

GNSS Data and Software Installation and Setup Instructions

Dinesh Manandhar

Center for Spatial Information Science

The University of Tokyo

Contact Information: dinesh@csis.u-tokyo.ac.jp

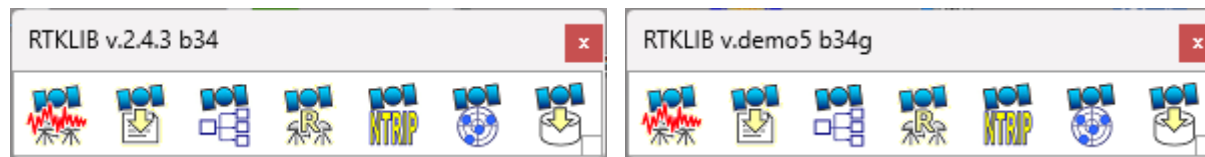
Last Update: 10th April 2023

Software: RTKLIB

- RTKLIB

- RTKLIB is a powerful tool for processing GNSS data (Real-time or Post-Processing) developed by Mr. T. Takasu from Japan
- It can be used for SPS, DGPS, RTK and PPP data processing modes
- It also provides excellent interface for NTRIP, TCP/IP, Serial Port and Files
- GNSS Data conversion from proprietary formats to standard formats such as RINEX, RTCM etc.
- Visibility Analysis
- Visualization of NMEA and RINEX data
- [RTKLIB \(Version: 2.4.3 b34\) download link:](#)
 - <https://www.rtklib.com/>
 - Source codes are also available
- RTKLIB source codes are widely used by GNSS professionals
- RTKLIB is also maintained by RTK EXPLORER
 - It is based on RTKLIB and maintained
 - [Download Link: https://github.com/rtklibexplorer/RTKLIB/releases](https://github.com/rtklibexplorer/RTKLIB/releases)
 - Version: Demo5 b34g
- RTKLIB does not have a installer. Just download the zip file. Unzip it into a working folder. An executive file rtklaunch.exe opens RTKLIB GUI.

