

Lightweight ADS-B Ground Receiver

GNS5892R StarterKit

AvionixTech

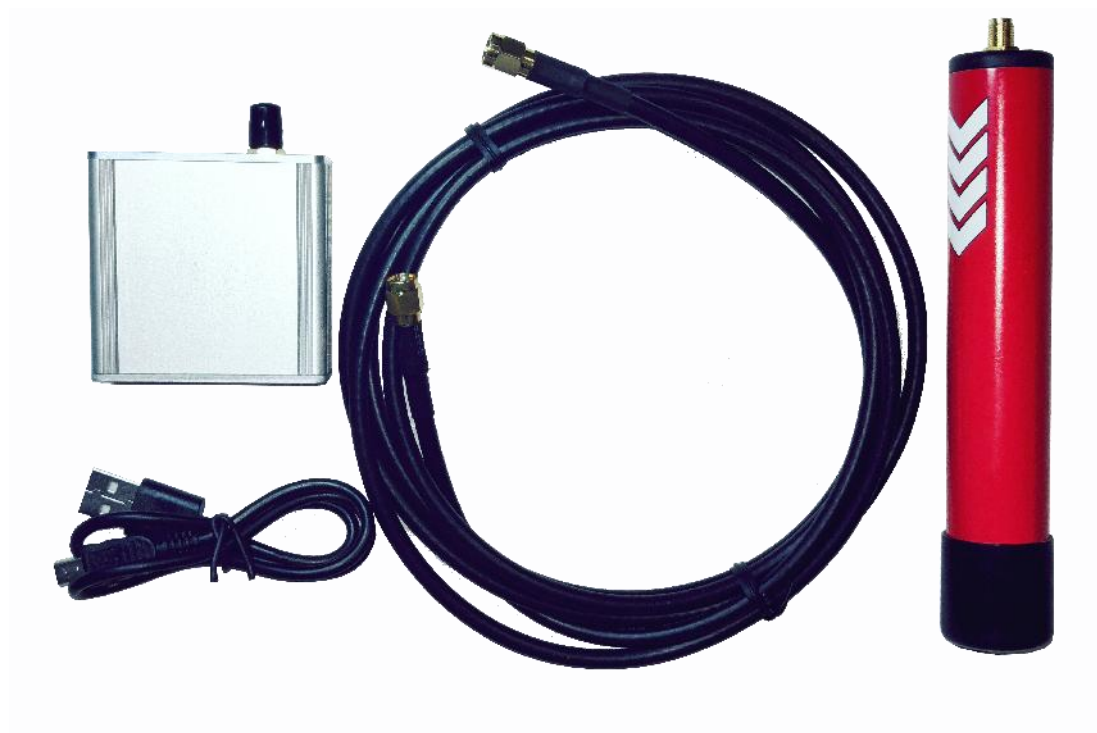
|   |   |
|---|---|
| 1. Introduction .....                       | 3 |
| 2. Specifications .....                     | 4 |
| 3. Data Format .....                        | 5 |
| 4. Receiver Connection .....                | 5 |
| 5. Configuring ADS-B Display Software ..... | 7 |
| 6. Customization .....                      | 8 |

## 1. Introduction

GNS5892R StarterKit is a lightweight ADS-B ground receiver designed specifically for 1090MHz "virtual radar" surveillance. It utilizes high dynamic signal processing circuits, enabling reception of ADS-B data from close range to far range simultaneously.

GNS5892R StarterKit integrates a high-sensitivity RF front-end, signal processing unit, high-speed data decoder, and UART output, allowing easy connection to a host processor (computer/server). All ADS-B data is transmitted via a miniUSB port. Users can also perform necessary configurations of the GNS5892R StarterKit through a simple command interface.





The GNS5892R StarterKit package includes:

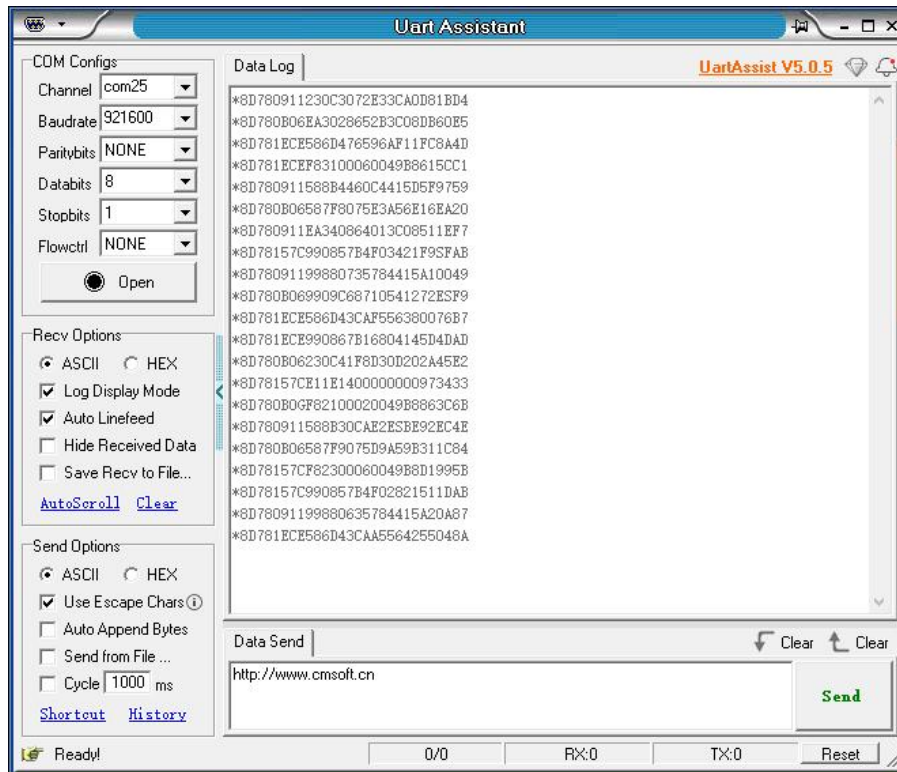
- ADS-B receiver \*1
- miniUSB cable \*1
- ADS-B antenna cable \*1
- ADS-B antenna \*1

## 2. Specifications

- Lightweight and compact, suitable for low-cost rapid validation of basic ADS-B functionalities.
- Reception Frequency: 1090MHz
- Reception Sensitivity: -87dBm
- Data Interface: USB or UART serial port (shell removal required for UART)
- Power Supply: USB
- Power Consumption: 42mA
- Dimensions: 54 x 54 x 24 mm (excluding antenna interface)
- Antenna Connector: SMA

### 3. Data Format

The output data format is ASCII ADS-B text format, compatible with various commonly used software applications. Below is an example of the data:



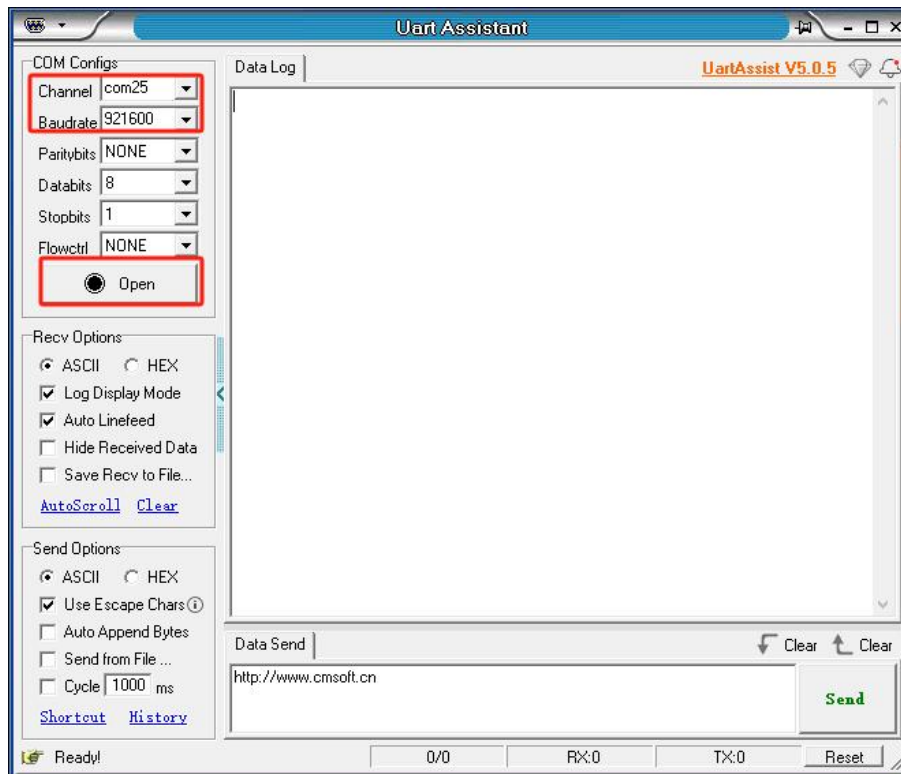
### 4. Receiver Connection

Connect the receiver to the computer via a miniUSB cable. Then, open the Device Manager on your computer. You should see a newly added port under the port section.

