

u-center v8.23

Release notes

Abstract

Release notes containing general information, features, improvements, changes and known limitations for u-center v8.23

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Document status explanation

Objective Specification	Document contains target values. Revised and supplementary data will be published later.
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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 u-blox GNSS receivers.

1.1 Released Files

The following table lists the files that have been released.

File	Description
u-center_v8.23.exe	u-center installer incl. u-blox GNSS Standard Driver for Windows v1.2.0.8 and u-blox GNSS Sensor Device Driver for Windows v2.24
u-center-v8.23_ReleaseNote_(UBX-16023952).pdf	Public release note
u-center_UserGuide_(UBX-13005250).pdf	User guide

1.2 Version and Checksum of Files

The following table lists the versions and the checksums of the files inside the files as in [Released Files](#).

File	Version	MD5
u-blox GNSS Standard Driver for Windows	1.2.0.8	
u-blox GNSS Sensor Device Driver for Windows	2.24	
u-Center.exe	8.23	65d56e4f0c648a37712540748dddf0d4
flash.xml	100111	b4336f83f58a4510b2c022e38f604d85
flash.xml_changelog.txt		8e0447352306105c8d64d8f3b13a912a
flash.txt	101098	b49a4b5d33efa113737208e788cf3afc
NMEA.dll	8.23	3b35a50e218347c6ef883069eba2b526
RTCM.dll	8.23	856b7a5f355c9031a637bbac390e67c2
UBX.dll	8.23	b2fef25421ef6fde66c8912320296643

1.3 Revision Number

The u-center has the revision number **edf9be5**.

1.4 Released Documentation

- Public Release Notes (UBX-16023952)
- u-center User Guide (UBX-13005250)

2 Features

2.1 Supported Microsoft Windows versions

u-center v8.23 will run on Microsoft Windows Vista up to and including Windows 10.

2.2 Supported Receiver Generations

u-center v8.23 can update the firmware of the following receiver generations:

- u-blox 5 with ROM 3.00, ROM 4.00, ROM 5.00
- 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



Antaris based receivers are **no longer** supported.



u-blox 5 receivers support is end of life and will be removed in one of the next versions.

2.3 Supported Protocol Specification Version

u-center v8.23 supports the u-blox protocol specification from version 10.00 up to and including version 22.00.

2.4 External hardware support

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

Interface	Device	DLL version
DDC/I2C	Totalphase Aardvark I2C/SPI Host Adapter	aardvark.dll v5.15 for Windows 32-bit
DDC/I2C	Diolan U2C-12 USB-I2C/SPI/GPIO Adapter	i2cbrdg.dll v1.0.0.9 for Windows 32-bit
SPI	Totalphase Aardvark I2C/SPI Host Adapter	aardvark.dll v5.15 for Windows 32-bit
SPI	Totalphase Cheetah SPI Host Adapter	aardvark.dll v5.15 for Windows 32-bit
SPI	Diolan U2C-12 USB-I2C/SPI/GPIO Adapter	i2cbrdg.dll v1.0.0.9 for Windows 32-bit

2.5 Multiple GNSS AssistNow Service

u-center v8.23 includes the multiple GNSS AssistNow Service (libMGA) version 1.05.

2.6 Debug Messages

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

- Any UBX-INF
- UBX-ESF-MEAS
- UBX-ESF-STATUS
- UBX-MON-MSGPP
- UBX-NAV-CLOCK
- UBX-NAV-PVT
- UBX-NAV-SOL
- UBX-NAV-SVINFO
- UBX-RXM-SVSI (every 30 seconds)
- UBX-MON-HW (polled)

- UBX-MON-EXCEPT (polled)
- and additional u-blox debug messages

3 Improvements and Changes

3.1 Version 8.23

- Update of UBX-CFG-PRT: Handle flow control fields and cosmetic UI improvements
- Update of UBX-CFG-PM2: Update of the field "updatePeriod"
- Support for the use of SSL in online and offline assistance services
- Support for the NTRIP client
- Support for the NTRIP server/caster
- Show Galileo in Sky view
- Multiselect enabled on property search/select dialog
- Chart view now has a 'sync' button to make all the x-axis use the same database property
- Short cut keys Ctrl-X, Ctrl-C, Ctrl-V now work in the text, binary and packet views
- Correctly storing UBX-CFG-MSG RTCM messages when pressing the Record button
- Various minor cosmetic updates

