Technical Notification

COBHAM

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SAILOR VSAT
SW ver. 1.64 Build 009

Subject:
Please be informed that new software, version 1.64 build 009, for SAILOR 600 VSAT Ku, SAILOR 800A/B VSAT Ku, SAILOR 900A/B/E/I/J VSAT Ku, has been released.

Priority:

- **High:** It is highly recommended to apply this change / initiative to systems running in heading mode None.

Changes from SW ver. 1.64 Build 006 to SW ver. 1.64 Build 009

New features and improvements:

- Changed ID Timeout from 10 seconds to 25 seconds in OpenAMIP driver.
  - During the ACQ, ACU will wait 25 seconds for the RXLock, before testing the next 'hotspot'
- Changed max elevation limit from 75º to 85º, when running in Heading mode None

Related bug fixes:

- Fixed: ADU fails to stay on satellite when running in heading mode None
- Fixed: Ping message is invalid JSON. (IoT)
- Fixed: Create certificate via UCLI. (IoT)
- Fixed mqtt_schedule read prints garbage value. (IoT)
- Fixed: Loss of network can cause IoT hub processes to crash. (IoT)

Release history

Changes from SW ver. 1.62 Build 038 to SW ver. 1.64 Build 006

New features and improvements:

- Support for IoT / MQTT
    - SAILOR VSAT reporting Status to The Cobham ConnectIT HUB
- Support for TLS 1.2 (HTTPS)
- Bearing test performed during the extended POST
    - A bearing test is now part of the extended POST.
- Use Carrier Lock State from modem if available as Rx Lock indication.
    - VMU>ACU: C 16.976591 16.976591 2583.925546 **7** -27.306341

Related bug fixes:

- Incorrect Syslog message when importing ACU configuration.
    - Syslog indicates successful imported config file as failed
- LNB voltage low event.
    - Caused by a pointing request on a Low band frq. immediate followed by a pointing request on a High band frq. (Related to iDirect IQ200 modem)

Changes from SW ver. 1.62 Build 037 to SW ver. 1.62 Build 038

New features and improvements:

- None.

Related bug fixes:

- Azimuth blocking zone was disregarded if an elevation blocking zone, above 85°, was entered. Fixed
    - Both Azimuth and Elevation blocking zone will have to be entered before a blocking / No TX flag is set.
- Possible TX mute when tracking inclined orbit satellite. Fixed
    - 'Pointing offset buildup' causing TX mute.
- Pointing error filter for TX On/OFF improved.
    - Second order IIR filter to smooth out short duration spikes in pointing error before applying them in NAV TX ON/OFF control

Changes from SW ver. 1.62 Build 035 to SW ver. 1.62 Build 037

New features and improvements:

- Enable use of external GNSS / nmea 0183 input. Appendix I

- o Uses same interface as heading (I/O RS232 / RS422)

Related bug fixes:

- Modem signal level readout missing when no C msg. received on openamip. Fixed
  - o Fall back to 'analogue Modem RSSI' fail. (RS232)
- Possible TX mute when tracking inclined orbit satellite. Fixed
  - o TX mute when tracking an inclined orbit satellite and pol correction gets > 1°

Changes from SW ver. 1.62 Build 033 to SW ver. 1.62 Build 035

New features and improvements:

- Enable handling of frequent pointing requests for all modems
  - o Increase ID timeout for X7 velocity Ku
  - o Full acquisition is performed, if the ACU receives three pointing requests / updates within a 360 sec. time period.
- Simplified OpenAMIP list for KU band modems.
  - o "OpenAMIP modem"

Related bug fixes:

- Close socket to Slave when Slave connection is deemed lost. Fixed
  - o Master / Slave connection sometimes lost
- Pol error when tracking inclined orbit satellite. Fixed
  - o Polarization is not compensated for the azimuth turn.
- Inclined orbit satellite acquisition at high elevation. Fixed
  - o Acquisition sometimes failing due to pointing error.

Changes from SW ver. 1.62 Build 032 to SW ver. 1.62 Build 033

New features and improvements:
- Wrong BUC LO from iDirect X7/iQ200.
  Using iDirect Velocity X7/iQ200 on Ku-band, customers experience difficulties with the iDirect commissioning wizard. The modems send a Ka-band BUC LO of 28050 MHz and not the Ku-band BUC Lo of 12800 MHz. This results in that the SAILOR VSAT will not accept the PRQ and the installer cannot get through the iDirect commissioning wizard. While using the iDirect commissioning wizard the BUC LO is set to 12800 MHz, and a warning, "BUC LO Mismatch", will be shown. This to indicate that a wrong BUC LO was received, and the default BUC LO is used.
- Support for openAMIP C message (fast RSSI) when using the Velocity openAMIP modem driver.
  SNR from Modem will be shown on the SAILOR Web Dashboard and be logged in the stat file as xx.x dB.

