



# Industrial-grade ADS-B Ground Receiver ADSBR502

## User Manual

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## 1. Introduction

The ADSBR502 is an industrial-grade ADS-B ground receiver designed to provide stable ADS-B data services for high-reliability scenarios. Equipped with a high-performance receiving and processing module, it outputs ADS-B raw messages, CSV plain-text data, and JSON track data via an RJ45 Ethernet port. It is suitable for complex environments in civil aviation, general aviation, and low-altitude airspace supervision.



With the ADSBR502, customers gain access to valuable, customizable tracking capabilities tailored to a wide range of operational needs, including:

- Enhanced situational awareness across airfield, apron, and terminal areas.
- Airport surface movement monitoring and vehicle tracking.
- Support for low-altitude operations such as helicopter missions, flight school tracking, wind farm monitoring, and offshore/onshore oil and gas platform oversight.
- UAV and drone tracking.

- Monitoring of aircraft noise in airport vicinities.
- Supports calibration of radar and navigation systems.
- Search and rescue operations in mountainous regions and valley surveillance.
- Applications in defense and electronic intelligence.
- Coordination of integrated vessel and helicopter operations.

Fully compliant with Mode-S and ADS-B standards, including ICAO Annex 10, ICAO Doc 9871, RTCA DO-260/A/B and ED-102/A/B, the ADSBR502 ensures regulatory adherence and seamless compatibility with industry requirements.

Operating on the 1090 MHz frequency and supporting Mode S Extended Squitter (1090ES), the ADSBR502 can also support Multilateration (MLAT) capabilities for high-precision aircraft tracking and surveillance. In addition, it's light, small, so can work as a portable ADS-B ground receiver.

Received ADS-B data undergoes cyclic redundancy check (CRC) verification, with automatic identification and elimination of interference, errors, or invalid signals, ensuring accurate and reliable information on aircraft position, altitude, and more.

The receiver features narrow pulse suppression capability, filtering out co-channel interference signals with pulse widths below 0.3  $\mu$ s, thereby enhancing reception stability in complex electromagnetic environments.

Additionally, the system supports power-on self-tests and continuous in-operation monitoring, allowing status checks of RF, communication, and power modules, which facilitates maintenance and fault diagnosis.

## Packing List:

No.	Item	Quantity	Remarks
1	ADSBR502	1 unit	Included
2	Power Cable	1 piece	Included
3	ADS-B Antenna and Bracket	1 set	Included
4	ADS-B Antenna Cable	1 piece (10 meters)	Included
5	Network Cable	1 piece	Included
6	GPS/BDS Antenna	1 set (includes 3-meter cable)	Included
7	ADS-B Display Software – adsbscope	1 set	supported

## 2. Specifications

The ADSBR502 ADS-B receiver system is capable of processing various types of ADS-B messages, including airborne and surface messages from civil aviation aircraft, general aviation aircraft, UAVs, as well as airport vehicle messages. This enables comprehensive surveillance of civil aviation aircraft, general aviation aircraft, UAVs, and airport vehicles equipped with ADS-B devices.

No.	Specifications	
1	Power Supply	DC12V 2A
2	Power Consumption	4W
3	Receiving Frequency	1090MHz
4	Sensitivity	$\leq -97\text{dBm}$
5	Receiving Range	> 400km(no interference, unobstructed)
6	Dynamic Range	$\geq 80 \text{ dB}$
7	Update Rate	$\geq 1 \text{ Hz}$
8	Target Capacity	> 700 targets
9	Processing Capability	> 3,500 /s
10	Time stamp accuracy	50ns

11	Data Format	DF 17/18/19 and other DF raw message CSV plain text \ JSON plain text JSON plain text track data
12	Data Interface	RJ45 network port
13	Network Connection	Static IP or DHCP
14	Network Protocol	TCP/UDP
15	ADS-B Antenna Interface	N female
16	GPS/BDS Antenna Interface	SMA female
17	Dimensions	220*160*72mm (main body)
18	Weight	1260g
19	Operating Temperature	-20°C ~ +60°C
20	Storage Temperature	-20°C ~ +70°C
21	Storage Humidity	10% ~ 80%

### 3. Functions

- ADSBR502 supports multiple output message formats: CSV plain text (decoded data, you can easily get longitude, latitude, altitude, speed, flight ID...), JSON (also decoded data), and DF17/DF18/DF19 as well as other DF raw messages.
- ADSBR502 can output data with GPS timestamp.
- ADSBR502 can be connected via network cables.
- ADSBR502 IP address can be configured for direct connection with a computer without the need for routers. However, ADSBR502 can also be configured to connect with a computer via routers, offering flexibility based on your setup preferences.
- ADSBR502 supports static IP address and DHCP.
- A single ADSBR502 unit can send ADS-B data to multiple clients simultaneously, enabling efficient data distribution across multiple devices or systems.
- ADSBR502 is a portable ADS-B receiver.
- Optional: Data transmission via 4G/5G module.
- Optional: Output of ADS-B signal strength in dBm, which can be used for

measuring propagation environment.

