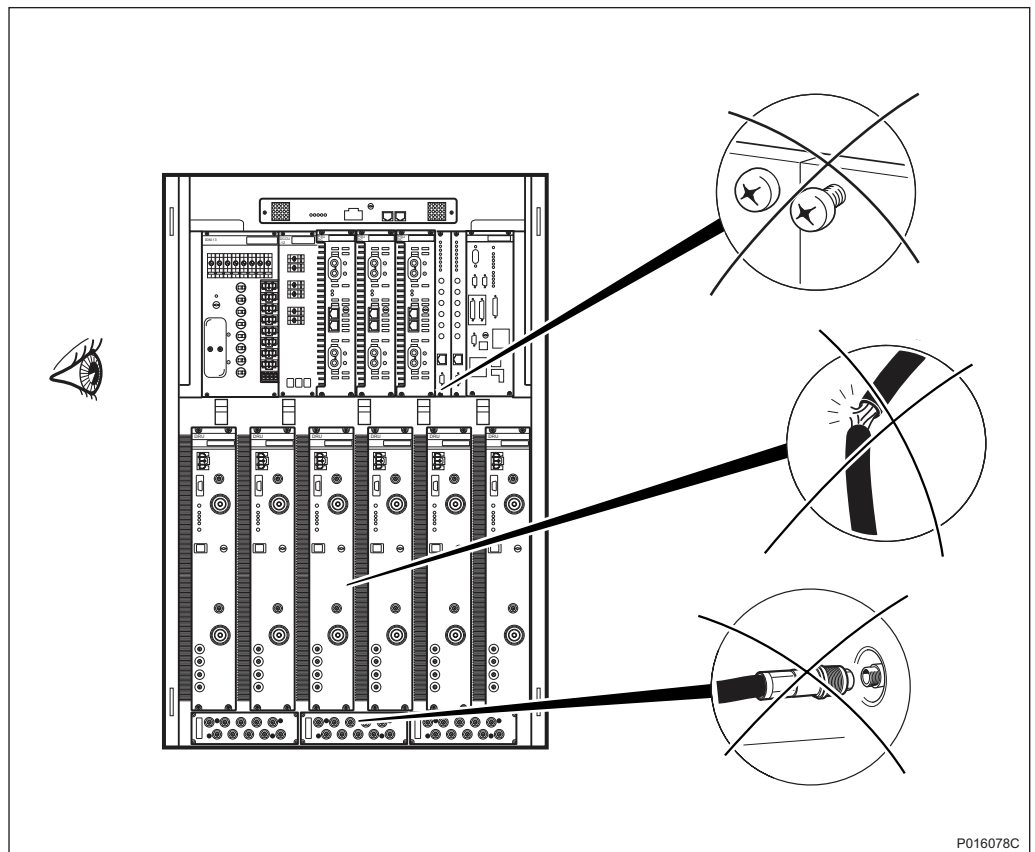


Figure 2 Visually Inspecting Equipment

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4 Switching On the RBS

This section describes how to switch on the RBS.

1. Switch on the RBS main power. The switch for the RBS main power is located outside the cabinet
2. Switch on all applicable circuit breakers on the IDM.
3. Switch on the battery fuse switch, located outside the cabinet. This is applicable only if the RBS is configured with a battery backup system.
4. If the RBS is not supplied with software, download the software from the OMT. Follow the instructions given in the document RBS SW Update, using the alternative "The IDB on flash card is kept".
5. Wait until all units are powered up before continuing testing of the site installation.

Note: When the Operational indicator is double-flashing on a Replaceable Unit (RU), it means that the RU is performing a function change and saving software in internal flash memory.

Do not disturb any RU or change any RU to local mode while an RU is indicating a function change. RUs continue to indicate function changes until a function change restart takes place. For further information, see document Optical Indicators and Switches.

Note: If the indicator on the DXU is flashing, software need to be loaded. Follow the instructions given in the document RBS SW Update, using the alternative "New IDB created, using the OMT, is to be used" or "The IDB on flash card is kept".

