u-center 20.10

GNSS evaluation software for Windows

Release note

Abstract
This release note contains general information, features, improvements, changes and known limitations for u-center 20.10.
# Document information

<table>
<thead>
<tr>
<th>Title</th>
<th>u-center 20.10</th>
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</thead>
<tbody>
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<td>C1-Public</td>
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</tbody>
</table>

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1 General information
The u-center GNSS evaluation software for automotive, mobile terminal and infrastructure applications provides a powerful tool for evaluation, performance analysis and configuration of the u-blox GNSS receiver.

1.1 Released files
The following table lists the files that have been released.

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>u-center_v20.10.exe</td>
<td>u-center installer including u-blox CDC-ACM (USB) (x64 bit) driver v1.2.0.8 for Windows 7 and 8</td>
</tr>
<tr>
<td>u-center-v20.10_ReleaseNote_(UBX-20048354).pdf</td>
<td>Release note</td>
</tr>
</tbody>
</table>

⚠️ For Windows 10, the CDC-ACM (USB) driver from Microsoft should be used, which is available from Windows Update.

⚠️ u-blox Sensor and VCP drivers are deprecated, so they have been removed from the release package.

1.2 Version and checksum of files
The following table lists the versions and the checksums of the Released files.

<table>
<thead>
<tr>
<th>File</th>
<th>Version</th>
<th>MD5</th>
</tr>
</thead>
<tbody>
<tr>
<td>u-blox GNSS Standard Driver for Windows</td>
<td>1.2.0.8</td>
<td>4140b1caf0033e637ca3f28626e231f</td>
</tr>
<tr>
<td>u-center.exe</td>
<td>20.10</td>
<td>4140b1caf0033e637ca3f28626e231f</td>
</tr>
<tr>
<td>flash.xml</td>
<td>200058</td>
<td>79b759933948e988c1fcccc836edfca7f</td>
</tr>
<tr>
<td>flash.xml_changelog.txt</td>
<td></td>
<td>6bddd49b9a0776b59d2540a036628a26</td>
</tr>
<tr>
<td>flash.txt</td>
<td>101098</td>
<td>b49a4b5d33efa113737208e788cf3afca</td>
</tr>
<tr>
<td>NMEA.dll</td>
<td>20.10</td>
<td>5b38719ef25c8f36f244b01a1fd2f</td>
</tr>
<tr>
<td>RTCM.dll</td>
<td>20.10</td>
<td>a82b23b6ff0e3eae9d0aebc3700e9f9</td>
</tr>
<tr>
<td>sqlite3.dll</td>
<td>3.21.0.0</td>
<td>07fb6d31f37fb1b1d46beef301306c288</td>
</tr>
<tr>
<td>UBX.dll</td>
<td>20.10</td>
<td>29bc5d9ffca6a5f94dcbc89ade77646</td>
</tr>
<tr>
<td>ubxfwupdate.exe</td>
<td>19.03</td>
<td></td>
</tr>
</tbody>
</table>

1.3 Released documentation
- Public release note (UBX-20048354)
- u-center user guide (UBX-13005250)
# 2 Features

## 2.1 Supported Microsoft Windows versions

u-center 20.10 runs on Microsoft Windows Vista and later versions up to (including) Windows 10.

## 2.2 Supported receiver generations

u-center 20.10 can update the firmware of the following receiver generations:

- u-blox 6 with ROM 6.00, ROM 6.02, ROM 7.03
- u-blox 7 with ROM 0.10, ROM 0.11, ROM 0.14, ROM 1.00
- u-blox 8/M8 with ROM 0.21, ROM 0.22, ROM 2.01, ROM 3.01
- u-blox 9 with ROM 0.30, ROM 0.40, ROM 1.01, ROM 1.02

## 2.3 Supported protocol specification version

u-center 20.10 supports the u-blox protocol specification from version 10.00 and later versions up to (including) version 33.

