

# u-blox GNSS drivers on Mesa2 or Mesa3

## What is this about?

The Mesa2 and Mesa3 use u-blox GNSS receivers. The latest drivers from u-blox have some known issues that may affect some Mesa users. Some applications that use the GNSS receiver will work fine with the latest drivers, others may require an older u-blox driver version.

For Mesa2 OS version 17178 and 17255 (you can find this in the Device Info app), u-blox VCP driver version 2.30 was installed, u-blox Sensor driver version 2.30 was installed, and a group policy was set to prevent these devices from being updated. However, once a Mesa2 with this group policy set updates with a major feature update, the u-blox drivers get uninstalled, and the device is left without any GNSS drivers. It appears the major feature update uninstalled the drivers with the intent to install the latest drivers, but then the group policy blocks the installation of the later drivers.

## What is the “Mesa2-3 GNSS Driver Options.exe”?

This tool is used to set or clear the group policy that prevents the u-blox drivers from being updated. The GnsDrvGp.dll must reside next to the “Mesa2-3 GNSS Driver Options.exe”. This tool can also show you the currently installed u-blox driver versions.

## The Known Issues in the u-blox drivers

- Any u-blox VCP (Virtual COM Port) Driver later than version 2.30 does not support the C# SerialPort class. This is listed in the release notes for the VCP driver on the u-blox website.
- Any u-blox Sensor Driver later than version 2.30 will cause some binary UBX messages to be enabled. These appear in the stream of data from the serial port. Some applications cannot tolerate these binary messages as they are trying to parse the NMEA messages.
  - These UBX messages can be disabled by opening the COM port and disabling them, but the setting won't stay once the COM port is closed.

## Which set of drivers is best?

That depends entirely on your GNSS application. It depends on how the application gets the location data. Two common methods are (1) Open the COM port (Win32, C# SerialPort class, ...), or (2) Windows Location Services. If your application is using Windows Location Services, you should probably use the latest set of u-blox drivers and disable the group policy to allow them to update normally during a major Windows feature update. If your application opens the COM port to access the location data, and either uses the C# SerialPort class, or cannot

tolerate the UBX messages, then you should use driver versions 2.30 for both u-blox drivers, and set the group policy to prevent these drivers from being updated.

## New Recommendations from Juniper Systems

Because of the problems with Windows Update and the group policy, Juniper recommends removing the group policy and using the latest drivers, if your application will allow it.

## What should I do if my GNSS application can work with the latest drivers?

If you are running Mesa2 OS version 17178 or 17255, then your device was shipped with the group policy set to prevent updates to your u-blox devices. You should run the Mesa2-3 GNSS Driver Options tool, un-check the checkboxes and hit apply to remove the group policy. Then either run Windows Update, or manually install the latest u-blox drivers (can be found here: <https://www.u-blox.com/en/product-resources/2779>, under the “Driver” section, download “u-blox GNSS Sensor Device Driver for Windows” and “u-blox GNSS VCP Device Driver for Windows”).

If you are running any other Mesa2 OS version, or any Mesa3 OS version, then Windows Update should have updated your u-blox drivers to the latest, and you should not have any problems during a major feature Windows Update.

## What should I do if my GNSS application can NOT work with the latest drivers?

You should run driver versions 2.30 (driver installers for these versions are included with the .zip you downloaded), and set the group policy to prevent updates to these devices. When Windows Update does a major feature update, you will need to repeat step 2 below.

Run the “Mesa2-3 GNSS Driver Options” tool to find out the state of your device. Click the “Refresh Driver Versions” button to see what your driver versions are.

- 1) If both drivers are already at 2.30
  - a. make sure both group policy checkboxes are checked and hit “Apply” if you checked either one. Close the application.
- 2) If the drivers are the wrong version, or missing:
  - a. Disconnect the Mesa from the internet to prevent Windows Update from updating these devices while you are configuring them.
  - b. In the “Mesa2-3 GNSS Driver Options” program, un-check both checkboxes and hit apply.

- c. Uninstall both drivers
  - i. Go to Start->Settings->Apps->Apps & Features
  - ii. You may need to do one or both of the following (try to do both):
    - 1. Find the “u-blox GNSS VCP Device Driver for Windows”, or “Windows Driver Package – u-blox...”, and uninstall.
    - 2. Go to Device Manager (right click the start menu, and click on Device Manager).
      - a. Under “Ports”, ensure there is not a u-blox device. If there is, right click on it and select “Uninstall device”, check the checkbox to delete the driver software, and hit “Uninstall”.
      - b. Repeat the last step for any u-blox device under the “Sensors” section in Device Manager.
- d. Install version 2.30 of both drivers.
- e. In the “Mesa2-3 GNSS Driver Options” program, check both checkboxes and hit apply.
- f. Re-connect to the internet.