NOKIA

Commissioning the IBBU of UltraSite EDGE BTS

Contents

1 Statutory Information

1.1 CE Marking

Standard	Description
CE 0168 !	Hereby, Nokia Corporation, declares that this Nokia UltraSite EDGE Base Station is in compliance with the essential requirements and other relevant provisions of Directive: 1999/5/EC.

1.2 FCC Statement

Standard	Description
FCC Statement	Hereby, Nokia Corporation declares that this Nokia UltraSite EDGE Base Station is in compliance with the essential requirements and other relevant provisions of Directive: 1999/5/EC. The product is marked with the CE marking and Notified Body number according to the Directive 1999/5/EC. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful

Standard	Description
	interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

2 Software description for UltraSite EDGE with IBBU

2.1 Nokia PSM software

The node manager software (SW), designated PSMMan, controls the PSM nodes. The node manager SW can be used in three ways as follows:

- It can be used at the site for commissioning and maintaining the Nokia UltraSite with IBBU. This is carried out by connecting a PC (running the software) to the LMP on the CCUA module. Since there are no security levels with this interface, the site user has limited access. For example the user may be able to read information but not alter it. When a site is commissioned, the engineer will run a commissioning wizard that will set all parameters to the default values required by the user.

Note

The user is required to have access rights.

- Another mode of operation for the PSMMan is when it is used from the NMS to monitor nodes and to make alterations to the nodes. The operator at the NMS can look at the node by using its address and make alterations such as changing the battery temperature compensation, should this be required. The operator can also read data from the site, such as the results of the last battery test.
- A third mode of operation is remotely via a telephone connection to the NMS. This allows an engineer to dial into the NMS via a modem link.

The PSMMan has a graphical user interface (GUI) and runs on a Windows 95, Windows 98, Windows 2000 or Windows NT4 operating system. However, the PSMMan must use Windows NT4 at the NMS as this is a requirement of the NMS. Several copies of the PSMMan can be used simultaneously to monitor more than one node at a time.

Nodes may be monitored via the alarm window, which displays the alarms from the nodes. Alarms may be filtered for their level of urgency.

When viewing a node, the PSMMan provides an equipment view feature. By clicking on various parts of this view, you can find data that is of interest about the item. For example, clicking on the battery will bring up the data for the batteries in that node.

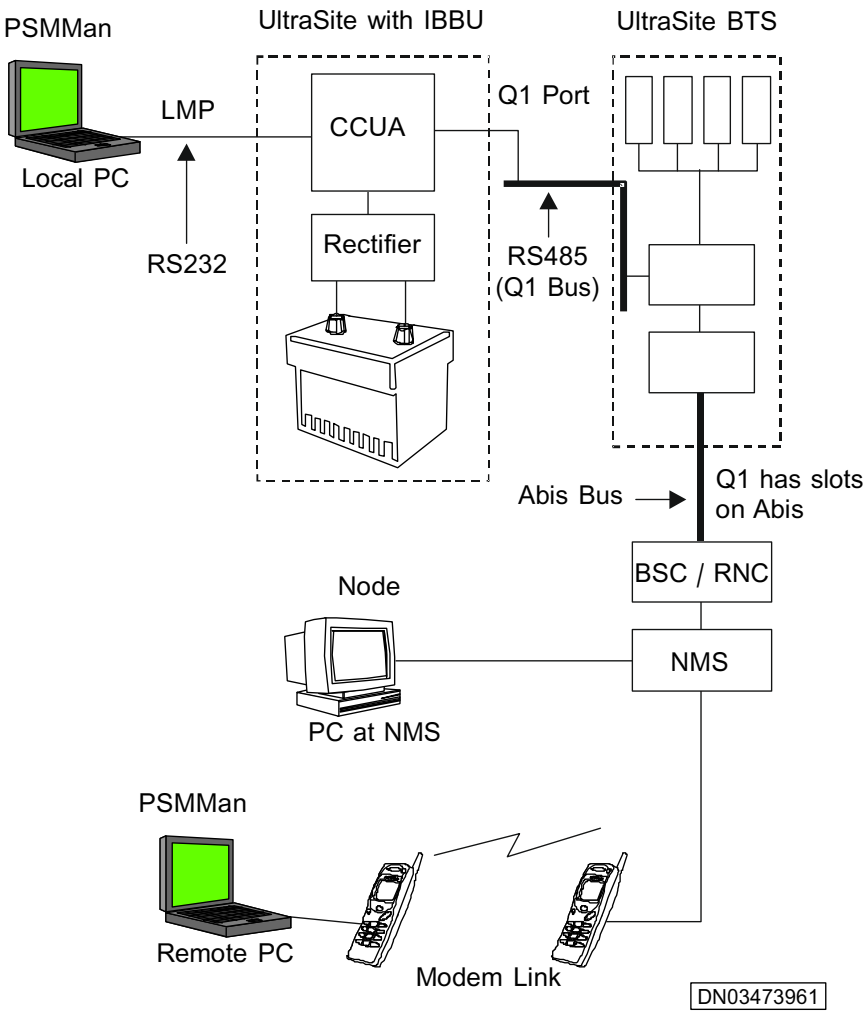

Figure 1. UltraSite EDGE BTS with IBBU site overview

3 Preparing to commission the IBBU of UltraSite EDGE BTS

3.1 Connecting LMP cable for commissioning UltraSite EDGE BTS

Before you start

Review the *Overview of commissioning UltraSite EDGE BTS*. Pay careful attention to all Warnings and Cautions.

Summary

The LMP cable connects the PC running BTS Manager SW to the BOI unit in the BTS.

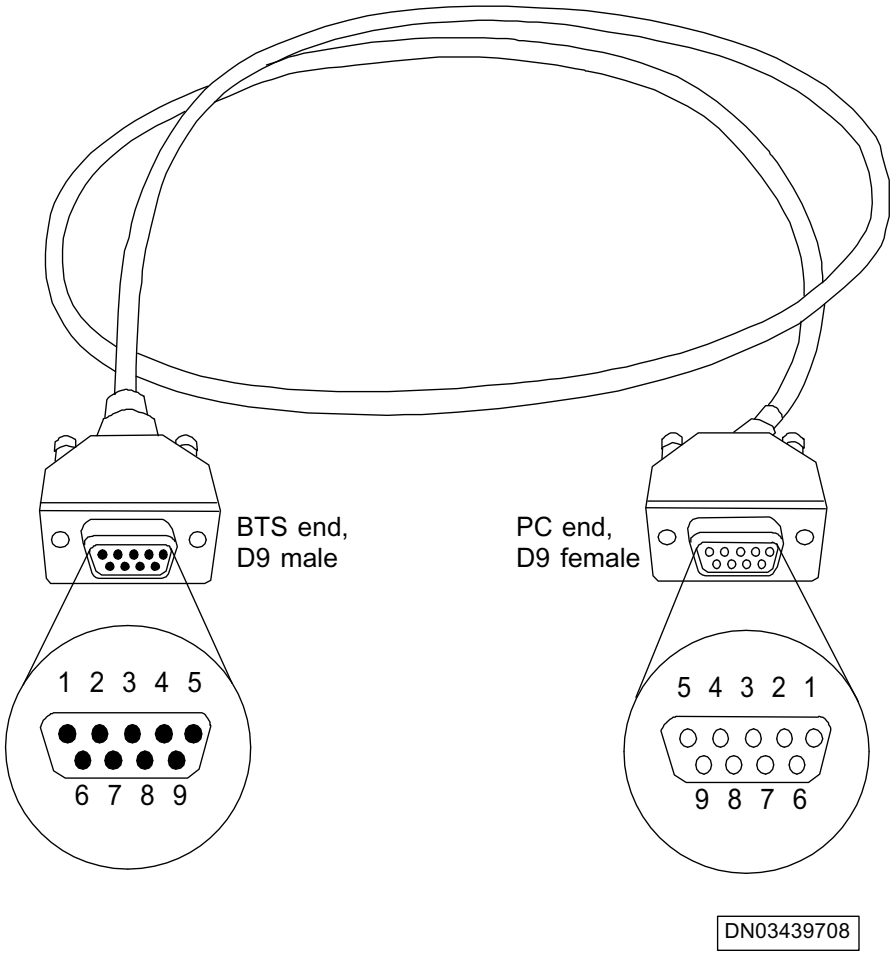

Figure 2. LMP cable

Table 1. LMP cable connector pin order

BTS end, D9 male, pin number	**PC end, D9 female, pin number**	**PC end, D25 female, pin number**
2, LMP in	3, transmitted data	2, transmitted data
3, LMP out	2, received data	3, received data
5, ground	5, ground	7, ground

Steps

1. **Remove the protective cover from the LMP port on the BOIx for GSM/EDGE connection.**

   Alternatively, remove the protective cover from the BTS master WAM unit for WCDMA connection.

2. **Connect the D9 female connector to the PC.**

3. **Connect the D9 male connector to the LMP port on the BOIx for GSM/EDGE connection.**

   Alternatively, connect the D25 female connector to the BTS master WAM unit for WCDMA connection.

3.2 Powering ON UltraSite EDGE BTS

Before you start

Review the *Overview of commissioning UltraSite EDGE BTS*. Pay careful attention to all Warnings and Cautions.

Ensure all internal BTS components are properly installed.

Summary

Warning

Be aware of the risk of lethal voltages and electric shock.

Steps

1. *If* Mains power has been switched OFF,

   Then

   Check the ADUx circuit breakers.

   Verify all ADUx unit circuit breakers are switched OFF.

2. *If* BTS power supplies are switched ON,

Then

Switch the power supplies OFF.

3. **Switch Mains breaker ON.**

4. **Switch ADUx unit breakers ON.**

5. **Switch BTS Power supplies ON.**

6. **Check BTS units for power.**

   Observe the LED lights of the units in the BTS and ensure power is supplied. If LED lights are not illuminated, troubleshoot the affected units as directed in *Overview of checking UltraSite EDGE BTS GSM/EDGE LEDs* or *Overview of checking UltraSite EDGE BTS WCDMA LEDs*.

3.3 Installing Nokia PSM Manager

Before you start

Review the *Overview of commissioning UltraSite EDGE BTS*. Pay careful attention to all Warnings and Cautions.

Table 2. System requirements for PSM

Installation type	System requirements
PC	• Pentium II 300 MHz processor • Microsoft Windows 2000, Microsoft Windows NT 4.0 (service Pack 3 or later) or Microsoft Windows 98 (release OS2 or above) • Windows 2000 Server edition for 3G with running Q1Agent • Windows NT for WTS in NMS200 environment (required for server) • Q1CS Version 4.2; for 2G, Q1CS 4.1 is sufficient • Citrix NTC WinCenter client software
Remote connection PC	• Pentium II 300 MHz processor • Microsoft Windows 2000, Microsoft Windows NT 4.0 (service Pack 3 or later) or Microsoft Windows 98 (release OS2 or above) • Windows 2000 Server edition for 3G with running Q1Agent • Windows NT for WTS in NMS200 environment • 128 MB RAM

Table 2. System requirements for PSM (cont.)

Installation type	System requirements
	• 200 MB free hard drive space • 16X CD - ROM • 1.44 MB 3.5” floppy • 56.6k modem and data-capable telephone line • 8 MB video card • 1024 x 800-resolution, 256-colour display • 115 200 bps serial port • GCS 4.1 (or later) **Note** To connect remotely to NMS/2000, include the PSMMan application in NMS/2000. Edit the file, `$OMCCONFPATH/osi/ouorapmx.cf`, to include the Q1 Node Manager PSMMan OSI application. **Note** To connect remotely to PSM in a NetAct 3.1 environment, GCS 4.2 must be installed on the same PC as PSMMan.
NMS/2000 desktop	• NMS/2000 must run GCS 4.1 (or later) • The node manager server must be set up with Citrix MetaFrame 1.8 or later • The node manager server must be set up with UIS (NTC WinCenter UNIX integration services version 1.0). UIS will enable support of UNIX connections to the NT4TSE / MetaFrame server. • Citrix Client software must be installed on the NMS/2000 terminal / PC • Citrix Client should be configured to log on to the server (NMS/10 Node Manager). Alternatively, if more than one type of application is to be launched, use a generic Node Manager Server icon. **Tip** If PSMMan is the only node manager application, configure the Client Software to launch PSMMan. Name the icon **PSMMan**.

Table 2. System requirements for PSM (cont.)

Installation type	System requirements
	• The Create Action application in NMS/2000 must be used to create an NMS/10 icon, if the node manager server is running NMS/10. **Note** Choose a meaningful graphic for the NMS/10 icon. Give the icon a meaningful name, such as NMS/10_Server. It should also be given a meaningful icon, such as one depicting a PC. • Link the icon with the path of the shell script to launch the Citrix Client software. **Note** A good place to put the shell script is the Citrix MetaFrame directory. **Note** Pay particular attention to the warning contained in this file. • A shell script may be needed in the NMS/2000 to point to the directory where Citrix Client is installed in the NMS/2000. This can be generated using `dterm` in NMS/2000. **Note** In NMS/2000, `dterm` means a terminal window. The file is created with an editor like `vi` (console) or `dtpad` (graphical). An example of this script, called `citrix.sh`, is shown below. Example 1. Citrix Shell Script

Table 2. System requirements for PSM (cont.)

Installation type	System requirements

	`#!/bin/sh`
	`export ICAROOT="opt/lib/ICAClient"`
	`exec $ICAROOT/wfica`
	• When configuring Citrix Client, it is recommended that you select a window size of 1024/768 pixels and select 256 colours.
	Note
	If NMS/2000 is running with GCS 4.1, PSMMan uses NMS/10 User Groups to determine access privileges. The administrator of the server must generate an NMS/10 user group in order to determine individual user privileges. Even if NMS/10 is not used, the administrator of the server must generate an NMS/10 user group in order to determine individual user privileges.

Local connection (laptop PC)	• Pentium II 300 MHz processor • Microsoft Windows 2000, Microsoft Windows NT 4.0 (service Pack 3 or later), Microsoft Windows 98 (release OS2 or above) or Microsoft Windows 95 (release OS2 or above) • 128 MB RAM • 200 MB free hard drive space • 16X CD - ROM • floppy 3.5” 1.44 MB • 56.6k modem • video card 8 MB • 1024 x 800 resolution, 256 colour display • serial port 115 200 bps • Q1CS Version 4.2; for 2G, Q1CS 4.1 is sufficient • Citrix NTC WinCenter client software

Summary

The Power System Management (PSM) software package includes PSM Manager (PSMMan).

Steps

1. Start PSM Manager installation.

Double click `setup.exe`, in the PSM CD, to start the PSM Manager installation.

The *PSM Manager installation wizard* window displays.

2. **Proceed to view the pre-requisites from the PSM Manager installation wizard welcome window .**

   Click the *Next* button. The *PSM Manager pre-requisites* window displays.

3. **Ensure that the system requirements in the PSM Manager pre-requisites window are met.**

   After reviewing the pre-requisites, click the *Next* button. The *PSM Manager license agreement* window displays.

4. **Accept the license agreement in the PSM Manager license agreement window.**

   Click *Yes* to accept the agreement. The *PSM Manager setup type* window displays.

5. **Select setup type in the PSM Manager setup type window .**

   Select *Full Setup* and click the *Next* button. The *PSM Manager start copying files* window displays.

6. **Review settings in the PSM Manager start copying files window .**

   Click the *Next* button. The *PSM Manager setup status* window displays.

7. **Observe the installation progress in the PSM Manager setup status window.**

   When the installation is 100% complete, the *PSM Manager installation complete* window displays.

8. **Exit the installation wizard in the PSM Manager installation complete window .**

   Select the option to restart the computer immediately or restart later and click the *Finish* button to exit the wizard.

4 Commissioning UltraSite EDGE BTS IBBU with Nokia PSM Node Manager Commissioning Wizard

4.1 Overview of Commissioning UltraSite EDGE BTS with IBBU

Before you start

Before commissioning, the physical installation of the BTS (units, cabling, antennas and radios) must be complete.

Summary

Caution

Nokia recommends that only properly trained and authorised personnel perform commissioning operations on any Nokia BTS.