## 4. Interface Description



Interfaces:

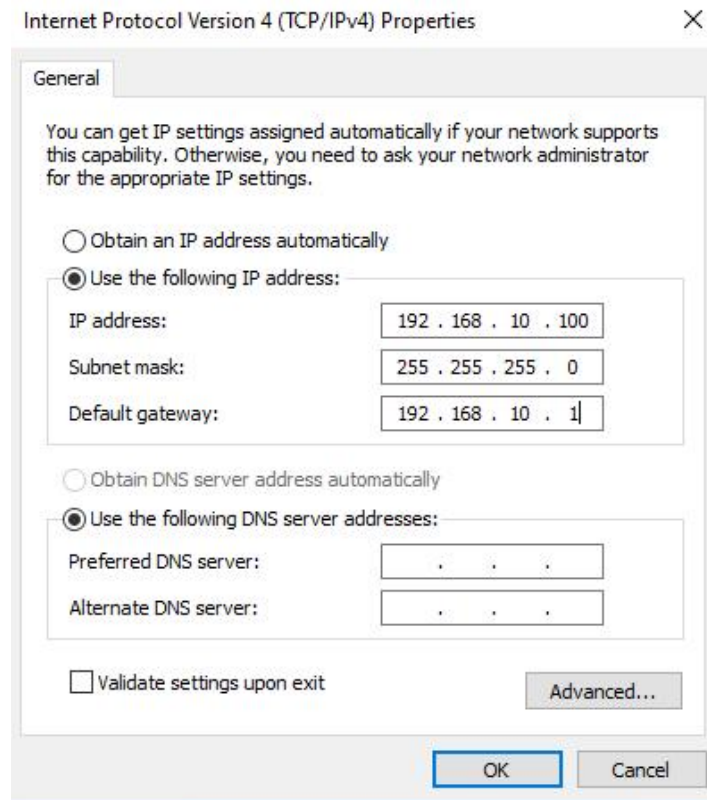
No.	Interface Name	Function
1	POWER	Power supply interface for main unit, DC 12V 2A
2	NETWORK	Data Interface, RJ45
3	GPS/BDS	GPS/BDS antenna interface, SMA female
4	ADS-B ANT	ADS-B antenna interface, N female

## 5. Connection

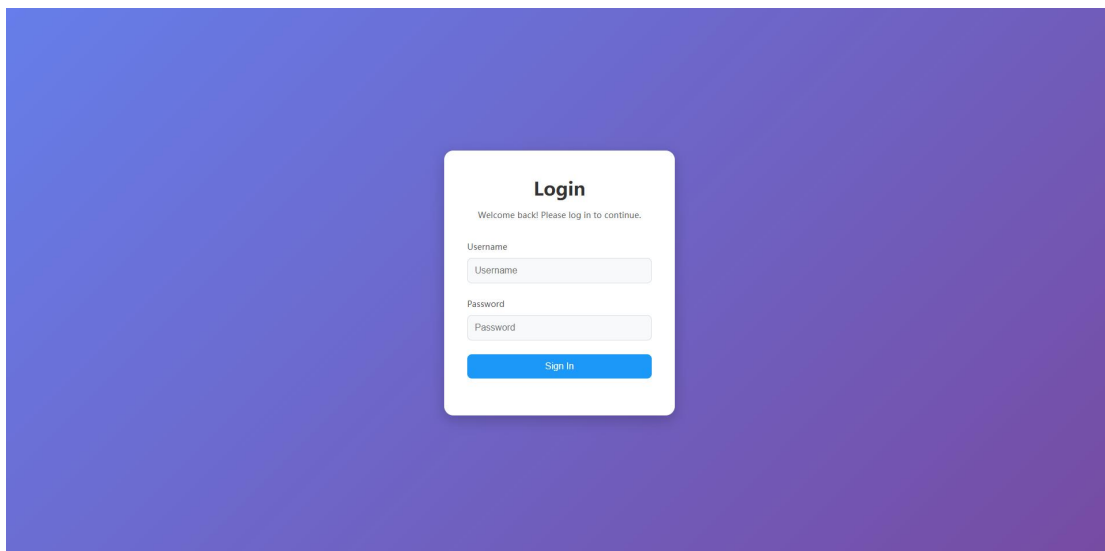
The default IP address of ADSBR502 is 192.168.10.10. It must be connected to a computer via the network port, either directly or through a router.

### Direct Connection:

- Connect ADSBR502 directly to computer using a network cable.
- Configure the IP of the computer to the same network segment as the ADSBR502.



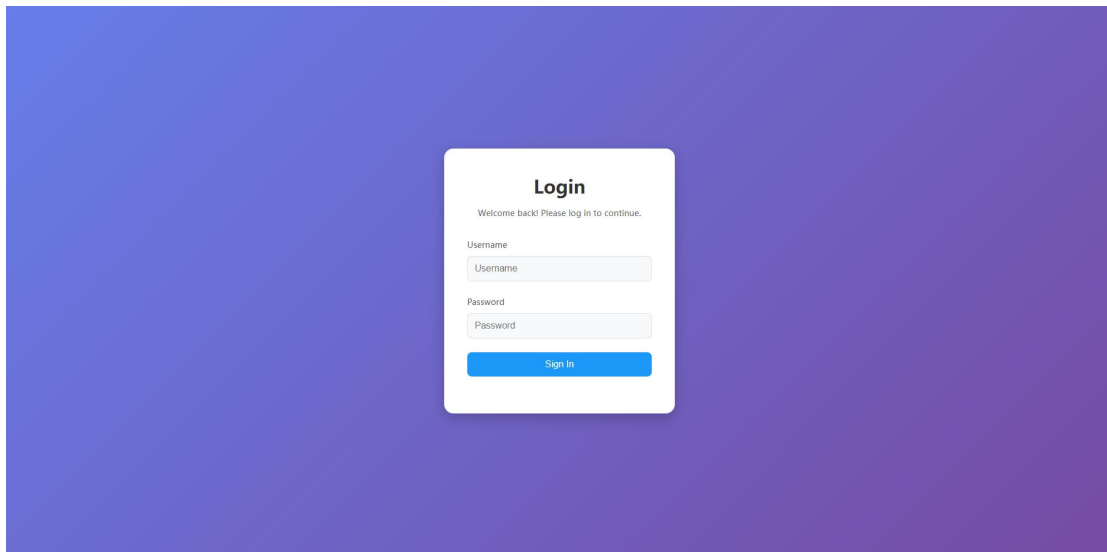
- Open a web browser, enter the ADSBR502 IP 192.168.10.10. If the following interface appears, the device is successfully connected.