Related bug fixes:
- ACU rebooting during power up. Fixed

Reception of corrupted NMEA 0183 sentences, during ACU power up, caused ACU to reboot.

- 'Different Antenna Type' Warning. Fixed
  Combining a SAILOR 900A and a SAILOR 900B, in a Dual Antenna setup, causes a warning in the Master.

Changes from SW ver. 1.62 Build 026 to SW ver. 1.62 Build 031

New features and improvements:
- Show Reference Oscilator type on Web MMI Dashboard. Appendix I
- Log login attempts to Web MMI to Diagnostics Report. Appendix II
- Allow download Diagnostics Report without System Log using cURL. Appendix III
- Allow download of custom Statistics Report using cURL. Appendix III
- Allow download of POST, active events and all events using cURL. Appendix III

Related bug fixes:
- Copy of the XIM data from the UCLI
  - UCLI command *"antenna_data select"*.
- Ku/KuHP ADU type conversion.
  - UCLI command *"antenna_data type"*.
    Ku: Ku band RF
    KuHP: Ku High Power

Changes from SW ver. 1.62 Build 012 to SW ver. 1.62 Build 026

New features and improvements:
- Improvement of the Azimuth calibration accuracy.
- 50 MHz reference signal monitoring changed. Now starts along with the VMU connection monitoring.
- BCM event if the 50 MHz input from the VIM is lost.
- Performing sidelobe check on new pointing request.
- Increased ID timeout for GMU for better Rx Lock detection.
  Time testing each 'hot spot' during ACQ increased with from 20 to 30 sec.
- Improved handling of multiple spot beam configurations from GMU.
  If GMU sends more than three pointing updates in a row, a full acquisition is performed.
- Memory usage added to diagnostic report. Appendix I
- System uptime added to diagnostic report. Appendix I
- Increased the BUC voltage to 48Vdc (main ADU supply), on high power GX ADU's with VIM3.

Related bug fixes:
- ADU type not showing (tt7006X/tt7009X) after a conversion from 600/900 Ka to 60/100GX and vice versa.
- Use average heading values when going into blocking zone. (The point when the ADU starts using the heading input again) Fixing 'false peak heading values' being used when going into blocking zone.

- Random ACU reboot caused by Linux crash.
- *0A063 BCM warning & 0A06A Missing BUC response*
  When the BCM PLL goes in unlock state the event "Missing BUC response" is also set, or vice versa.

Changes from SW ver. 1.62 Build 007 to SW ver. 1.62 Build 012

- ### New features and improvements:
- Support for "SAILOR 60 GX High Power" antenna type
- Disable Extra Diagnostics Log Modem/BUC at boot
- The logging of Modem and BUC communication will stop after a reboot. This is to avoid the diagnostic report to fill up with modem/BUC communication, overwriting events from the ADU.

- ### Related bug fixes:
  - LAN port 3
    Enable the 'Mode options' if the port is unused.
  - LAN port 4:
    Only allow usage by custom VLANs, when 'Mode option' is set to "Switched with Port 1"
    Possible to change 'Mode option' when port is being used by customer VLANs.

Changes from SW ver. 1.62 Build 006 to SW ver. 1.62 Build 007

- ### New features and improvements:
  - Support for SAILOR 100 GX upgrade to SAILOR 100 GX High Power.

- ### Related bug fixes:
  - Possible reboot of the ADU when going in/out of blocking zone, and vessel is in a fast turn

- ### Known problems:

Changes from SW ver. 1.60 Build 024 to SW ver. 1.62 Build 006

- ### New features and improvements:
  - Support for S100 GX High Power antenna.
  - Support for Blocking statistics (Blocking Map) Appendix I.
  - ISM3 support.
  - Improvement of GNSS handling.
  - DUAL Antenna:
    - Dual Antenna Dashboard Master/Slave links.
      Access to Master/Slave via the WEB MMI links now independent of the Master/Slave ACU interconnection.
  - Inmarsat GX satellites predefined as satellite service profiles.
    - For azimuth calibration. Appendix II.
  - STATISTIC File:
    - Vibration's Avg_Max_Min, Ship's Rol-Pch, ADU Voltages, Tracking Receiver Power (SSI from ADU)
      (Not supported by the "SAILOR VSAT Statistic Report")
  - DIAGNOSTIC File:
    - Add Dual Antenna runtime info.
    - Sort events after date.
  - SNMP:

- o Add GEO pointing Azimuth and Elevation to SNMP.
  For more info see the MIB file. (Help desk)
- OpenAMIP:
  - o Antenna status flag added to S cmd. Appendix III.
    (OpenAMIP v1.14)
  - o Heading, Velocity, Roll, Pitch, and Yaw added to W cmd.
    (OpenAMIP v1.9)