Note: It can take up to 10 minutes before all units in the cabinet are in operation.

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5 Reading Fault Status

This section describes how to use the OMT to read the fault status, using the OMT. If any fault indicator on the RBS is on, then the fault status must be read.

1. Read the IDB, if it has not been read. See *OMT User's Manual*.
2. On the **Maintenance** menu, click **Monitor**.
3. In the Monitor window, expand the Managed Object (MO) fault maps, select RBS, then select **Run**.
4. Select RBS, press the right arrow, and click **Start Monitor**.
5. Check the RBS Event Monitor window to see if any faults are indicated and correct them before continuing.
6. Leave the RBS Event Monitor window open for the next test.

6 Testing External Alarms

This section describes how to use the OMT to test that all external alarms, if used, are recognized and handled correctly. The test is passed when all alarms are recognized.

The test can be performed by shorting or leaving the corresponding pins open on the 36-pin connector on the DXU or the 37-pin connector on the alarm cable.



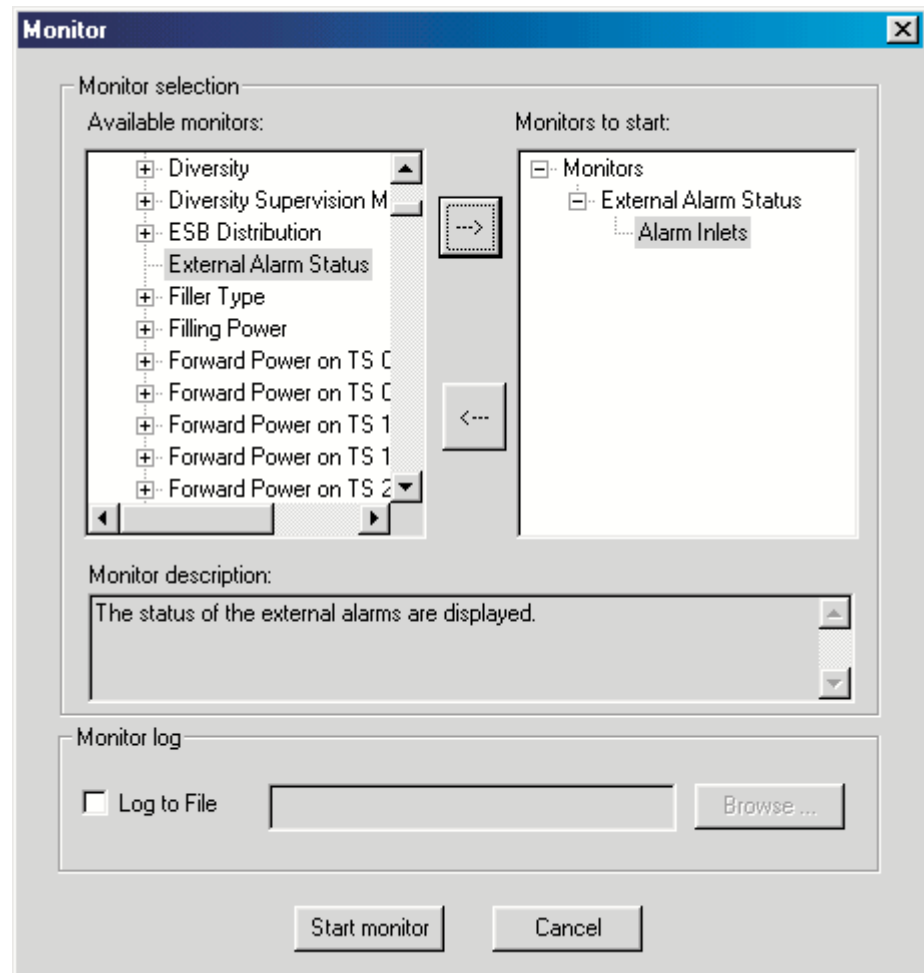
Do!

