Skylark RTK Setup Guide for u-blox F9 Receivers

Revision 1.0

2022-11-16

Overview

The following provides details on how to configure your u-blox F9 receiver to operate with Swift Navigation's Skylark RTK NTRIP-based corrections. The procedures in this guide are compatible with the following u-blox F9 receivers:

- u-blox ZED-F9P
- u-blox CO99-F9P
- u-blox ZED-F9R
- u-blox ZED-F9K

For an overview of getting started with Skylark RTK and what exactly NTRIP is and its elements, refer to Getting Started with Skylark RTK [8837-1.0].

To use Skylark RTK corrections, you must complete the following tasks.

- Check the Firmware Version Installed on u-blox Receiver
- Configure CFG-NAVHPG-DGNSSMODE
- Connect to Skylark via u-center or USB

Follow the procedures in the sections below to complete these three tasks.

Check the Firmware Version Installed on u-blox Receiver

1. Start u-center
2. Connect to the appropriate COM port
3. Navigate to *View → Messages View → UBX → MON → VER*
4. Confirm that *FWVER* ≥ **HPG 1.13**

Configure CFG-NAVHPG-DGNSSMODE

Make sure the receiver is configured to support Ambiguity Fixing (RTK Fixed).

1. Start u-center
2. Connect to the appropriate COM port
3. Navigate to *View → Configuration View → DGNSS*
4. Change *Differential Mode* to 3 **= RTK Fixed**
5. Press **Send**
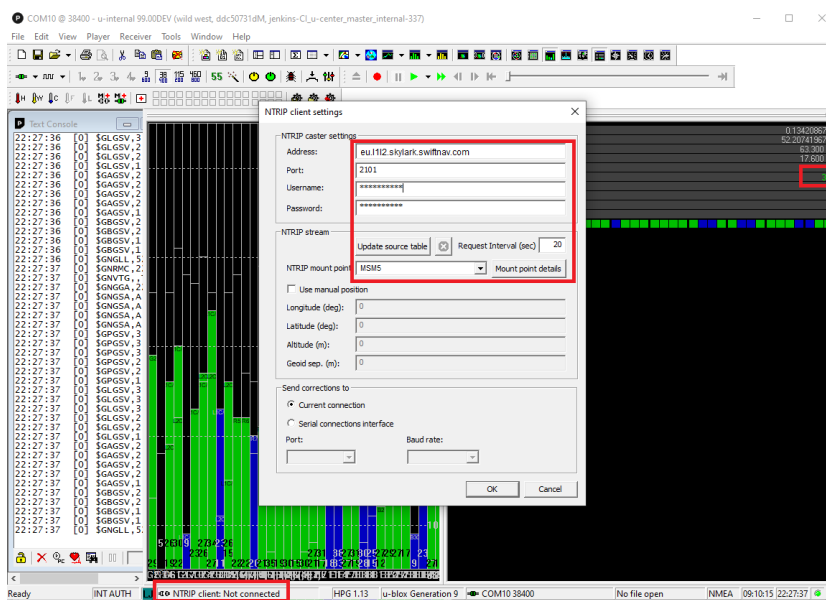6. *Receiver → Action → Save Config*

Connect to Skylark RTK

Option 1: Use the u-center NTRIP Client

Follow the procedure below to use u-center to connect to Skylark RTK.

1. Start u-center.
2. Connect to the appropriate COM port
3. Click Receiver
4. Click NTRIP Client.
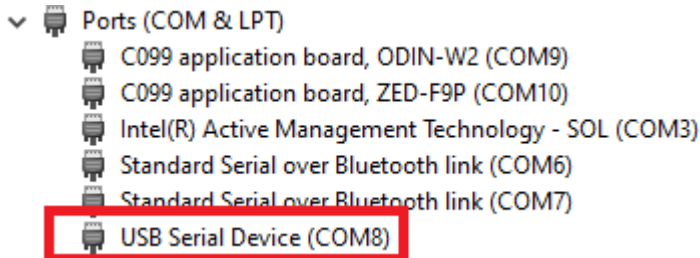
The NTRIP Client dialog box opens.

5. Configure the *NTRIP caster settings section* using the information below.
    - *Address*: **na.l1l2.skylark.swiftnav.com**
    - *Port*: **2101**
    - *Username* & *Password*
6. Click Update source table
    - Select NTRIP mount point RTK-MSM5.

