
ADS-B Receiver Module ADSB-MU2

User Manual

AvionixTech

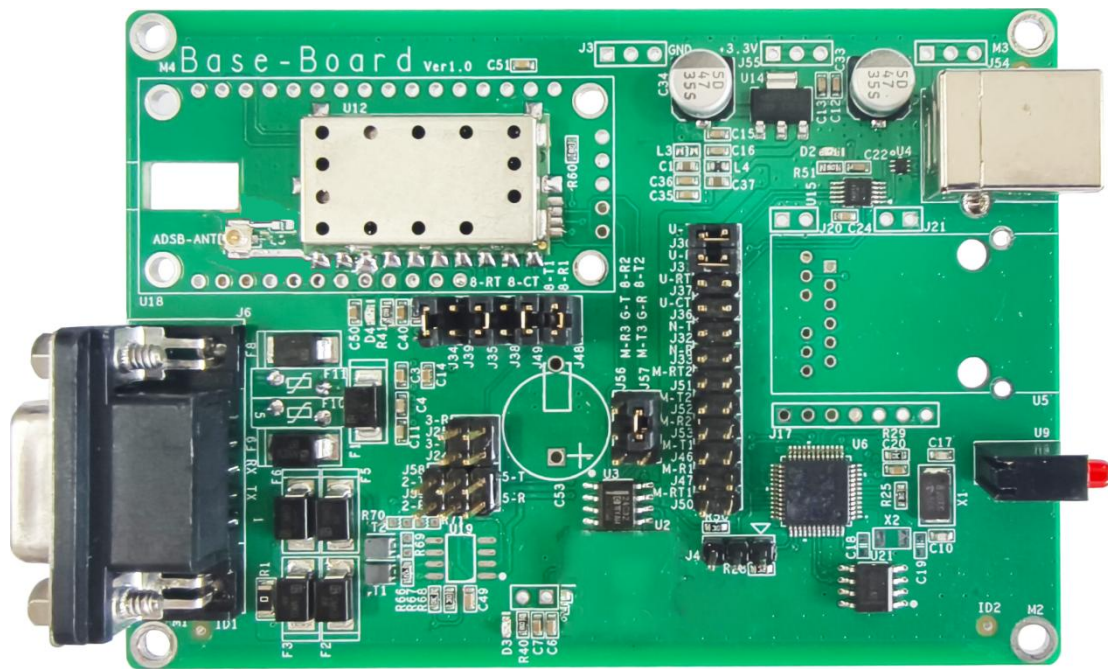
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1. Introduction

ADSB-MU2 is a highly expandable and easy-to-integrate ADS-B signal receiving module. It features a high-sensitivity 1090 MHz RF receiving module, enabling signal reception, signal processing, and data decoding functions.

The module can output ADS-B raw messages via USB or serial port. The serial interface supports the RS232 protocol by default, while RS422 and RS485 serial output protocols can also be customized.



Packing List:

No.	Item	Quantity
1	ADSB-MU2 Module	1
2	USB Cable	1

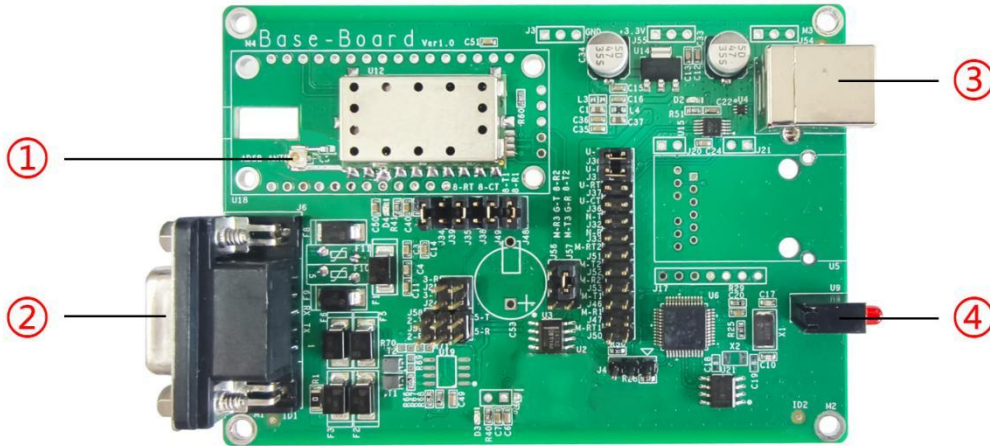
2. Features

- Easy to expand and suitable for embedded applications
- Outputs ADS-B raw DF messages
- Highly configurable to suit various application scenarios
- Supports multiple optional serial output protocols