Always use an approved ESD wrist strap when working with sensitive equipment. Damage to components mounted on printed board assemblies can occur if an ESD wrist strap is not used.

Note: The alarms must be individually identifiable in the OMT. There must be no doubt about which alarm is indicated. The alarm message must be unique to each alarm.

1. On the **Maintenance** menu, click **Monitor** to open the Monitor window. See figure below.

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Figure 3 External Alarms Testing

2. In the Available monitors box, select External Alarm Status and click → to add Alarm Inlets in the Monitors to start box.
3. Click **Start Monitor**.
4. Remove the external alarm covers. See document *DF-OVP Installation Instructions*.
5. Ensure that the external alarm cable on the RBS side of each Overvoltage Protection (OVP) module, and the wires of the external alarm cable on the customer side are properly connected.
6. Trigger the alarm by either closing or breaking it at the OVP module or by triggering the alarm detector.

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Note: Always test the alarms in numerical order, starting with alarm1.

Table 2 Closing/Breaking Alarms

If:	Then:
a closing alarm is to be triggered (the alarm cable is open when no alarms are present)	short the alarm inlet on the customer side of the OVP block.
a breaking alarm is to be triggered (the alarm cable is closed when no alarms are present)	open the alarm inlet on the customer side of the OVP block.

7. Check that the alarm is correctly recognized according to the table below.

Table 3 Checking Triggered Alarms

Check the Following:	Yes
The external alarm indicator on the DXU shows a constant yellow light	
The relevant alarm appears in the RBS Event Monitor window	

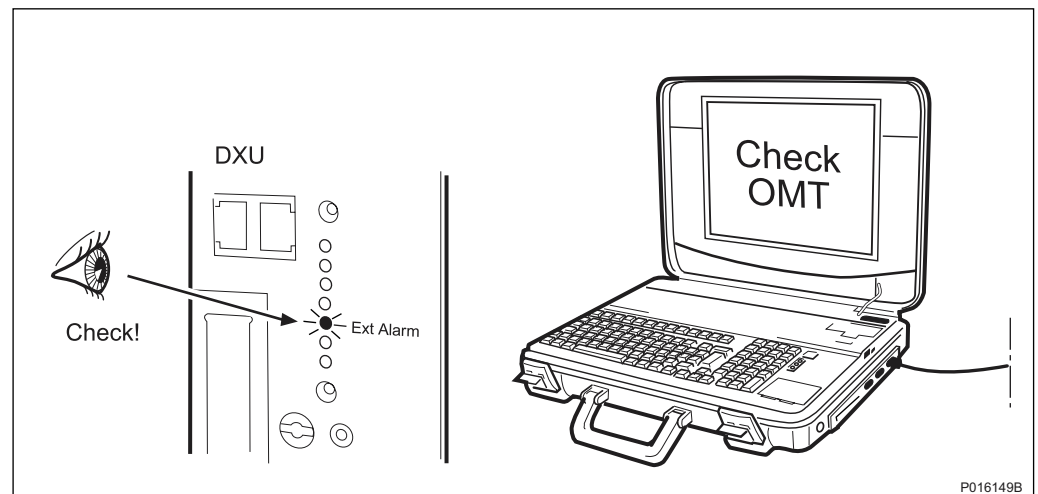


Figure 4 Checking Triggered Alarms

8. Release the trigger on the alarm and check that the alarm disappears according to the table below.

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Table 4 Checking Released Alarms

Check the Following:	Yes
The external alarm indicator on the DXU goes off	
The alarm disappears from the OMT	

9. Repeat steps 6 to 8 for all defined external alarms.
10. Close the RBS Event Monitor window when finished.
11. Put back the external alarm connection unit and the Distribution Frame (DF) cover.

7 Testing Battery Backup

This section describes how to check that the batteries in the Battery Backup System (BBS) are able to supply DC power when the AC power is switched off.

To pass the test, the RBS must continue running when turning off the mains power.