## 2.4 External hardware support

The following external hardware is supported to interface with the receiver:

<table>
<thead>
<tr>
<th>Interface</th>
<th>Device</th>
<th>DLL version</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDC/I2C</td>
<td>Totalphase Aardvark I2C/SPI Host Adapter</td>
<td>aardvark.dll v5.15 for Windows 32-bit</td>
</tr>
<tr>
<td>DDC/I2C</td>
<td>Diolan U2C-12 USB-I2C/SPI/GPIO Adapter</td>
<td>i2cbrdg.dll v1.0.0.9 for Windows 32-bit</td>
</tr>
<tr>
<td>SPI</td>
<td>Totalphase Aardvark I2C/SPI Host Adapter</td>
<td>aardvark.dll v5.15 for Windows 32-bit</td>
</tr>
<tr>
<td>SPI</td>
<td>Totalphase Cheetah SPI Host Adapter</td>
<td>aardvark.dll v5.15 for Windows 32-bit</td>
</tr>
<tr>
<td>SPI</td>
<td>Diolan U2C-12 USB-I2C/SPI/GPIO Adapter</td>
<td>i2cbrdg.dll v1.0.0.9 for Windows 32-bit</td>
</tr>
</tbody>
</table>

## 2.5 Multiple GNSS AssistNow Service

u-center 20.10 includes the multiple GNSS AssistNow Service (libMGA) version 19.02.

## 2.6 Debug messages

The following messages will be enabled or polled when pressing the "Debug Messages" button:

- Any UBX-INF
- UBX-MON-MSGPP
- UBX-NAV-CLOCK
- UBX-NAV-PVT
- UBX-NAV-SIG
- UBX-NAV-ORB
- UBX-NAV-SAT
- UBX-RXM-SVSI (every 30 seconds)
- UBX-MON-HW (polled)
- UBX-MON-EXCEPT (polled)
- and additional u-blox debug messages
The following messages will additionally be enabled or polled when pressing the "Debug Messages" button for ADR product line:

- UBX-ESF-MEAS
- UBX-ESF-STATUS

The following messages will additionally be enabled or polled when pressing the "Debug Messages" button for HPG product line:

- UBX-NAV-RELPOSNED
- UBX-NAV-SVIN
- UBX-MON-IO
- UBX-NAV-SOL
- UBX-NAV-AOPSTATUS

The following messages will additionally be enabled or polled when pressing the "Debug Messages" button for SPG product line:

- UBX-MON-IO
- UBX-NAV-SOL
- UBX-NAV-AOPSTATUS
3 Improvements and changes

3.1 Version 20.10

- Improvement: Changed some ADR/UDR messages from NDA to PUB.
- Improvement: Added protocol version 33 used by ZED-F9R (HPS 1.0) to u-center Receiver > Protocol Filter > u-blox Generation 9.
- Bug fix: Fixed bug for the u-center crash when NTRIP server/caster is opened.
- Bug fix: Fixed UBX-CFG-NMEA reporting of version number when V4.11 is selected.
- Bug fix: Fixed for crashes when changing GNSS configuration.

3.2 Version 20.06.01

- Feature: Added remaining NMEA 4.11 specific features such as support for QZSS and NavIC talker/signal IDs in NMEA-GBS and NMEA-GRS messages. Also new child messages added to all NMEA message views for the fore-mentioned constellations.
- Feature: u-center support for UBX-NAV-NMI.
- Bug fix: Fixed the bug of reporting IMU-mount Alignment Status flag on ESF-STATUS message.
- Bug fix: u-center side panes now correctly show fix information for receivers that only have UBX-NAV-RELOPSED output enabled.
- Bug fix: Fixed "Receiver > Protocol Filter" tab, it shows the menu properly when user selects it for the second time.
- Bug fix: Fixed the NTRIP connection problem.
- Bug fix: Fixed GNSS ID letter (G->Q) in NMEA-GQGSV and fixed QZSS and NAVIC GNSS ID letters in NMEA-GNGSA which were crossed.

3.3 Version 20.01

- Feature: Added new NMEA SV IDs to support NMEA 4.11.
- Improvement: Replaced data and satellite signal level view with new logic of getting data for satellites (multi-band) and improved satellite signal history view.
- Bug fix: UBX-CFG-VALGET messages are now displayed when playing log file.
- Bug fix: Fixed crashing of u-center when AssistNow Online GNSS runs in the background.
- Bug fix: Copyright date updated to 2020 in "Help > About u-center..." dialog.

