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SATELLAR product family firmware updates and NMST file import via USB-A port

SATELLAR USB-A port can be used to update and setting adjustment / replacement purposes during the electrical reboot of the SATELLAR. The required hardware for these tasks is a basic, FAT32 performatted flash drive.

In this guide the central unit is referred to as CU and the radio unit as RU.

Only one firmware package per SATELLAR unit (CU and RU) can be set to the USB stick in order to achieve successful update process. Available package file information for different SATELLAR product versions can be found from the firmware release notes.

Log information will be created to the memory of the USB stick of the nmst file import and update processes (Note! No log file available of the FW overwrite process).

Central unit firmware update with overwrite file via USB-A port

1. Place the following files of the latest SATELLAR CU firmware version to the root folder of the USB stick:
 - a. rootfs.jffs2
 - b. rootfs.jffs2.sig
 - c. ulmage
 - d. ulmage.sig
2. Place the USB stick to the USB-A port of the SATELLAR CU
3. Power up the SATELLAR
4. Wait until the STAT leds is lid static at the CU after boot up (takes approx. 5 minutes)
5. Remove the USB stick and reboot the device (takes approx. 2.5 minutes)
Update process is done.

Importing the NMST files to the SATELLAR via USB-A port

The NMST file consists of all user selected settings of the SATELLAR radio modem, each settings and value has its own numeric ID value called NMS ID. This file can be created in the NMS Import –tab (by pressing the “Create Transport File”) in the WEB user interface of the SATELLAR.

The NMST file can be opened and edited with word processing program. It is possible to remove the settings that are not intended to be modified in the device from the NMST file, leaving only e.g. TX and RX user frequency and TX power information to the NMST file, to be imported to the SATELLAR.

The NMST file can be used also as a backup file for e.g. duplicating the radio network to another location or replacing the radio modem in the radio network.

As the next firmware versions include new settings (new NMS ID’s) for the SATELLAR radio modem, it is not possible to import the NMST files to the SATELLAR with differing version, frequency variant or older firmware versions (RU or CU) without modifying the necessary parameters in the file.



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Starting from the SATELLAR central unit firmware version 1.4403 (released 11.1.2016), the NMST files can be imported to the device via USB-A port in the boot process of the SATELLAR with the following rules:

- If the USB stick is placed to the USB-A port in the reboot, NMST files are searched from the root folder of the USB stick.
- If a NMST file is found which matches the pattern *_satellar_export.nmst (* = RMAC number of the device), it is selected primarily for the import.
E.g.: 5_satellar_export.nmst → matches the SATELLAR with the RMAC 5, thus this nmst file is selected for import from the USB stick.

NOTE! CU FW overwrite file overwrites ONLY CU settings, not RU. SATELLAR RMAC stored in the memory of the RU.

- If there are multiple files beginning with the same number, the file selection will be made in alphabetical order.
- If no NMST file is found that matches the RMAC number, the file selection will be made in alphabetical order.

If both, CU firmware overwrite and NMST files are found in the USB stick, primary target is the CU overwrite FW. Thus both tasks can be executed in order:

1. The SATELLAR overwrites old CU FW version (CU settings restored to factory settings)
2. SATELLAR sets the found NMST file in use for CU and RU

It is required to reboot the device once more without the USB stick after the overwrite process and NMST file import process is done (STAT led is lid static in the CU).

Radio unit firmware update with `.update` -file via USB-A port

Starting from the CU firmware version 1.4584 (28.6.2016), the radio unit `.update` file can be imported to the device via USB-A port. The update process of the RU is done in the boot process of the device.

1. Place the latest SATELLAR RU firmware version `.update` file to the root folder of the USB stick
2. Place the USB stick to the USB-A port of the SATELLAR CU
3. Power up the SATELLAR
4. Wait until the STAT led is lid static at the CU after bootup (takes approx 4-5 minutes)
Update process is done.

Update -files does not require rebooting the device after the process.



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Additional information

The process of all previously mentioned tasks can also be seen in the LCD user interface in the devices equipped with LCD UI and function buttons.

If both, CU firmware overwrite and RU *.update* files are found in the USB stick, primary target is the CU overwrite FW. Thus both tasks can be executed order during one single reboot of the device:

1. The SATELLAR overwrites old CU FW version (CU settings restored to factory settings)
2. The SATELLAR updates the old RU FW version to the version found in the USB stick

If all, CU firmware overwrite, RU *.update* file and NMST settings files are found in the USB stick, primary target is the CU overwrite FW, then RU update file and lastly the NMST file import. Thus all tasks can be executed in order during one single reboot of the device:

1. The SATELLAR overwrites old CU FW version (CU settings restored to factory settings)
2. The SATELLAR updates the old RU FW version to the version found in the USB stick
3. The NMST file is taken into use according to the previously mentioned rules

The SATELLAR devices equipped with the LCD user interface and function buttons, it is also possible to update the CU and RU vial the LCD user interface from the Firmware Updater section.

Central unit update files consists always "from version to version" numeric values, the right type of file selection is required. As the CU checks if the update process successful, the CU will revert back to the older firmware version if any errors found in the process. Due to the "checking" process, the CU update process takes >20 minutes, depending of the version.

It is always recommended to use the latest firmware versions for the devices.