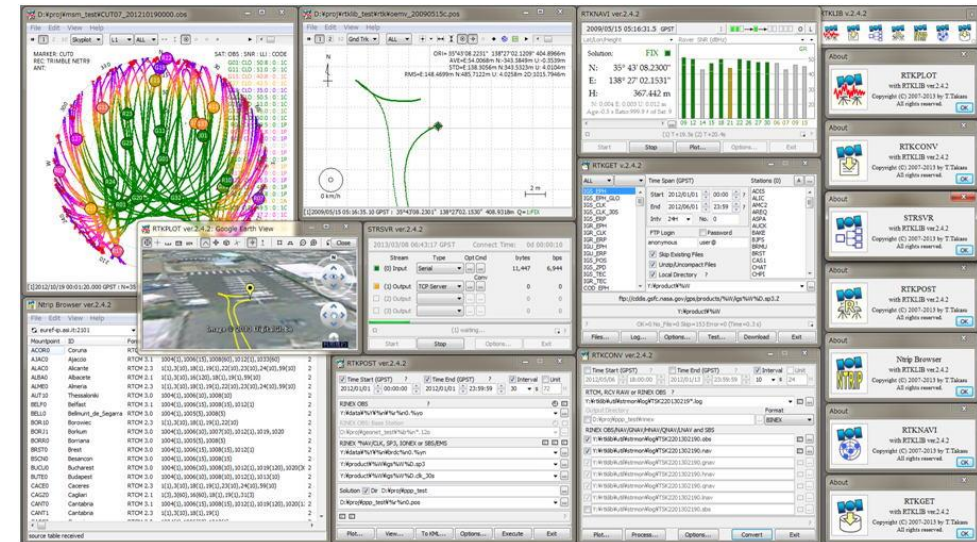
GUI of RTKLAUNCH.exe



Version	Date	Binary AP Package for Windows	Full Package with Source Programs
0.2.0	2006/12/16	-	rtklib_0.2.0.zip (2.8MB)
1.0.0	2007/01/25	-	rtklib_1.0.0.zip (10.5MB)
1.1.0	2007/03/20	-	rtklib_1.1.0.zip (6.2MB)
2.1.0	2008/07/15	-	rtklib_2.1.0.zip (22.9MB)
2.2.0	2009/01/31	rtklib_2.2.0_bin.zip (10.7MB)	rtklib_2.2.0.zip (23.4MB)
2.2.1	2009/05/17	rtklib_2.2.1_bin.zip (15.3MB)	rtklib_2.2.1.zip (30.6MB)
2.2.2	2009/09/07	rtklib_2.2.2_bin.zip (21.4MB)	rtklib_2.2.2.zip (33.8MB)