3.2 Version 8.22

- New message UBX-RXM-RTCM
- New message UBX-CFG-REMFS
- New message UBX-NAV-HPPOSECEF
- New message UBX-NAV-HPPOSLLH
- Update of UBX-ACK/NAK: Bug fixes
- Update of UBX-CFG-TMODE3: Cosmetic UI improvements
- Update of UBX-ESF-STATUS: Speed flag now set
- Update of UBX-CFG-NMEA: Added high precision flag
- Update of UBX-MON-MSGPP: Cosmetic UI improvements
- Update of UBX-MON-SENI: Cosmetic UI improvements
- Update of UBX-NAV-SOL: Updated extraction of revision bits
- Update of UBX-NAV-PVT: Cosmetic UI improvements, updated extraction of revision bits
- Update of UBX-NAV-RELPOSNED: Reporting additional receiver information to u-center's database
- Update of UBX-CFG-ESFDWT: Cosmetic UI changes
- Update of UBX-CFG-ESFGWT: Cosmetic UI changes
- Update to UBX-NAV-ATT: Reporting additional receiver information to u-center's database
- UBX-CFG-HPGROV renamed to UBX-CFG-DGNSS, plus cosmetic UI changes
- New RTCM3 parser
- New option to reset to default colors in preference property pages
- New access tokens preferences property page
- Map view overhauled and upgraded to compensate for the loss of Google Earth view
- Added Google maps API key entry to access tokens property page
- Various minor cosmetic updates

3.3 Version 8.21

- Support for ADR4.00
- Support for HPG1.00
- Support for TIM1.10
- Support for UDR1.00
- New message UBX-CFG-HNR

- New message UBX-CFG-TMODE3
- New message UBX-NAV-RELPOSNEED
- New message UBX-RXM-RLM
- Update of UBX-CFG-GNSS: Layout changes
- Update of UBX-CFG-MSG: RTCM messages 1005, 1077, and 1087 added
- Update of UBX-CFG-NAV5: Signal attenuation feature is public
- Update of UBX-CFG-NAV5: Flag `useAdr` is public
- Update of UBX-CFG-PM2: Message version selector visible
- Update of UBX-CFG-PMS: Aggressive 2Hz option is public
- Update of UBX-CFG-PRT: RTCM3 added
- Update of UBX-CFG-SBAS: Flag `enable` and `maxSbas` marked deprecated for u-blox 8
- Update of UBX-CFG-TP5: Rename of `Invert pulse polarity` to `Rising Edge of TOS`
- Update of UBX-NAV-PVT: Flag `carrierSoln` is public
- Added epoch detection options
- Added PC time option to console views
- Added DGNSS interface option
- Connected receiver can be recognized based on the boot screen
- Support of new signal IDs in various messages
- Support of legacy aiding (online and offline) with MGA servers
- Rename of carrier phase to carrier range
- Fixed warning when database is cleared for UBX-CFG-NMEA
- Fixed auto-poll for UBX-CFG-GEOFENCE
- Update of 2D and 3D accuracy data view: Allow smaller values to display increased accuracy
- Update of status bar: Tooltips, DGNSS and receiver power state information added
- General harmonization with Protocol Specification
- Log file player speed adaptations and clarification. Based on messages/second.
- Default file name changed for retrieved log file
- Update of tinyXML2 library to version bb4d246

3.4 Version 8.20

- Fix bug in USB alternate update method for firmware update with ROM 3.01

3.5 Version 8.19

- New message UBX-CFG-DYNSEED
- New message UBX-CFG-FIXSEED
- New message UBX-CFG-GEOFENCE
- New message UBX-NAV-EOE
- New message UBX-NAV-GEOFENCE
- New message UBX-NAV-TIMEGAL
- New message UBX-RXM-IMES
- New message UBX-RXM-RLM
- New message UBX-SEC-SIGN
- New message UBX-SEC-UNIQID
- Support of new message version for UBX-RXM-PMREQ
- Support of new message version for UBX-RXM-RAWX
- Support of new message version for UBX-RXM-SFRBX
- Add wrist model to UBX-CFG-NAV5
- Update constraints in UBX-CFG-RATE

