UBLOX GNSS Firmware Update Allegro 2 (AG2)

This Document has 2 Sections:

1. First Section outlines the 'Normal Use' of AG2 and U-Center Configuration. Skip if you already have your device connected to U-Center.
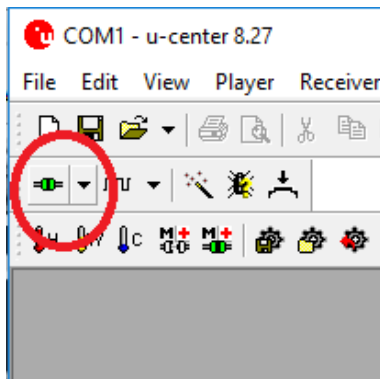2. Second Section outlines the 'Firmware Update' Steps.

Normal Setup to use 'u-center' with Allegro 2

1. Connect Allegro 2 (AG2) to PC via Null Modem Serial Cable
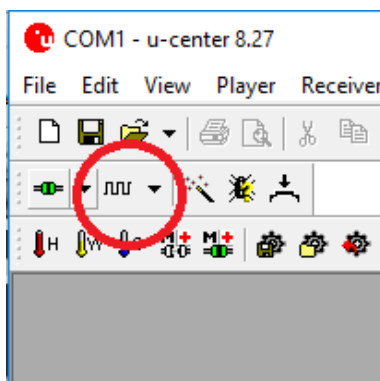
   NOTE: Allegro 2 I/O Port is defaulted to COM 1

   NOTE: PC COM Port – Default Varies (COM 1 in this scenario). May require a third party USB to RS232 Adapter to connect to your PC.
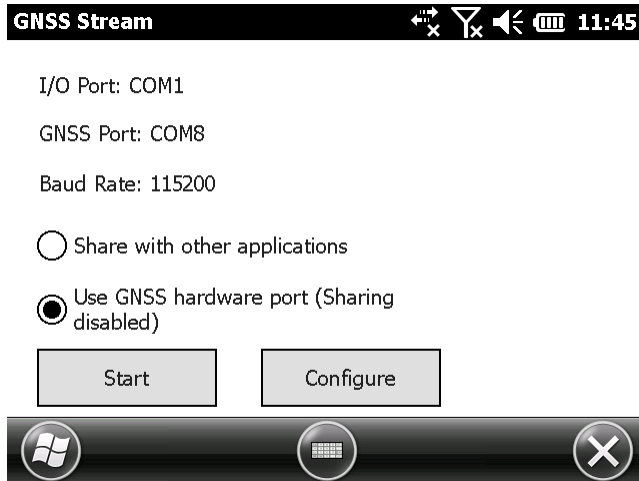
2. Open 'u-center' on your PC (if not installed, you can download it here)
   A. Connect to COM 1 (depends on the port on your PC) by clicking the **Down Arrow** to the right of the green (or clear) cable icon shown below to connect.

   B. Set Baud Rate to 115,200 by clicking the **Down Arrow** to the right of the baud rate icon shown below to connect.

3. Turn on the Allegro 2 Device then do the following:
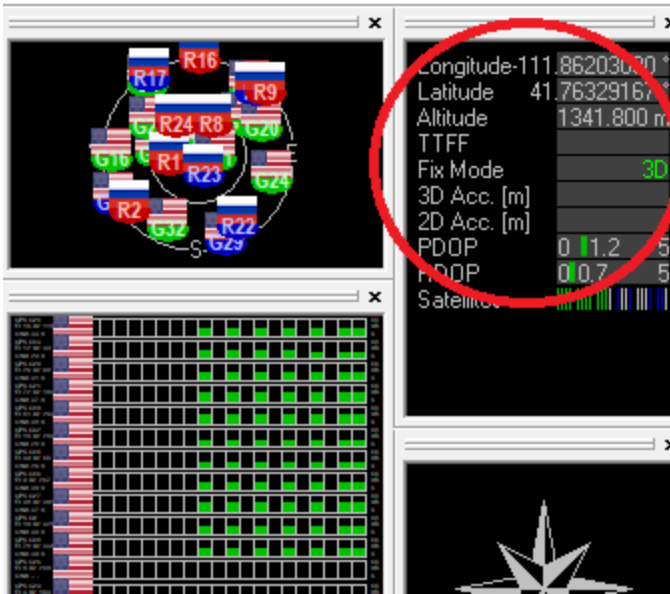
A. Navigate to the Windows Icon -> GNSS Stream Program

B. Choose 'Use GNSS hardware port' (Sharing disabled) and **tap Start**.

Note: Baud Rate should match what is chosen on u-center pc program to connect correctly. If you have issues connecting you will need to turn off any other programs running GNSS services for the GNSS Stream Program to Start running. If the Baud Rate doesn't match, you will need to change the setting in step 2B to match the GNSS Stream Baud Rate.

4. (OPTIONAL STEP)
Connect an External Antenna to AG2 Device and put it in a location where satellites can be seen. Note: If the External Antenna is connected and you are outdoors, it will reliably find satellites but it may have difficulty seeing satellites while indoors.