Changes from SW ver. 1.60 Build 015 to SW ver. 1.60 Build 024

- o **New features and improvements:**
  - New tracking algorithm.
    - o Single system: When in blocking zone. Heading now part of the tracking algorithm.
    - o Dual system: Inactive ADU. Heading now part of the tracking algorithm.
  - Network settings: LAN port: Switch LAN2 to LAN1 by default. (LAN2 in same Vlan as LAN1) See Appendix I
    - o Can be overruled by the GMU through SNMP
  - Network settings: Switch LAN4 to LAN1 (LAN4 in same Vlan as LAN1)
    See Appendix I
    - o Can be overrules by the GMU through SNMP
  - New Modem page in the WEB MMI
    - Support for SSH / Telnet / HTTP / HTTPS access to LAN1
      (Tunnel to modem from service LAN port) See appendix II
  - More robust Pointing error filter for TX ON/OFF control

- o **Related bug fixes:**
  - Fix bug with LAN setup in Dual GX mode
  - Prevent the operator from loading software that not supported the new ACU 407016C in the unit
  - Fix bug with Chrome SSL certificate (update SSL certificate during Software upload)

Changes from SW ver. 1.58 Build 025 to SW ver. 1.60 Build 015

- o **New features and improvements:**
  - Support for SAILOR 100 GX dual antenna. Appendix VIII
  - General improvements of security for "admin" account.
    - o New 'Local Admin' activation. Appendix I
  - User defined system gain for Tx Cable calibration.
    - o New functions in the Cable calibration. Appendix II
  - Reset of event list in Diagnostic report.
    - o Event log reset without deleting config. Appendix. III
  - Bearings/friction test for all axis
    - o Test added in User CLI. See appendix. IV
  - ADU & ACU temperature logged in the diagnostic file. Appendix. V
  - Readout from VIM power detector for debugging. Appendix. VI
  - Dual mode improvements.
    - o If the GPS of the master is not functional, the GPS info from the slave is used.
  - Dual mode switching.
    - o RSSI monitoring added. The master continuously monitor the RSSI of the two systems while tracking. Whenever the averaged RSSI of the inactive

antenna exceeds RSSI of the active one (+4db) the dual mode handler performs a switch.
- Improved Master/Slave and Active/Idle indicator. Appendix VII
- Roll, pitch and yaw added as a max. avg. and min value in SNMP

- o **User related bug fixes:**
  - SAILOR VSAT Ka, now working in "Heading mode NONE" above 75°
  - ACU3 – 407016C: Fix problem with false FAN / Temperature warnings.

- o **Known problems:**

Changes from SW ver. 1.58 Build 022 to SW ver. 1.58 Build 025
- o **New features and improvements:**
  - Support for 12 VLAN's managed via SNMP

Changes from SW ver. 1.58 Build 019 to SW ver. 1.58 Build 022

- o **New features and improvements:**
  - Support for SAILOR 600 VSAT Ku
- o Note: All SAILOR VSAT Ku - SAILOR VSAT Ka - SAILOR Gx system will, in the future, be delivered with software version 1.58B022.

Changes from SW ver. 1.57 Build 024 to SW ver. 1.58 Build 019

- o **New features and improvements:**
  - Secure E-Mail support. (SMTPS and STARTTLS supported)
    - See appendix I.
  - Antenna Data selection with possible preference.
    - Copy of XIM (calibration) data now stored in the ACU, making it possible for the SAILOR to preselect right module after a VIM/PCM replacement. See appendix II.
  - Reboot time reduced with 70%.
    - All axis calibrated simultaneously.
  - New Self test menu with Extended POST for complete test. See appendix III.
  - New Shock / vibration statistic in diagnostic report. See appendix IV.
  - New GetRequest in SNMP: Modem signal strength, tracking receiver signal strength, modem rx lock and modem tx enable. See appendix V.
- o **User related bug fixes:**
  - None
- o **Known problems:**
  - None

Changes from SW ver. 1.57 Build 021 to SW ver. 1.57 Build 024
- o **New features and improvements:**
  - Search window definition has been changed from +/-2 to +/-4 degrees. This change will allow the antenna to acquire the correct satellite even if the vessel gyro is imprecise.
  - Improved tracking algorithm. This improvement applies especially to smaller vessels operating in rough seas.
- o **User related bug fixes:**
  - None
- o **Known problems:**
  - None

Changes from SW ver. 1.57 Build 017 to SW ver. 1.57 Build 023

- o **New features and improvements:**
  - o Search window definition has been changed from +-2 to +-4 degrees.
    This change will allow the antenna to acquire the correct satellite even if the azimuth calibration is as offset as we have seen since the release of 1.57 b17
    The acquisition time will only be extended by 5-10 seconds – so there should not be any draw backs from this change.