**Router Connection Method:**

- Connect the ADSBR502 to the same router as the computer using a network cable (ensure the router's gateway is 192.168.10.1).
- Open a web browser, enter the ADSBR502 IP address that has been assigned via

DHCP. If the following interface appears, the device is successfully connected.



## 6. Configuration

### 1. Backend Login

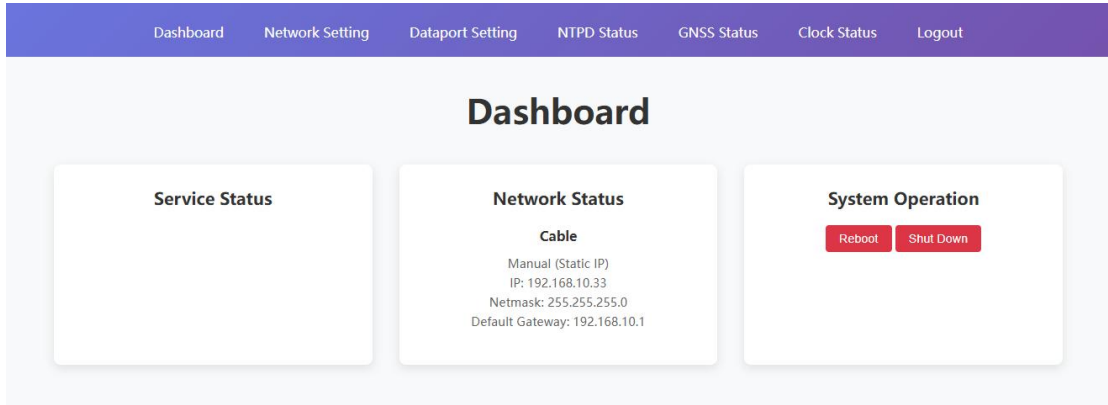
After connecting the device, enter the device's IP address in the browser's address bar and press Enter. Then, input the device configuration management login credentials:

- **Username:** admin
- **Password:** chenbikeji

### 2. Configuration Interface Homepage

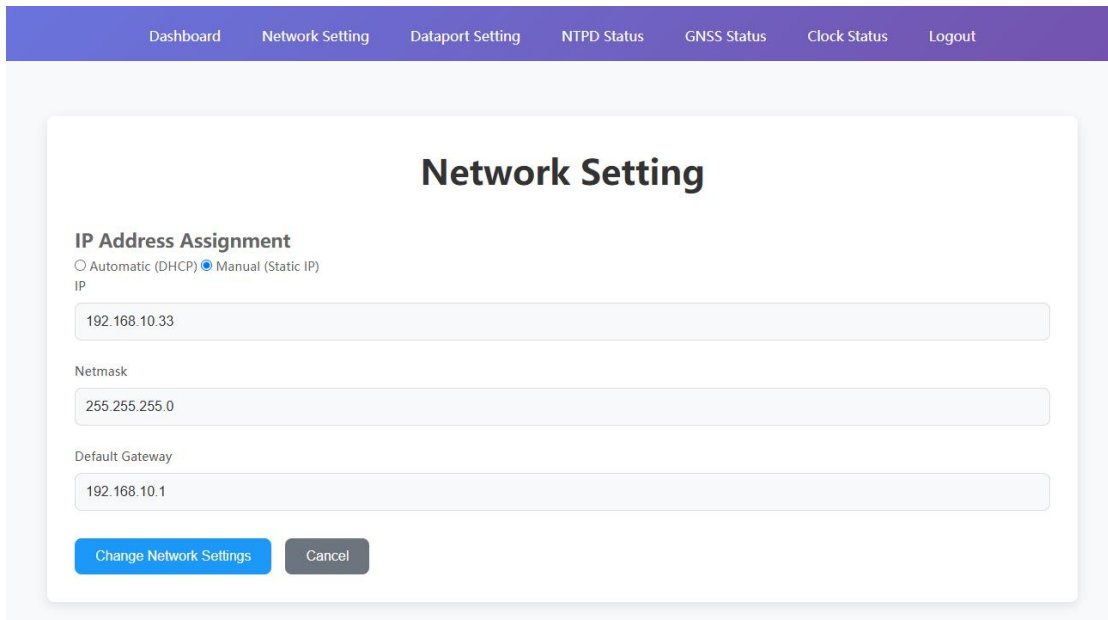
The homepage is divided into two main sections: the Menu Bar and the Status Bar.

- **Menu Bar:** Includes options for Network Configuration, Data Interface Configuration, Time Service, GNSS Status, Clock Status, and Logout.
- **Status Bar:** Displays the Service Status (indicating whether the device is receiving ADS-B signals), Network Status (showing the current network settings of the device), and System Operations (used for rebooting or shutting down the device).