2.3.0	2009/12/17	rtklib_2.3.0_bin.zip (26.7MB)	rtklib_2.3.0.zip (35.8MB)
2.4.0	2010/08/08	rtklib_2.4.0_bin.zip (17.4MB)	rtklib_2.4.0.zip (26.5MB)
2.4.1	2011/06/11	rtklib_2.4.1_bin.zip (16.5MB)	rtklib_2.4.1.zip (26.4MB)
2.4.2	2013/04/29	rtklib_2.4.2_bin.zip (30.4MB)	rtklib_2.4.2.zip (55.2MB)

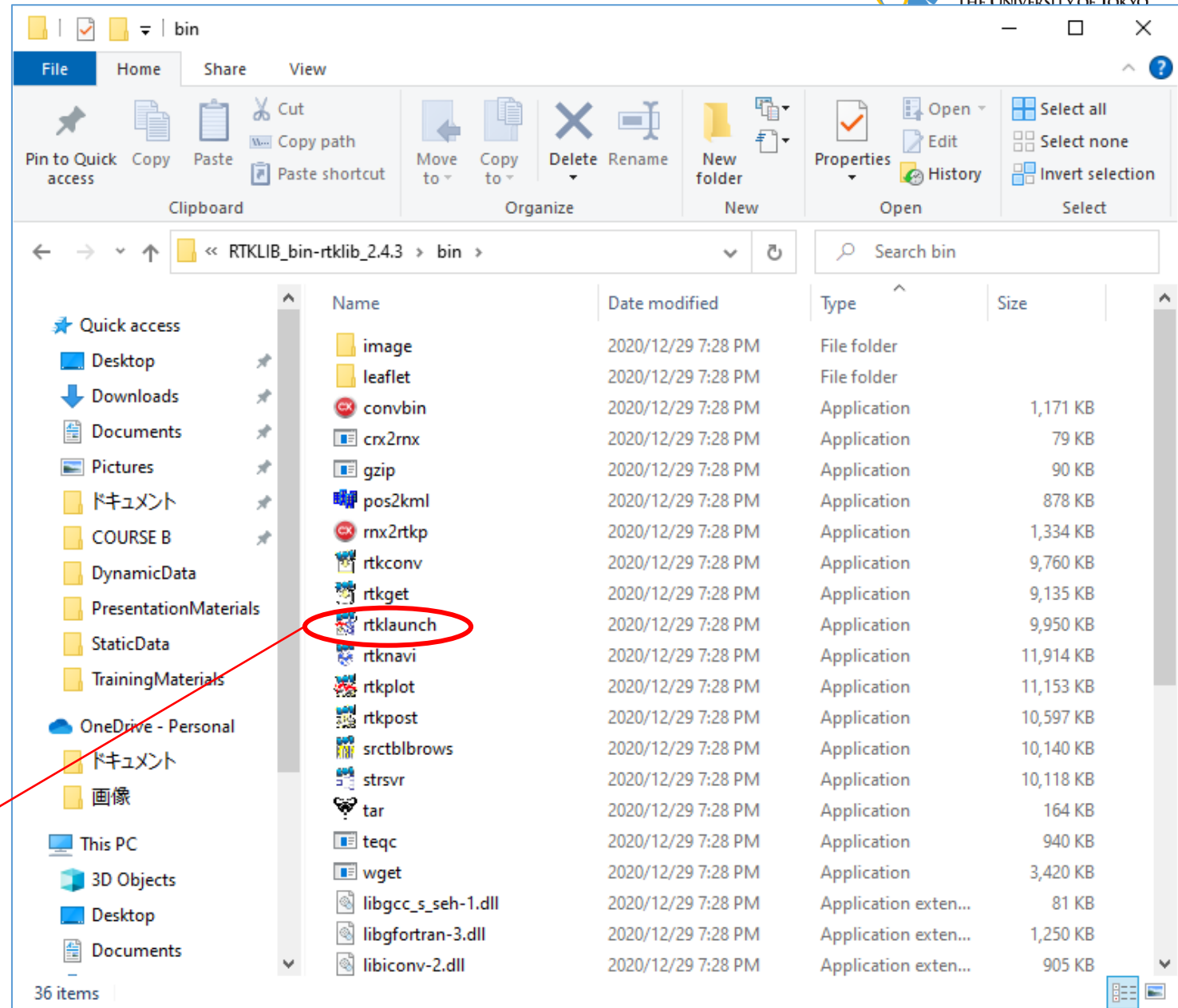
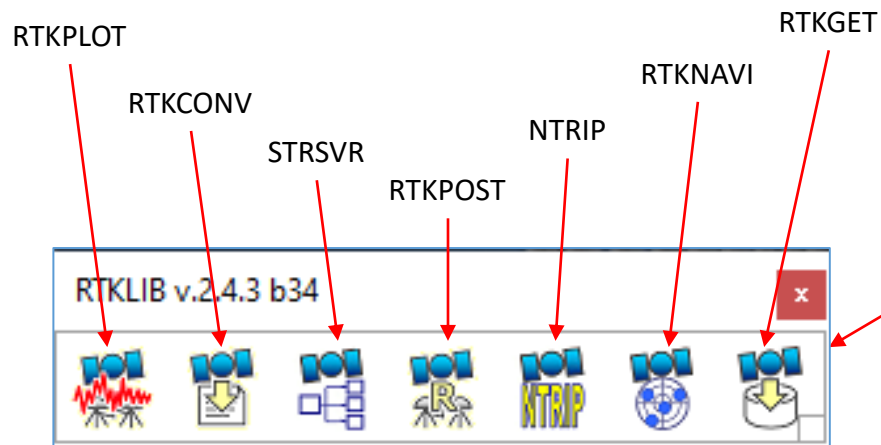
These are just old archives for recording. To download of the newest version, please visit the following GitHub links.