Changes from SW ver. 1.54 Build 020 to SW ver. 1.57 Build 017

- o **New features and improvements:**
  - • Dual-Antenna BUC power fixes.
  - • Added Cross-Elevation Bearing performance optimization. Appendix I.
    - ▪ Minimize friction by improving distribution of grease in bearing.
  - • Added options for extra modem diagnostics. Appendix II.
    - ▪ Enabled in the help desk, shown in diagnostic report
  - • Support for SAILOR 900 VSAT High Power.
  - • Self-refreshing Dashboard.
  - • "openAMIP" Without TX info supported. Newtec modem)
- o **User related bug fixes:**

  - • Auto recovery after antenna shutdown corrected
  - • GNSS Position on dash board showing position with an offset to the Dº M".
    Appendix III.
    - ▪ Bug Fixed. GNSS Position now shown in degrees and decimal degrees

Changes from SW ver. 1.54 Build 012 to SW ver. 1.54 Build 020

- o **New features and improvements:**
  - • None
- o **User related bug fixes:**
  - • Improve the VIM to LNB interface to handle special situations that could lead to CRC errors in the Modem and unexpected loss of Rx lock in certain VSAT modem types
  - • Autorecovery after antenna shutdown corrected
- o **Known problems:**
  - • None

Changes from SW ver. 1.50 Build 036 to SW ver. 1.54 Build 012

- o **New features and improvements:**
  - • New WEB MMI layout. (see appendix)
  - • New Navigation menu.
    - ▪ Heading: External, Fixed, None
    - ▪ GPS: Possible to manually input GPS position. (see appendix)
  - • Support for new GNNS module.
    - ▪ GPS, Glonass, BeiDu is supported with the new Hw installed. (see appendix)
  - • SNMP Trap support (see appendix)
    - ▪ For info. See the MIB file.
  - • Remote syslog (see appendix)
  - • Improved heading handling (GPS compass)
  - • SAILOR 60 GX support
- o **User related bug fixes:**

- EVENT LIST: UTC shows local time
  - o **Known problems:**
    - None

Changes from SW ver. 1.50 Build 016 to SW ver. 1.50 Build 036
- o **New features and improvements:**
- o **User related bug fixes:**
  - Antenna does not respond to a 'jog command' Fixed
- o **Known problems:**
  - None

Changes from SW ver. 1.48 Build 129 to SW ver. 1.50 Build 016
- o **New features and improvements:**
  - o Complete support for SAILOR 100 GX and GX upgrade kit.
  - o Azimuth calibration using active satellite profile.
    - "Just click and calibrate"
  - o Stores previous sw ver. for easy roll back.
    - "Just click and roll back previous sw ver."
  - o Extra options on Generic modem setup (RSSI / Rx-LOCK)
    - o Reacquisition based on RX-lock status (high / low - threshold)
  - o Additional RX Locked status on the Dash Board – VSAT Modem.
- o **User related bug fixes:**
  - o Reacquisition in 'Generic Modem mode' based on RX-lock status.
  - o Recalibration of ZRM/encoders before acquisition to minimize influence of radar interference in the encoders.
    - *The fix will make the ADU more robust, but not fix the entire interference issue when the ADU is installed within the +-15 deg radar beam.*
  - o Occasional PMM POST failure after reboot.
  - o Changing admin password using POST.
- o **Known problems:**
  - o Issues with iDirect Serial modem sw version 15.0.0.X.
    The SAILOR VSAT does not get the Tx frequency parameter from the modem. This will result in a warning on the SAILOR VSAT.
    The Tx frequency used for the cable calibration will then be set to 1.225Ghz for best possible performance.
    Note: With sw. ver. 1.48 build 114 and lower, the SAILOR VSAT will raise a permanent alarm, and will not be operative.

Software upload procedure.

1. Extract the "SAILOR VSAT Ku – software 164B009.zip" file
    Open an Internet browser on the PC and enter the web address to the SAILOR VSAT/GX
    at **http://192.168.0.1.**

2. To login ad ADMIN
    Select **ADMINISTRATION.**
    Enter **ADMINISTRATOR LOGIN:**
    User name: (default = admin (case sensitive))
    Password: (default = ******)

    Or

    Press the ACU left keypad for 5 sec. to enable the '**local administration function'**.
    Logs in as admin without the use of a password. *ACU will automatic log out after 1 hour*
    Note: Accessing the ACU with 'local administration function' does not change the current
    admin account password.

3. Locate UPLOAD SOFTWARE TO TERMINAL , Browse, and select the new software file
    tt7xxx_1.64-09-acu.tiif

4. The SAILOR VSAT/GX system will reboot,

5. Verify that the page shows the new software version numbers currently loaded in the
    ACU.

This concludes the SW upload procedure.