3. Specifications

No.	Parameter	Specification
1	Power Supply	5V, 2A
2	Power Consumption	0.5 W
3	Receiving Frequency	1090 MHz
4	Sensitivity	≤ -90 dBm
5	Reception Range	> 250 km (no interference, no obstruction)
6	Target Capacity	> 300 targets
7	Processing Capability	> 1,500 messages/s
8	Data Format	ADS-B Raw DF Messages messages
9	Data Interfaces	Type-B USB and DB9 Female Connector
10	Serial Protocols	RS232 (Default) RS485 / RS422 (Customizable)
11	ADS-B Antenna Connector	IPEX
12	Dimensions	100 × 71 × 35 mm (main unit)
13	Weight	40 g (main unit)
14	Operating Temperature	-20°C ~ +60°C
15	Storage Temperature	-20°C ~ +70°C
16	Storage Humidity	10% ~ 80%

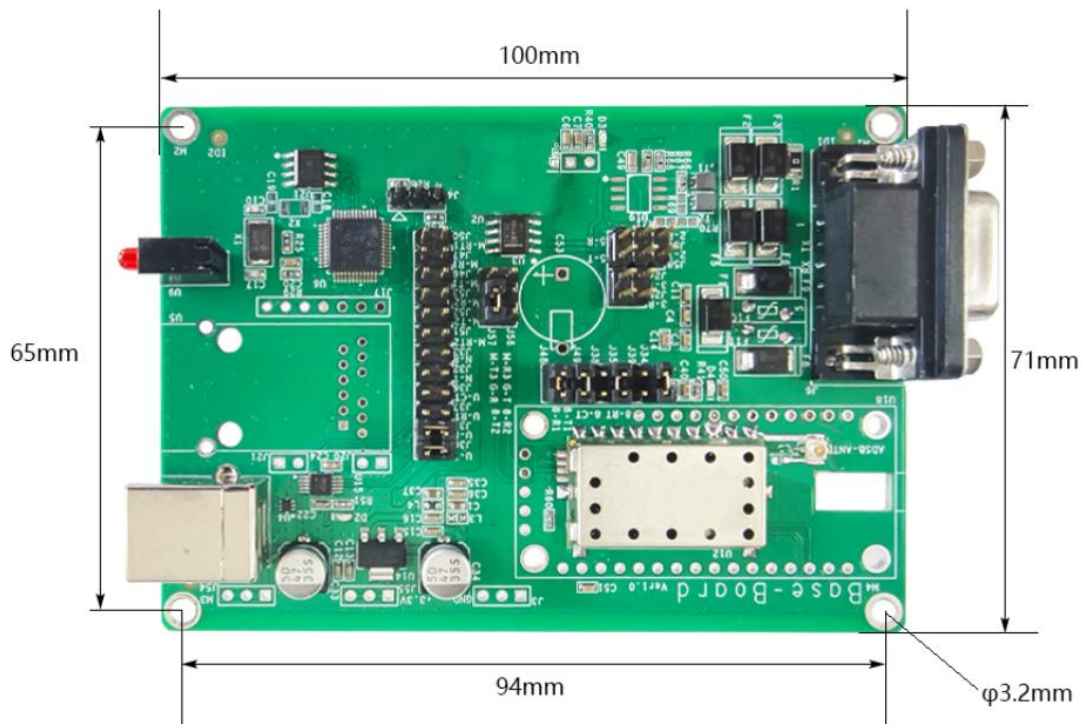
4. Interface Description



Main Unit Interfaces:

No.	Interface Name	Description
1	ADSB-ANT	ADSB antenna interface, IPEX
2	DB9	Data Interface 2, DB9 Connector
3	USB	Data Interface 1, Type-B Connector
4	Indicator Light	Power Indicator (Red), Data Indicator (Green)

