OPTION CARDS
NETSILON 7

Installation instructions

www.bodet-time.com

BODET TIME & SPORT
1 rue du Général de Gaulle
49340 TREMENTINES - France
Tel. support France: 02.41.71.72.99
Tel. support Export: +33 2 41 71 72 33

On receipt, make sure that the product has not been damaged during transport so that you can make a reservation to the carrier.

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SAFETY INFORMATION

The following icons are used to indicate risks or sources of danger when installing, using and maintaining this product.

Symbol	Description
	IEC60417 - 1641 Operating instructions
	IEC60417 - 5031 Direct current
	IEC60417 - 5032 Alternating current
	IEC60417 - 6042 Caution, risk of electric shock
	IEC60417 - 6151 Caution, infrared radiation
	IEC60417 - 6172 Disconnect all power sources
	IEC60417 - 0434b Caution

1. GENERAL INFORMATION

Thank you for choosing an option card for the BODET Netsilon 7 time server. This product has been carefully designed for your satisfaction according to the rules of our ISO9001 and ISO14001 quality system.

We recommend that you read these instructions carefully before opening the Netsilon time server or installing an option card.

Retain this manual throughout the lifespan of your product so that you can refer to it when necessary.

Failure to follow these instructions may cause irreversible damage and invalidate the warranty. In that case, BODET cannot be held liable.

Non-contractual data. BODET reserves the right to make certain functional, technical or aesthetic changes to devices without prior notice.

This manual is subject to change without notice. To obtain the latest version of this documentation, please refer to our website: www.bodet-time.com.

1.1 Using the instructions

The indications stated by the icons in these instructions must be carefully observed. The main icons are identified below:

[i] : indicates advice, a recommendation or an explanation.

⚠ : indicates that special attention should be paid.

⚡ : indicates that misuse or failure to follow the instructions could result in an electrical danger. This information must imperatively be taken into account when installing or using the product.

1.2 Introduction

The Netsilon time server offers customisation and scalability through the possibility of adding a range of option cards.

Up to 4 option cards can be adapted to offer a variety of time signals.

6 option card models are available:

> NETWORK option card (RJ45 port), ref: 907 920.

> AFNOR option card, ref: 907 940.

> IMPULSE option card, ref: 907 942.

> CURRENT LOOP option card, ref: 907 944.

> FIBRE NETWORK option card (SFP port), ref: 907 921.

> ASCII option card, ref: 907 926.

1.3 List of recommendations

In order to install Netsilon option cards, we recommend you to:

⚠ > Save your configuration before adding an option card,

⚡ > Switch off the Netsilon time server and unplug power cords before manipulating the product,

> Remove the chassis cover and install the option card according to the instructions,

> Reassemble the product entirely before connecting it to the network and switching it on. No parts should be left over.

2. INTRODUCTION

These instructions refer to the installation of one or several option cards.

The operation and use of these option cards are explained in the Netsilon time server full user manual (available on our website www.bodet-time.com).
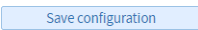
2.1 Checking the package

Carefully unpack and check the content of the package. This must include:
> The option card(s),
> The fixing kit of the option card(s).

2.2 Saving the configuration

We recommend that you save the current Netsilon configuration before installing an option card.

To save a configuration from the Netsilon web server, follow the steps below:
1) SYSTEM menu > Tools > Update and backup.
2) Click on [Save configuration], a file named «export.nets» will download to your PC.

2.3 Security

Netsilon can be equipped with several power sources: if both AC and DC power options are present, turning off the switch on the rear panel will not disconnect all power sources.

⚠ ⚡ 🔌 **Make sure that all power sources have been removed from the Netsilon time server before removing the cover and opening the product.**

Do not open the product except for adding or changing option cards:
> Do not open the product as long as the power supplies are still connected.

> Make sure that all power sources are removed from the device before installing the option cards: disconnect the AC and/or DC power supplies connected to the device (or both AC/AC power supplies depending on your model).