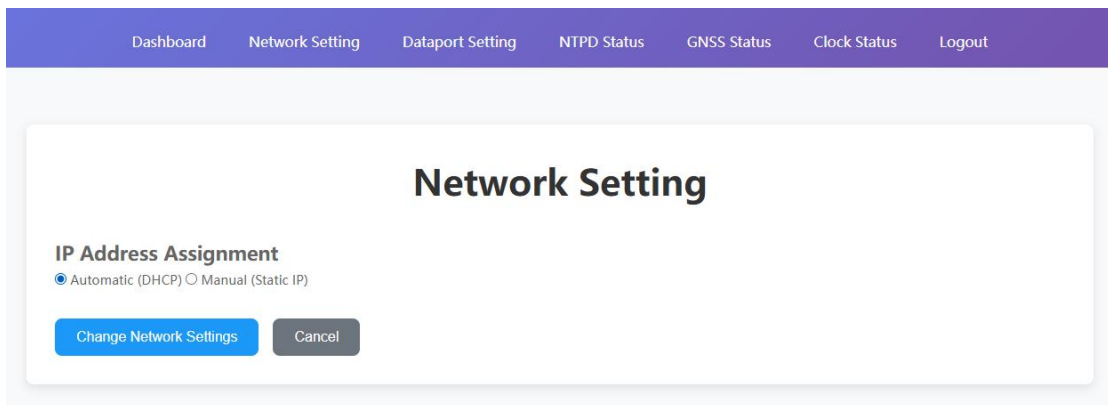


### 3. Network Configuration

There are two modes: Automatic (DHCP) and Manual (Static IP).



You can choose the Automatic (DHCP) mode for automatic IP allocation. After selecting this option, click Modify Network Configuration, and the changes will take effect after restarting the device.



Note: After switching to Automatic mode, the device must be connected to a router with the DHCP function enabled. Otherwise, you will not be able to log in to the device.

## 4. Data Interface Configuration

The data interface configuration includes three sections: Message Output Configuration, Plaintext Output Configuration, and Latitude/Longitude Settings.

### Dataport Setting

**Message Output Configuration**

TCP Port

**Plaintext CSV Output Configuration**

target address

Target Udp Port

**Plaintext JSON Output Configuration**

target address

Target Udp Port

**Latitude and Longitude Settings**

Longitude

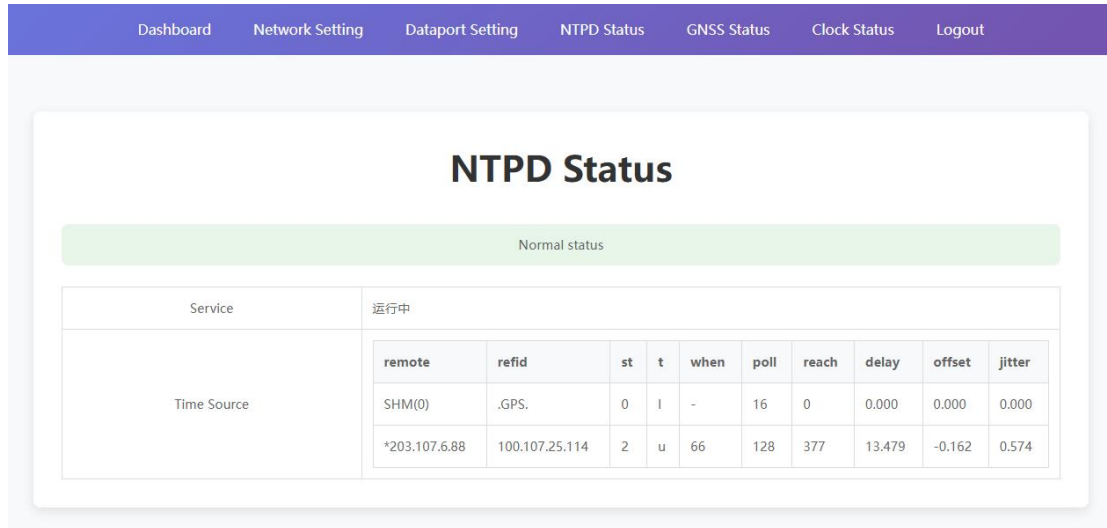
Latitude

- **Message Output:** This uses the TCP protocol, and you can set the TCP server port. The device acts as the TCP server, while the computer acts as the TCP client. Multiple computers can receive the data simultaneously.
- **Plaintext Output:** This uses the UDP protocol, and you can set the unicast address and the target UDP port.
- **Plaintext JSON Output:** This uses the UDP protocol, and you can set the unicast address and the target UDP port.
- **Latitude/Longitude Settings:** Input the local latitude and longitude in the configuration box, supporting two decimal places. This is used as a reference for

ground position decoding.

## 5. NTPD Status

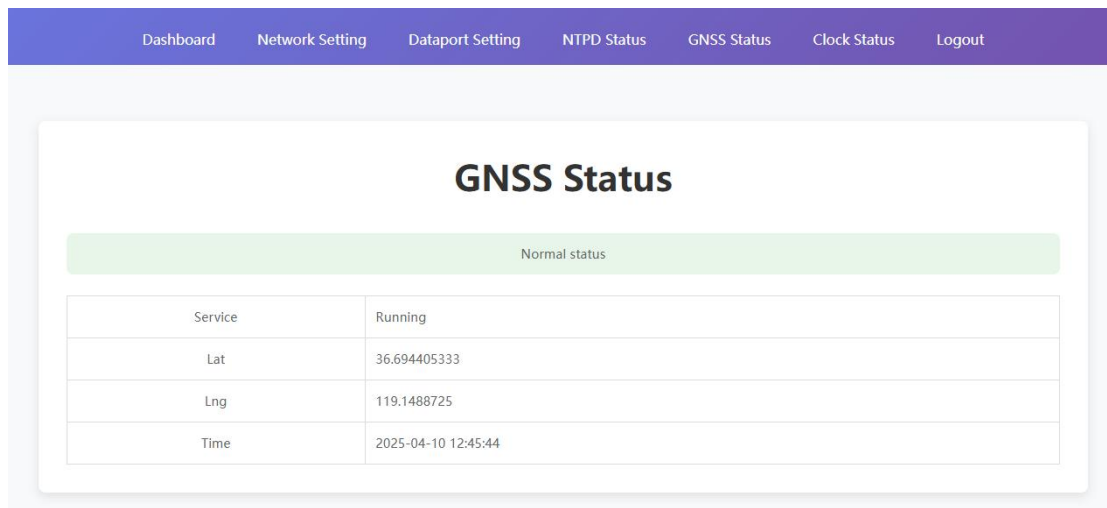
The NTPD Status is used to view the current status of the time synchronization service. By default, the time service is enabled upon device startup. If the service is in a stopped state, it should be manually started.