5. Dimensions

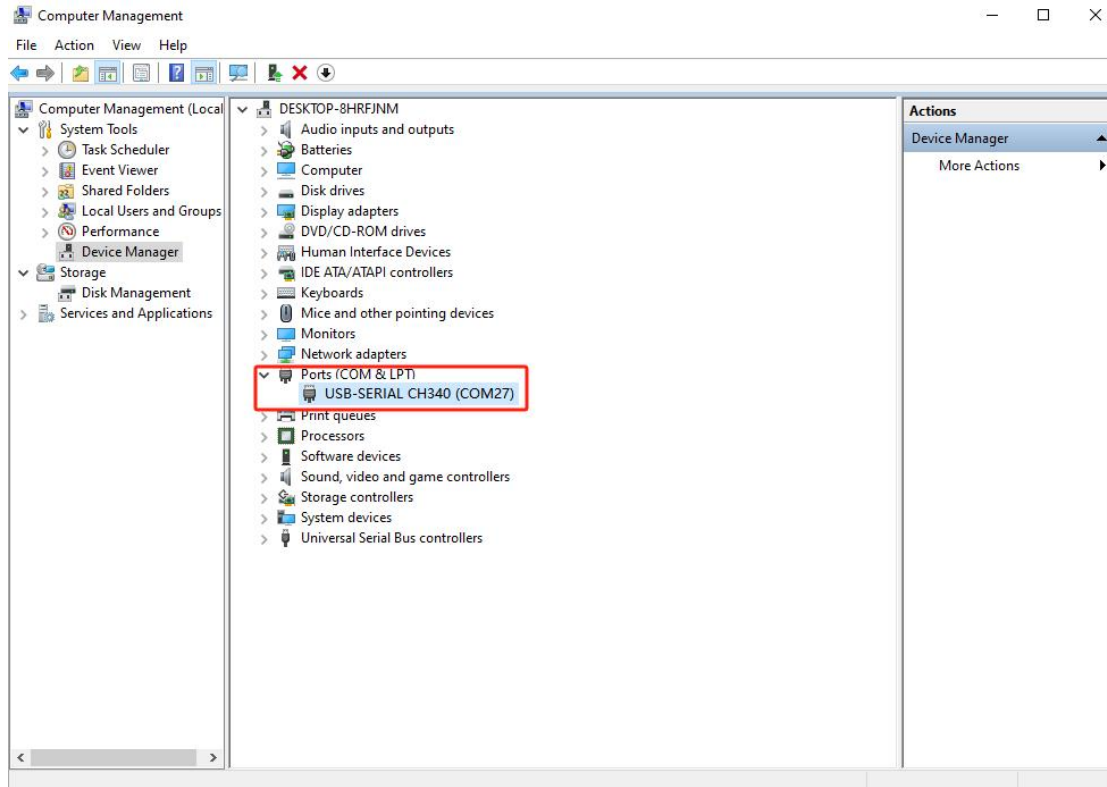


- Module Dimensions: 100 mm × 71 mm
- Mounting Hole Spacing: 94 mm × 65 mm
- Mounting Hole Diameter: 3.2 mm

6. Connecting the module

Note: Before touching the device, discharge any static electricity from your body.