⚠ **The switch is of functional type. It is not a power supply disconnect switch. Disconnect the power supply and relay circuits before manipulating the product.**

⚠ **Fibre optics: risk of eye injury. Before inspecting a fibre optic connector, always ensure that no light source is left on. There is a risk of serious eye injury.**

3. MECHANICAL INSTALLATION

The installation method is the same regardless of the option card installed. However, there are some specific operations to carry out depending on the option card. Make sure to observe the following locations:
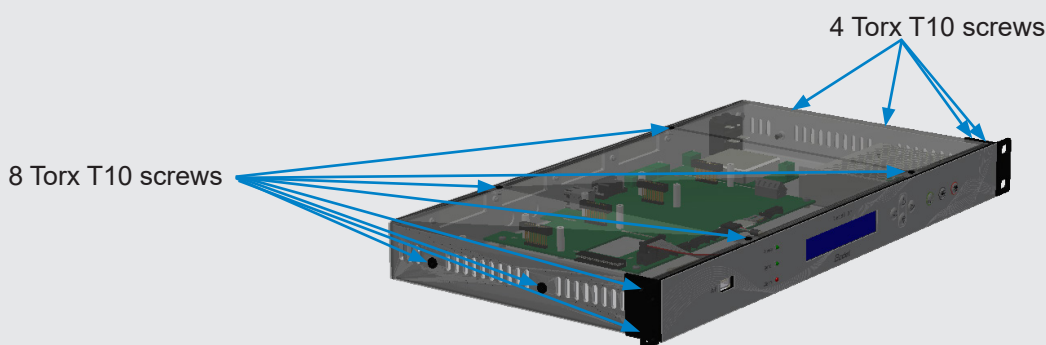- Slot A / B / C: NETWORK (RJ45 port), FIBRE NETWORK (SFP port) option cards,
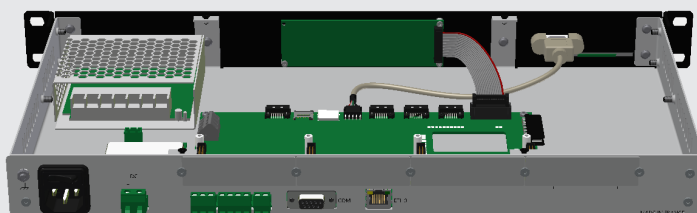
If the new option card is installed in place of an existing option card (that has been relocated), it is then necessary to uninstall the relocated option card from the web server (please refer to chapter 5.5 Deleting an option card). Once uninstalled, the product will detect again the option card along with its new slot number.

> OPENING THE NETSILON TIME SERVER

1) Unscrew and remove the 12 screws as illustrated below using a Torx T10 screwdriver:
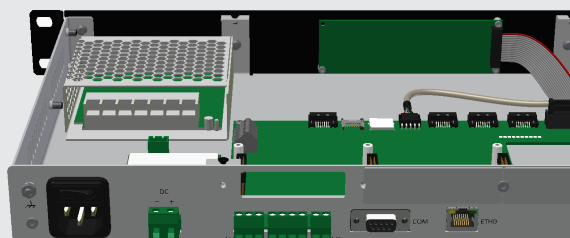
4 Torx T10 screws

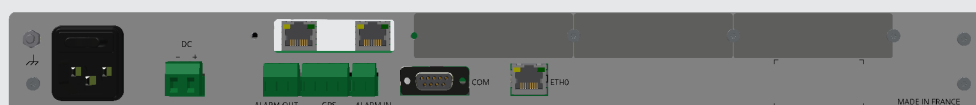8 Torx T10 screws

2) Remove the black cover:

> INSTALLING AN OPTION CARD

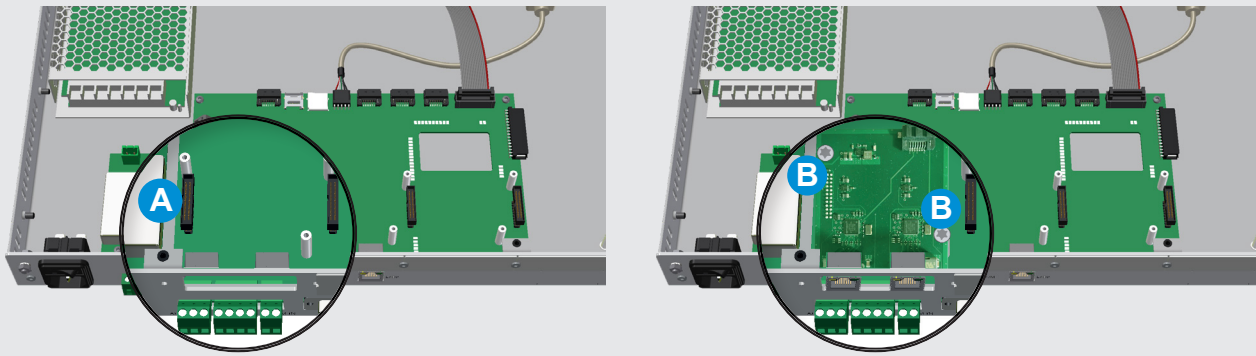3) Determine the location of the option card (ensure slot compatibility).
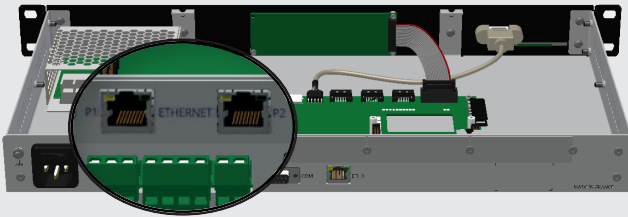4) Remove the aluminium plate from the desired location using the Torx T10 screwdriver:

5) Place the option card by making sure that the outputs of the option card are aligned with the opening:

6) Clip the electronic board onto the connector **A** and secure it using the two Torx T8 screws **B** :

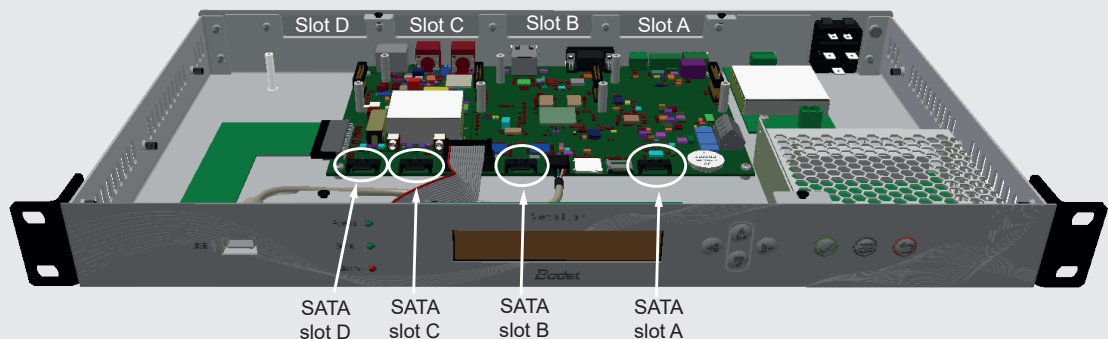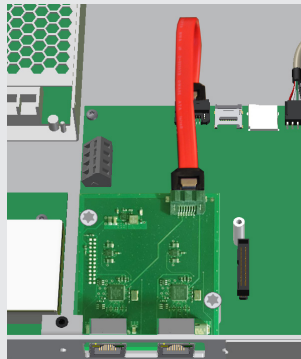7) Fix the aluminium plate in order to close the space around the option card:

ℹ **Repeat these 5 steps as many times as there are option cards to install.**

⚠ **Do not use screws other that those supplied, since screws of inappropriate lengths may damage some components.**

8) Carry out the following operations:
   - For RJ45 Ethernet and SFP Ethernet option cards, connect the SATA cable(s) linking the Network card(s) to the Netsilon's motherboard:

Slot D   Slot C   Slot B   Slot A

SATA   SATA   SATA   SATA
slot D   slot C   slot B   slot A

ℹ **This operation applies to both Network option cards (RJ45 port) and Fibre Network option cards (SFP port). Make sure to connect the SATA cable to the right connector on the motherboard corresponding to the slot where the option card is installed.**