Service	运行中										
Time Source	remote	refid	st	t	when	poll	reach	delay	offset	jitter	
	SHM(0)	.GPS.	0	l	-	16	0	0.000	0.000	0.000	
	*203.107.6.88	100.107.25.114	2	u	66	128	377	13.479	-0.162	0.574	

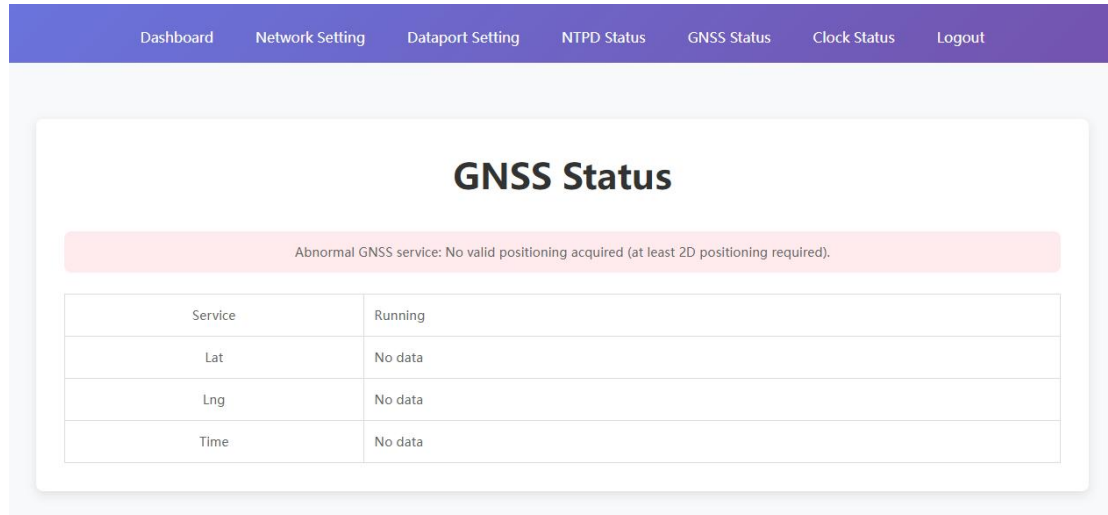
## 6. GNSS Status

The GNSS Status section is used to view the current status of the GNSS service. After connecting the antenna and adjusting it to a location with signal reception, it may take a few minutes to acquire satellites. Please be patient. If the following interface appears, it indicates that the GNSS system is working normally.



Service	Running		
Lat	36.694405333		
Lng	119.1488725		
Time	2025-04-10 12:45:44		

If the following interface appears, it indicates that the GNSS service has started normally, but the GNSS antenna is either not connected or is not receiving satellite signals properly. Please connect the antenna or adjust its position.



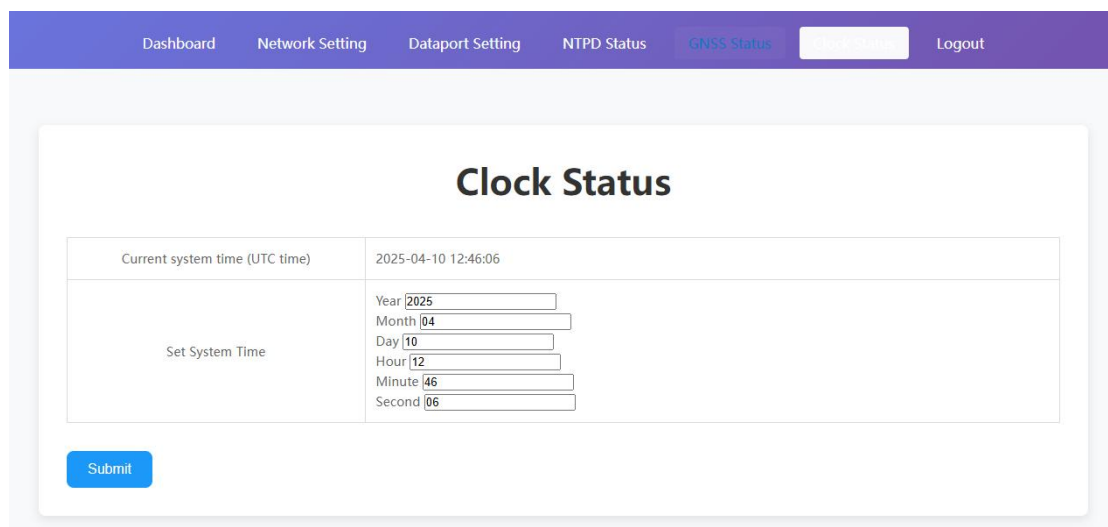
The screenshot shows the 'GNSS Status' page with a navigation bar at the top containing 'Dashboard', 'Network Setting', 'Dataport Setting', 'NTPD Status', 'GNSS Status', 'Clock Status', and 'Logout'. The main content area has a title 'GNSS Status' and a red message box: 'Abnormal GNSS service: No valid positioning acquired (at least 2D positioning required)'. Below this is a table:

Service	Running
Lat	No data
Lng	No data
Time	No data

## 7. Clock Status

This section is used to check the current system clock status. If the clock status is abnormal (i.e., the time deviates from the current time), it will affect message time synchronization. When the time deviation is too large and exceeds the system's automatic time synchronization threshold, the automatic time synchronization will fail, and manual time adjustment will be required.