The Nokia PSM and PSMMan software is used when commissioning on site the Nokia UltraSite EDGE IBBU.

The PSM Commissioning Wizard in the PSMMan SW guides you through the tasks to establish the necessary criteria for configuring the IBBU equipment.

The Wizard ensures that:

- Tasks are carried out in an ordered manner
- Tasks are automated where possible
- A Commissioning Report is produced

Note

It is assumed here that you know how to operate the basic functions of the Windows based operating system that you are using, and that the PSMMan software and other associated software components are installed correctly.

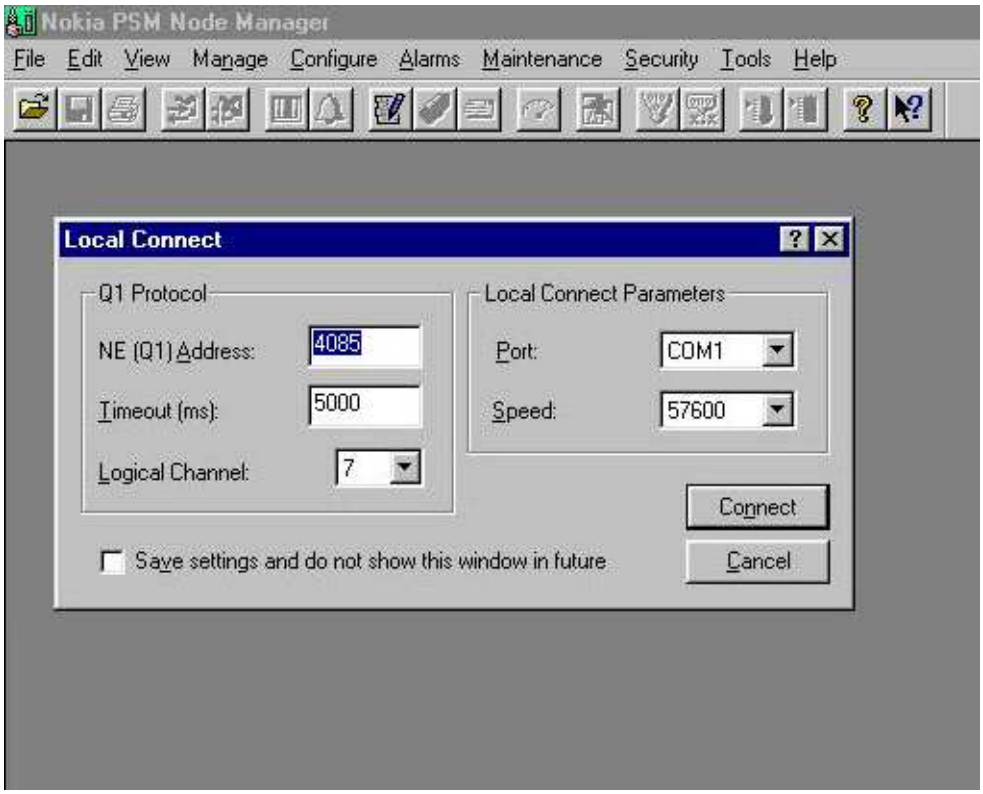

Figure 3. Welcome window

Steps

1. **Connect the LMP cable.**
2. **Power on the UltraSite EDGE BTS.**
3. **Install BTS Manager.**
4. **Install BTS Hub Manager.**

5. **Install PSM Manager.**

6. **Commission the UltraSite EDGE BTS with IBBU.**

   a. *Check the BIOS.*
   b. *Upgrade the BIOS.*
   c. *Upgrade CCUA software.*
   d. *Prepare to commission with PSM Node Manager.*
   e. *Connect to PSM Node Manager remotely.*
   f. *Connect to PSM Node Manager locally.*
   g. *Enter system type and set up details.*
   h. *Enter product code, serialisation and configuration details for SiSS node.*
   i. *Enter documentation, site details and cabinet mechanics details.*
   j. Enter product code and serialisation details for rectifiers.
   k. *Enter product code and serialisation details for batteries.*
   l. *Enter product code and serialisation details for climatic control unit.*
   m. *Check the configuration and complete commissioning.*
   n. *Print a commissioning report.*
   o. *Check power management settings.*
   p. *Check climatic control settings.*
   q. *Check system settings.*
   r. *Check identifications.*

4.2 Checking the BIOS of UltraSite EDGE BTS with IBBU

Before you start

Before the BIOS file is upgraded it is necessary to check the version of the BIOS file that is currently installed.

Note

The instructions below are for general reference. Refer to the applicable Release Notes for specific instructions.

Steps

1. **Ensure the UltraSite EDGE BTS has power applied and is switched ON.**

2. **Connect locally or remotely to Nokia PSM Node Manager.**

   See *Connecting locally to Nokia PSM Node Manager* and *Connecting remotely to a Nokia PSM Manaqer.*.

3. **Select *Configure* | *Identifications* | *Q1* on the menu toolbar.**

4. **Ensure the Identifications window is displayed.**

5. **Compare BIOS versions.**

   Compare the version of the BIOS file installed against the version supplied on the CD-ROM that contains the PSMMan software. If the installed version is an earlier version, then the BIOS file has to be upgraded. See *Upgrading the BIOS of UltraSite EDGE BTS IBBU*.

6. **Select *Cancel* to exit.**

4.3 Upgrading the BIOS of UltraSite EDGE BTS with IBBU

Before you start

When the CCUA software is upgraded it may also be necessary to upgrade the CCUA BIOS. You can use the PSMMan Software Download Wizard to download the BIOS software. Special instructions may be issued for a BIOS upgrade.

Summary

Caution

Great care should be taken when upgrading the BIOS because, unlike the software, where two versions may be stored in separate banks, it is only possible to have one copy of the BIOS.

Caution

The procedure for upgrading must be strictly adhered to as an incorrect software or BIOS upgrade can cause the CCUA to become disconnected from the network and, in the case of BIOS corruption, require returning to the factory.

Note

The instructions below are for general reference. Refer to the applicable Release Notes for specific instructions.

Steps

1. **Ensure that the UltraSite EDGE BTS has power applied and is switched ON.**

2. **Connect locally or remotely to Nokia PSM Node Manager.**

   See *Connecting locally to Nokia PSM Node Manager* and *Connecting remotely to a Nokia PSM Manaqer.*.

3. **Select *Maintenance* | *Software* | *Download* on the menu toolbar.**

Figure 4. Selecting the *Download* option in PSMMan Node Manager

4. **Ensure that the *Software Download Wizard Step 1 of 4 - Choose Target* window is displayed.**

5. **Make sure *Download to BIOS (Q1A or Ultrasite Family SiSS Controller)* is selected in the *BIOS* field.**

6. **Click *Next >*.**

7. **Make sure the *Software Download Wizard Step 2 of 4 - Select File* window is displayed.**

8. **Ensure that the correct version of *CCUAbxxxx.swd* file is selected in the *Filename* box. Use *Browse...* to select the correct BIOS file.**

9. **Click *Next >*.**

10. **When PSMMan informs you about the change in data structure, click *OK*.**

11. **Make sure the *Software Download Wizard Step 3 of 4 - Start Download* window is displayed.**

12. **Ensure that the file details are correct.**

13. **Click the *Start...* button.**

Note

After the BIOS file has been upgraded the Nokia PSM Node Manager will disconnect automatically from the CCUA.

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14. **Download the CCUA software file.**

4.4 Upgrading CCUA software of UltraSite EDGE BTS with IBBU

Before you start

Note

The instructions below are for general reference. Refer to the applicable Release Notes for specific instructions.

Steps

1. **Ensure the UltraSite EDGE BTS IBBU has power applied and is switched ON.**

2. **Connect locally or remotely to Nokia PSM Node Manager.**

   See *Connecting locally to Nokia PSM Node Manager* and *Connecting remotely to a Nokia PSM Manaqer.*.

3. **Select *Maintenance* | *Software* | *Download* on the menu toolbar.**

Figure 5. Selecting the Download option in PSMMan Node Manager

4. **Make sure the Software Download Wizard Step 2 of 4 - Select File window is displayed.**

Note

By checking the Automatically switch banks after download successfully completes box, the CCUA automatically switches to the upgraded software version upon completion of download.

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5. **Make sure the correct version of CCUAxxxx.swd file is selected in the *Filename* box. Use *Browse...* to select the correct CCUA file.**

6. **Click *Next >*.**

7. **When PSMMan informs you about the change in data structures, click *OK*.**

8. **Make sure the *Software Download Wizard Step 3 of 4 - Start Download* window is displayed.**

9. **Ensure the file details are correct.**

10. **Click the *Start...* button.**

11. **Make sure the *Software Download Wizard Step 4 of 4 - Switch Software* window is displayed.**

12. **Click the *Switch Now* button to switch banks to the new software.**

Note

Click the *Switch Later* button to continue running the current software and NOT switch banks. Generally, the *Switch Later* function is only used in special cases.

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13. **Click *Finish.***

14. **Make sure that the PSMMan Commissioning Wizard is launched and the *Welcome and User details (Page 1 of 9)* window is displayed.**

4.5 Preparing to commission UltraSite EDGE BTS with IBBU using Nokia PSM Node Manager

Before you start

Note

The instructions below are for general reference. Refer to the applicable Release Notes for specific instructions.

Steps

1. **Ensure the UltraSite EDGE BTS IBBU has power supplied and is switched ON.**

2. **Connect locally or remotely to Nokia PSM Node Manager.**

   See *Connecting locally to Nokia PSM Node Manager* and *Connecting remotely to a Nokia PSM Manaqer.*.

3. **Select *Manage | Commissioning Wizard* on the menu toolbar.**

4. **At the *Welcome* screen, type in your *User Name* and any information that is specific to this node.**

   Welcome and User Details Window of PSMMan Commissioning Wizard

5. **Click *Next>*.**

4.6 Connecting Remotely to Nokia PSM Node Manager

Steps

1. **Launch PSMMan**
2. **Select the *Manage, Connect* menu to launch the Nokia connection tool**
3. **In the *Connect to Node* window, select the the node connection name from the pull-down menu**
4. **Enter a valid Q1 address in the Node Parameters *Q1 Address* box**

Note

The Q1 address can be any valid address. It is recommended to use 4084 (and 4085 for IBBUs).

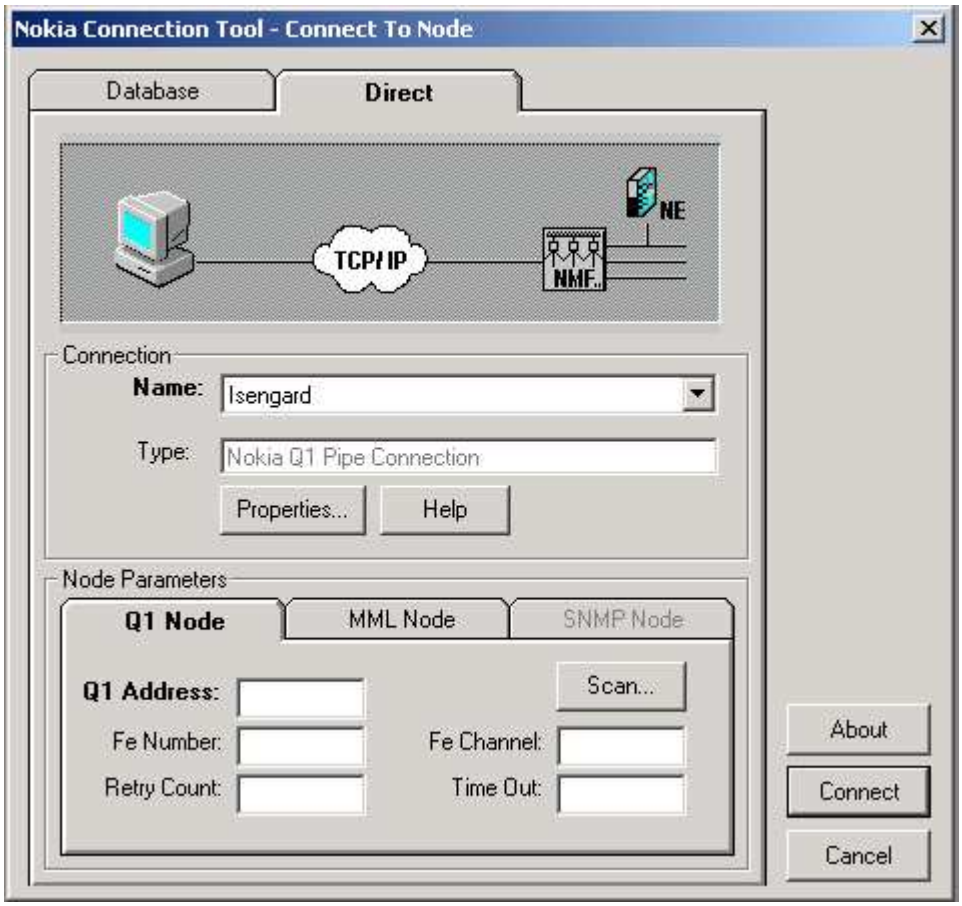

Figure 6. Setting node managers and connecting in PSMMan

5. **Click *Connect***

4.7 Connecting locally to a PSM Node Manager

Before you start

To use PSMMan locally and make changes to the power system via Q1IA, you will need to use a Q1IA LMP cable to connect your PSMMan laptop to the Local Management Port (LMP) of the Q1IA.

Note

The Q1IA LMP is *NOT* the same as the MMI cable for CCUA. The Q1IA LMP is configured PIN 2 - 2, PIN 3 - 3 and PIN 5 - 5 (GND).

Summary

The local connection procedure depends upon the type of power system you are connecting to.

Steps

1. **Ensure that your PC is connected directly to the Q1IA LMP port.**

Figure 7. LMP Connection

2. **On the PC, launch the PSMMan Node Manager application from the Windows Task Bar.**

3. **Use the *Manage, Connect Locally* menu to connect to the Q1IA.**

4. **Click *Connect.***

   You have now established a connection and can continue with the commissioning procedures.

5. **Set the parameters (or comms port) as required.**

The NE Address can be set manually, and is 4084 by default. The Q1 Address for Q1IA is 4084.

4.8 Entering System Type and Setup details of UltraSite EDGE BTS with IBBU

Steps

1. **Make sure the *System Type and Setup Page (Page 2 of 9)* window is displayed.**

   System Type and Setup Page Window of PSMMan Commissioning Wizard

2. **Select the correct configuration from the drop-down options for each field below:**

   - *System Type*

Note

The *System Type* should be detected automatically. If the displayed system type is not correct, select the correct one from the drop-down list.

   - *Q1 Bus / Polling Equipment*

Note

Do not select *Enable Auto-Baud Rate Detection.*

   - *Batteries & Rectifiers*

Note

Number of Batteries works in multiples of 4. It does not refer to the number of battery strings.

   - *Number of Rectifiers*
   - *Rectifier Capacity (W)*

Note

The rectifier power is the power output of an individual rectifier.

3. **Click *Next>*.**

4.9 Entering Product Code, Serialisation and Configuration details for SiSS Node of UltraSite EDGE BTS with IBBU

Steps

1. **Make sure the *Product Code and Serialisation Page (SiSS Node) & Configuration (Page 3 of 9)* window is displayed.**

   Product Code and Serialisation Page [SiSS Node] & Configuration window of PSMMan Commissioning Wizard

2. **Make sure the details are correct in the *SiSS Details* field.**

3. **Select either *Indoor* or *Outdoor* in the *SiSS Indoor / Outdoor System* field.**

   The selection depends on whether you have a Nokia UltraSite Support indoor or outdoor cabinet.

4. **Select whether or not an external cabinet is fitted.**

5. **Select where the batteries are located.**

6. **Click *Next>*.**

4.10 Entering Documentation, Site Details and Cabinet Mechanics details of UltraSite EDGE BTS with IBBU

Steps

1. **Make sure the *Documentation, Site Details & Cabinet Mechanics (CRM) Identification (Page 4 of 9)* window is displayed.**

Documentation, Site Details & Cabinet Mechanics (CRM) Identification window of PSMMan Commissioning Wizard

2. **Ensure the details displayed in this window are correct. Make any required changes in this window, or click< *Back* until the applicable window in which to apply the corrections is displayed.**

Note

In the Cabinet Mechanics (CRM) Identification field, the details under cabinet number 1 must be completed, details for external cabinet accessed from pull down menu.

