405035A, 405038A

SUBJECT: **Software Update to the Aero-HSD+ and AVIATOR 700 Satellite Data Unit (SDU), 405035A and Aero-HSD+ High Speed Unit (HSU), 405038A.**

REASON: This Service Bulletin is being issued to inform about an optional software update of the Aero-HSD+ SDU and HSU, types 405035A and 405038A, to version 1.14.

Thrane & Thrane part no. 84-120061-114: RTCA DO-178B/DO-254 Level-E

Part no. 405035A and 405038A

Summary: The changes in v1.14 compared to the previous version v1.13 are the following:

- Implementation of Restrictive Load Control (RLC). To prevent 84-120061 Aero-HSD+ (Level-E) software upload onto SDU/HSU/HPA Level-D configured hardware. To prevent 84-133843 Aero-HSD+ (Level-D) software upload onto SDU/HSU/HPA Level-E configured hardware.

- Enabling Emission Control (EMCON) clears on-going calls. After disabling EMCON it will now be possible to perform new Cockpit calls.

- Over Power Protection (OPP) supervision is implemented to protect against unwanted high power transmission from the HPA.

- New phone numbers entered into the MCDU now have correct priority.

- Other minor bug fixes.

The mentioned changes are all minor and with no change in form, fit and function concerning airworthiness.

EFFECTIVITY: Any of the following units:

405035A and 405038A, all Serial Numbers

NOTE !!

> ### NOTE !!
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> **If you are no longer in possession of this equipment, please forward this information to the present owner.**

COMPLIANCE: Thrane & Thrane considers this to be an optional modification and may be installed when required.

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COMPATIBILITY: When configuring any Aero-HSD+/AVIATOR 700 systems running with this application software version 1.14, also the PC configuration program 'Aero-SDU CP' version 1.14 or higher must be used.

APPROVAL: Thrane & Thrane Quality Assurance Department.

MANPOWER: The update shall be accomplished with the equipment powered on and the front maintenance port of both the 405035A SDU and any 405038A HSU accessible. The update can profitably be executed leaving the equipment in its normal installation position onboard the aircraft.

Estimated man-hours for software update of the 405035A and 405038A: 1 hours

Suggested number of persons: 1 person.

The above is an estimate based on experienced, properly equipped personnel complying with this Service Bulletin. Occasionally, after work has started, conditions may be found which could result in additional man-hours.

MATERIAL:

PART NUMBER	DESCRIPTION	QUANTITY (*Per Equipment*)
None		

SPARES AFFECTED: None

WARRANTY CREDIT: Thrane & Thrane will supply the parts noted under MATERIAL as warranties replace on all affected units that are within our 2 year's warranty at the time this service bulletin is released.

No warranty credit for labour noted under MANPOWER will be granted

SPECIAL TOOLS:

- One serial interconnect cable 9-pole to 15-pole sub-D, Thrane & Thrane part no. 37-112940-A (see appendix A). The serial interconnect cable will be delivered in 405035A-101 AVIATOR 700 Manual Pack or 405035A-102 Aero-HSD+ Manual Pack.

- One standard serial interconnect cable 9-pole to 9-pole sub-D, one-to-one male-to-female, Thrane & Thrane part no. 37-108819-A (only used if an 405038A HSU is present). The cable was delivered from the factory together with the 405038A HSU.

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See also 'Hardware and Software Requirements' under 'Accomplishment Instructions' below.

REFERENCES: None

PUBLICATIONS AFFECTED: None

ACCOMPLISHMENT INSTRUCTIONS:

This Service Bulletin shall be accomplished as described in the steps below. If you have any problems understanding or performing the instructions, please contact Thrane & Thrane at **aerosupport@thrane.com** or at +1-757-463-9557 (Americas) or +45 3955 8800 (Rest of the world).

Hardware and Software Requirements:

- One IBM compatible PC with a single 9-pole serial port available (if not directly available, a such can be provided by means of a USB port with a USB to serial port converter attached).

- Minimum PC requirements:

    o Operating system: Windows® ME, Windows 2000, Windows XP, Windows NT, Windows Vista or Windows 7.

    o Processor speed: 166MHz.

    o Display resolution: 1024×768 or higher. The program is best viewed using small fonts.

    o Note: To use online help or to print settings, Internet Explorer 4.0 or greater is required.

- One serial interconnect cable 9-pole to 15-pole sub-D, Thrane & Thrane part no. 37-112940-A (see appendix A)

- One standard serial interconnect cable 9-pole to 9-pole sub-D, one-to-one male-to-female (only used if an HSU 405038A is present).

- An unzip program installed on the PC (e.g. WinZip)

- The Thrane & Thrane Aero-SDU Configuration Program (Thrane & Thrane part no. 84-119958-114) installed on the PC. The program can be downloaded at http://www.thrane.com/Aero/Products/Aero-HSD/Software.aspx.

- The zipped file 'Aero-HSD+_E_v114.zip' containing the new software file 'HplusHsdHpa-E-318.swu', Thrane & Thrane part no. 84-120061-114.