5. Verify communications are working correctly between PC and AG2. You should see a green COM link in the bottom right of the screen and should see satellite data update every second. In the top right of 'u-center' you can see if you have a fixed solution "Fix Mode = 3D". If communications are not working correctly, review the previous steps to identify what was missed.
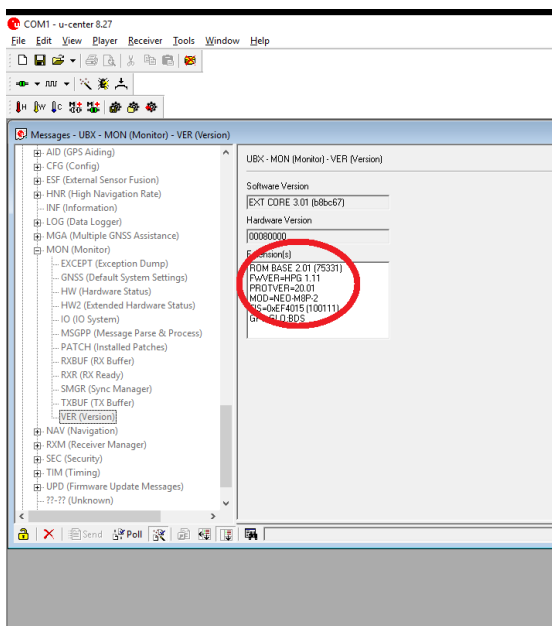
Image below is of a working system:

6. Check your firmware version by doing the following:

   On the PC, Click View -> Messages View (F9) - > Expand UBX -> Expand MON -> Click on VER (Version)
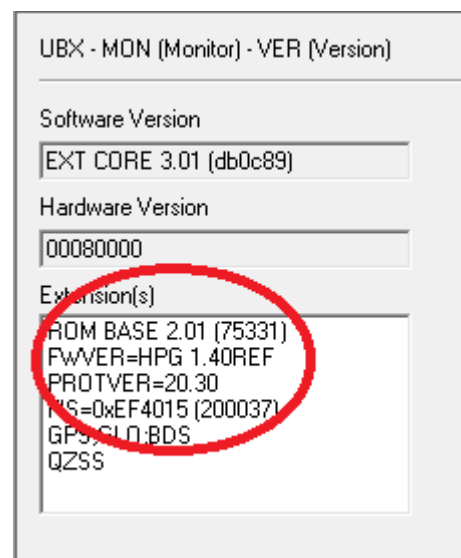
   You will see a string labeled **FWVER=HPG 1.11** (or similar)

NOTE: When updating the **NEO-M8P or NEO-M8N** you should use the Firmware 3.01 **HPG** 1.40 File

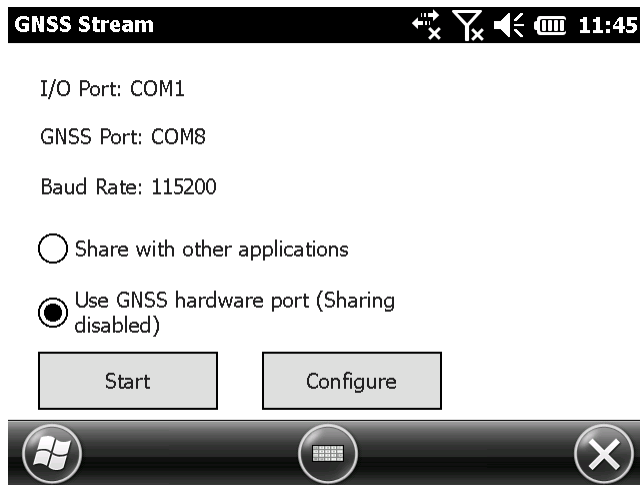NOTE: When updating the **NEO-M8T** you should use the Firmware 3.01 **TIM** 1.10 File
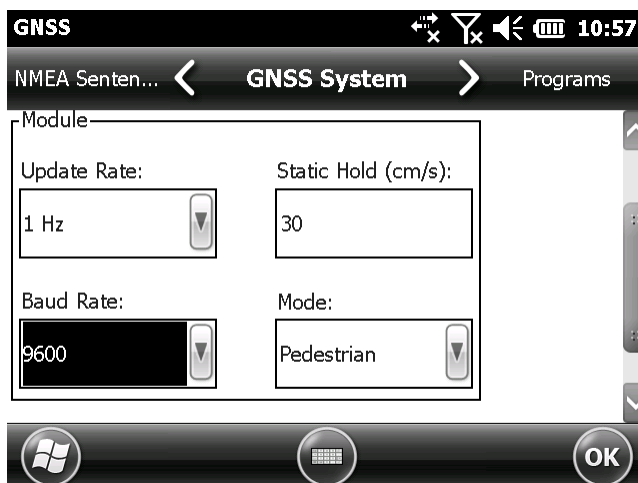

Version 1.11 – Needs to be updated   Version 1.40 – After Update

V 2.0 – Aug 6, 2019 (Cody Draper)