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3. **Click *Next.***

4.11 Entering Product Code and Serialisation details for Batteries of UltraSite EDGE BTS with IBBU

Steps

1. **Make sure the *Product Code and Serialisation Page (Climatic Control Unit) (Page 7 of 9)* window is displayed.**

   Product Code and Serialisation Page (Climatic Control Unit) of PSMMan Commissioning Wizard

2. **Where applicable in the *CPU Serialisation (5th generation systems)* field, enter the *Serial Number* and the *Test Time Stamp.***

Note

If an ADU is installed, enter the *Serial Number* and the *Test Time Stamp* (where applicable) in the *ADU Serialisation (5th generation systems)* field.

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3. **Click *Next.***

4.12 Entering Product Code and Serialisation details for Climatic Control Unit of UltraSite EDGE BTS with IBBU

Steps

1. **Make sure the *Configuration Summary & Commissioning (Page 8 of 9)* window is displayed.**

   Configuration Summary & Commission window of PSMMan Commissioning Wizard

2. **Make sure the configuration information is correct.**

3. **Click *Commission.***

4. **When the commissioning process is completed successfully, click *Next.***

5. **PSMMan displays a Commissioning Report, that is saved automatically to the folder NOKIAMGR/PSM_MGR/Configuration.**

   SiSS Commissioning Report Page window of PSMMan Commissioning Wizard

6. **Click *Finish.***

Note

The message Commissioning Completed Successfully does not mean that the IBBU system is fully functional. It indicates that all the commands that will enable it to function correctly have been accepted.

4.13 Checking the Configuration and completing commissioning of UltraSite EDGE BTS with IBBU

Steps

1. **Make sure the *Configuration Summary & Commissioning (Page 8 of 9)* window is displayed.**

Configuration Summary & Commission window of PSMMan Commissioning Wizard

2. **Make sure the configuration information is correct.**

3. **Click *Commission.***

4. **When the commissioning process is completed successfully, click *Next.***

5. **PSMMan displays a Commissioning Report, that is saved automatically to the folder NOKIAMGR/PSM_MGR/Configuration.**

   SiSS Commissioning Report Page window of PSMMan Commissioning Wizard

6. **Click *Finish.***

Note

The message Commissioning Completed Successfully does not mean that the IBBUt system is fully functional. It indicates that all the commands that will enable it to function correctly have been accepted.

4.14 Printing a commissioning report of UltraSite EDGE BTS with IBBU

Summary

Commissioning reports can be opened and printed out using PSMMan. When the commissioning process is complete, PSMMan displays a Commissioning Report, which you can save and print out. The reports are encrypted so they cannot be changed. If you do not have the correct level of user security, you can print them using the procedure below.

Steps

1. **On the PC, launch the PSMMan application from the windows task bar.**

2. **Select *File* | *Open* on the menu tool bar.**

3. **In the configuration folder open the file to be printed.**

4. **Select *File* | *Print.***

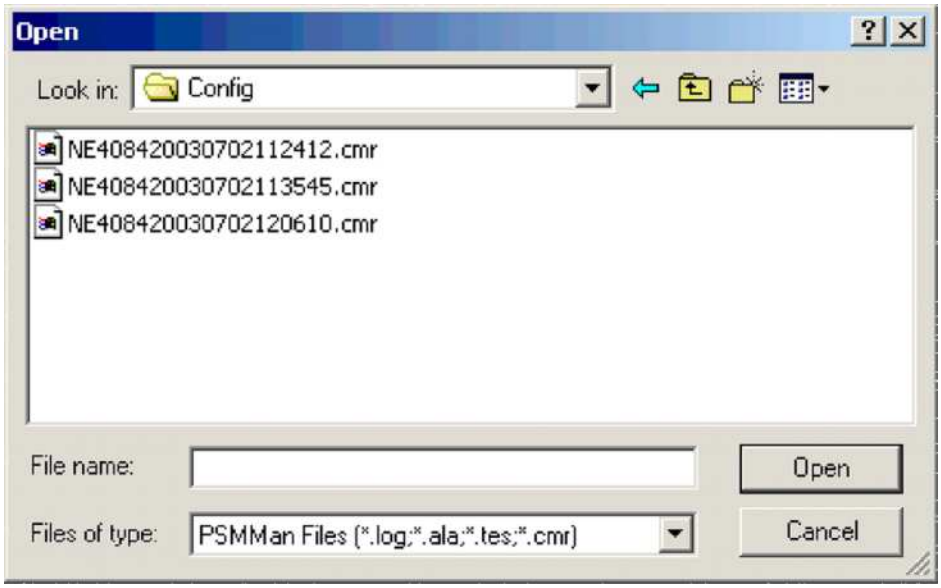

Figure 8. Select *File* | *Print*

Note

NE 408420030708072124 (Translated NE = Network entity, 4084 = Q1 node address year month date time).

5. **Print the commissioning report.**

5 Checking setting of UltraSite EDGE BTS IBBU

5.1 Checking Power Management settings of UltraSite EDGE BTS with IBBU

Steps

1. **Make sure the UltraSite EDGE Support has power applied and is switched ON.**

2. **Connect locally or remotely to Nokia PSM Node Manager.**

   See *Connecting locally to Nokia PSM Node Manager* and *Connecting remotely to a Nokia PSM Manaqer.*.

3. **On the menu toolbar, select *Configure | Power Management | Settings.***

   Power Management (Settings) window of PSMMan

4. **Select the tab applicable to the settings that have to be checked.**

5. **Make sure the settings are applicable to the site being setup.**

   Where the settings require changes, type the correction and then click *Send* after each modification.

6. **Where other settings require checking, select the applicable tab and check the settings.**

7. **Repeat where applicable.**

8. **When all checks have been made for the settings of this window, close the window.**

5.2 Checking Climatic Control settings of UltraSite EDGE BTS with IBBU

Summary

This feature is available on all UltraSite systems but only available on some Talk-Family systems (it is currently available on ExtraTalk II systems) and it is controlled via the PDU (CSM software).

An example of the measurements that can be made are:

- the cabinet and battery temperatures.

Steps

1. **Make sure the UltraSite EDGE Support has power applied and is switched ON.**

2. **Connect locally or remotely to Nokia PSM Node Manager.**

   See *Connecting locally to Nokia PSM Node Manager* and *Connecting remotely to a Nokia PSM Manaqer.*.

3. **On the menu toolbar, select *Configure | Climatic Control |Settings.***

   Climatic Control (Settings) window of PSMMan

4. **Select the tab applicable to the settings that have to be checked.**

5. **Make sure the settings are applicable to the site being setup.**

   Where the settings require changes, type the correction and then click *Send* after each modification.

6. **Where other settings require checking, select the applicable tab and check the settings.**

7. **Repeat where applicable.**

8. **When all checks have been made for the settings of this window, close the window.**

5.3 Checking System settings of UltraSite EDGE BTS with IBBU

Steps

1. **Make sure the UltraSite EDGE Support has power applied and is switched ON.**
2. **Connect locally or remotely to Nokia PSM Node Manager.**

   See *Connecting locally to Nokia PSM Node Manager* and *Connecting remotely to a Nokia PSM Manaqer.*.
3. **On the menu toolbar, select *Configure | System Settings.***

   System Settings Window of PSMMan
4. **Select the tab applicable to the settings that have to be checked.**
5. **Make sure the settings are applicable to the site being setup.**

   Where the settings require changes, type the correction and then click *Send* after each modification.
6. **Where other settings require checking, select the applicable tab and check the settings.**
7. **Repeat where applicable.**
8. **When all checks have been made for the settings of this window, close the window.**

5.4 Checking Identifications of UltraSite EDGE BTS with IBBU

Steps

1. **Make sure the UltraSite EDGE Support has power and is switched on.**
2. **Connect locally or remotely to Nokia PSM Node Manager.**

   See *Connecting locally to Nokia PSM Node Manager* and *Connecting remotely to a Nokia PSM Manaqer.*.