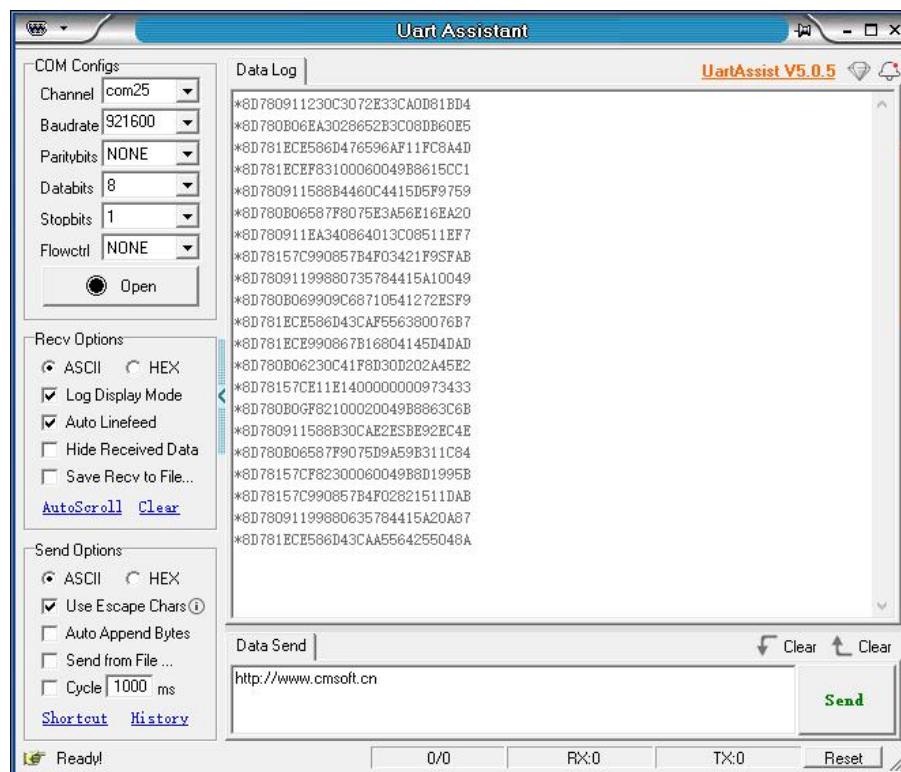
This port corresponds to the receiver port.

Connect the ADS-B antenna to the receiver.

Open the serial port debugging tool, select the corresponding port, choose a baud rate of 921600, and leave the other settings as default. Then, click "Open Serial Port."



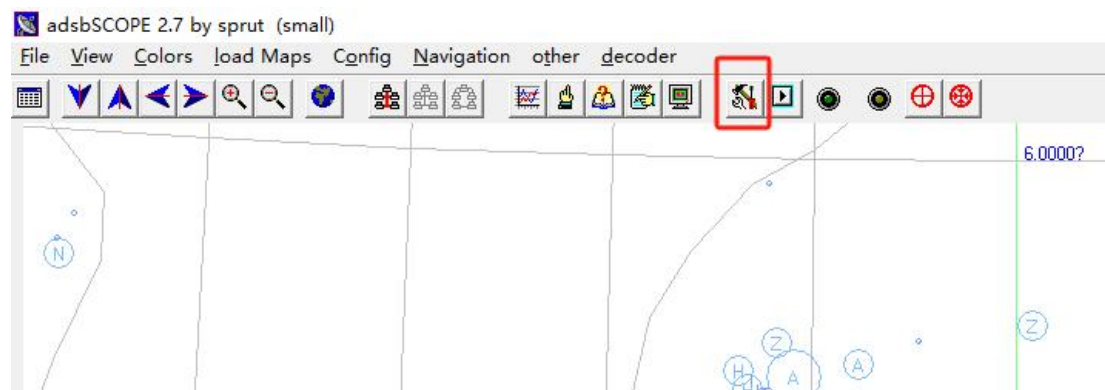
When the receiver indicator light is flashing green, it indicates that data reception is in progress.



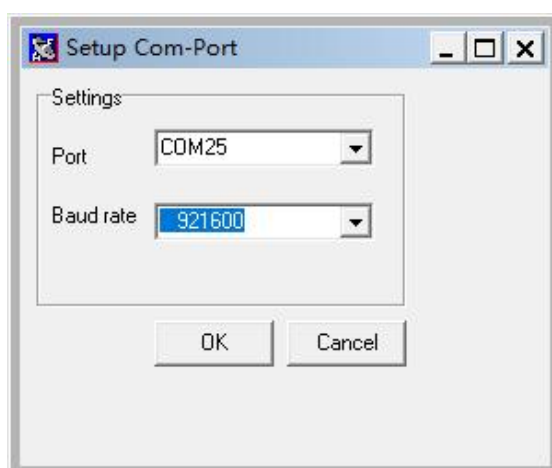
## 5. Configuring ADS-B Display Software

Open the adsbSCOPE ADS-B display software.