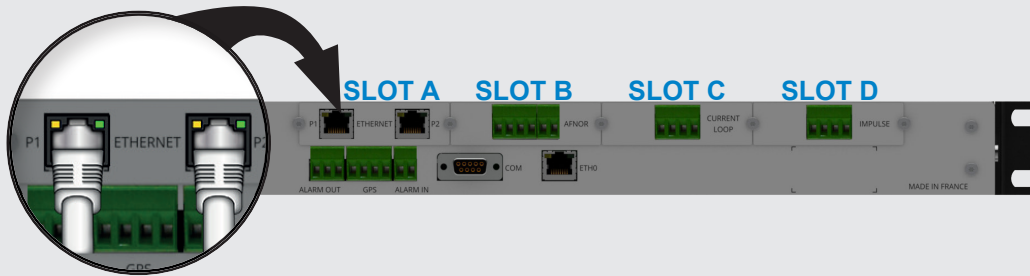9) Close the Netsilon time server by replacing the black cover as it was in its original state.
10) Connect the power supply and set the switch to ON (I).
11) Connect the network cable on the ETH0 port to access the web server.
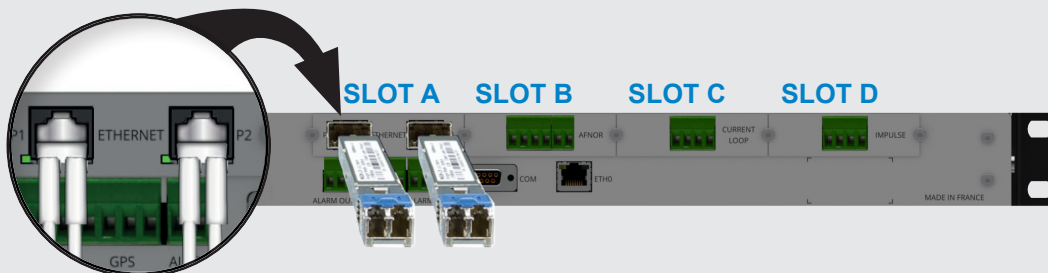
4. ELECTRICAL CONNECTIONS

4.1 Option cards

> **NETWORK option card (RJ45 port), ref: 907 920.**

>Ports 1 and 2 can assign two independent network from the web server.
> A maximum of three option cards can be installed.
> These option cards must be imperatively installed in slots A, B and C.
> Network port: RJ45, 1000-baseT (Gigabit).

> **FIBRE NETWORK option card (SFP port), ref: 907 921.**

>Ports 1 and 2 can assign two independent networks from the web server.
> A maximum of three option cards can be installed.
> These option cards must be imperatively installed in slots A, B and C.
> Connectors: 2 SFP:

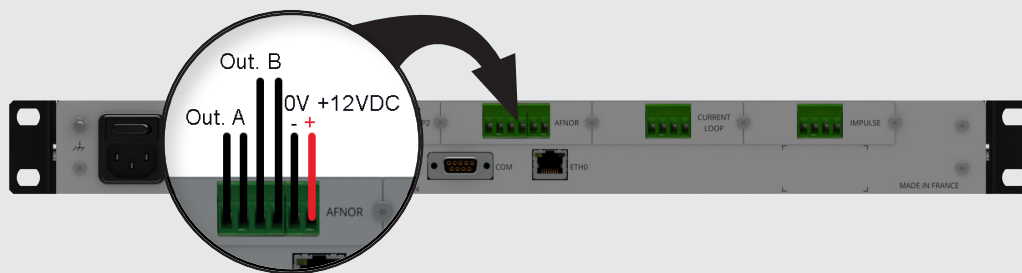| Type of module	Description
SX.........................	Colour: black 1000 BaseSX LC-Duplex Fibre connector Wavelength = 850 nm
LX.........................	Colour: blue 1000 BaseLX LC-Duplex Fibre connector Wavelength = 1310 nm

We recommend that you use the Bodet SX and LX modules. It is possible to use other SFP modules compatible with MSA (Multi-Source Agreement), without any guarantee of operation (RJ45 module not compatible).

> LED status (at the bottom left of the port):
- Red: fibre optic link not established
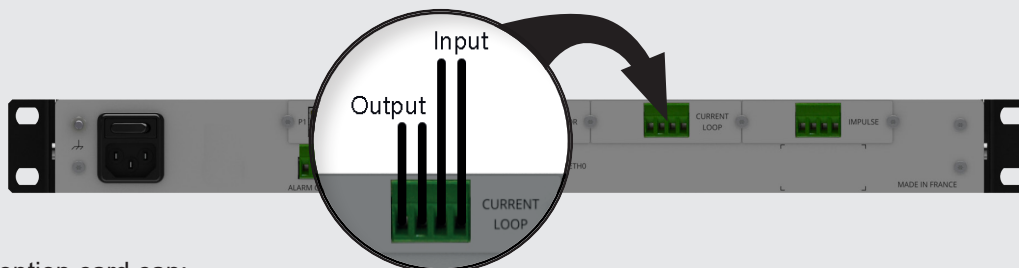- Green: fibre optic link OK (flashing according to activity).