3. **On the menu toolbar select *Configure* | *Identifications.***

4. **The *Identifications* window will be displayed.**

   Identifications window of PSMMan

5. **When all checks are made, close the window.**

6 Nokia PSMMan commissioning windows

6.1 Commissioning procedure overview

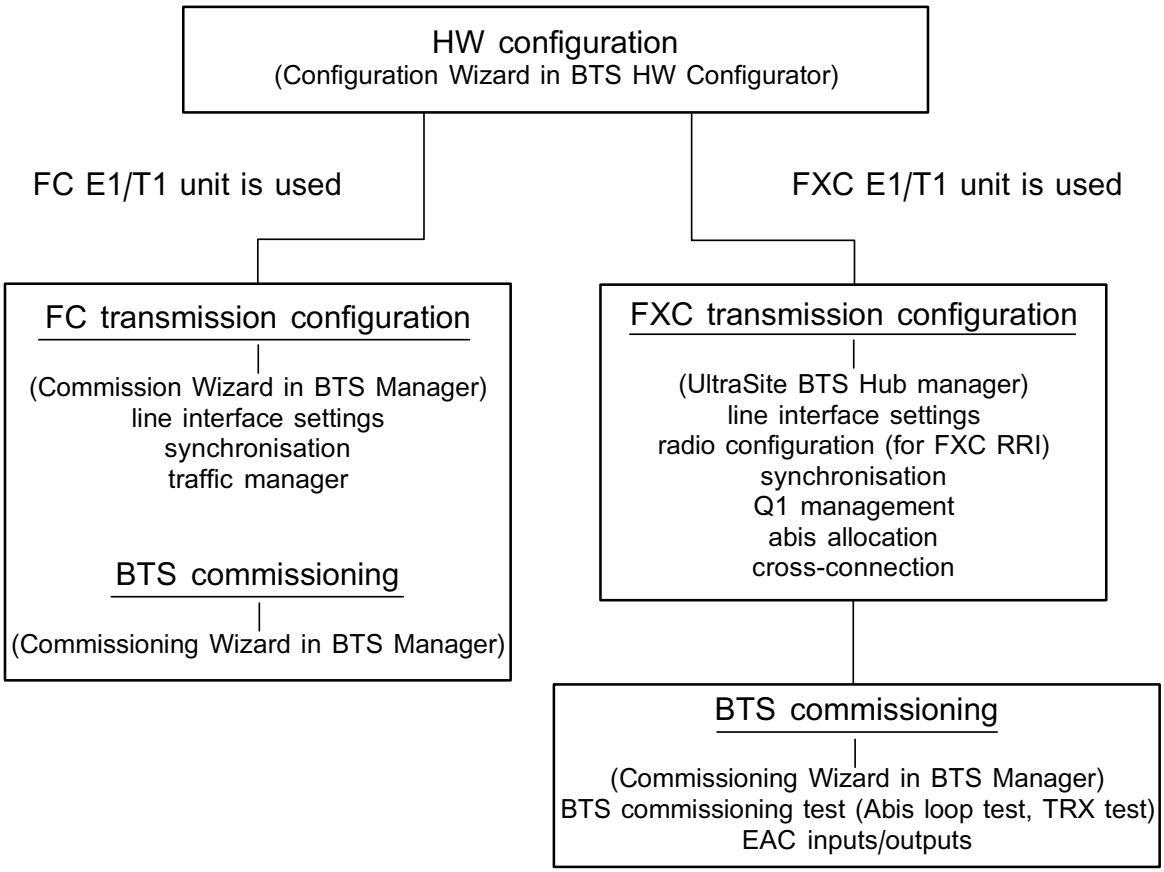

Figure 9. Commissioning procedure overview

6.2 Welcome window of PSM Manager installation wizard

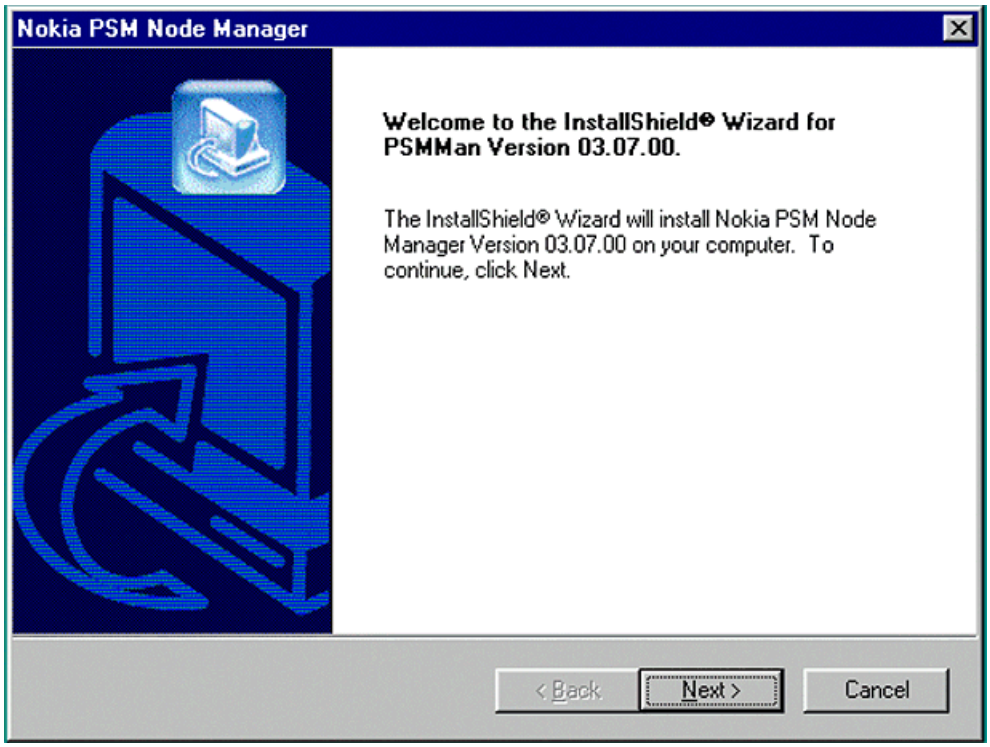

Figure 10. PSM Manager installation welcome

6.3 Pre-requisites window of PSM Manager installation wizard

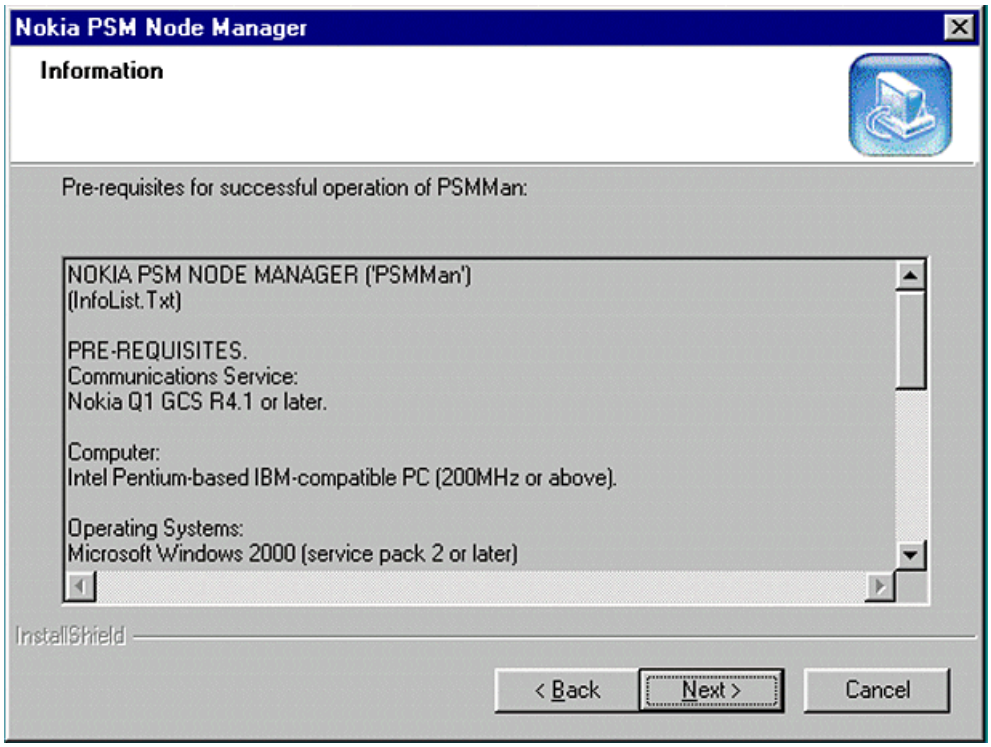

Figure 11. PSM Manager installation pre-requisites

6.4 License Agreement window of PSM Manager installation wizard

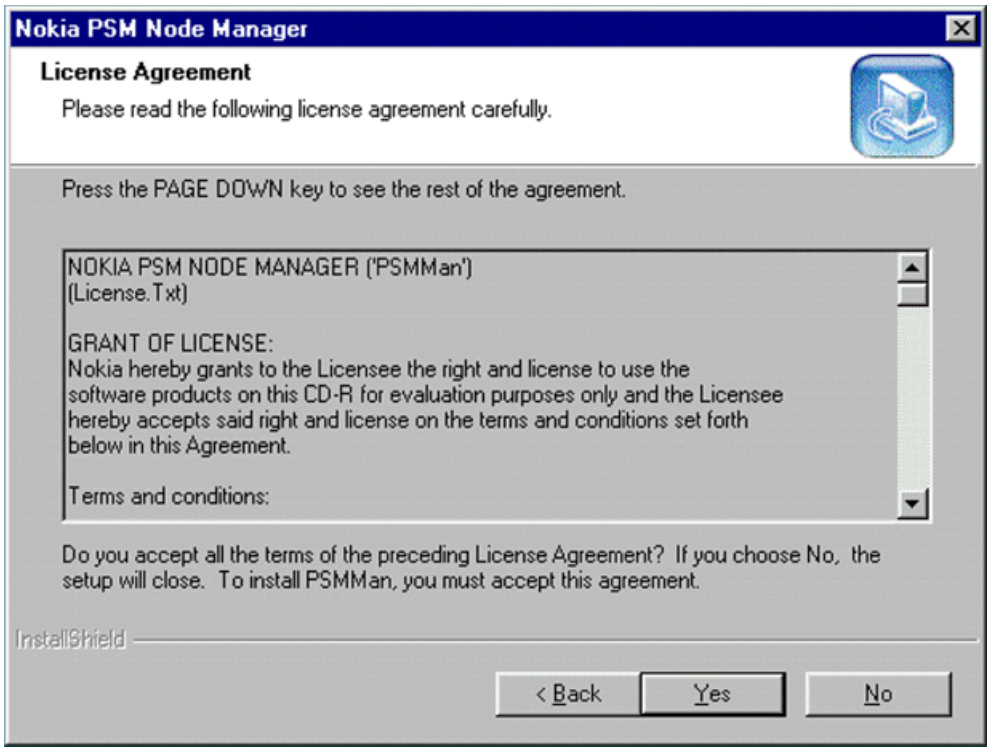

Figure 12. PSM Manager installation license agreement

6.5 Setup Type window of PSM Manager installation wizard

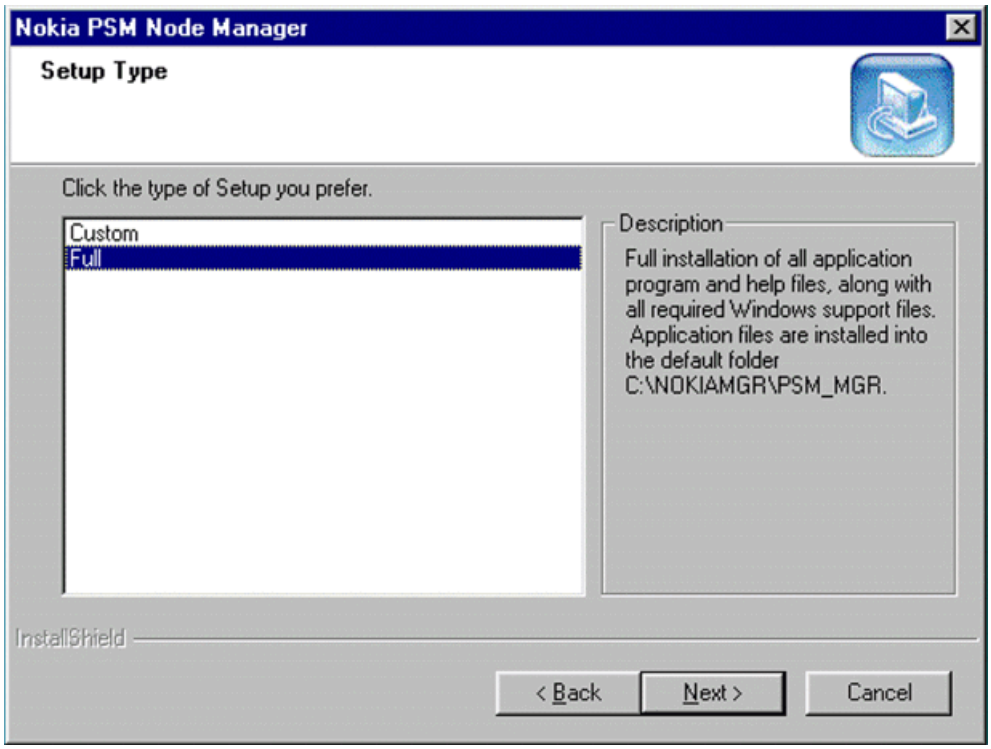

Figure 13. PSM Manager installation setup type

6.6 Start Copying Files window of PSM Manager installation wizard

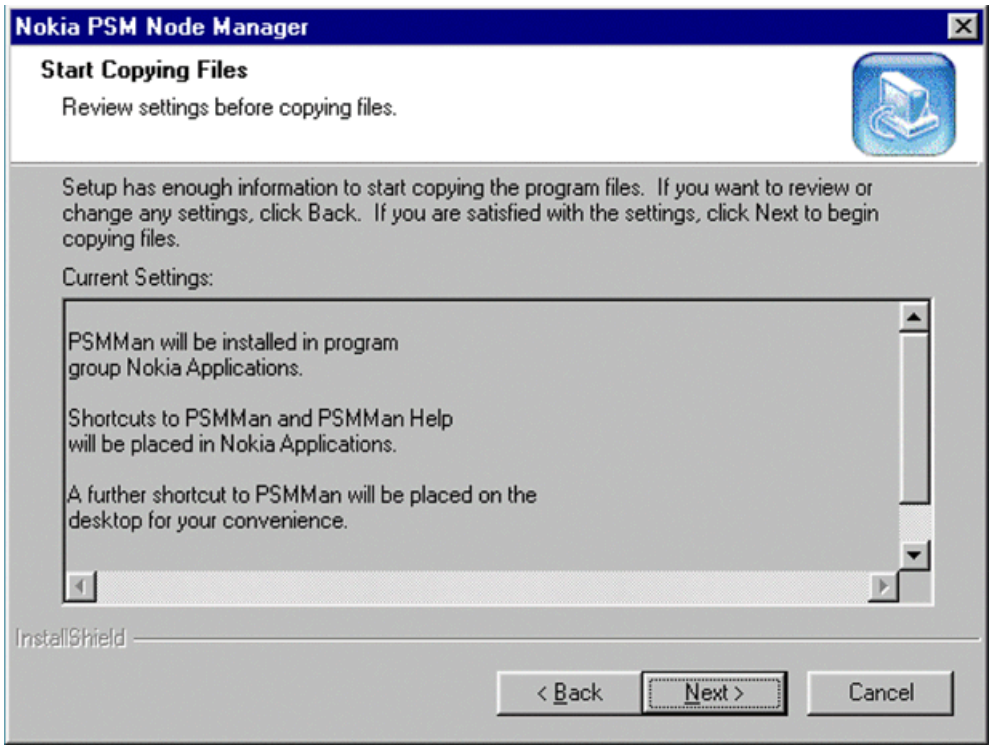

Figure 14. PSM Manager installation start copying files

6.7 Setup Status window of PSM Manager installation wizard

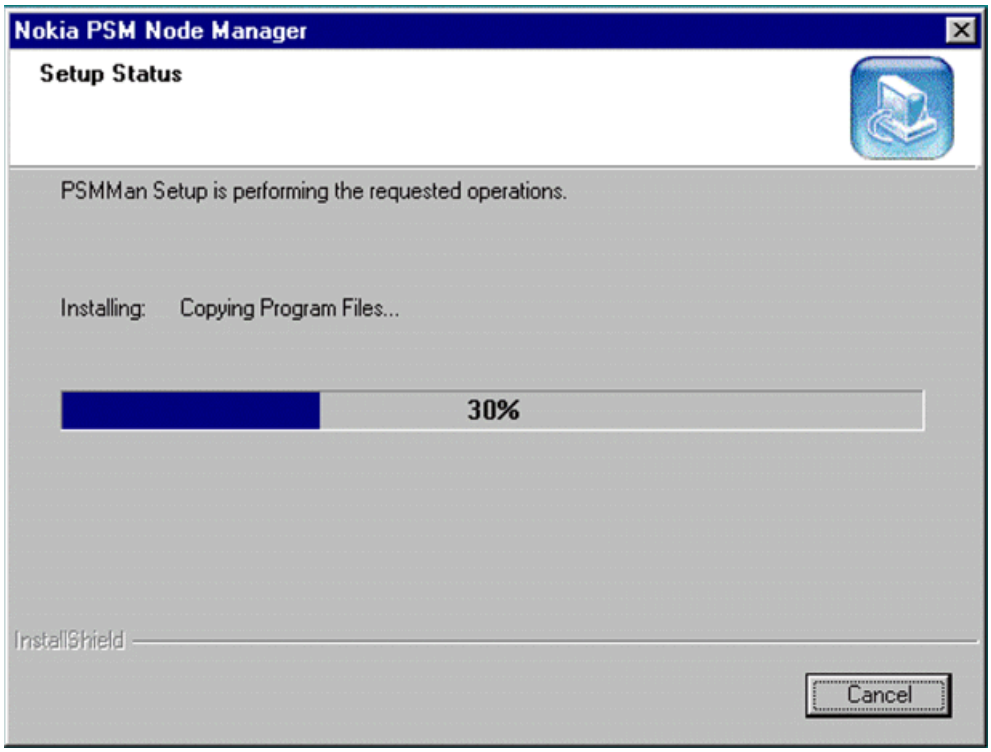

Figure 15. PSM Manager installation setup status

6.8 Installation complete window of PSM Manager installation wizard

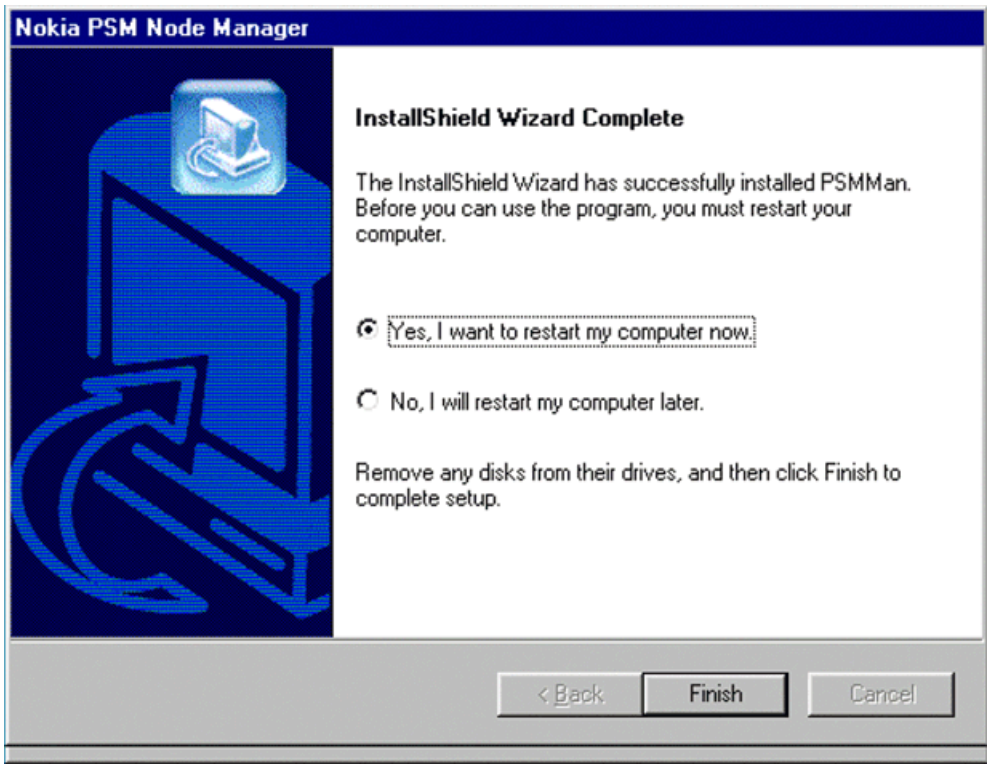

Figure 16. PSM Manager installation complete