Version	Date	Binary APs for Windows	Source Programs and Data
2.4.2 p13	2018/01/29	GitHub	GitHub
2.4.3 b34	2020/12/29	GitHub	GitHub



Launch RTKLIB Menu

- Go to RTKLIB Folder
- Go to BIN Folder
- Double Click RTKLAUNCH.exe file
- Or create a shortcut to RTKLAUNCH.exe file and copy this shortcut to Desktop for easy access



RTKNAVI for High-Accuracy Data Processing

Rover / Receiver in the Field

NTRIP Client Options

NTRIP Caster Address	157.82.223.139	Port	2101
Mountpoint	TU008UB	User ID	utuser
		Password	●●●●●●

Browse... Get Mountp OK Cancel

Input Streams

Input Stream	Type	Opt. Cmd	Format	Opt
<input checked="" type="checkbox"/> (1) Rover	NTRIP Client	2	u-blox UBX 3	...
<input checked="" type="checkbox"/> (2) Base Station	NTRIP Client	4	RTCM 3 5	...
<input type="checkbox"/> (3) Correction	Serial	...	RTCM 2	...

Transmit NMEA GGA to Base Station
OFF 0.000000000 0.000000000 0.000

Reset Cmd Max Baseline 10 km

Input File Paths

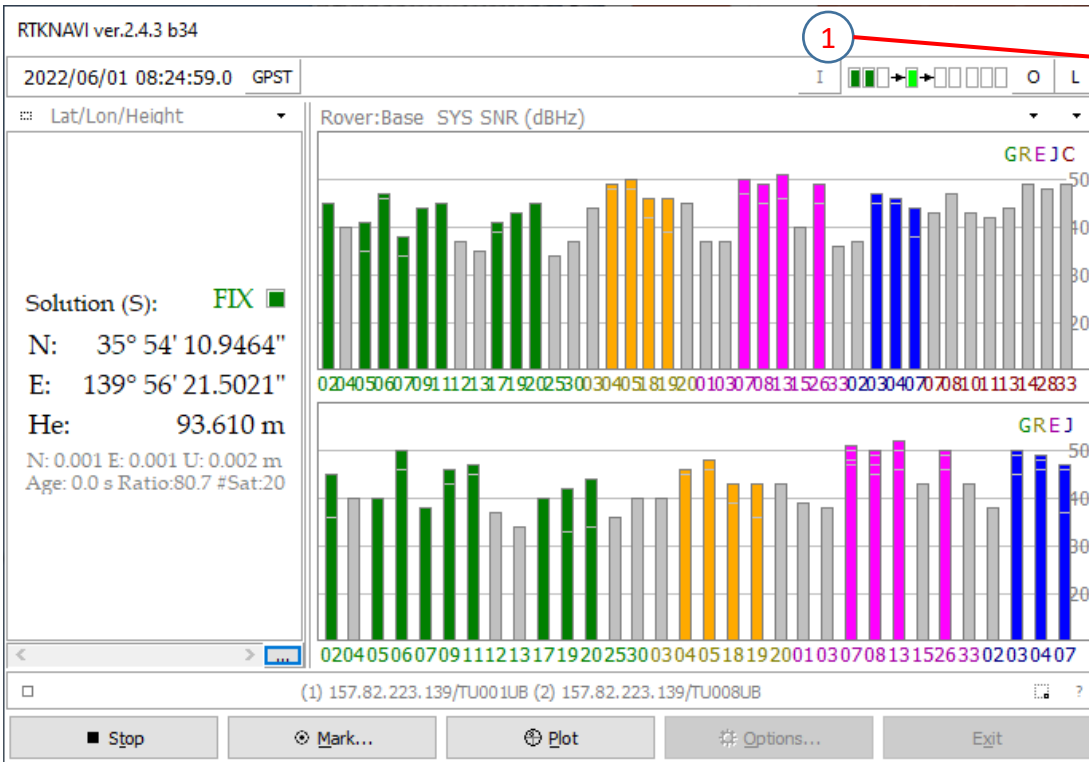
Time x1 + 0 s 64bit OK Cancel

Base-Station

NTRIP Client Options

NTRIP Caster Address	153.121.59.53	Port	2101
Mountpoint	ECJ27	User ID	gpsase
		Password	●●●●●●

Browse... Get Mountp OK Cancel



- RTKNAVI is for high accuracy data processing using Base-station and Rover data in real-time.
- Real-time Base-station access is done via NTRIP connection.
- Rover may be either connected to a PC (Serial Port) or may be remote (NTRIP).
- Data format depends on receiver data output type, either proprietary or standard (RTCM2/RTCM3/BINEX)

Software: U-Center

- U-center
 - Download Link:
 - <https://www.u-blox.com/en/product/u-center>
 - Download version 22.07 or above
 - U-center is used to setup u-blox receiver and log position data. It can also log many types of GNSS raw data.

u-center

GNSS evaluation software for Windows

Highlights

- Fully compatible with u-blox leading positioning technologies
- Quick product configuration for key use cases
- Flexible user interface with personalized workspaces
- Powerful logging functionality for efficient development support
- Easy evaluation of u-blox GNSS services

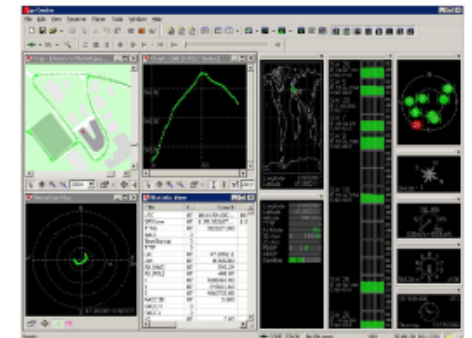
For M10 and F10T products only:

Release date: 27.03.2023

Download u-center 2, v23.03.54868

For F9 / M9 products and below:

Download u-center, v22.07



GNSS Sample Data

- Post-Processing
 - A link to download sample GNSS Data for exercise will be provided
 - Download all files to a local folder
 - It will contain data
 - For static and dynamic observations
 - From High-end and Low-Cost GNSS Receivers
- Real-Time Processing
 - NTRIP links to access data in real-time will be provided
 - Necessary to have internet access for continuous access to NTRIP Caster

GNSS Sample Data

