

Stemedu USB GPS Module GLONASS Beidou GPS Dongle

Stemedu USB GPS Module GLONASS Beidou GPS Dongle Instruction Manual

Model: USB GPS Module GLONASS Beidou GPS Dongle

Brand: Stemedu

1. PRODUCT OVERVIEW

The Stemedu USB GPS Module is a compact, high-performance global navigation satellite system (GNSS) receiver. It supports multiple constellations including GPS, GLONASS, and Beidou, providing accurate positioning data. The module features a built-in ceramic antenna for reliable signal reception and connects via a standard USB interface.



Figure 1: Stemedu USB GPS Module

This image displays the compact Stemedu USB GPS Module, featuring a metal shield over the main chip and a standard USB-A connector for easy integration with various devices.

2. SETUP AND DRIVER INSTALLATION

Before using the GPS module, ensure proper driver installation for your operating system. For optimal signal reception, place the module in an area with a clear view of the sky, such as near a window or outdoors, free from obstructions like buildings or trees.

2.1 Windows Operating Systems (XP, 7, 8, 10)

1. Connect the USB GPS module to an available USB port on your computer.
2. Open **Device Manager**. You can typically find this by searching in the Start Menu.
3. Look for an unrecognized device or a device under 'Ports (COM & LPT)' that indicates a USB Serial Port. It might appear as 'Prolific USB-to-Serial Comm Port' or similar.

4. If the driver is not automatically installed, you may need to download it from the manufacturer's website. Search for 'Prolific USB-to-Serial Comm Port driver' or refer to the product's support page for specific driver links.
5. Right-click the device in Device Manager and select 'Update driver'. Choose 'Search automatically for drivers' or 'Browse my computer for drivers' if you have downloaded the driver package.

Video 1: How to use the VK-162 USB GPS Module (Windows Driver Installation)

This video demonstrates the process of installing drivers for a similar USB GPS module on a Windows system, including checking Device Manager and updating drivers. It also shows how to use a GPS info tool to verify functionality.

2.2 Linux and Raspberry Pi

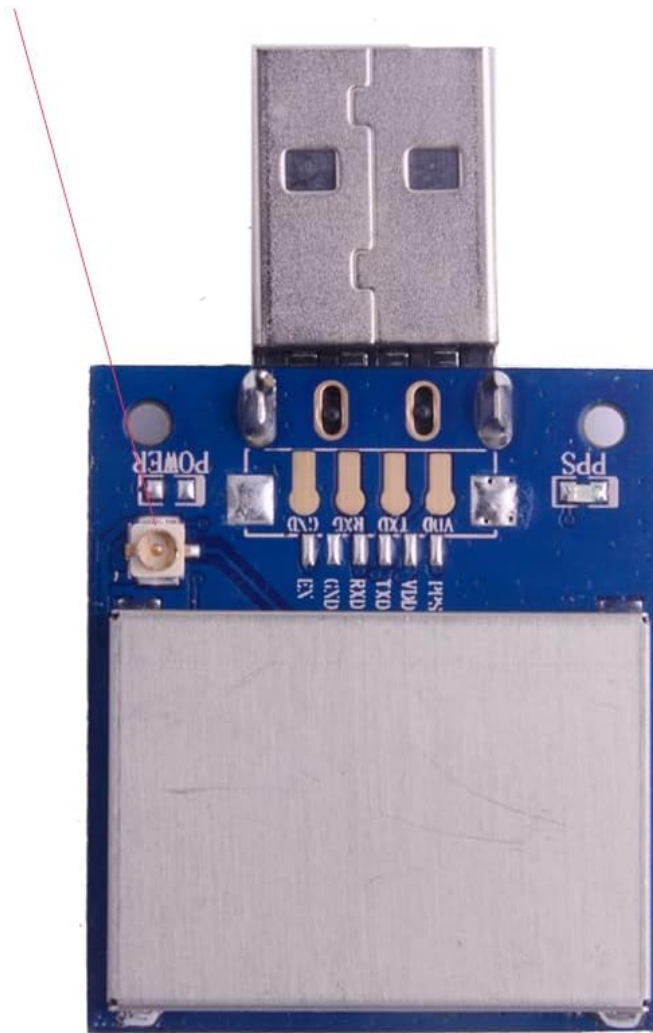
For Linux-based systems, including Raspberry Pi, the module typically operates without requiring additional driver installation. It should be detected as a serial device (e.g., `/dev/ttyACM0`).