6.9 Choose Target window of PSMMan Software Download Wizard

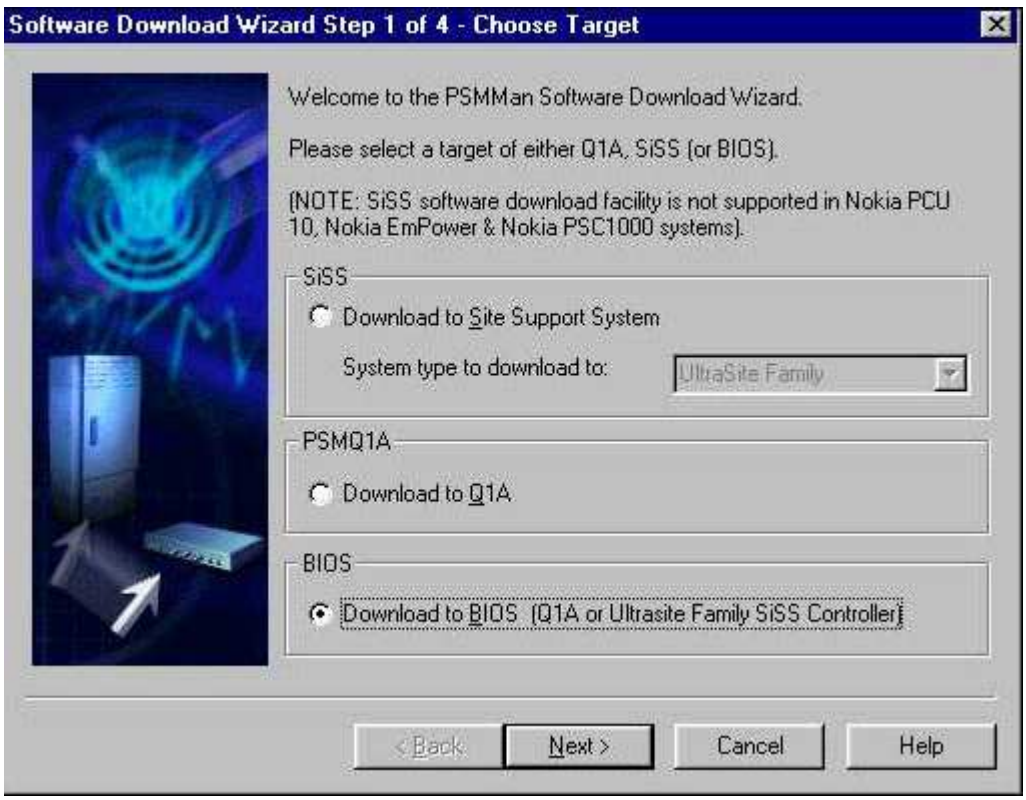

Figure 17. Software Download Wizard Step 1 of 4 - Choose Target

6.10 Select File window of PSMMan Software Download Wizard

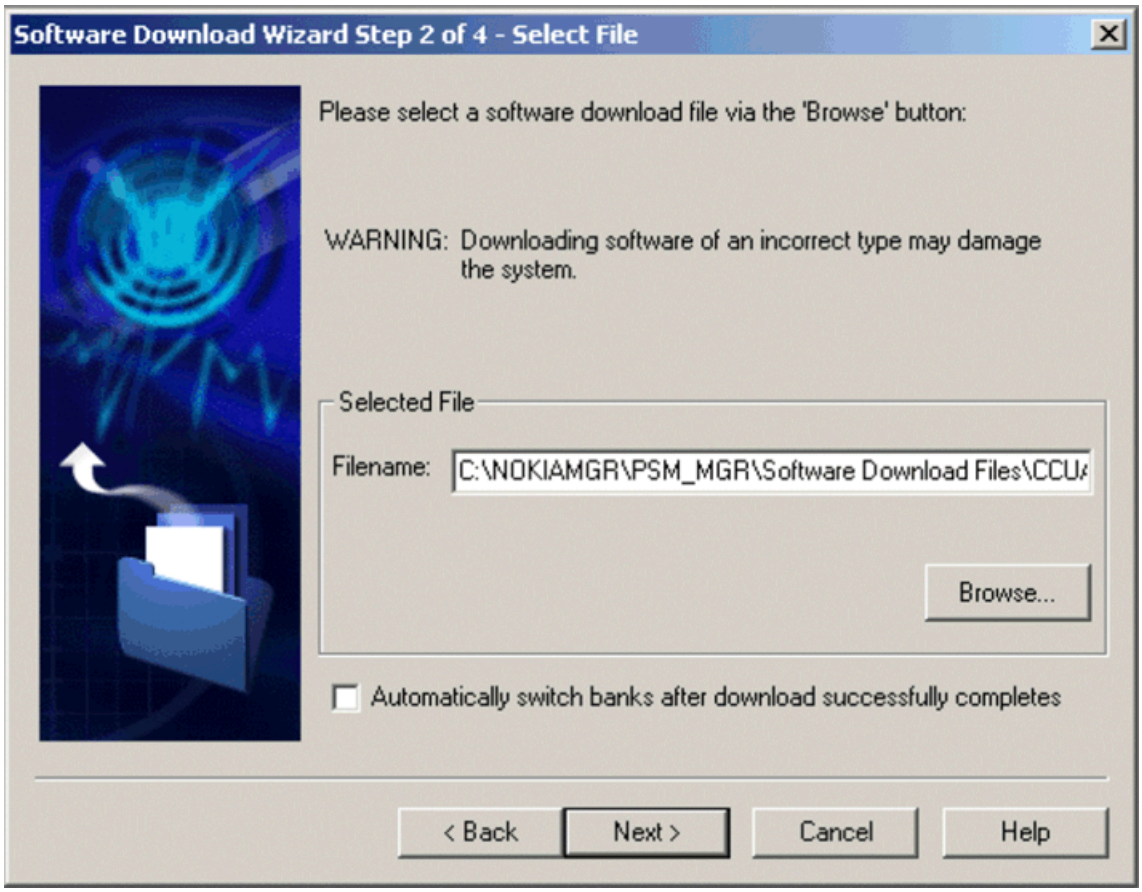

Figure 18. Software Download Wizard Step 2 of 4 - Select File

6.11 Start Download window of PSMMan Software Download Wizard

Figure 19. Software Download Wizard Step 3 of 4 - Start Download

6.12 Switch Software window of PSMMan Software Download Wizard

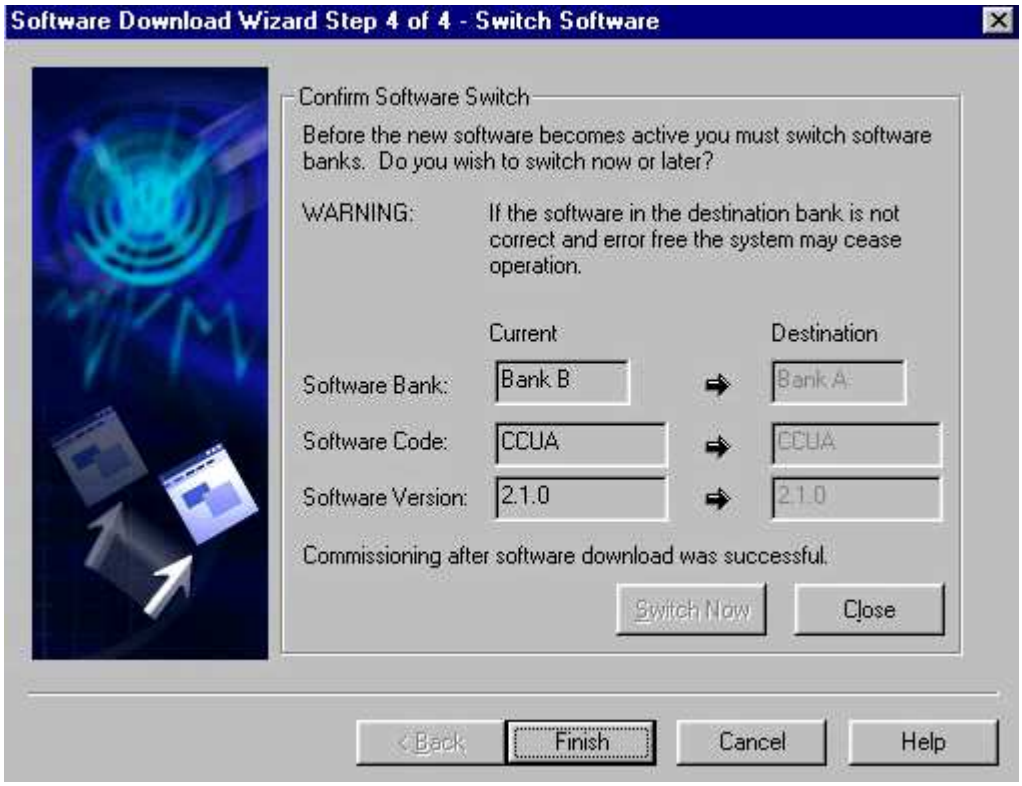

Figure 20. Software Download Wizard Step 4 of 4 - Switch Software

6.13 Welcome and User Details window of PSMMan Commissioning Wizard

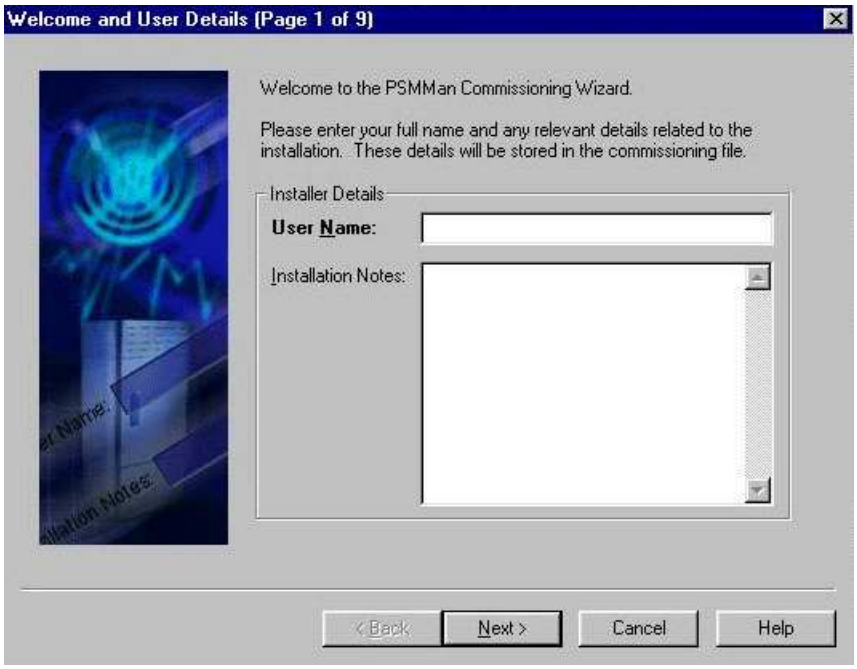

Figure 21. Welcome and User Details (Page 1 of 9)

6.14 System Type and Setup Page window of PSMMan Commissioning Wizard

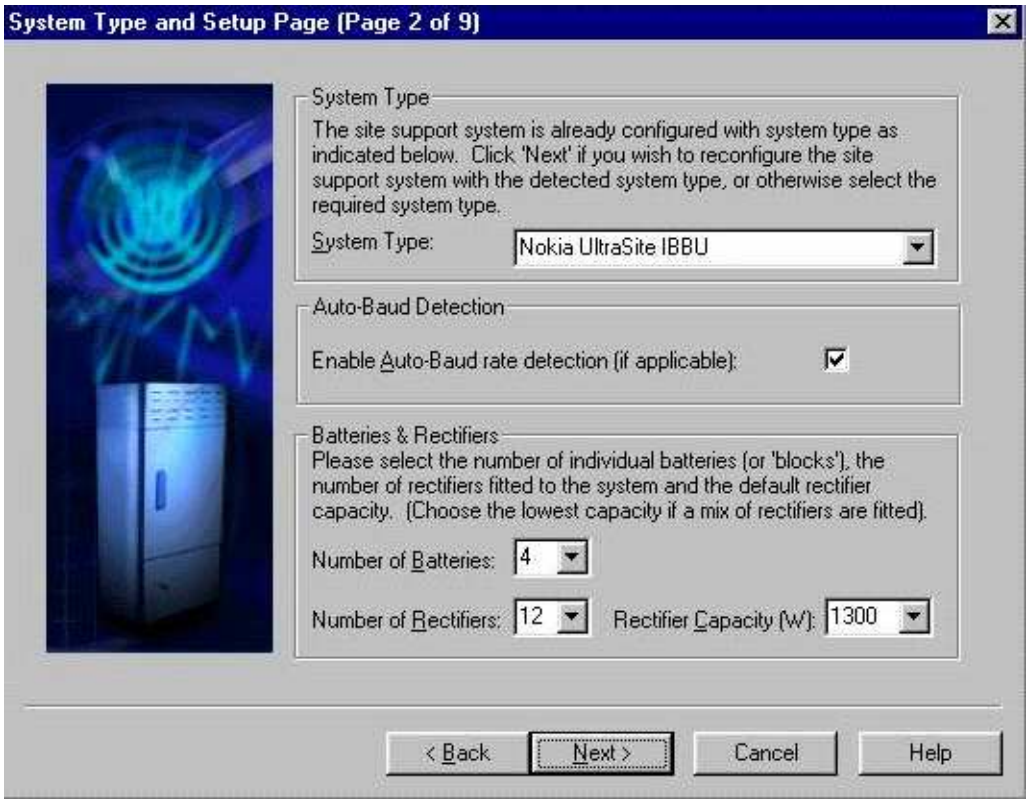

Figure 22. System Type and Setup Page (Page 2 of 9)

6.15 Product Code and Serialisation Page [SiSS Node] & Configuration window of PSMMan Wizard

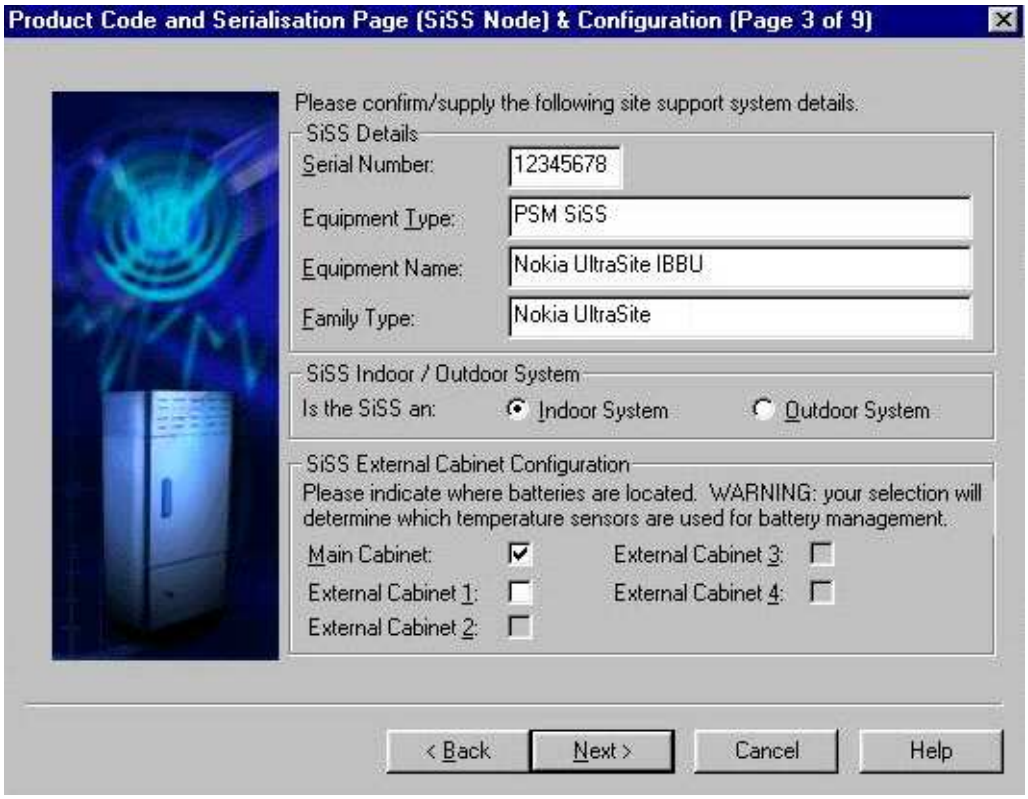

Figure 23. Product Code and Serialisation Page [SiSS Node] & Configuration (Page 3 of 9)

6.16 Documentation, Site Details & Cabinet Mechanics [CRM] Identification window of PSMMan Commissioning Wizard

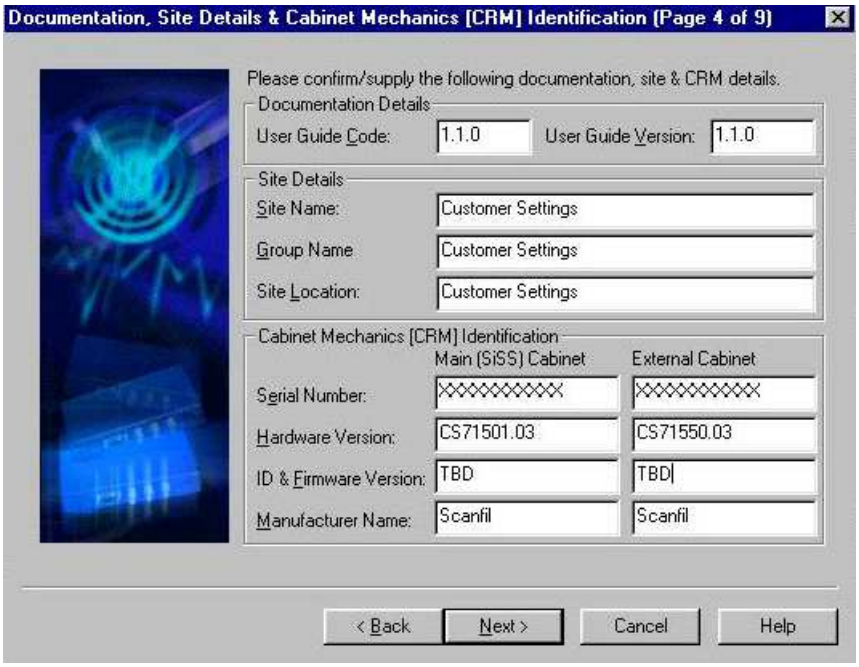

Figure 24. Documentation, Site Details & Cabinet Mechanics [CRM] Identification (Page 4 of 9)