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Preparing Software Update:

1. On the PC, unzip the file 'Aero-SDU CP_V114.zip' into the file 'setup.exe'. Run 'setup.exe' - an Icon for the Aero-SDU CP will be available when the program has been installed.
2. On the PC, unzip the file 'Aero-HSD+_E_v114.zip' into file 'HplusHsdHpa-E-318.swu'. Remember or write down which folder you extracted the file to.
3. Connect the 405035A SDU front port to the PC COM port, using the 9-pole to 15-pole sub-D interconnect cable.
4. Power on the Aero-HSD+ or AVIATOR 700 system.
5. Close all other applications on the PC.
6. Start the Aero-SDU CP configuration program.
7. Normally you will enter the program in the **Start Up** tab window. If not, then in the top menu, choose **Window**, **Start up**.
8. In the program menu in the top choose **View**, **Options**. Select the COM port that you connected to the SDU in step 3.
9. Click the **Software Update** button. A new tab window **Software Update** will now open.
10. Click on the '**…**' button next to the **File Selection** box in order to find the software file to upload. Find the file 'Aero-HSD+_E_v114.swu' extracted in 1. and open it.

Updating Software:

11. Click the **Start** button.
12. The software upload to the SDU is now in progress. You can follow the status in the progress bar. The upload will take around 8 minutes.
13. Should you experience a timeout failure during the upload, just wait 2 minutes and press start again. The upload will then start over again.
14. When the upload has finished, wait 8 minutes while the SDU initializes and runs its self test. The Aero-SDU CP program will guide you.
15. If you have a 405038A HSU in your installation please follow steps 16 to 22, otherwise continue to step 23.
16. Connect the PC serial port from the SDU front port to the HSU front port using the 9-pole to 9-pole sub-D cable.
17. Press the **Start** button again.
18. The software upload to the HSU is now in progress. You can follow the status in the progress bar. The upload will take around 8 minutes
19. Should you experience a timeout failure during the upload, just wait 2 minutes and press start again. The upload will then start over again.

20. When the upload has finished, wait around 1 minute. The Aero-SDU CP will guide you.
21. Reconnect back the PC serial port to connect to the SDU front port using the 9-pole to 15 pole sub-D cable.
22. Press the 'SW Reset' button.

NOTE: **If software upload fail – How to recover.**

In rare cases the software upload may fail, leaving the software in the SDU corrupted. This will happen if the power to the SDU is interrupted during the first stage of the upload. If the LEDs on the front stay orange after power up, the software is corrupted.

a) Turn **OFF** the SDU/Satcom system.

b) Ensure that the Software Update TAB in Aero-SDU CP is selected.

c) Verify that the **Start** button is enabled otherwise click on the **Cancel** button.

d) Click the **Start** button and turn **ON** the SDU/Satcom system immediately after.

e) Continue with step 12 (see page 4)

COMPLIANCE: Upon completion of this Service Bulletin, make appropriate maintenance records.

TESTING PROCEDURE:

23. Verify in the Aero-SDU CP program that a green bar appears for the SDU in the 'Aero HSD+ SW status' field, and that the version number in the same line is listed as 1.14. If you have an HSU in your installation, another green bar must be present for the HSU, and 1.14 shall be the listed version for the HSU as well.
24. The Aero HSD+ or AVIATOR 700 system will perform a POST (Power On Self Test) after the last action in the update procedure (step 14 or 22 above). After a software upload it can take up to 8 minutes.
25. When the POST has finished, the green Pass/Fail LED on the front of the SDU shall become steadily green. Verify that the Pass/Fail LED is not red and nor flashes orange once every 2 seconds. If okay the equipment is then ready for use.

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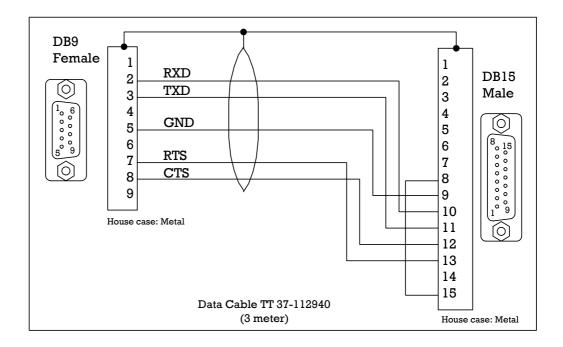**405035A, 405038A**   **Service Bulletin no:** 95-135756-A

IDENTIFICATION PROCEDURE:

26. On the Part Number identification label make a cross mark in the Software Ver. field no. (1.xx) 14. This applies to both the SDU 405035A and any HSU 405038A present in the Aero-HSD+ or AVIATOR 700 configuration.

27. Browse to www.thrane.com/upgrade and fill out the registration form to enable this terminal to use Inmarsat Cat A channel.

APENDIX A: Serial Interconnect Cable to Connect a PC to the SDU