1. Connect the USB GPS module to your Linux or Raspberry Pi device.
2. Verify device detection using commands like `ls /dev/tty*` or `dmesg | grep tty`.
3. You may need to install and configure `gpsd` or other GPS-related software to interface with the module.

2.3 External Antenna Connection

The module includes an IPEX interface for connecting an optional external antenna, which can improve signal reception in challenging environments.

IPEX interface for external antenna



Baud rate: 4800,9600,19200,38400,57600,112500bps

Figure 2: IPEX Interface for External Antenna

This image highlights the IPEX connector on the USB GPS module, indicating where an external antenna can be attached for enhanced signal reception.



The external antenna is not included

Figure 3: Module with External Antenna

This image shows the USB GPS module connected to an external GPS antenna via a cable, illustrating how to use the IPEX interface for improved performance.

3. OPERATING THE MODULE WITH U-CENTER SOFTWARE

The u-center software (from u-blox) is a common tool for configuring and monitoring GNSS modules. It provides detailed information about satellite reception, position, and various settings.

3.1 Installing u-center

Download the u-center software from the official u-blox website: <https://www.u-blox.com/en/product/u-center-windows>. Follow the on-screen instructions to complete the installation.

The software is U-center, you need install driver before use the software
Driver link <https://www.u-blox.com/en/product/u-center-windows>

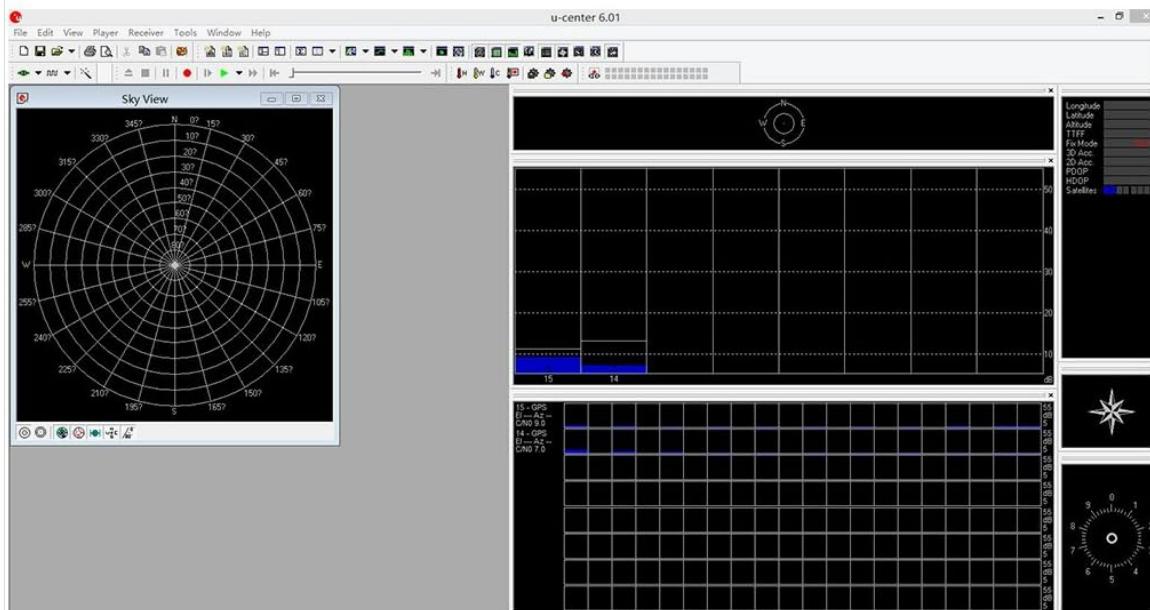


Figure 4: u-center Software Interface

This screenshot displays the u-center software, showing various panels for satellite signal strength, NMEA data output, and geographical position, used for monitoring and configuring the GPS module.