6.17 Product Code and Serialisation Page [Batteries] window of PSMMan Commissioning Wizard

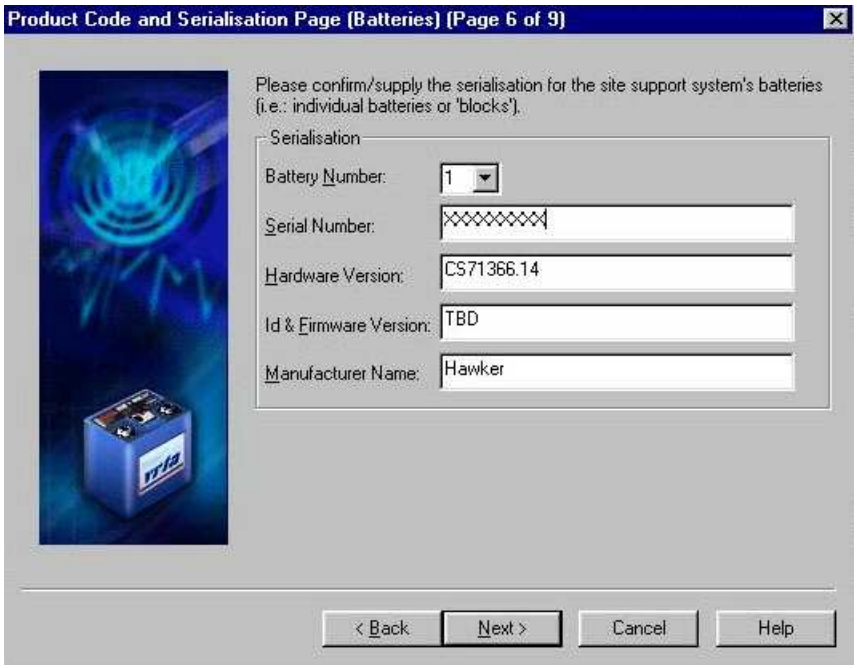

Figure 25. Product Code and Serialisation Page [Batteries] (Page 6 of 9)

6.18 Product Code and Serialisation Page [Climatic Control Unit] window of PSMMan Commissioning Wizard

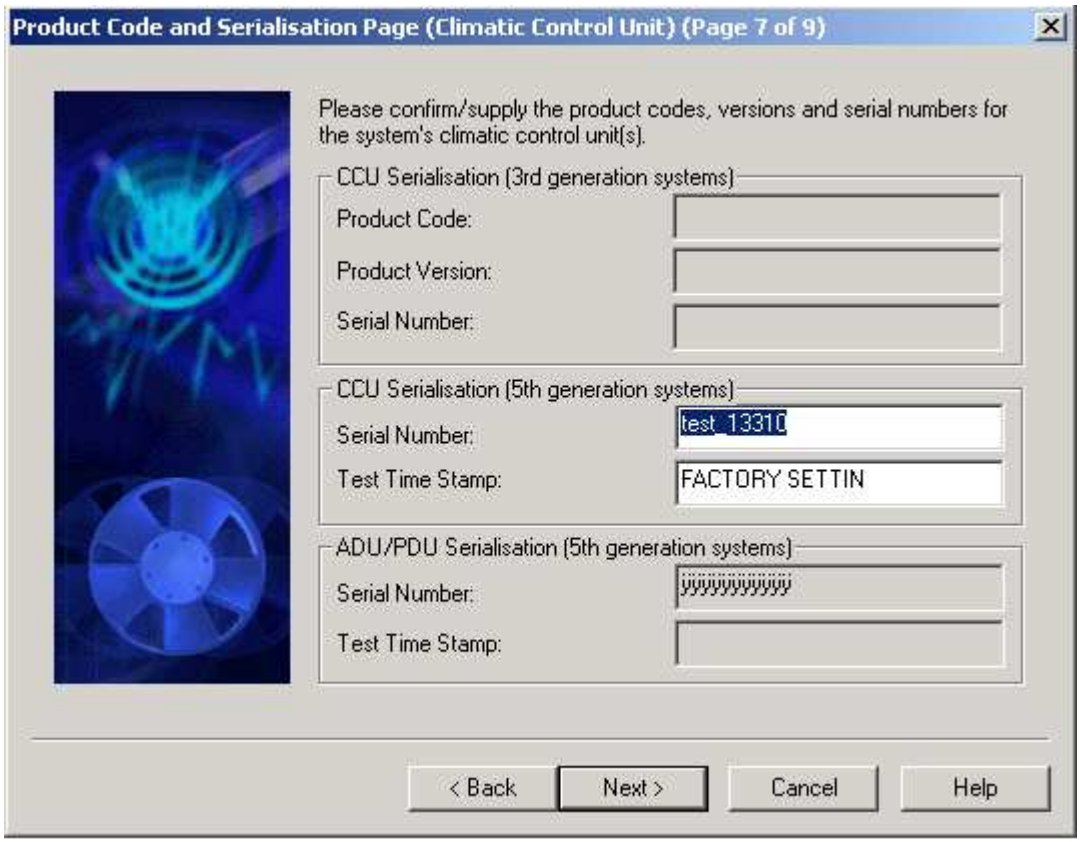

Figure 26. Product Code and Serialisation Page (Climatic Control Unit) (Page 7 of 9)

6.19 Configuration Summary & Commission window of PSMMan Commissioning Wizard

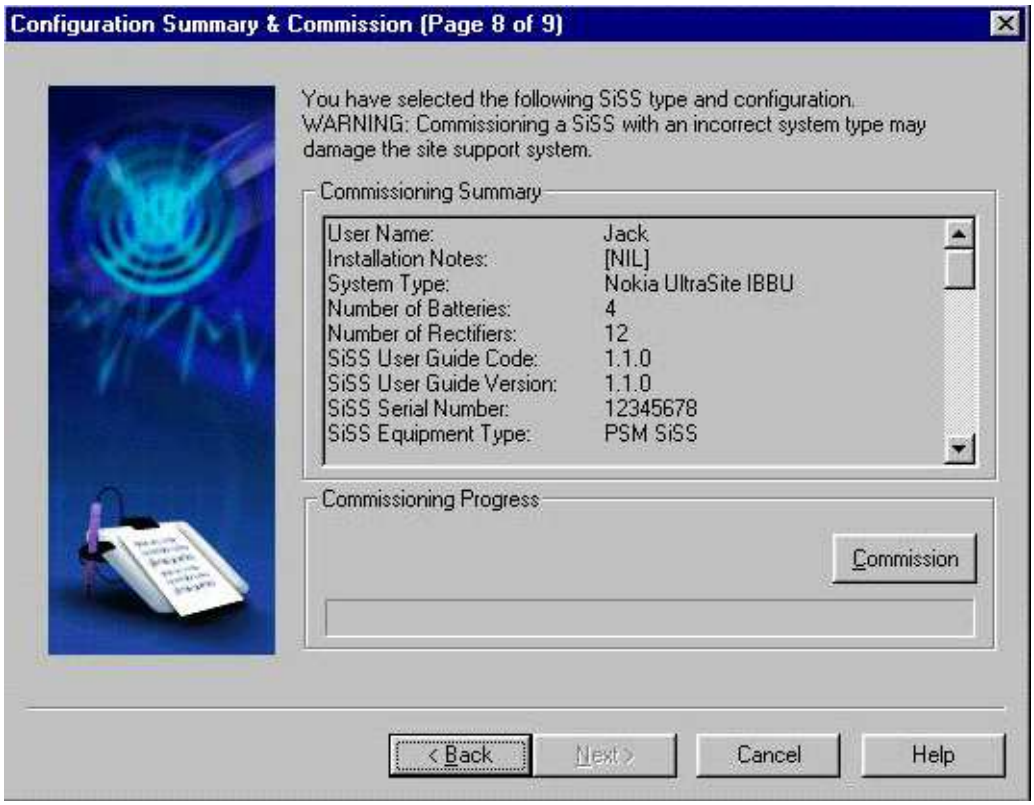

Figure 27. Configuration Summary & Commission (Page 8 of 9)

6.20 SiSS Commissioning Report Page window of PSMMan Commissioning Wizard

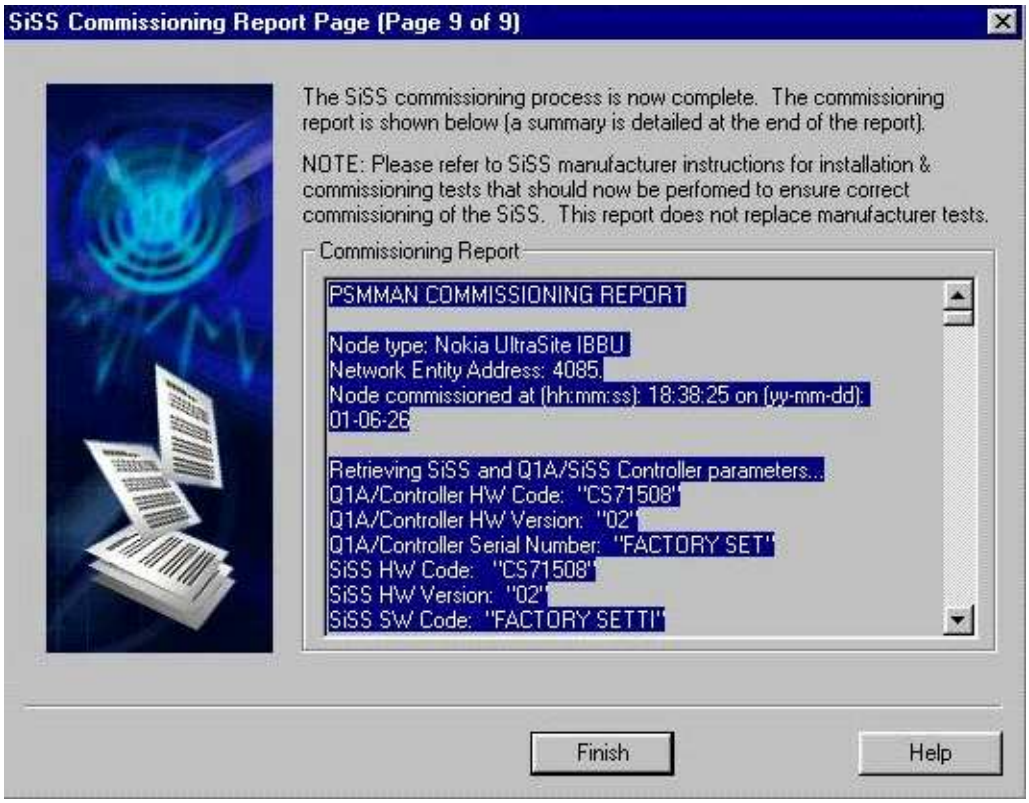

Figure 28. SiSS Commissioning Report Page (9 of 9)

6.21 Power Management (Settings) window of PSMMan

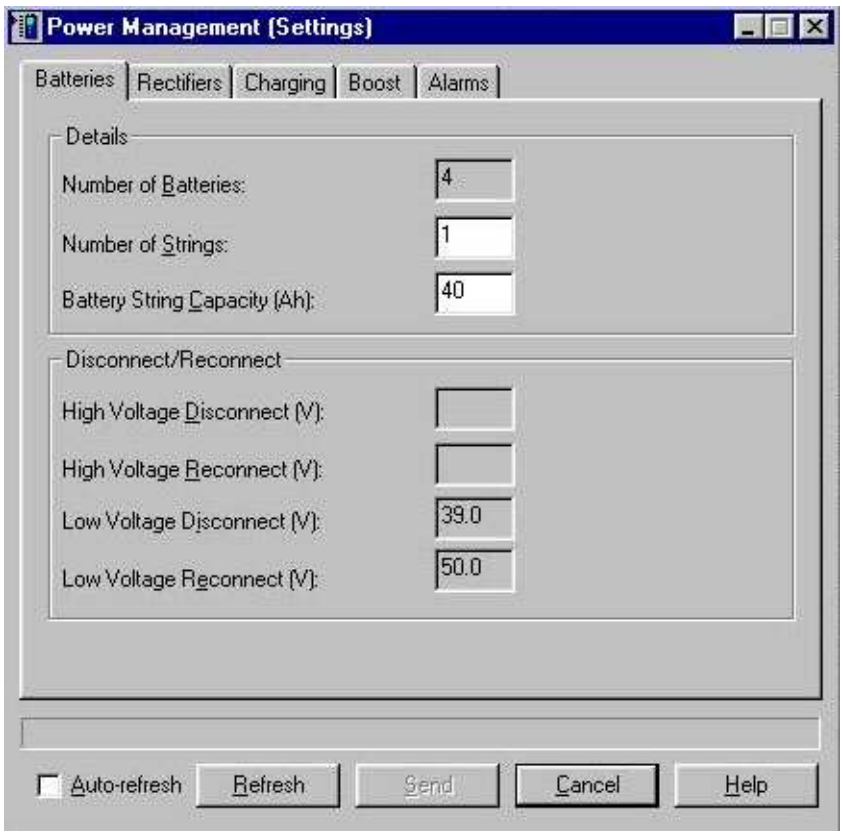

Figure 29. Power Management (Settings)

6.22 Climatic Control (Settings) window of PSMMan

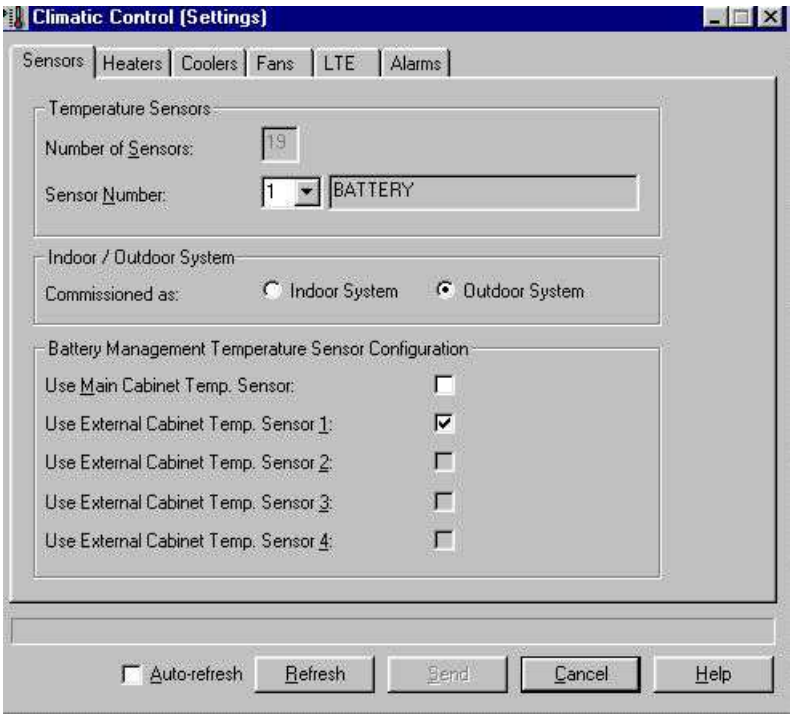

Figure 30. Climatic Control (Settings)

6.23 System Settings window of PSMMan

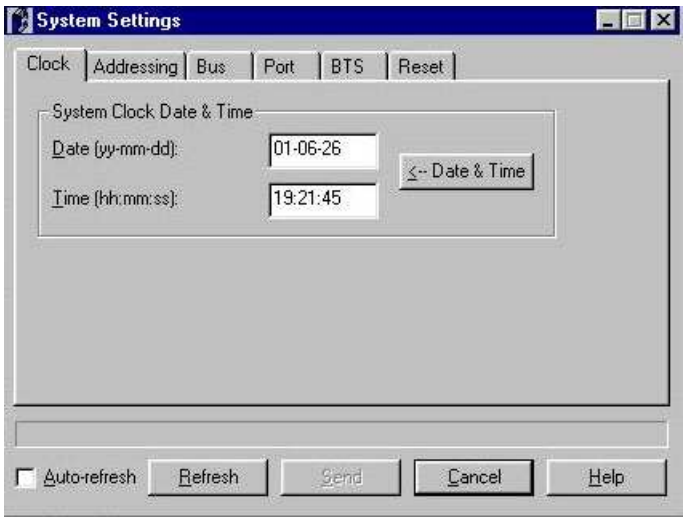

Figure 31. System Settings

6.24 Identifications window of PSMMan

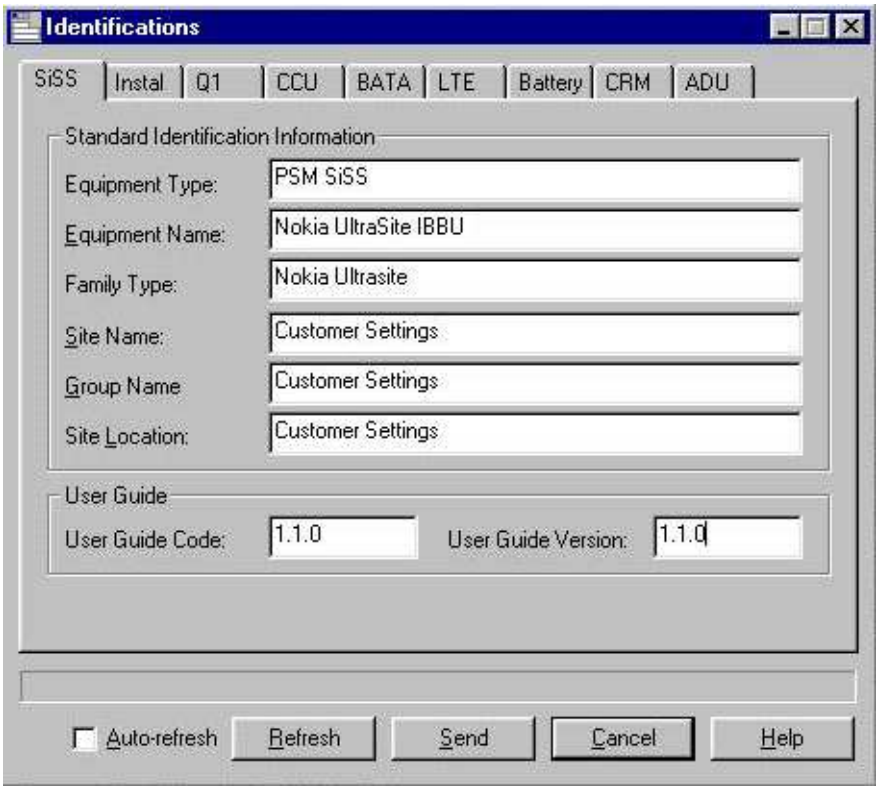

Figure 32. Identifications

7 Glossary

7.1 Glossary for UltraSite EDGE BTS

7.1.1 Abbreviations and acronyms

This section lists abbreviations and acronyms used throughout Nokia UltraSite EDGE Solution documentation.