Note: The test must be performed only if a BBS is connected to the RBS.

Preconditions

Before starting the test, ensure that:

- The batteries in the BBS have been charged for at least half an hour
- The section on handling and connecting batteries in document Personal Health and Safety Information has been read



Caution!

Improper handling of batteries can result in the batteries short-circuiting, which can result in serious injury due to high energy levels. Exercise the necessary care when working with batteries.

Testing the Battery Backup

1. Switch off the incoming AC power to the RBS, using the main switch outside the cabinet. See *Site Installation Documentation*.

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Table 5 RBS Check with AC Power Off

Check That:	Yes
The Battery Mode indicator on the BFU shows a constant yellow light	
The RBS is still running	

2. Turn on the incoming AC power to the RBS.

Table 6 RBS Check with AC Power On

Check That:	Yes
The Battery Mode indicator on the BFU is off	
The RBS is still running	

8 Performing Concluding Routines

This section describes what to do before leaving the site and provides a site checklist. It also contains a test record and instructions for filling in a trouble report and a so-called blue tag repair delivery note, if necessary.

8.1 Saving the IDB

If it is necessary to reinstall the IDB, then the IDB parameters must be saved on the PC. See document *OMT User's Manual*.

1. On the **Configuration** menu, click **Save IDB**.
2. Give the IDB file an RBS-specific name and save the file on the PC.

8.2 Completing the Test Record

This section contains a test record. Ericsson recommends filling in the test record during the test procedure.

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Test Record for Site Installation Verification

NE Commissioning

GSM -

Date	Site Name
Site No	Cell configuration
RBS type	Name of tester

NE Stand-Alone Test

Remarks

Cable connections inspected	<input type="checkbox"/>	
IDB parameters set*	<input type="checkbox"/>	
Fault status read	<input type="checkbox"/>	
External alarms tested	<input type="checkbox"/>	
Battery backup tested	<input type="checkbox"/>	

*) See document Setting IDB Parameters

Notes: _____

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Figure 5 Test Record

8.3 Filling in a Trouble Report

This section describes when and how to fill in a trouble report.

Write a trouble report when system components are not operating as expected, or when disturbances occur repeatedly. Do not write a trouble report for occasional hardware failures.

Note: When writing a trouble report, always include as much information as possible, such as log files and a copy of the IDB. Write the trouble report as soon as possible, preferably at the RBS site.

An example of a filled-in trouble report, and a trouble report form, are included in document Installation Troubleshooting.

Send the completed trouble report to the nearest First Line Support (FLS) representative for registration in the Ericsson trouble report system.

8.4 Filling in a Blue Tag Repair Delivery Note

This section describes how to fill in a so-called blue tag repair delivery note.

When a faulty unit is returned, it must always be accompanied by a repair delivery note. When the repair delivery note has been completed, it must be attached to the faulty unit before sending it to repair.

The repair delivery note LZF 084 84 can be ordered from the local FLS. A repair delivery note is found in the document Installation Troubleshooting.

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8.5 Filling in the Checklist

The following checklist is not compulsory but is strongly recommended. Local procedures and safety regulations must be evaluated and included in this checklist.

Table 7 Site Installation Verification Checklist

Check That:	Yes
1. All fault indicators are off	
2. The Local indicator on the DXU is off (or flashing if no PCM link is connected)	
3. All other indicators on the DXU are off	
4. The Local indicators on all DRUs are off (or flashing if no PCM link is connected)	
5. The TX not enabled indicators on all DRUs are on	
6. All other indicators on all DRUs are off	
7. All other green operational indicators are on	
8. All other yellow indicators are off	
9. The test equipment has been disconnected from the RBS	
10. The cabinet is dry inside	
11. The inside and outside of the cabinet are undamaged	
12. All cables are undamaged	
13. A backup copy of the IDB has been saved	
14. All tools have been accounted for	
15. The cabinet door is locked, if applicable	
16. The external air intake is free of obstructions	
17. All paperwork has been completed	