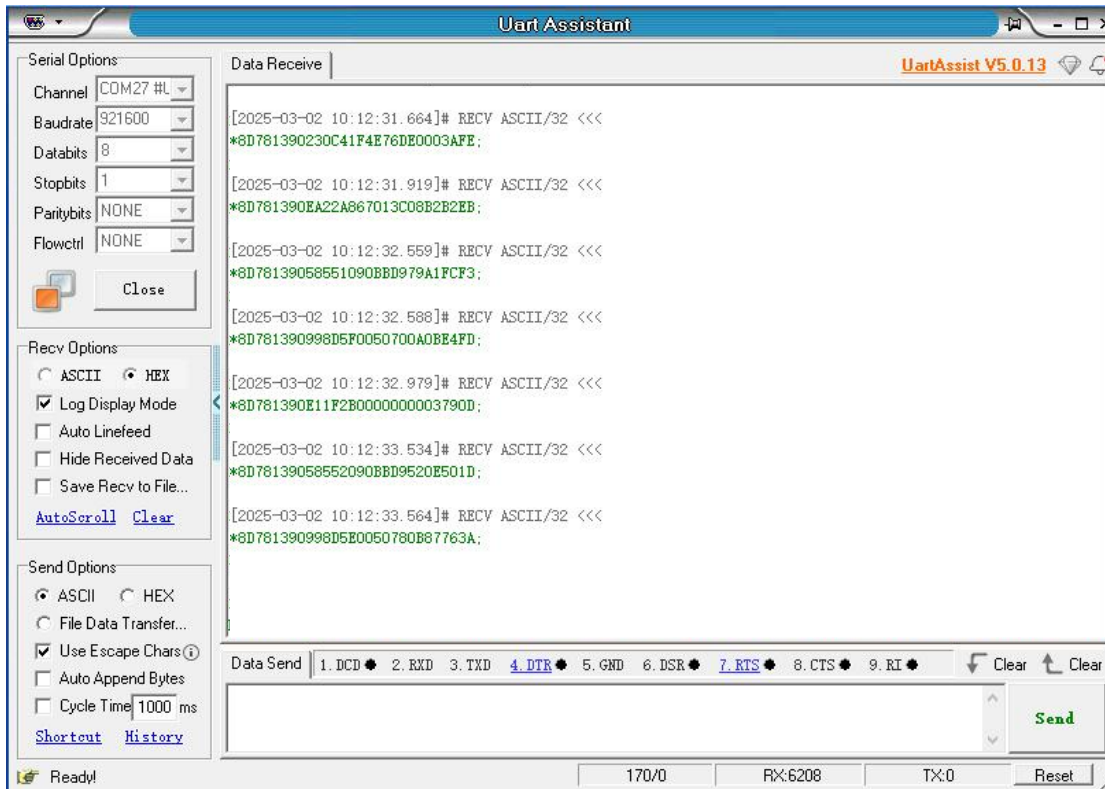
Connect the ADSB-MU2 to a computer using a USB cable. The USB-SERIAL CH340 COM port will appear in the computer's Device Manager.



Enter the following serial connection settings in a serial debugging tool or device.

Once connected, data reception will begin.

No.	Parameter	Configuration
1	Baud Rate	921600
2	Data Bits	8
3	Parity	None
4	Stop Bits	1



Data Example:

```
*8D78139058637427F31D387119E2;
*8D781390EA269867073C08E4CE17;
*8D78139058638090C3C6871FBAB6;
*8D781390F82100020049B84A282C;
*8D781390EA269867073C08E4CE17;
*8D7813905863C427F31CAFAC4477;
*8D781390990D5C0050800EC400D9;
*8D7813905863D090C3C605EABF0D;
```

7. Module Indicators

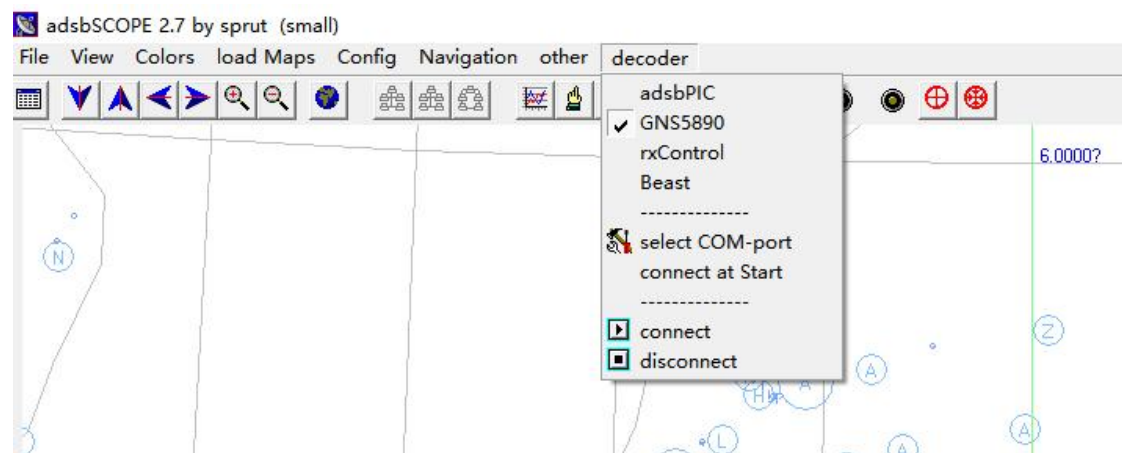
The module is equipped with two indicators: a red indicator and a green indicator.

- After power is applied, the red indicator remains steadily on.
- When ADS-B data is received, the green indicator flashes.