- Add Galileo to UBX-CFG-TP5
- Add Galileo to UBX-MON-GNSS
- Add geofence pin to UBX-MON-HW
- Add spoofing detect state to UBX-NAV-STATUS
- Add unknown source of leap seconds to UBX-NAV-TIMELS
- Add wake up sources to UBX-RXM-PMREQ
- Support from ROM 3.01
- Remove of Google Earth view
- Support of legacy aiding in Multiple GNSS AssistNow Online
- Support of new GNSS in Multiple GNSS AssistNow
- u-center can now connect to Location and Sensor API of Windows 7 onwards
- Fix Google Earth Server functionality
- Using new code signing certificate
- Increase internal resolution of latitude and longitude
- Decouple the epoch detection for NAV and HNR messages
- Color selection in Preferences is now public
- Main window title now shows either connection name or log file name
- Enabled more than 2GB of memory to be used on 64 bit versions of Windows
- Update database of known firmwares
- Various cosmetic fixes (typos, unicode issues, user interface elements positions and sizes)
- Various stability fixes

3.6 Version 8.18

- Updates to UBX-CFG-DAT
- Updates to UBX-CFG-ESFGWT
- Updates to UBX-CFG-NAV5
- Updates to UBX-CFG-PM2
- Updates to UBX-CFG-RXM
- Updates to UBX-MGA messages
- Updates to UBX-NAV-PVT
- Updates to UBX-RXM-PMREQ
- Updates to UBX-RXM-RAWX
- Updates to UBX-TIM-SMEAS
- Fixed miscellaneous minor bugs
- Added auto scale feature on deviation map by double clicking in deviation map view
- Fixed issues with displaying COG in the Table View
- Message view's hex area not displayed by default
- Improvements in BeiDou support

3.7 Version 8.17

- Updates to UBX-CFG-GNSS
- Updates to UBX-CFG-ESFGWT
- Updates to UBX-ESF-STATUS
- Updates to UBX-MON-HW
- Updates to UBX-CFG-NAV5
- Updates to NMEA-PUBX
- Updates to UBX-INF
- Updates to UBX-RXM-RAW

- Updates to UBX-CFG-ANT
- Updates to Dump Receiver Diagnostics
- Improved Binary view window display speed
- Miscellaneous memory leak fixed
- u-center acting as a Google Earth server now fixed (unicode issue)
- Table, Chart and Histogram views now have improved property search facility

3.8 Version 8.16

- Sky View shows additional satellite systems (Glonass, Beidou, Galileo)
- Satellite names in the various views (and flags in the satellite view) are now correct

3.9 Version 8.15

- AssistNow Online fixed (reported wrong username/password)

3.10 Version 8.14

- Update of UBX-TIM-TOS handling: allow enabling/disabling
- Update of UBX-ESF-STATUS: add error status field
- Update of UBX-TIM-VCOCAL: make command 'STOP' public
- Update of UBX-CFG-MSG list: matching protocol specification
- Update of UBX-CFG-RST: Allow 'User Defined' option, make SFDR and TCT public
- Update of UBX-MON-EXCEPT
- Add keyboard shortcut for firmware update dialog (Ctrl-u)
- Add toolbar icon for firmware update dialog
- Add status text for 'Sky View': azimuth and elevation
- Make configuration of antenna supervisor pins public
- Negative Course over Ground values can now plotted in the ChartView
- Google Earth view saves KML file as ASCII text
- Default name for exporting as KML file based on time and date
- Save GNSS configuration to file fixed
- Switch to UNICODE
- Update of shortcuts
- Update TotalPhase Cheetah driver to v3.08
- Rename of database entry 'TTAG (from ITOW)' to iTOW (according to protocol specification)
- Fix of GPS time from UBX-NAV-TIMEBDS
- Tooltip delay set to 200ms
- Minor fixes

3.11 Version 8.13

- Support of messages for M8L products
- Update of graphs for UBX-ESF-MEAS
- Visual improvements when using several monitors
- Update of statistic view (search and sort function)
- Fix problem with empty entries in table view
- Add option to hide tree and HEX view
- Add File transfer dialog
- Update of deviation map
- Show IRNSS flags

3.12 Version 8.12

- Update UBX-CFG-PM2
- Update UBX-CFG-TXSLOT
- Update UBX-NAV-TIMEUTC
- Update UBX-TIM-TP
- Update UBX-TIM-TM2
- Update UBX-TIM-VCOCAL
- Update UBX-ESF-MON
- Update UBX-MON-EXCEPT
- Update UBX-MON-HW
- Add support for LEA-M8T messages and firmware
- Add support for UTC standard (NTSC)
- Add Qi to database
- Add more EKF fields to database
- Add 2D error ellipse to database
- Odometer fields are now public in database
- Improve speed for deleting database
- Workspace and view configuration format changed
- Fix mismatch between binary console and message view
- Fix problem when saving map view
- Add extra line in consoles to separate data packets
- Add tooltip for satellite level view
- Add direction indicator of messages
- Add possibility to filter message tree by protocol specification versions
- Fix possible memory leak problems