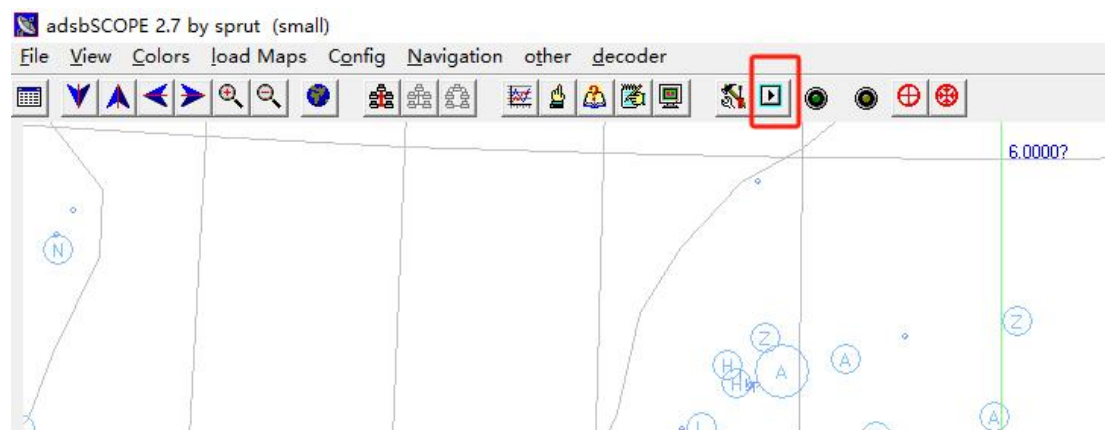
Open the "Serial Port Settings" window.



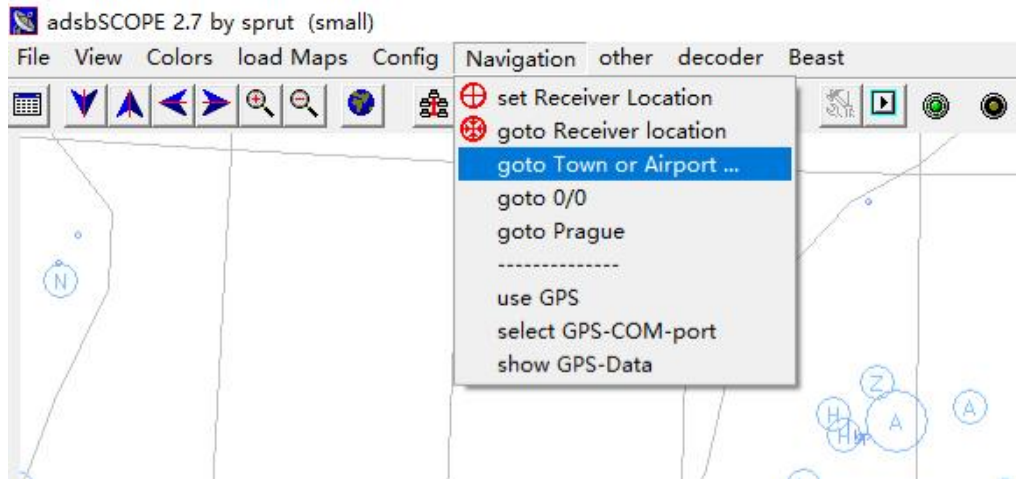
Select the appropriate port for the serial connection, choose a baud rate of 921600, and click the OK button.



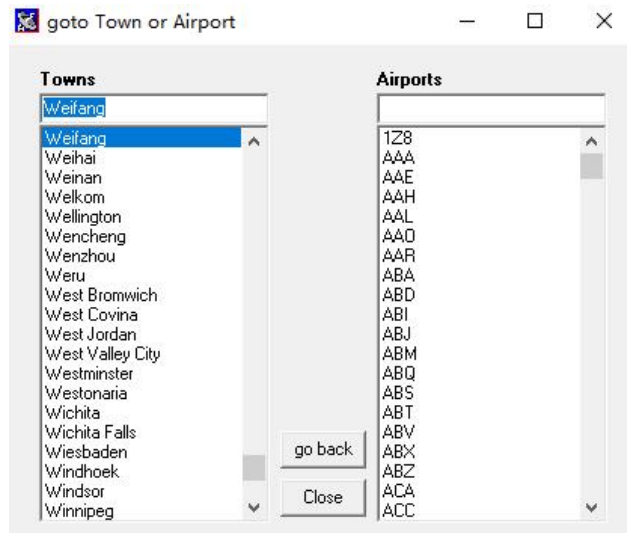
Click on the "Connect" button.



Open the "goto Town or Airport" window.



Select the airport closest to you, then click "Confirm Selection."



Display Successful

## 6. Customization

We're willing to do customization for you. Please don't hesitate to contact us and provide your requirement. We're happy to hear from you.