In the Clock Status interface, enter the current time (in UTC time). For example, if the current time is in the UTC+8 time zone, the UTC time will be the time 8 hours earlier.



The screenshot shows the 'Clock Status' page with a navigation bar at the top containing 'Dashboard', 'Network Setting', 'Dataport Setting', 'NTPD Status', 'GNSS Status', 'Clock Status', and 'Logout'. The main content area has a title 'Clock Status' and a form:

Current system time (UTC time)	2025-04-10 12:46:06
Set System Time	Year <input type="text" value="2025"/> Month <input type="text" value="04"/> Day <input type="text" value="10"/> Hour <input type="text" value="12"/> Minute <input type="text" value="46"/> Second <input type="text" value="06"/>

Below the form is a blue 'Submit' button.

## 7. Data Format

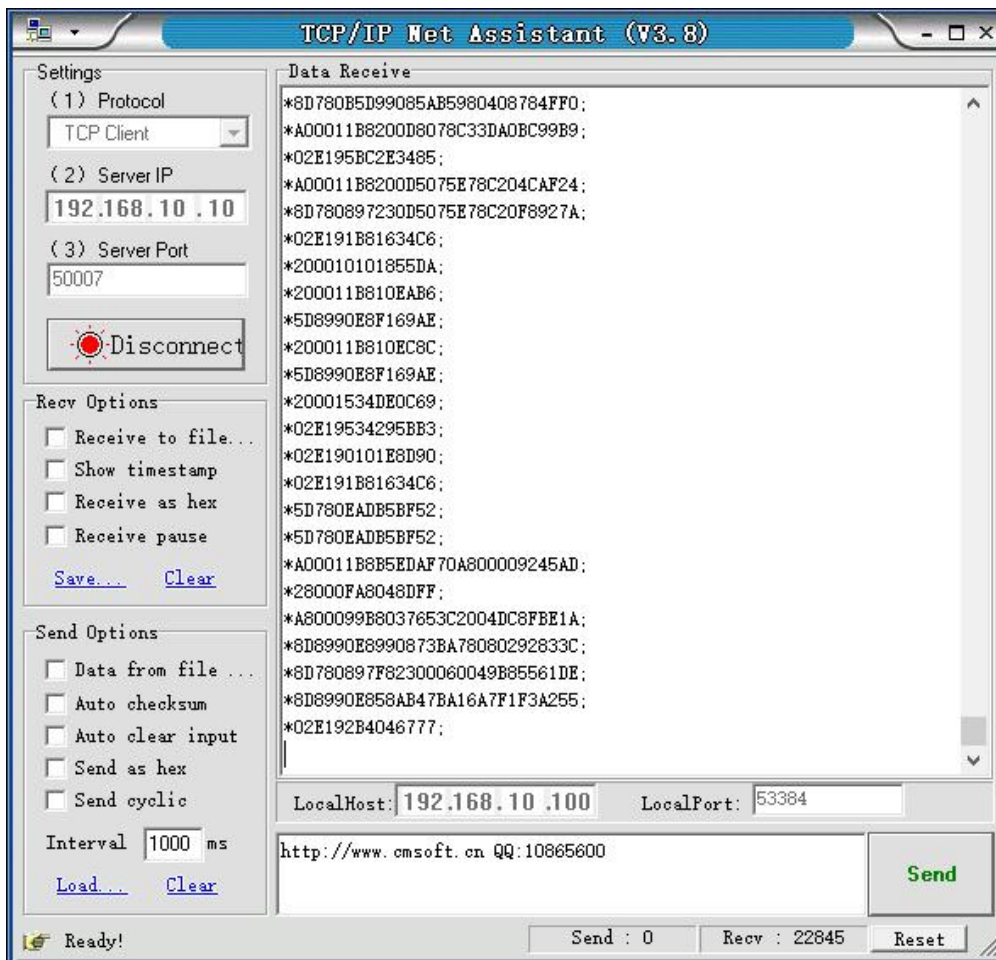
### 1.Raw Message

You can receive ADS-B raw message information via TCP. To configure this, open the network debugging tool and set it as follows:

**Protocol Type:** TCP Client

**Server IP Address:** 192.168.10.10 (the IP address of the ADSBR502)

**Server Port:** 50007 (the TCP port set in the data interface configuration).

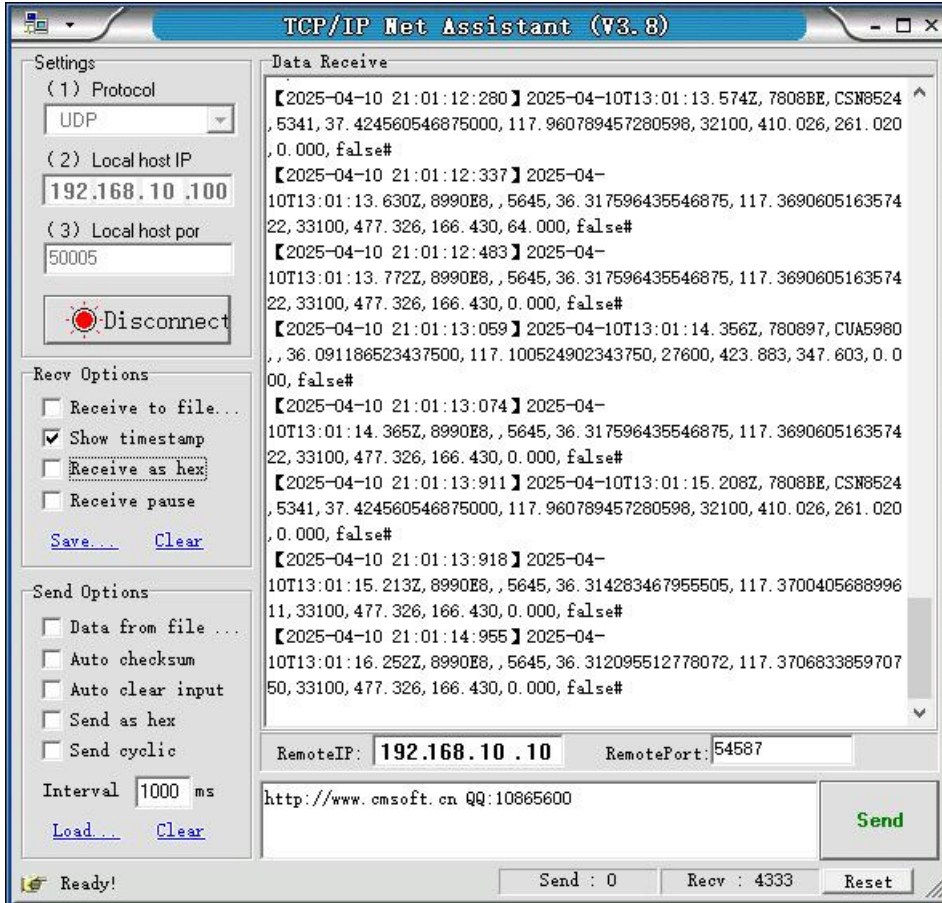


Raw Message Data Example:

```
*5D780CD7AB6A2D;
*5D7BB0F9D35532;
*8D78151CEA38E866033C08E21D45;
*8D7815CB587B8406F1171F42B050;
```

## 2.CSV Plaintext Data

To receive the decoded plaintext via UDP, open the network debugging tool and configure it as follows:



Decoded CSV Plaintext Data Example:

```
2025-01-23T06:23:04.006Z,780BA5,CSN5849,5673,36.009475708007812,117.01738357543
9453,25600,391.175,351.621,64.000,false#
2025-01-23T06:23:04.144Z,780EF1,CHB6279,6276,36.855422973632812,118.87224562624
6681,24600,444.933,96.582,0.000,false#
```

Data Description:

Data	Description	Remarks
2025-01-23T 06:23:04.006Z	Time	The time is the system device's time (reference format: ISO 8601), format: yyyy-MM-ddTHH:mm:ss.zzzz
780BA5	ICAO 24-bit Address	6-digit hexadecimal format data
CSN5849	Call Sign	8 characters output
5673	Secondary Code	4-digit octal format number

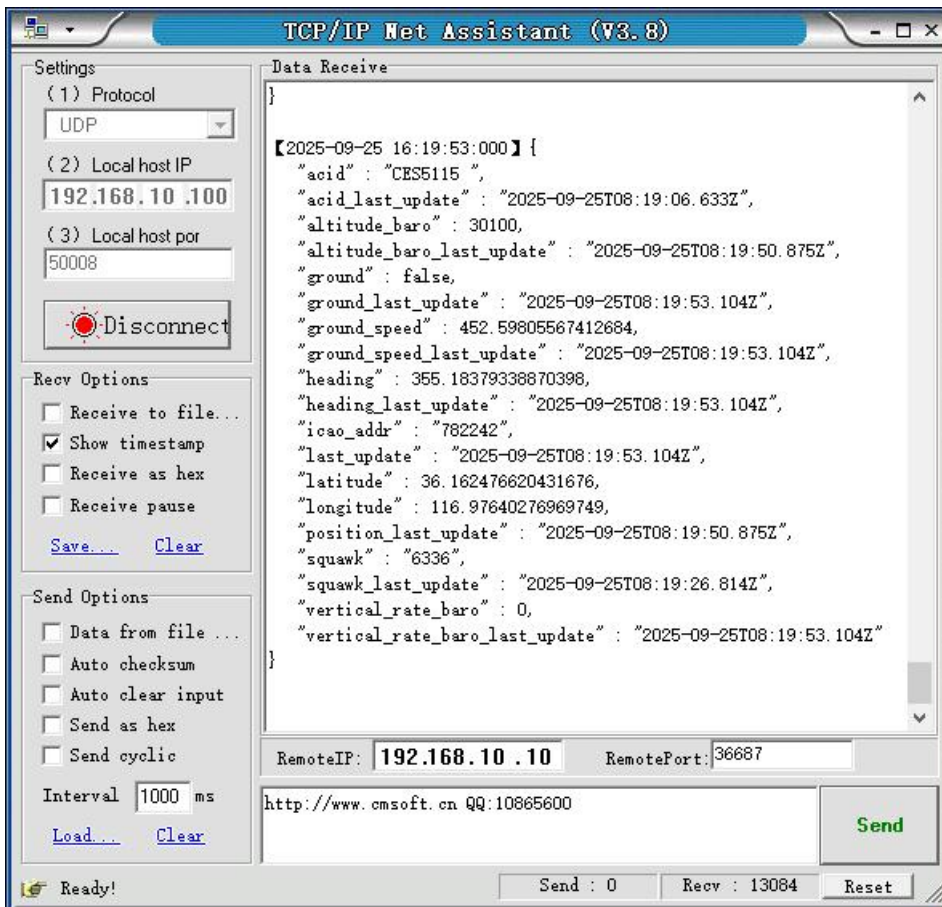
36.009475708007812	Latitude	Latitude in decimal degrees, North is positive, South is negative
117.017383575439453	Longitude	Longitude in decimal degrees, East is positive, West is negative
25600	Pressure Altitude	Feet
391.175	Ground Speed	Knots per hour
351.621	Heading Angle	Decimal, in degrees
64.000	Pressure Vertical Rate	Meters per minute, negative for descent, positive for ascent
false	Air/Ground Indicator	true indicates ground, false indicates air

Note: If data is missing, the value will be left empty and will not be output.