Steps for Firmware Update

1. Navigate to Program "GNSS Stream" to turn off GNSS Stream
   A. Turn off GNSS Stream on AR2 (turn it off by tapping '**Stop**')
   B. If text reads 'Start', you have done it correctly. See below

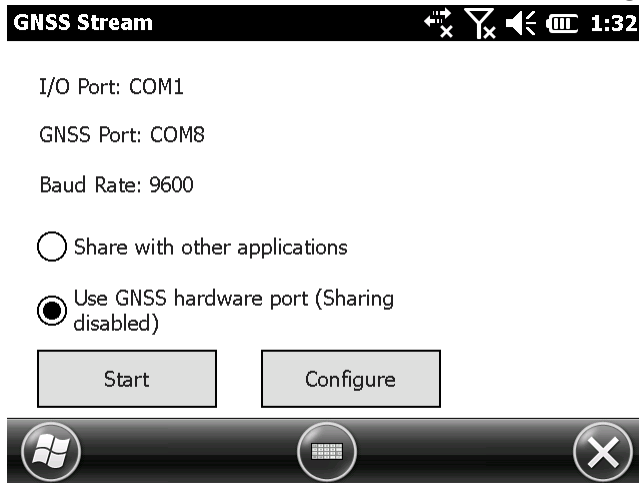2. This step changes Baud rate to 9600. This is necessary for a firmware update
   A. Tap Configure -> Navigate to Window 'Hardware'
   B. Change GNSS hardware port to COM0
   C. Change Baud Rate to 9600
   D. Change GNSS port BACK to COM8
3. Navigate to Window 'GNSS System'
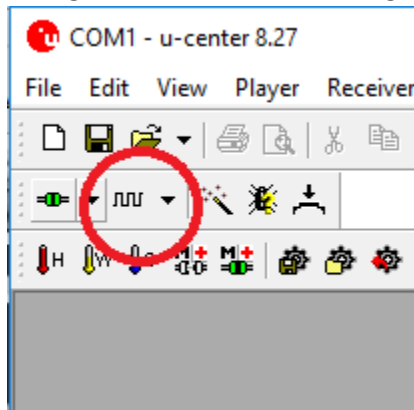   A. Set Baud Rate to '9600'
   B. Leave all others as default

4. Tap **OK**

GNSS Stream should now read Baud Rate 9600 See image below:

5. Tap 'START' to open communications between PC and AG2.
6. Change Baud Rate on PC running u-center to 9600

7. Download the .BIN file from U-BLOX
   Version 1.40 Download Location:
   https://www.u-blox.com/sites/default/files/NEO-M8P-FW301-HPG140_RNwithFW.zip

   Unzip the File by right clicking and choosing 'Extract All'

8. Click Tools -> Legacy Firmware Update (if using u-center 8.26 or older, choose Tools-> Firmware Update)
   A. Choose the .bin file to be used for the update in the 'Firmware image' Box. You must choose the "Reference" and not the "Rover" binary file.
   B. Leave 'Flash definition file' blank
   C. In the FIS file box, choose the flash.xml file found in the path similar to this:

   C:\Program Files (x86)\u-blox\u-center_v8.27\flash.xml

   D. **Check** the following checkboxes:

   Use this Baud rate (9600)
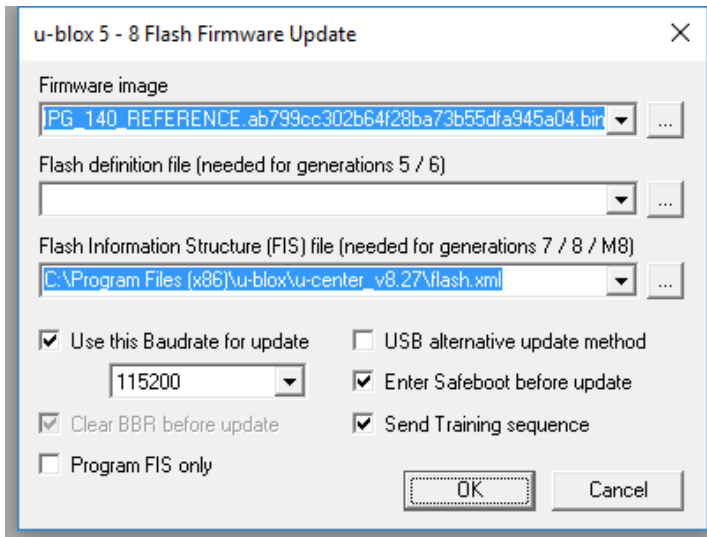
   Enter Safeboot before update

Send Training Sequence

E. **Uncheck** the following checkboxes: (these are usually un-checked by default)

USB alternative update method

Program FIS only.

See Image Below for recommended settings:

9.   Click **OK** when you are ready to update.

Update takes about 10 minutes to complete.

10. Restart device after update has completed and re-configure to 115200 baudrate for normal use (repeat instructions for firmware update but set to 115200).

You must change the GNSS system Baud Rate to 115200 & GNSS Stream to 115200.

You must also verify the Baud Rate on the PC Com Port is set to 115200.

It is recommended to follow the instructions from the start of this guide to verify the functionality of the AG2 after the firmware update.