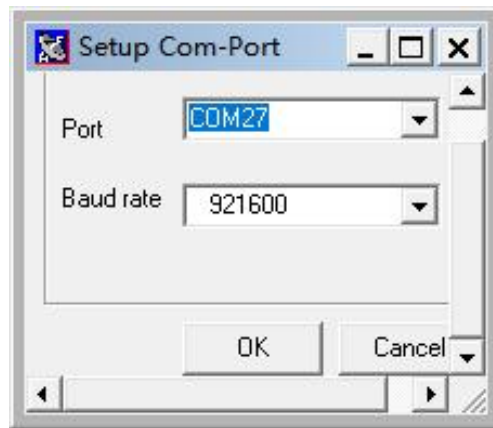
8. ADS-B Display Software adsbscope

The ADSB-MU2 can be connected to the free display software adsbScope. The specific operation procedure is as follows:

- (1) Open the display software adsbScope, e.g., adsbscope27_256.exe.
- (2) Locate the Decoder menu at the top, and select GNS5890 from the menu.

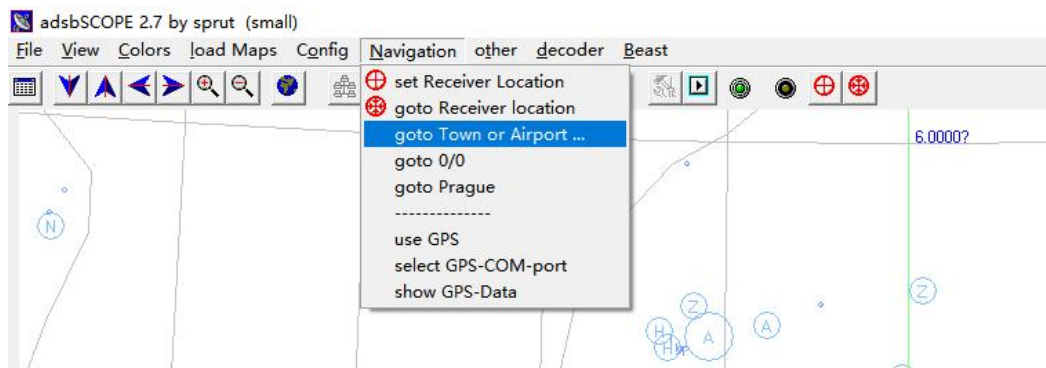


- (3) Click Select COM-port in the menu.
- (4) In the pop-up window, select the COM port corresponding to the USB connection (i.e., COM27 as mentioned earlier) under Port, select 921600 under Baudrate, and click OK.

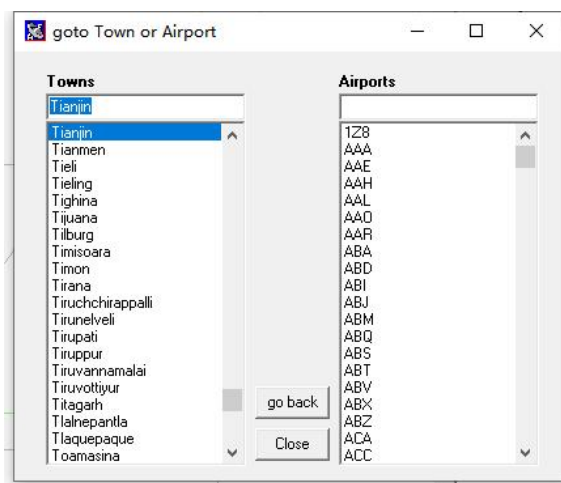


(5) Click the Connect button in the Decoder menu to connect to the serial port.

(6) Select Goto Town or Airport... from the Navigation menu.



(7) In the pop-up window, enter the English name of the nearest airport in the input box under Towns, select the corresponding airport from the search list below, and click the close button in the upper right corner.



(8) The display software will now show the aircraft positions correctly.

9. Customization

All our products can be supplied tailored to your specific needs and customized with your brand and logo. We tailor designs, enclosures, features, and data formats to meet your specifications. Our OEM services empower you to launch unique products swiftly and risk-free.

10. Why Choose Us

- Comprehensive product range to meet users' needs for various levels of ADS-B ground station systems.
- Easy installation and use, with no complex configuration or high technical requirements for engineers. Simple and user-friendly.
- Complete after-sales service, providing technical support and services to help users maximize product benefits.
- Support for remote upgrades, assisting users in accessing the latest product features.
- Independent product development with customization options based on user requirements, including form factors, logo, software, hardware, performance, and functionality.