

QGP Supply
GNSS Receiver User Manual Version 3.1



UBX-M8030 GNSS Receiver



User Manual Version: 3.1

Table of Contents

Overview	3
Getting Started.....	3
Applications	4
Packing List	5
Main Features	5
Specifications	6

Overview

The GNSS Receiver provides a USB version 2.0 FS (Full Speed, 12 Mb/s) Interface with Microsoft® certified USB drivers for Windows XP, Windows Vista, Windows 7, Windows 8 and Windows 10 operating systems.

Supports Protocol NMEA ASCII 0183, 4.0 (V2.3 or V4.1 configurable). This is the newest concurrent GNSS USB Receiver that can track multiple GNSS systems (GPS, GLONASS, SBAS, QZSS signals). The receiver is setup by default to concurrently track and process GPS L1 C/A and GLONASS L1OF.

QZSS and SBAS share the same frequency band as GPS and can always be processed in conjunction with GPS. The exceptional performance of the u-Blox 8 GNSS engine delivers high sensitivity and minimal acquisition times.

Enjoy the GPS life!

Getting Started

You can easily get started by testing your new GPS/GLONASS receiver using the uBlox U-Center GNSS Software which can be downloaded for free at the links provided below. The U-Center software automatically installs the drivers for your device. Also check out the U-Center User Guide to help get your receiver setup and running.

U-Center for Windows:

<https://www.u-blox.com/en/product/u-center-windows>

U-Center for Android:

<https://www.u-blox.com/en/product/u-center-android>

If you choose not to use the uBlox U-Center GNSS Software, the drivers are available on the cdrom included with your receiver. You can also download the contents of the cdrom at the following DropBox link:

<https://www.dropbox.com/s/ynvhdsvzezrnb56/cdrom.zip?dl=0>

Applications

Automotive and Marine Navigation

Fleet Management

AVL and Location-based

Notebook navigation

Distance measurement

Sports and Recreation

QGP Supply
GNSS Receiver User Manual Version 3.1

Packing list

USB GNSS Receiver
CD-ROM Drivers

Main Features

1. Built in U-blox M8030 concurrent GNSS chipset.
2. 72 channel GPS L1C/A, SBAS L1C/A, QZSS L1C/A, QZSS L1 SAIF, GLONASS L1OF, BeiDou B1I, Galileo E1B/C.
3. Superior sensitivity up to -167dBm.
4. Built-in WAAS/EGNOS/MSAS Demodulator without any additional hardware.
5. Low power consumption
6. Support NMEA0183 4.0 (V2.3 or V4.1 configurable)
7. Waterproof design for industry standard IPX6
8. Support OS: Windows XP/Vista/7/8/10

Specifications

Electrical Characteristics (Receiver)

GPS Chipset	72-channel U-blox 8 Engine
Frequency	GPS/QZSS L1 C/A L1 GLONASS L1 FDMA Beidou B1I Galileo E1B/C
SBAS	WAAS, EGNOS, MSAS
Channels	72
Sensitivity (Tracking)	-167dBm @ GPS& GLONASS
GPS Chipset	72-channel U-blox 8 Engine
Frequency	GPS/QZSS L1 C/A L1 GLONASS L1 FDMA Beidou B1I Galileo E1B/C

Accuracy

Position Horizontal	Autonomous 2.5m, 2m SBAS
Velocity	0.1m/s
TIMEPULSE	1 pulse per second, synchronized at rising edge, pulse length 100ms
Accuracy of time pulse	RMS 30 ns
Frequency of time pulse signal	0.25 Hz... 10 MHz (configurable)

Datum

Datum	WGS-84
-------	--------

Acquisition Rate

Hot start	1 sec., average (with ephemeris and almanac valid)
Warm start	2 sec., average (with almanac but not ephemeris)
Cold start	26 sec., average (neither almanac nor ephemeris)

Protocol and Interface

GNSS Protocol	NMEA 0183 4.0
GNSS Output Data	Software command setting Default is GPS & GLONASS: GGA, GSA, GSV, RMC, VTG, GLL
GNSS transfer rate	Auto Baud Rate N,8,1 for NMEA
Navigation update rate	Max to 10HZ, Default 1HZ
Output terminal	USB

Dynamic Condition

Acceleration Limit	Less than 4g
Altitude Limit	50,000 m
Velocity Limit	500 m/s
Jerk Limit	20 m/ second ³
Heading accuracy	0.5 degrees

QGP Supply
GNSS Receiver User Manual Version 3.1

Temperature

Operating	-40°~ 80°C
Storage	-40°~ 85°C
Humidity	Up to 95% non-condensing

Power

Voltage	5V ±5%
Current	25mA typical

Physical Characteristics

Dimension	38mm x 49mm x 16mm
USB Cable Length	200 cm

Low Noise Amp

Amplifier Gain	27 dB Typical
Filtering	-25dB (+100 MHz)
Output VSWR	2.0 Max.
Voltage	DC 3 ~ 5.0V
Current	15mA max @ 5VDC

Due to continuous product improvements, all specifications are subject to change