⚠ **Risk of eye injury: when inspecting a connector, ensure that all light sources are off. The light source in fibre optic cables can damage the eyes.**
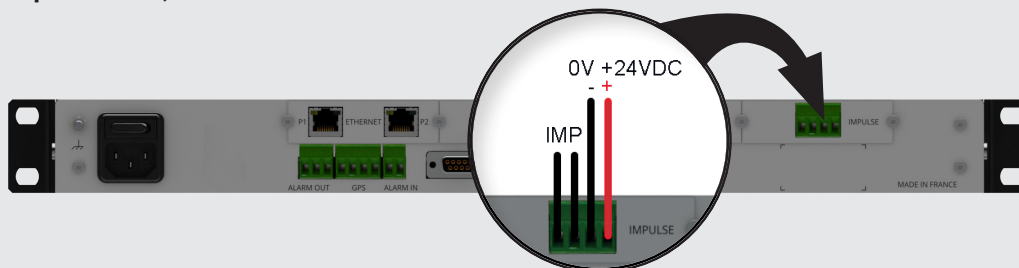
> **AFNOR option card (IRIG B 127), ref: 907 940.**

> Outputs A and B can assign two independent time zones from the web server.
> The power supply can power up to two Bodet DHF V1 transmitters.
> A maximum of four option cards can be installed.

> **CURRENT LOOP option card, ref: 907 944.**

> This option card can:
>   - Simulate a DCF signal for synchronising a device using the DCF 4-20mA.
>   - Synchronise the Netsilon time server in ALS162 4-20mA with an ALS162 antenna (907025).
> A single option card can be installed.

> **IMPULSE option card, ref: 907 942.**

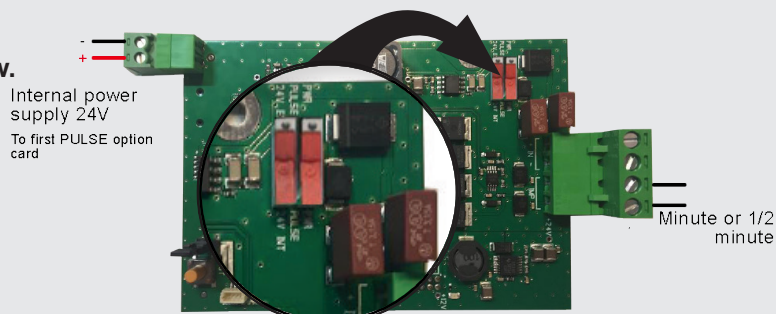> A maximum of four option cards can be installed.

The IMPULSE 2, 3 and 4 option cards have their power supplies connected in parallel as shown below.

> **Cabling of the second IMPULSE option card:**

1) Connect the internal power supply.
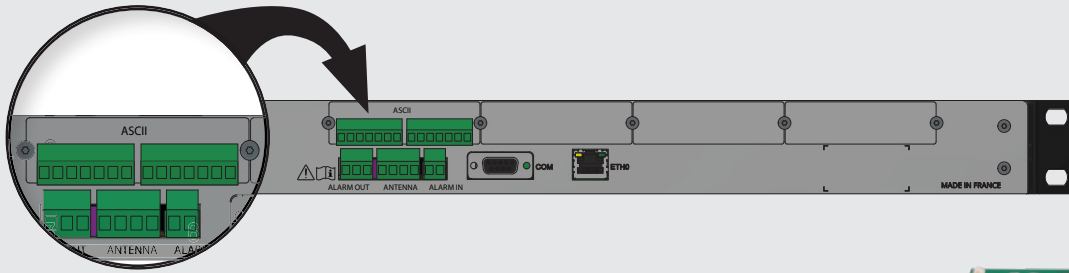**2) Configure the DIP switches as stated below.**