3.13 Version 8.11

- Update of UBX-CFG-SMGR
- Update of UBX-CFG-DOSC
- Update of UBX-CFG-SMGR
- Update of UBX-CFG-ESRC
- Update of UBX-CFG-TP5
- Update of UBX-NAV-STATUS
- Update of UBX-TIM-TOS
- Add UBX-MON-SMGR, UBX-TIM-SMEAS and UBX-TIM-FCHG to periodic poll messages
- Set UBX-CFG-DOSC to public
- Set UBX-CFG-ESRC to public
- Set UBX-CFG-SMGR to public
- Set UBX-MON-SMGR to public
- Set UBX-TIM-DOSC to public
- Set UBX-TIM-FCHG to public
- Set UBX-TIM-SMEAS to public
- Set UBX-TIM-TOS to public
- Set UBX-TIM-VCOCAL to public
- Set UBX-TIM-VCOOFF to public
- Link to User's Guide in the help menu
- Fix problem with connection tool tip
- Fix problem with Google Earth plug-in when altitude = null

- Add option to align time-pulse to BeiDou or GLONASS time in UBX-CFG-TP5 (FTS product only)
- Fix problem with x axes label
- Adding the option to continuously update the receiver with MGA data
- Adding pop-up message when connection to receiver fails
- Improve resolution of position and velocity data storage and plots
- Update of MGA online dialog
- NMEA strict 82 characters only applicable for UBX-CFG-NMEA-DATA2
- Fix possible memory leak problem for external interface devices

3.14 Version 8.10

- Update of UBX-MON-GNSS dialog
- Update of UBX-CFG-NAV5 dialog (added UTC standard configuration)
- Update of UBX-CFG-PRT dialog (renaming Pin to PIO)
- Set UBX-MGA-QZSS to public
- Set UBX-UPD-SOS to public
- Set UBX-LOG-RETRIEVE, UBX-LOG-RETRIEVEPOS,UBX-LOG-RETRIEVESTRING, UBX-LOG-RETRIEVEPOSEXTRA to public
- Rename of UBX-NAV-ODORESET to UBX-NAV-RESETO
- Make UDP and TCP client public again
- Fix localisation problem
- Fix problem when saving a log file from a network connection (invalid characters)
- Add menu option for AssistNow online and offline
- Add support for tool tips in message views
- Remove Antaris support

3.15 Version 8.01

- Update of UBX-CFG-NAV5 dialog
- Update of UBX-NAV-AOPSTATUS dialog
- Update of UBX-NAV-HNR support
- Update of UBX-NAV-SAT dialog: ANO/AOP was switched
- Update of UBX-RXM-SFRBX dialog
- Support for UBX-EST-MON version 2
- Support for ROM 2.01
- Firmware update mechanism improvements (file system, new settings)
- Added Timemark 1 and 2 edge information and time pulse quantization error to public chart usage
- Update of network connection menu
- Added command line option to connect to receiver
- Fix problem with 'Dump receiver diagnostic' in u-center
- Update of help dialog
- Update of database export to Google Maps HTML file (fix stack overflow in IE8)
- MGA dialog:
 - Button in u-center to request a token
- Support for 50/250bps IMES
- ADR updates:
 - Sensor-to-vehicle frame misalignment angle
 - Yaw misalignment angle updates

3.16 Version 8.00

- Add UBX-CFG-HNR and UBX-NAV-HNR
- Fix UBX-CFG-PRT dialog: make 'Extended time-out' public
- Update of UBX-CFG-NMEA dialog
- Update of UBX-ESF-MEAS dialog
- Update of UBX-CFG-MSG dialog
- Update of NMEA-GSV
- NMEA-GSA proper handling of several messages (multi GNSS support)
- libMGA: minor fixes
- MGA dialog
 - Set smart flow control as default
 - Fix crash
 - Add UBX-MGA-INI-EOP to known messages
 - Make download button the default
- Add 3D button and support in Google Earth View
- Add zooming feature for Chart view (Ctrl + mouse wheel = zoom in/out, left mouse double click = fit)
- Reset TTFB when receiver is cold/warm/hot started
- Renaming

4 Known Limitations

4.1 Known Issues

- Enumerating the ports on a computer with many ports can take long
- Using protocol filter with silent / no receiver results in empty message tree

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