AC	Alternating Current
ACFU	AC Filter Unit
A/D	Analog/Digital
ADC	Analog to Digital Converter
ADUA	AC/DC control and distribution unit for Integrated Battery Backup (IBBU)
AGC	Automatic Gain Control
ALS	Automatic Laser Shutdown
AMR	Adaptive Multi-Rate coding
ANSI	American National Standards Institute
ANT	Antenna connector
ARFN	Absolute Radio Frequency Channel Number
ASIC	Application Specific Integrated Circuit
ATM	Asynchronous Transfer Mode

AWG	American Wire Gauge
AXC	ATM cross-connect
AXU	ATM cross-connect unit
BAPT	Bundesamt für Post und Telekommunikation Telecommunications advisory agency of Federal Republic of Germany
BATx	Rectifier for battery backup
BBAG	12 V battery for Integrated Battery Backup (IBBU)
BB2x	Transceiver Baseband unit • BB2A for GSM • BB2E for GSM/EDGE
BCCH	Broadcast Control Channel
BCF	Base Control Function
BER	Bit Error Ratio The ratio of the number of bit errors to the total number of bits transmitted in a given time interval.
BIST	Built-In Self Test A technique that provides a circuit the capability to carry out an implicit test of itself.
BOIx	Base Operations and Interfaces unit
BPxN	Bias Tee without VSWR monitoring • BPDN for GSM 900/1800/1900 • BPxV Bias Tee with VSWR monitoring • BPGV for GSM 900 • BPDV for GSM 1800/1900
BS	British Standards
BSC	Base Station Controller

BSS	Base Station Subsystem
BTS	Base Transceiver Station (Base Station)
CC	Cross-Connection
CCCH	Common Control Channel
CCITT	Comité Consultatif International Télégraphique et Téléphonique International Telegraph and Telephone Consultative Committee (Telecommunications advisory agency of France)
CCUA	Cabinet Control Unit
CDMA	Code Division Multiple Access A technique in which the radio transmissions using the same frequency band are coded in a way that a signal from a certain transmitter can be received only by certain receivers
CE	Cable Entry; Consumer Electronics; Conformit Européen (European Conformity) CH Channel
CHDSP	Channel Digital Signal Processor
CN	Change Note A short trouble management document in a specified form sent to a customer about a modification in a product
CRC	Cyclic Redundancy Check A method for detecting errors in data transmission.
CRMx	Core Mechanics for Nokia UltraSite EDGE Base Station Indoor and Outdoor cabinet • CRMA for Indoor and Outdoor cabinets • CRMB for Site Support cabinets • CRMC for Midi Indoor and Outdoor cabinets
CSC	Customer Services Centre
D/A	Digital/Analog

DC	Direct Current
DCS	Digital Cellular System
DDS	Direct Digital Synthesis The frequency synthesis in which logic and memory are used to digitally construct the desired output signal, and a digital-to-analogue converter is used.
DL	(Downlink) The direction of transmission in which the BTS is the transmitting facility and the mobile station is the receiving facility.
DIP	Dual In-line Package
DRAM	Dynamic Random Access Memory
DRX	Discontinuous Reception
DSP	Digital Signal Processor
DTX	Discontinuous Transmission
DU2A	Dual Band Diplex Filter unit for GSM 900/1800
DVxx	Dual Variable Gain Duplex Filter unit • DVTB for GSM/EDGE 800 • DVTC for GSM/EDGE 800 co-siting • DVGA for GSM/EDGE 900 • DVHA for GSM/EDGE 900 customer-specific H band • DVJA for GSM/EDGE 900 customer-specific J band • DVDC for GSM/EDGE 1800 • DVDA for GSM/EDGE 1800 A band • DVDB for GSM/EDGE 1800 B band • DVPA for GSM/EDGE 1900
E1	European Digital Transmission Format Standard (2.048 Mbit/s)
EAC	External Alarms and Controsl

EC	European Community
EDGE	Enhanced Data rates for Global Evolution
EEC	European Economic Community
EEPROM	Electronically Erasable Programmable Read Only Memory
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
EMP	Electromagnetic Pulse
EN	European Norm
EQDSP	Equaliser Digital Signal Processor
ESD	Electrostatic Discharge
ET	Exchange Terminal
ETSI	European Telecommunications Standards Institute
Ext.	External
FACCH	Fast Associated Control Channel
FACH	Forward Access Channel
FCC	Federal Communications Commission The United States federal agency responsible for the regulation of interstate and international communications by radio, television, wire, satellite, and cable.
FC E1/T1	Wireline transmission unit (75 [ohm] E1, 120 [ohm] E1, or 100 [ohm] T1) of Nokia UltraSite EDGE Base Station without cross-connection capability.
FCLK	Frame Clock
FET	Field Effect Transistor
FHS	Frequency Hopping Synthesiser

FIFP	Forwarded Intermediate Frequency Power
FIKA	+24 VDC Installation Kit
FPGA	Field Programmable Gate Array
FXC E1	Wireline transmission unit (75 [ohm] E1) with four line interfaces to the 2 Mbit/s (E1) transmission line; cross-connection capability at 8 kbit/s level.
FXC E1/T1	Wireline transmission unit (120 [ohm] E1 or 100 [ohm] T1) with four line interfaces to the 2 Mbit/s (E1) or 1.5 Mbit/s (T1) transmission line; cross-connection capability at 8 kbit/s level.
FXC RRI	Radio link transmission unit (radio indoor unit) with cross-connection capability at 8 kbit/s level. Used with MetroHopper Radio and FlexiHopper Microwave Radio.
Gb	Interface between RNC and SGSN
GMSK	Gaussian Minimum Shift Keying
GND	Ground; Grounding (protective earthing). See Grounding and PE.
GPRS	General Packet Radio Service
GSM	Global System for Mobile communications • GSM 800 GSM 800 MHz frequency band • GSM 900 GSM 900 MHz frequency band • GSM 1800 GSM 1800 MHz frequency band • GSM 1900 GSM 1900 MHz frequency band
GUI	Graphical User Interface
HDLC	High-level Data Link Control
HETA	Base station cabinet heater
HO	Handover

	The action of switching a call in progress from one radio channel to another, to secure the continuity of the established call
HSCSD	High-Speed Circuit Switched Data
HV	High Voltage
HW	Hardware Specfically, electronic equipment supporting data transmission and processing tasks, and the electrical and mechanical devices related to their operation
IAKx	Indoor Application Kit for Nokia UltraSite EDGE Base Station • IAKA for UltraSite Indoor cabinet • IAKC for UltraSite Midi Indoor cabinet
IBBU	Integrated Battery Backup
IC	Integrated Cell
ICE	Intelligent Coverage Enhancement
ID	Identification; Identifier IE Information Element The basic unit of a transaction capabilities application part (TCAP) message.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IF	Intermediate Frequency
IFM	Interface Module
IFU	Interface unit
ILKA	Indoor Lock Kit
ILMT	Integrated Local Management Tool

IMA	Inverse Multiplexed ATM
IP	Ingress Protection
IRPA	International Radiation Protection Association
ISDN	Integrated Services Digital Network
ISHO	Inter-system handover The handover from one system to another.
ISO	International Organization for Standardization
ITU	International Telecommunication Union
L2	AC Phase 2
L3	AC Phase 3
Iu	The interconnection point between the RNC and the Core Network
Iub	Interface between the RNC and node B
Iubis	Interface between the RNC and the BTS
Iur	The logical interface for the interconnection of two radio network controller (RNC) components of the UMTS terrestrial radio access network (UTRAN) system
JIS	Japanese Industrial Standard
LAN	Local Area Network A data transmission network covering a small area.
LAPD	Link Access Protocol on D-channel between the BSC and BTS
LED	Light Emitting Diode
LMB	Local Management Bus
LMP	Local Management Port

LNA	Low-Noise Amplifier
LO	Local Oscillator
LTE	Line Terminal Equipment
LV	Low Voltage
LVD	Low Voltage Disconnect
LVDS	Low Voltage Differential Signalling
LVTTL	Low Voltage Transistor Transistor Logic
M2xA	2-way Receiver Multicoupler unit • M2LA for GSM/EDGE 800/900 • M2HA for GSM/EDGE 1800/1900 • M6xA 6-way Receiver Multicoupler unit • M6LA for GSM/EDGE 800/900 • M6HA for GSM/EDGE 1800/1900
MAC	Medium Access Control function, handles the channel allocation and multiplexing, that is, the use of physical layer functions.
MCLG	Master Clock Generator
MDF	Main Distribution Frame
MHA	Masthead Amplifier
MMI	Man-Machine Interface
MML	Man-Machine Language A text-based command language with a standardised structure, designed to facilitate direct user control of a system.
MNxx	Masthead Amplifier specific to Nokia UltraSite EDGE Base Station • MNGA for GSM/EDGE 800/900 • MNDA for GSM/EDGE 1800 A band • MNDB for GSM/EDGE 1800 B band

- MNPA for GSM/EDGE 1900 A band
- MNPB for GSM/EDGE 1900 B band
- MNPC for GSM/EDGE 1900 C band

MPT — Ministry of Posts and Telecommunications

Telecommunications regulatory agency of Great Britain.

MS — Mobile Station

User equipment which uses a radio connection, and which can be used in motion or at unspecified points. This is usually a mobile phone.

MSC — Mobile Switching Centre

The mobile network element which performs the switching functions in its area of operation, and controls cooperation with other networks.

MTBF — Mean Time Between Failure

NCRP — National Council on Radiation Protection and Measurements

NCU — Node Control Unit

NEBS — Network Equipment Building Systems

NED — Nokia Electronic Documentation

NMS — Network Management System

O&M — Operation and Maintenance

OAKB — Cable entry kit for BTS co-siting

OAKx — Outdoor Application Kit for Nokia UltraSite EDGE Base Station

- OAKA for UltraSite Outdoor cabinet
- OAKC for UltraSite Midi Outdoor cabinet
- OAKD for UltraSite Midi Outdoor to Talk-family Co-siting

OBKA — Outdoor Bridge Kit

OCXO	Oven Controlled Crystal Oscillator An oscillator in which the crystal and critical circuits are temperature-controlled by an oven.
OEKA	Outdoor (cable) Entry Kit
OFKA	Outdoor Air Filter Kit
OFKC	MIDI Outdoor Air Filter Kit
OMU	Operation and Maintenance Unit
OMUSIG	OMU Signalling
OVP	Over-Voltage Protection
PC	Personal Computer
PCB	Printed Circuit Board
PCM	Pulse Code Modulation
PE	Protective earthing (grounding) See GND and Grounding.
PFC	Power Factor Correction
PLL	Phase-Locked Loop
Point-to-point	Transmission between two fixed points
PSM	Power System Management
PWM	Pulse Width Modulation
PWSx	AC/DC Power Supply unit • PWSA for 230 VAC input • PWSB for -48 VDC input • PWSC for +24 VDC input
Q1	Nokia proprietary transmission management protocol

RACH	Random Access Channel
RAKE	A receiver capable of receiving and combining multipath signals
RAM	Random Access Memory
RAN	Radio Access Network A third generation network that provides mobile access to a number of core networks of both mobile and fixed origin.
RCD	Residual Current Device
RF	Radio Frequency
RFF	Radio Frequency Fingerprinting
RIFP	Reflected Intermediate Frequency Power
RLE	Radio Link Equipment
RNC	Radio Network Controller The network element in a radio access network which is in charge of the use and the integrity of radio resources.
ROM	Read Only Memory
RRI	Radio Relay Interface
RSSI	Received Signal Strength Indicator
RTC	Remote Tune Combining
RTxx	Remote Tune Combiner • RTGA for GSM/EDGE 900 • RTHA for GSM/EDGE 900 H band • RTJA for GSM/EDGE 900 J band • RTDC for GSM/EDGE 1800 • RTDA for GSM/EDGE 1800 A band • RTDB for GSM/EDGE 1800 B band • RTPA for GSM/EDGE 1900

RTN	Return
RX	Receiver; Receive
SCF	Site Configuration File
SCT	Site Configuration Tool
SDCCH	Stand-alone Dedicated Control Channel
SDH	Synchronous Digital Hierarchy
SMB	Sub-Miniature B Connector
SMS	Short Message Service
SSS	Site Support System
STM	Synchronous Transport Module
STM-1	Synchronous Transport Module (155 Mbit/s)
SW	Software
Sync	Synchronization The process of adjusting corresponding significant instances of signals, in order to obtain the desired phase relationship between these instances.
T1	North American Digital Transmission Format Standard (1.544 Mbit/s)
TC	Transcoder
TCH	Traffic Channel The logical radio channel that is assigned to a base transceiver station and is primarily intended for conversation.
TCP/IP	Transport Control Protocol/Internet Protocol
TCS	Temperature Control System
TDMA	Time Division Multiple Access

TE	Terminal Equipment Equipment that provides the functions necessary for user operation of the access protocols.
TMS	Transmission Management System The network system for managing equipment settings, and for centralised retrieval of statistics and alarm information from transmission equipment connected to the system.
TS	Time Slot A cyclic time interval that can be recognised and given a unique definition.
TRE	Transmission Equipment
TRX	Transceiver
TRXSIG	TRX Signalling
TS	Time Slot
TSxx	Transceiver (RF unit), specific to Nokia UltraSite EDGE Base Station • TSTB for GSM/EDGE 800 • TSGA for GSM 900 • TSGB for GSM/EDGE 900 • TSDA for GSM 1800 • TSDB for GSM/EDGE 1800 • TSPA for GSM 1900 • TSPB for GSM/EDGE 1900
TTL	Transistor Transistor Logic
TX	Transmitter; Transmit
UC	Unit Controller
UI	User Interface
UL	Underwriters Laboratories

UL (Uplink) The direction of transmission in which the mobile station is the transmitting facility and the BTS is the receiving facility.

