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Service Bulletin No 1/2019

Date: 25.4.2019, Version 2.

Product: Nesis I, Nesis II, Nesis III and Emsis PFD.
Subject: **Optional** software update

1. Effectivity

April 2019.

Invalid date for logbook entries.

2. Purpose

Logbook in some variants of Nesis I, Nesis II, Nesis III and Emsis PDF shows invalid date for flights made after 6 April 2019. Problem is not critical.

Check logbook. If you see invalid dates for flights made after 6 April 2019 (they show year 2099), then your instrument is affected.

Nesis I and Nesis II models with software version up to 2.8 can not be simply updated. Contact us for the discussion (info@kanardia.eu).
Nesis I and Nesis II models with software version 2.8 - 2.15 shall be updated to 2.15.10.
Nesis I and Nesis II models with software version 3.0 or later shall be updated to 3.4.1. (Only very limited number of Nesis I and Nesis II models are running version 3.x. Please do not update Nesis I or Nesis II to 3.x.)

Nesis III and Emsis PDF shall upgrade to version 3.4.1.

Upgrade from very old versions may be problematic. It may solve the logbook date problem, but it may introduce new ones. Please consider if it is worth the trouble.

3. Background

Firmware in some GPS chipsets does not handle the date correctly. GPS satellites do not transmit date as we are used to, but they transmit week number and seconds in this week instead. Week number is limited to 1024 weeks and once this is reached it starts with zero again. This happens every 7168 days or roughly every 20 years and is known as a GPS week rollover phenomenon. This happened again on 6 April 2019.

Other functions like GPS precision, speed, time, etc. are not affected.

Most GPS chipsets handle this phenomenon correctly, but some may have problems.

Solution: Update the software and delete the logbook.

4. Compliance

Optional. The issue is not critical.

Update is not mandatory. Instrument will work properly even in the case of invalid dates, with the exception of invalid logbook entries.

5. Instructions

Check the dates shown in the logbook for all flights that took place after 6 April 2019. If you see year 2099 instead of 2019 then your instrument is affected. If logbook flight dates made after 6 April 2019 are correct, your instrument is not affected and update is not necessary.

Update is not mandatory. Instrument will work properly even in the case of invalid dates.

The software can be updated:

- by you,

- by factory (Kanardia d.o.o.),

- by our sales representatives.

Equipment needed

- USB memory stick (Nesis), micro SD card (Emsis). We recommend using items that were supplied with the instrument. The limiting memory size of USB stick is 32 GB and for micro SD card is 16 GB (You can use smaller size, but not larger). They must be formatted to FAT 32 (or FAT 16).

5.1 Nesis

5.1.1 Download Software

Visit page www.kanardia.eu. Select "Support" and then "Software".

- Nesis I and Nesis II: download software version 2.15.10 from our web page. (If you have Nesis I or Nesis II and you are running software version 3 or later, then download version 3.4.1. Do not downgrade it to 2.15!).

- Nesis III: download software version 3.4.1 (or later) from our web page.

5.1.2 Update

Update Nesis as it is described in the Nesis User Manual. Nesis will update all detected hardware automatically.

5.1.3 Deleting Old Logbook

After new software was installed, logbook must be also deleted. This action is not reversible. Before deleting the logbook make sure to do the following:

- Write down the engine time. We recommend taking a photo of the screen showing engine time.

- Update the aircraft logbook and your personal logbook with the electronic book from the instrument.

In order to delete logbook, follow next steps:

1. Open the "Options" page.

2. Select the "Info" icon.

3. Search for the "Service pass" item and remember the number next to it. This number is service password number. It is bound to a serial number, so every Nesis has a different one.

4. Close the window and select the "Service" icon. Enter the password from step 3 to proceed.

5. Select the "Special" icon and enter "65285" as password. Nesis will block for about 6 minutes (or even more). Once finished, a message "Logbook was reset." appears and Nesis will restart.

5.1.4 Engine Time Check

Open the page with the engine time shown. If engine time is wrong (zero), you must enter previous engine time into the system.

1. Repeat steps 1-4 from previous section in order to open "Service options".

2. Select the "Offset" icon.

3. Select "Engine time" from the list and

4. enter the correct engine time.

5. Close all windows, wait for about 15 seconds. This delay is needed to make sure that the change propagates trough the system.

6. Turn Nesis off.

7. Turn it on again and check the engine time.

5.2 Emsis

5.2.1 Download

Visit www.kanardia.eu web page. Select "Support" and then "Software". From the list of options, select "Emsis software update", version 3.4.1. Download it and store it on micro SD card.

5.2.2 Update

Update Emsis as it is described in the Emsis User Manual. Emsis does not automatically update other hardware, so the "Firmware update" must be invoked manually from the Emsis Service window.

5.2.3 Deleting Old Logbook

After new software was installed, logbook must be also deleted. Before deleting the logbook make sure to:

- Write down the engine time or make a photo of the screen showing engine time.

- Update the aircraft logbook and your personal logbook with the electronic book from the instrument.

- Make sure that system bus runs on external power support. The procedure takes a very long time and it may drain your battery.

In order to delete logbook, follow next steps:

1. Open the "Emsis Setup" page.

2. Select the "Service" option and enter "92614851" password. This enables special commands. Some of them are dangerous. Please do not experiment.

3. Select "SD log reset". This command is very, very slow. It may take two hours to complete (this depends on the size of the internal SD card.)

4. Once the reset is complete, turn Emsis off. Then turn it on again.

5.2.4 Engine Time Check

Open the page with the engine time shown. If engine time is wrong (zero), you must enter previous engine time into the system.

1. Open "Emsis Setup" page.

2. Select "Service" and enter "1313" for the password.

3. Select "Set engine time" and enter correct engine hours.

4. Wait for about 15 seconds and close all windows.

5. Turn Emsis off.

6. Turn it On again and check the engine time.

5.3 Final Check

Make a test flight. Open the logbook and check if the flight in the logbook is correct.

6. Additional Instructions

A. Weight and Balance: Not affected.

B. Manual: Not affected

C. Repetitive Inspections: Not required

D. Continuing Maintenance: Not required.

Appendix

Please refer also to:

- Nesis I and Nesis II: Nesis II User Manual
  http://www.kanardia.eu/wp-content/uploads/manuals/NesisII-UserManual.pdf

- Nesis III: Nesis III User Manual
  https://www.kanardia.eu/wp-content/uploads/2019/01/Nesis-III-User-Manual-v3.3.pdf

- Emsis:
  http://www.kanardia.eu/wp-content/uploads/manuals/EmsisManual.pdf