3.2 Connecting and Monitoring

1. Launch u-center.
2. From the menu bar, select **Receiver > Port** and choose the COM port assigned to your USB GPS module (e.g., COM3, COM4).
3. Ensure the baud rate is set correctly. The default output is the product GPS protocol data. You can test the software or serial commands to modify switch PS / GLONASS protocol data.
4. Once connected, you should see NMEA data streaming in the 'Text Console' window and satellite information (signal strength, position) in other panels.

Video 2: DIYmall GPS Module Demonstration

This video shows a GPS module in operation, displaying real-time satellite data and NMEA output within a software interface, similar to u-center. It illustrates successful signal acquisition and data streaming.

Video 3: USB GPS Module Antenna Supports GPS+GLONASS Beidou Built-in Flash

This video provides a visual guide to the USB GPS module, demonstrating its physical features and showing the u-center software displaying active satellite connections and NMEA data, confirming its multi-constellation support.

4. TROUBLESHOOTING

4.1 No GPS Fix / Solid Red Light

If the module's indicator light is solid red and not blinking, it indicates that a GPS fix has not been

acquired. This usually means the module is not receiving sufficient satellite signals.

- **Relocate the Module:** Move the module to an area with a clear, unobstructed view of the sky. This could be near a window, on a balcony, or outdoors.
- **External Antenna:** If you have an external antenna, ensure it is properly connected to the IPEX interface and placed in an optimal position.
- **Wait Time:** Allow several minutes (up to 15 minutes for a cold start) for the module to acquire satellites and establish a fix.

Video 4: Vlk-172 Gmouse USB GPS Glonass Dongle Module (Signal Acquisition)

This video demonstrates the signal acquisition process for a similar GPS dongle, showing the transition from no fix to a stable GPS signal, which is indicated by a blinking light on the device.

4.2 Driver Issues (Windows)

If the module is not recognized in Device Manager or shows an error, the driver might be missing or corrupted.

- **Reinstall Driver:** Follow the steps in Section 2.1 to reinstall or update the driver.
- **Check COM Port:** Ensure you are selecting the correct COM port in your GPS software (e.g., u-center).

4.3 Software Not Receiving Data

If the module is connected and drivers are installed, but your software (e.g., u-center) is not displaying data:

- **Verify COM Port and Baud Rate:** Double-check that the correct COM port and baud rate (e.g., 4800, 9600, 19200, 38400, 57600, 112500 bps) are selected in your software.
- **Single Application Access:** Ensure only one application is attempting to access the GPS module's COM port at a time. Close any other software that might be using the port.

5. SPECIFICATIONS

- **Product Dimensions:** 1.18 x 0.79 x 0.39 inches
- **Item Weight:** 0.634 ounces
- **Hardware Interface:** USB 2.0 Type A
- **Compatible Devices:** Desktop, Laptop, Smartphone, Tablet
- **Compatible Operating System Family:** Linux, Windows (XP, 7, 8, 10)
- **Supported GNSS:** GPS, GLONASS, Beidou
- **Antenna:** Built-in Ceramic Antenna, IPEX interface for external antenna
- **Default Output:** GPS protocol data (configurable to PS/GLONASS)

6. MAINTENANCE

To ensure the longevity and optimal performance of your Stemedu USB GPS Module, follow these general maintenance guidelines:

- **Cleaning:** Gently wipe the module with a dry, soft cloth to remove dust and debris. Avoid using harsh chemicals or abrasive materials.
- **Storage:** Store the module in a cool, dry place away from direct sunlight, extreme temperatures, and high humidity when not in use.
- **Physical Protection:** Avoid dropping the module or subjecting it to strong impacts, which could damage internal components.
- **Cable Care:** Handle the USB cable gently to prevent bending or fraying, especially near the connectors.

7. WARRANTY AND SUPPORT

For warranty information, technical support, or further inquiries regarding your Stemedu USB GPS Module, please contact the manufacturer directly. Refer to the product packaging or the official Stemedu website for the most up-to-date contact details.

Manufacturer: Stemedu

For additional support and resources, visit the [Stemedu Store on Amazon](#).