- 2-way uplink diversity - The function by which a BTS uses two antennas and two receivers simultaneously on a single channel to obtain improved overall BTS receiver sensitivity in an environment that is subject to random multipath fading.
- 4-way uplink diversity - The function by which a BTS uses four antennas and four receivers simultaneously on a single channel to obtain improved overall BTS receiver sensitivity in an environment that is subject to random multipath fading.

UMTS Universal Mobile Telecommunications System

UTRAN / UMTS
Terrestrial Radio Access Network

A radio access network (RAN) consisting of radio network controllers (RNCs) and base transceiver stations (BTSs). It is located between the Iu interface and the wideband code division multiple access (WCDMA) radio interface.

UPS Uninterruptible Power Supply

VC Virtual Channel

VCO Voltage Controlled Oscillator

An oscillator for which a change in tuning voltage results in a predetermined change in output frequency.

VLL Line-to-Line Voltage

VP Virtual Path

The unidirectional transport of ATM cells belonging to virtual channels that are associated by a common identifier value.

VPCI Virtual Path Connection Identifier

An identifier which identifies the virtual path connection between two B-ISDN ATM exchanges, or between a B-ISDN ATM exchange and a B-ISDN user.

VPI — Virtual Path Identifier

An identifier which identifies a group of virtual channel links at a given reference point that share the same virtual path connection.

VSWR — Voltage Standing Wave Ratio

The ratio of maximum to minimum voltage in the standing wave pattern that appears along a transmission line. It is used as a measure of impedance mismatch between the transmission line and its load.

VXxx — Transmission unit, specific to Nokia UltraSite EDGE Base Station

- VXEA for FC E1/T1
- VXRA for FC RRI
- VXRB for FXC RRI
- VXTA for FXC E1
- VXTB for FXC E1/T1

WAF — Wideband Antenna Filter unit

WAM

Wideband Application Manager unit

WBC — Wideband Combining unit

WCC — Wideband Cabinet Core

WCDMA — Wide band Code Division Multiple Access

A spread spectrum CDMA technique used to increase the capacity and coverage of wireless communication networks.

WCH — Wideband Cabinet Heater

WCxA — Wideband Combiner, specific to Nokia UltraSite EDGE Base Station

- WCGA for GSM/EDGE 800/900
- WCDA for GSM/EDGE 1800
- WCPA for GSM/EDGE 1900

WEK	Wideband Extension Kit
WFA	Wideband Fan
WHX	Wideband Heat Exchanger
WIC	Wideband Input Combiner
WIK	Wideband Indoor Kit
WOC	Wideband Output Combiner
WOK	Wideband Outdoor Kit
WPA	Wideband Power Amplifier unit
WPS	Wideband Power Supply unit
WSC	Wideband System Clock
WSM	Wideband Summing and Multiplexing unit
WSP	Wideband Signal Processor unit
WTR	Wideband Transmitter and Receiver

7.1.2 Terms

This section provides definitions for terms used throughout Nokia UltraSite Solution documentation.

Abis Interface
: Interface between a Base Transceiver Station (BTS) and the Base Station Controller (BSC) and between two BTSs.

Absolute radio frequency channel number
: See absolute radio frequency number.

Absolute radio frequency number; absolute radio frequency channel number; ARFN; ARFCN
: Radio frequency used in connection with, for example, mobile originating and terminating test calls.

Adaptive multi-rate speech codec; AMR speech codec; AMR codec; AMR
: Speech codec which adapts its operation optimally according to the prevailing channel conditions.

Air Interface — Interface between MS and BTS.

Alarm — Announcement given to the operating personnel about abnormal functioning of the system or about a failure, or an indication of the degradation of the service level or reliability.

Alarm Status — Classification of the severity of an alarm, such as Critical, Major, Minor, and Information.

Alternating current; AC
A periodic current having a mean value zero.

Analogue-to-digital converter; Analog-to-digital converter /US/; A/D converter; ADC
A device which converts an analogue input signal to a digital output signal carrying equivalent information.

Application-specific integrated circuit; custom circuit; custom IC; ASIC
Integrated circuit which is designed for a specific application and a specific customer and which is not available to other customers.

ATM connection control; connection control; CC
Function that keeps track of connection resources and based on those handles the operations related to different kind of cross-connections.

ATM inverse multiplexing
See inverse multiplexing for ATM.

Backplane — Connector board at the back of Nokia UltraSite cabinets to which plug-in units are directly connected. See also BATA backplane and RFU backplane.

Base station — See base transceiver station.

Base station controller; BSC
Network element in the public land mobile network (PLMN) for controlling one or more base transceiver stations (BTS) in the call set-up functions, in signalling, in the use of radio channels and in various maintenance tasks.

Base station system; BSS
System of base stations (BSs) and base station controllers which is viewed by the mobile services switching centre (MSC) through a single interface.

Base transceiver station; base station; BTS; BS
: Network element in a mobile network responsible for radio transmission and reception to or from the mobile station.

BATA backplane
: Additional backplane required in a Site Support cabinet when using 12 rectifiers.

Bias Tee
: Unit that provides DC power for an associated MHA unit.

Cabinet Control Unit
: Module of the ADUA or ADUB that manages battery control, climatic control, alarm reporting, and serial and version number reporting for the IBBU or Nokia UltraSite Support cabinet. The CCU connects to the BOIx with Q1-bus.

Cell
: Coverage area of a given BTS where transmission is acceptably received.

Cell breathing
: Variation of the cell coverage area; depends on the interference and power requirements.

Cellular Network
: Two or more base stations connected together to provide an area of coverage for Mobile Stations (MS).

CENELEC
: Comité European de Normalisation ELECtrotechnique. European Committee for Electrotechnical Standardization.

Chain Connection
: Transmission solution in which the BTSs are interconnected through a chain, and the first BTS in the chain is connected to the BSC. See Loop Connection, Multidrop Connection, and Star Connection.

Chip
: Signal element.

Chip rate
: Number of chips transmitted in one second.

Commissioning
: Tasks performed to enable the BTS to be connected to the network. Includes operational tests and configuring of the transmission equipment.

Coverage Area
: See Cell.

Cross-connection
: Connection between input and output ports of a network element.

Cross-connection bank
: Information base that defines the cross-connections of a network element. The network element contains two or more banks, one of which is always active.

Custom circuit
: See application-specific integrated circuit.

Custom IC
: See application-specific integrated circuit.

D-bus
: Bus used for traffic communication between the transmission units and BB2x units (D1-bus) and for internal O&M communication with the BOIx, BB2x, and RTxx units (D2-bus).

Despreading
: The received wideband signal is modulated with the spreading code to get a narrowband signal after the multipath propagation in spread spectrum systems.

Digital signal processor; DSP
: A processor designed for signal handling, resembling an ordinary microprocessor.

Discontinuous reception; DRX
: Means of saving battery power (for example in hand-portable units) by periodically and automatically switching the mobile station receiver on and off.

Discontinuous transmission; DTX
: Feature which enables saving battery power (for example in hand-portable units) and reducing interference by automatically switching the transmitter off when no speech or data are to be sent.

Downlink Diversity
: See Frequency Hopping.

Earthing
: See Grounding.

F-bus
: Frequency Hopping bus. See Frequency Hopping.

Finger; rake finger; RAKE finger
: Receiver unit that despreads one multipath signal.

Four-way uplink diversity; 4-way uplink diversity
: Function by which a base transceiver station (BTS) uses four antennas and four receivers simultaneously on a single channel to obtain improved overall BTS receiver sensitivity in an environment that is subject to random multipath fading.

Forward link
: See downlink.

Flash memory
: Nonvolatile, electronically writable memory, similar to EEPROM in function, but which must be erased in blocks.

Flexbus
: Bidirectional coaxial cable that carries up to 16 x 2 Mbit/s signals and power between transmission equipment, such as a radio outdoor and indoor unit.

Frequency-change oscillator
: See local oscillator.

Frequency Hopping
: Function in which a BTS swaps two transmitters on a single channel to obtain improved overall MS receiver sensitivity in a system that is subject to random fading.

Gain
: Signal amplification, expressed in dBi—decibels over a theoretic, isotropic, and uniformly radiating antenna.

Grounding
: Protecting the equipment and the users against lightning and surges through the external connections.

I^2C-bus
: Integrated Inter Cell communication bus used for polling, autodetection, version and serial number management, temperature polling, and alarm collection in units without a microprocessor.

Handover
: The handover occurs between two cells; the signal goes through one base station or base station sector at a time.

Human-machine interface; man-machine interface; HMI; MMI
: A subsystem or function which provides user interface functions in a man-machine language.

Installation
: Tasks performed to enable the BTS to be mounted at the site.

Integration
: Tasks performed to make the BTS functional in the cellular network. Includes making test calls.

Inter-frequency handover
: Handover where the new carrier frequency is different from the current one.

Inter-system handover
: Handover from one system to another, e.g. between a 3rd generation system and GSM.

Inverse multiplexing for ATM; ATM inverse multiplexing; inverse multiplexing; IMA
: The transmission method in which ATM cells in a cell stream are divided across several physical E1 links on a cell-by-cell basis, and then reassembled at the receiving end without affecting the original cell order.

Loop connection
: Transmission solution in which BTSs are interconnected in a loop. For example, the first and last BTSs are connected to the BSC. See Chain Connection, Multidrop Connection, and Star Connection.

Macrocellular
: Application that covers large areas with a cell radius of 1 to 10 km (0.6 to 6 miles). The coverage area is achieved when the antenna is installed high and off the ground.

Maximum ratio combining
: A signal combining technique in which each signal is multiplied by a weight factor that is proportional to the signal amplitude: the strong signals are further amplified, while the weak signals are attenuated.

Microcellular
: Application that typically covers areas with a cell radius of 100 m to 1 km (327 feet to 0.6 miles). The antennas are installed below rooftop level.

Microwave radio
: Radio equipment for establishing an aligned and fixed radio connection between two points.

Midi
: Indoor or Outdoor cabinet with up to six TRXs.

Multidrop Connection
: Transmission solution in which one or more BTS chains are connected to one BTS that is connected to the BSC. See Chain Connection, Loop Connection, and Star Connection.

Network Element

Any equipment that can be managed, monitored, or controlled in a telecommunications network.

Network Topology

Method of transmission between the cells of a network. Examples of transmission solutions are chain, loop, multidrop, and star connections.

Node Manager

A feature of Power System Management (PSM), the Node Manager software called PSMMan is used to control network elements, or nodes, of the Site Support System.

Nokia FlexiHopper

Nokia family of Flexbus-compatible microwave radios for the 13, 15, 18, 23, 26, and 38 GHz frequency bands, in which the radio transmission capacity can be selected using software. The radio transmission capacity of Nokia FlexiHopper can be 2 x 2, 4 x 2, 8 x 2, or 16 x 2 Mbit/s.

Nokia FlexiHopper outdoor unit can be used with different indoor units: FIU 19, RRIC, FC RRI, and FXC RRI.

Nokia Hopper Manager

PC software application used for controlling and monitoring Nokia FlexiHopper and Nokia MetroHopper radios connected to FIU19 or RRIC indoor units.

Nokia MetroHopper

Nokia Flexbus-compatible radio for the 58 GHz frequency band that does not require coordinated frequency planning. The main use of Nokia MetroHopper is to provide 4 x 2 Mbit/s, point-to-point wireless access for Nokia MetroSite BTS and Nokia MetroHub.

Nokia MetroHopper outdoor unit can be used with different indoor units: FIU 19, RRIC, FC RRI, and FXC RRI.

Nokia MetroHub

Nokia’s compact transmission node with cross-connection and grooming functions, such as FXC RRI. Nokia MetroHub contains up to five transmission units.

Nokia MetroSite GSM BTS

Nokia’s compact four-TRX GSM base station for Nokia MetroSite capacity solution. Nokia MetroSite GSM BTS can contain one transmission unit.

Nokia Q1 Connection Tool
: Program that makes connection and node definitions for identifying objects on a Nokia Q1 managed network. See Q1.

Nokia UltraSite
: Multimedia coverage and capacity macrocellular base station.

Omnidirectional Cell
: Cell with a 360× sector; also known as standard cell.

Operator
: Telecommunications company running telecommunications services in a specific geographical area.

PCM time slot
: 1.5 Mbit/s PCM circuit is divided into twenty-four 64 kbit/s time slots.

  2 Mbit/s PCM circuit is divided into thirty-two 64 kbit/s time slots.

Peltier elements
: Elements that absorb or emit heat when an electric current passes across a junction between two materials. Used for heating and cooling IP20 protection class equipment.

Point-to-point
: Transmission between two fixed points.

Q1-bus
: Bus in Nokia UltraSite EDGE BTS, used for local transmission management (Q1int) and for extending the management to external equipment.

Radio interface; air interface; AI
: The interface between the mobile station (MS) and the radio equipment in the network. This is defined by functional characteristics, common radio (physical) interconnection characteristics, and other characteristics as appropriate.

Radio Relay
: Microwave radio unit that replaces a fixed cable with a microwave radio link in the Abis Interface.

Rectifier
: Device for converting alternating current to direct current. See BATx.

RFU backplane
: Backplane in Nokia UltraSite EDGE BTS cabinet to which RF units are attached.

Sectored BTS Site
: A site with multiple cells positioned to supply the desired radiation.

Sectored Cell — A cell with a conical coverage area achieved by means of a directional aerial.

Single Sector — A part of the BTS's physical equipment that serves a single cell in the network radio topology.

Site — Location where telecommunication equipment has been installed. For example, a site can contain a base station and transmission equipment with an equipment shelter and antenna tower.

Several network elements can be located at a site.

Soft handover — Handover where the signal goes through two base stations or base station sectors at a time.

Softer handover — Handover where the signal goes through two sectors in one base station area at a time.

Software Package — Software collection consisting of the components of the BTS operating system.

Spreading — A process in which the signal is modulated with the pseudo noise code to get a wideband signal for multipath propagation in spread spectrum systems.

Spreading code — A code that is used to despread a signal in spread spectrum communications.

Star Connection — Transmission solution in which three branches with one BTS in each are connected to a common node. See Chain Connection, Loop Connection, and Multidrop Connection.

Synchronisation (Sync) — Process of adjusting the corresponding significant instances of signals (between adjacent and serving cells) to obtain the desired phase relationship between these instances.

Uplink — Direction of transmission in which the mobile station is the transmitting facility and the BTS is the receiving facility.

Uplink Diversity

2-way uplink diversity – Function in which a BTS uses two antennas and two receivers simultaneously on a single channel to obtain improved overall BTS receiver sensitivity in an environment that is subject to random multipath fading.

4-way uplink diversity – Function in which a BTS uses four antennas and four receivers simultaneously on a single channel to obtain improved overall BTS receiver sensitivity in an environment that is subject to random multipath fading.

See Frequency Hopping.

Related Topics

Nokia PSM software

References

Choose Target Window of PSMMan Software Download Wizard

Select File Window of PSMMan Software Download Wizard

Start Download Window of PSMMan Software Download Wizard

Switch Software Window of PSMMan Software Download Wizard

Welcome and User Details Window of PSMMan Commissioning Wizard

System Type and Setup Page Window of PSMMan Commissioning Wizard

Product Code and Serialisation Page [SiSS Node] & Configuration Window of PSMMan Commissioning Wizard

Documentation, Site Details & Cabinet Mechanics [CRM] Identification Window of PSMMan Commissioning Wizard

Product Code and Serialisation Page [Rectifiers] Window of PSMMan Commissioning Wizard

Product Code and Serialisation Page [Batteries] of PSMMan Commissioning Wizard

Product Code and Serialisation Page [Climatic Control Unit] of PSMMan Commissioning Wizard

Configuration Summary and Commissioning Window of PSMMan Commissioning Wizard

SiSS Commissioning Report Page Window of PSMMan Commissioning Wizard

Power Management (Settings) Window of PSMMan

Climatic Control (Settings) Window of PSMMan

System Settings Window of PSMMan

Identifications Window of PSMMan

Overview of Commissioning UltraSite EDGE BTS with IBBU

Descriptions

Nokia Sitewizard

Connecting locally to a PSM Node Manager

Reference

Connecting Locally to CCUA-based PSM