3.4 Version 19.12

- Feature: Added new version of NMEA (4.11) to UBX-CFG-NMEA and to the config item CFG-NMEA-PROTVER.
- Feature: Message UBX-NAV-SIG adds support for the prsmooth flag in the Message View. When the PR of a signal is smoothed, it will show the PPP led and mark it as 'S'. This is similar to what UBX-NAV-SAT (the predecessor of UBX-NAV-SIG) was already supporting.
- Improvement: A file overwrite warning dialog shows up while overwriting an existing configuration file.
- Bug fix: Fixed the issue that would crash u-center when protocol version was changed from menu Receiver > Protocol Filter. Added/ixed generation MA & 9 & 10 protocol filter options.
- Bug fix: Satellite Position view updated to display data from all signals (multi-band).
- Bug fix: Message UBX-ESF-STATUS now shows the correct calibration status for all sensors even when they are not being used.
- Bug fix: u-center is now prevented from ending up in a "no-response" status if NTRIP connection is lost, and the u-center window is minimized.
• Bug fix: Sky view updated to display data from all signals (multi-band) and the performance of Sky view has been improved.
• Bug fix: Fixed returning invalid mountpoints due to case sensitive names in u-center.
• Bug fix: Supported unicode file paths when opening zipped files (ubz, ubx.gz) which now fixed the Japanese named folder issue.

3.5 Version 19.11.01
• Feature: Added ESF-MEAS latency to chart view and table view.
• Bug fix: Advanced Configuration View is now fixed to also support version 0 of UBX-CFG-VALSET and UBX-CFG-VALDEL messages.
• Bug fix: Advanced Configuration View now displays the layer value correctly in the hex view.
• Bug fix: Fixed bug causing the CFG-HW-OSC_TYPE value text to be corrupted in the Advanced Configuration View.
• Bug fix: Fixed the display of some fields in UBX-NAV-TIMEQZSS message.
• Bug fix: Updated copyright date to 2019 in "Help > About u-center..." dialog.

3.6 Version 19.10
• Feature: Added new message UBX-MON-SPAN, spectrum analyzer output message including view/hold, average and maximum trace overlay features.
• Feature: Added new message UBX-NAV-TIMEQZSS.
• Feature: Added support for new flag (qErrInvalid) in UBX-TIM-TP.
• Improvement: Added hex field to the Advanced Configuration View to allow the user to view the hex values for the UBX-CFG-VALSET messages.
• Improvement: Added more possible baud rates in NMEA-PUBX-41.
• Bug fix: Bug fixed in sending PUBX port configuration message (41). NMEA-PUBX-41 message now supports both RTCM2 and RTCM3.
• Bug fix: Fixed bug in the Receiver Configuration drop-down selection of the receiver generation.

3.7 Version 19.09.01
• Feature: Added key RTCM-DF003_OUT to configuration group RTCM. This configuration key enables user to specify the RTCM reference station ID.
• Improvement: Minor cosmetics changes done in UBX-CFG-VALSET/GET/DEL views and Advanced configuration view.
• Improvement: In UBX-RXM-RTCM message, RTCM 4072 subtype support added to report Statistics list and History list correctly.
• Improvement: Packet console distinguishes between different RTCM4072.x subtypes instead of reporting them all as RTCM4072.
• Improvement: Minor usability improvements done in NTRIP server/caster.
• Bug fix: UBX-CFG-OTP chip configuration message now generates the hex codes correctly.

3.8 Version 19.08.01
• Feature: UBX-NAV-PVT, UBX-NAV-HPPOSLLH, UBX-NAV-POSECEF views add support for new invalidEcef or invalidLlh flags.
• Feature: Added a new epoch marker to binary/text/packet view along with a button to turn the marker on and off.
• Feature: UBX-NAV-STATUS message uses new PUB fields carrSoln and carrSolnValid to show the carrier range status.
• Improvement: CFG-NMEA-FILT_GAL configuration item becomes available.
• Improvement: Added features to the epoch manager menu item "Receiver->Epoch Manager", to support priority navigation output mode.
• Improvement: Added support for new relPosNormalized flag in UBX-NAV-RELPOSNED message view to show if the heading vector is normalized or not.
• Improvement: The optional receiver configuration that can be stored at the beginning of a log file can now be made up of UBX-CFG-VALGET messages for generation 9 receivers.
• Improvement: UBX-MON-COMMS message becomes available.
• Bug fix: Fixed u-center database collector for UBX-NAV-RELPOSNED message both for message version 0 and message version 1.
• Bug fix: Fixed minor bug and some dialog layout improvements done in "Tools->Receiver Configuration" menu.
• Bug fix: Fixed crash when selecting entries in Receiver->ProtocolFilter.
4 Known limitations

4.1 Known issues

- Enumerating the ports on a computer with many ports can take a long time.
- Using the protocol filter with "silent" or "no receiver" results in an empty message tree.
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