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C33525.90_H0
Nokia MetroHub Transmission Node Rel. C3

Maintaining Nokia MetroHub

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Contents

1 Overview of preventing failures of Nokia MetroHub

Purpose

In general, the MetroHub units require very little maintenance.

Only the fan unit and the battery unit are objects of regular maintenance. They can be subjected to preventive maintenance actions, and there are internal tests that can be run with MetroHub Manager.

Note

Read *Overview of installing Nokia MetroHub* and *Warnings and cautions* carefully before performing any maintenance tasks.

Note

Before performing internal cabinet maintenance, remove the cover. See *Removing the cabinet cover* for details.

Note

Use the appropriate tools for the type of maintenance. You should always have the MetroHub key, antistatic wrist strap and Nokia MetroHub Manager PC and the PC-cable with you.

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Steps

1.   **Check and maintain the fan unit of Nokia MetroHub periodically.**

2.   **Check and maintain the Nokia MetroHub battery periodically.**

3.   **Check and lubricate the cabinet lock periodically.**

4.   **Clean Nokia MetroHub as necessary.**

     To clean the MetroHub cover use a mild detergent and a sponge or a soft brush. Do not use strong dissolvents.

     To clean the mechanics, use a clean cloth, vacuum cleaner or compressed air. You can also use a mild detergent and a damp cloth to clean the mechanics.

Note

If you use compressed air, the air flow must not be excessive.

5.   **Recalibrate the internal clock of the FXC STM-1 unit once a year.**

6.   **Tune the oscillator of the FXC RRI unit every 10 years.**

7.   **If a unit is faulty, send it to Nokia Service Centre for repair. Replace faulty units as described in Replacing a battery backup unit, and Replacing a transmission unit with a unit of the same type.**

8.   **Keep some of the packing material on site. It can be used if you need to send units for service.**

2 Maintaining the Nokia MetroHub fan unit

Purpose

The lifetime of the fan depends on the environment and on how many hours the fan has been running.

Steps

1. **Replace the fan every five years, if kept in extreme climates.**

2. **Check the performance of the fan occasionally, according to the instructions in Running a Nokia MetroHub system test.**

3. **Replace a broken fan within 75 minutes, if the temperatures are hot (approx. 50°C/122°F).**

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3 Maintaining the Nokia MetroHub battery

Purpose

The life time of the battery depends on the environment, and the rate and depth of discharging.

Before you start

⚠ Caution

The battery cable connector must be disconnected from the DIPx during maintenance.

Steps

1. **Check the battery unit and the metal net above it occasionally.**

    The surface of the battery unit and the metal net above it should be checked occasionally to make sure that there is no dirt that can obstruct the cooling of the battery.

2. **Check the performance of the battery occasionally; see Replacing a battery back-up unit for details.**

3. **Replace the battery when necessary.**

4. **If kept in an extremely humid environment, replace the battery every three years.**

4   Checking the cabinet lock

Purpose

In freezing temperatures, the cabinet lock should be lubricated periodically.

Steps

1.   *If* the cabinet is used in temperatures below 0°C (32°F)

   Then

   lubricate the lock periodically with lubricating anti-freeze oil, or use both anti-freeze oil and lubricating oil.

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5   Running a Nokia MetroHub system test

Summary

You can perform several tests on a MetroHub node with Nokia MetroHub Manager. In these tests you can verify the condition of the hardware.

Steps

1. **Open a connection to the node.**

2. **Select the Maintenance → Tests menu command to open the Testing dialogue box.**

3. **Select the test(s) to be performed.**

4. **Click Start.**

5. **Wait for the test(s) to be performed.**

   Expected outcome

   The results of the test(s) are displayed in the corresponding Results text box(es).

6 Recalibrating the internal clock of the FXC STM-1 unit

Purpose

The internal node clock of the FXC STM-1 unit should be recalibrated once a year, or the user will receive a 'calibration expired' alarm.

Steps

1. **Connect your PC to the transmission node.**

2. **Open the node manager.**

3. **Click Configuration → Synchronization to open the Synchronization dialogue box.**

4. **Select the Priorities tab.**

5. **Select internal clock and click Calibrate to calibrate the internal clock to the current active synchronisation source.**

    This button is not available in offline mode or when the status of the synchronisation source is not **OK**.

    Before calibration, check that the intended syncronisation source is active and that no synchronisation failures have been reported in the node or network.

    When calibrating to an external E1 or 2 MHz signal, ensure that the signal accuracy is sufficient for use as a synchronisation source.

6. **Click Apply or OK to apply the settings to the node.**

Expected outcome

The internal clock of the FXC STM-1 unit is successfully recalibrated.

Related Topics

Overview of preventing failures of Nokia MetroHub

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Maintaining the Nokia MetroHub fan unit

Replacing a battery backup unit

Replacing a transmission unit with a unit of the same type

Recalibrating the internal clock of the FXC STM-1 unit

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Battery connection test fails with two power supplies

Battery capacity test fails in the manager

Overview of preventing failures of Nokia MetroHub

Descriptions

Technical description of Nokia MetroHub cabinet management