Connect only one power supply at a time to the IMPULSE option card. This card can send impulses from the internal (24VDC) or external voltage (20-50VDC isolated).
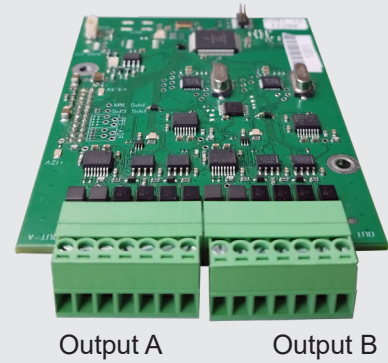
Internal power supply 24V
To first PULSE option card

Minute or 1/2 minute

9

> **ASCII option card, ref: 907 926.**

> Outputs A and B can distribute two different serial links (RS232/422/485).
> Both outputs are dependent.
> Configuration of the output frame via the embedded Netsilon web server.

> Connectors: Removable 7-pin terminal block (pitch of 3.81 mm).

Output A					Output B				
RS232			RS422/485		RS232			RS422/485	
Tx	Rx	GND	T+/A R+	T-/B R-	Tx	Rx	GND	T+/A R+	T-/B R-

> The ASCII option card can be installed in any slot.
> A maximum of four option cards can be installed.

Output A   Output B

5. QUICK CONFIGURATION

5.1 Web server access

> To access the Netsilon web server, please observe the following steps:

1) Have your Netsilon IP address ready.

   To obtain the Netsilon IP address, please refer to the product's full user manual.

2) Open a web browser page (Google Chrome®, Mozilla Firefox or Microsoft Edge®).

3) Enter the IP address into the browser's address bar.

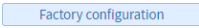4) Enter your username and password to access the web server.

> For more information on the product and how to configure it from the web server, download the full user manual at:

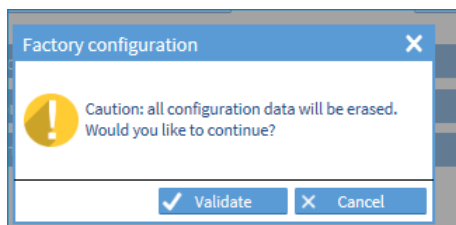https://www.bodet-time.com/support/documents-database.html

5.2 Factory configuration

To return to factory configuration from the Netsilon web server, please follow these steps:

1) SYSTEM menu > Tools > Update and backup.

2) Click on Factory configuration , and the following window will appear:

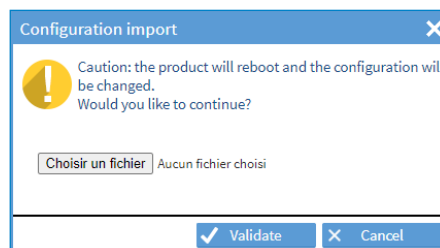⚠ **All configurations will be lost in the event of a return to factory configuration.**

The link to the web server will be broken since the IP address has been lost: it is then necessary to reconfigure the network settings to access the web server (please refer to the Netsilon's full user manual).

5.3 Upload the configuration

To upload a configuration from the Netsilon web server, follow the steps below:

1) SYSTEM menu > Tools > Update and backup.

2) Click on Upload configuration , and the following window will appear to select the file to import:

The file to be imported must have a "FileName.nets" extension.

5.4 Detecting an option card

To detect an option card from the Netsilon web server, follow the steps below:

1) SYSTEM menu > Tools > Option cards:

No.	Type	
Option card slot A	Ethernet	
Option card slot B	Afnor	
Option card slot C	Current loop	
Option card slot D	24V impulse	

5.5 Deleting an option card

If an option card needs to be relocated or physically removed from the Netsilon time server, it must also be deleted from the web server in order not to generate false alarms.

To delete an option card from the Netsilon web server, follow the steps below:

1) SYSTEM menu > Tools > Option cards.

2) Select the option card to be deleted.

3) Click on 🔽, and the following window will appear:

Tools

Would you like to remove the card?
The configuration associated with the card will be lost.

✔ Yes   ✗ No

📖ℹ️ **In the case where the option card has been deleted while the latter is still physically present or in another slot, it will be detected again when the user comes back in this menu. The product may need to restart.**

6. SUPPORT

> To request technical support for this equipment, fill in the contact page at:

https://www.bodet-time.com/support.html

The hotline support is available from Monday to Friday from 8.00 to 12.00 am and 1.30 to 5.00 pm.

To speed up the diagnosis of your Netsilon, please make a system backup and have your Netsilon MAC address ready.