7. Click the OK button.
8. Wait for *Fix Mode* to change to **3D/DGNSS/FLOAT** or **3D/DGNSS/FIXED** as shown in the figure below.
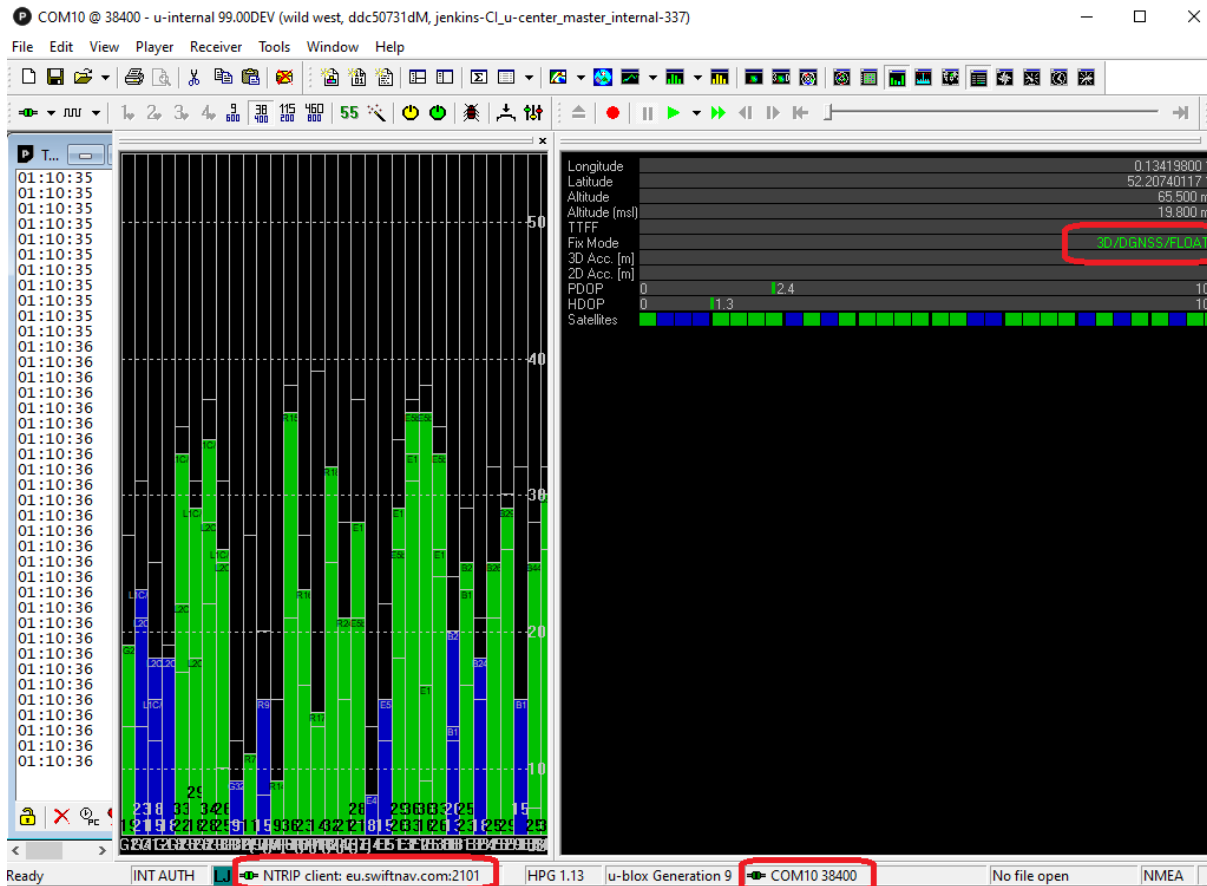
You have now provided the necessary NTRIP details and are configured to receive Skylark RTK corrections.

Option 2: Provide Skylark Correction Data via USB

1. Identify the USB serial port of your receiver

2. Start your NTRIP client and configure the NTRIP parameters.
3. Configure the *NTRIP caster settings section* using the information below.
   1. *Address*: **na.l1l2.skylark.swiftnav.com**
   2. *Port*: **2101**
   3. *Username* & *Password*
   4. *Mountpoint*: **RTK-MSM5**
4. Select the COM port identified in Step 1 for the output of the corrections (COM8 in this example as shown in Step 1).

   - *Baud Rate*: **38400** bps

   - *Byte Size*: **8**

   - *Parity*: **None**

   - *Stop Bits*: **1**

   - *Flow Control*: **None**

5. Verify that the NTRIP client is configured to read the position (NMEA GGA) from this COM port and to send it to Skylark.
   Note: Skylark requests an NMEA GGA sentence to be sent periodically to compute corrections for the receiver's location
6. Start the NTRIP connection
7. In u-center, Wait for *Fix Mode* to change to **3D/DGNSS/FLOAT** or **3D/DGNSS/FIXED**

You have now provided the necessary NTRIP details and are configured to receive Skylark RTK corrections.

Revision History

Version	Date	Changes since Last Version
1.0	2022-11-16	Creation