### 3.JSON Plaintext Data

JSON plaintext data is received via UDP and outputs standard JSON-formatted data.

Open the Network Debug Assistant and configure it as follows:



Decoded JSON Data Example:

```
{
  "acid" : "CUA5978 ",
  "acid_last_update" : "2025-08-02T01:49:45.386Z",
  "altitude_baro" : 27600,
  "altitude_baro_last_update" : "2025-08-02T01:49:38.648Z",
  "ground" : false,
  "ground_last_update" : "2025-08-02T01:49:42.957Z",
  "ground_speed" : 414.56603816521198,
  "ground_speed_last_update" : "2025-08-02T01:49:42.957Z",
  "heading" : 355.01828648354956,
  "heading_last_update" : "2025-08-02T01:49:42.957Z",
  "icao_addr" : "7810A0",
  "last_update" : "2025-08-02T01:49:45.386Z",
  "squawk" : "5051",
  "squawk_last_update" : "2025-08-02T01:49:42.958Z",
  "vertical_rate_baro" : 0,
  "vertical_rate_baro_last_update" : "2025-08-02T01:49:42.957Z"
}
{
  "acid" : "CSN8976 ",
  "acid_last_update" : "2025-08-02T01:48:37.492Z",
  "altitude_baro" : 27600,
  "altitude_baro_last_update" : "2025-08-02T01:49:45.387Z",
  "ground" : false,
  "ground_last_update" : "2025-08-02T01:49:45.387Z",
  "ground_speed" : 451.7842405396629,
  "ground_speed_last_update" : "2025-08-02T01:48:31.466Z",
  "heading" : 350.05813916085731,
  "heading_last_update" : "2025-08-02T01:48:31.466Z",
  "icao_addr" : "782209",
  "last_update" : "2025-08-02T01:49:45.387Z",
  "squawk" : "5041",
  "squawk_last_update" : "2025-08-02T01:48:38.735Z",
  "vertical_rate_baro" : 0,
  "vertical_rate_baro_last_update" : "2025-08-02T01:48:31.466Z"
}
```

Data Description:

Data Items	Example Data	Descriptions
acid	CDG2230	Callsign
acid_last_update	2025-01-23T06:36:46.170Z	Last Updated Time of Callsign
altitude_baro	20700	Pressure Altitude (feet)

altitude_baro_last_update	2025-01-23T06:37:15.406Z	Last Updated Time of Pressure Altitude
ground	false	Ground Indicator, true indicates on the ground, false indicates in the air
ground_last_update	2025-01-23T06:37:15.406Z	Last Updated Time of Ground Indicator
ground_speed	438.308110807911	Ground Speed (knots)
ground_speed_last_update	2025-01-23T06:37:14.160Z	Last Updated Time of Ground Speed
heading	130.55875881014302	Heading Angle (degrees)
heading_last_update	2025-01-23T06:37:14.160Z	Last Updated Time of Heading Angle
icao_addr	7809A2	ICAO 24-bit Address
last_update	2025-01-23T06:37:15.406Z	Last Updated Time of Track
latitude	36.25309753417969	Latitude (degrees)
longitude	117.35332489013672	Longitude (degrees)
position_last_update	2025-01-23T06:37:15.406Z	Last Updated Time of Position
squawk	0052	Secondary Code
squawk_last_update	2025-01-23T06:37:01.379Z	Last Updated Time of Secondary Code
vertial_rate_baro	0	Vertical Rate (feet/minute)
vertial_rate_baro_last_update	2025-01-23T06:37:14.160Z	Last Updated Time of Vertical Rate

#### 4.JSON Plaintext Track Data

To receive JSON plaintext track data, use the HTTP service. The data is output in standard JSON format.

To access the data, enter the following URL in your browser:

<http://192.168.10.10:8888>

(Note: Replace 192.168.10.10 with the IP address of your ADSB-GS1090 device.)

The fixed request port is 8888.

```

1 [
2 {
3   "acid": "CH7664",
4   "acid_last_update": "2025-01-23T06:36:22.712Z",
5   "altitude_baro": 23600,
6   "altitude_baro_last_update": "2025-01-23T06:36:24.554Z",
7   "ground": false,
8   "ground_last_update": "2025-01-23T06:36:24.554Z",
9   "ground_speed": 362.55899722527,
10  "ground_speed_last_update": "2025-01-23T06:36:04.441Z",
11  "heading": 276.811392244995,
12  "heading_last_update": "2025-01-23T06:36:04.441Z",
13  "icao_addr": "780688",
14  "last_update": "2025-01-23T06:36:24.554Z",
15  "vertical_rate_baro": 0,
16  "vertical_rate_baro_last_update": "2025-01-23T06:36:04.441Z"
17 },
18 {
19   "acid": "7071507",
20   "acid_last_update": "2025-01-23T06:35:46.538Z",
21   "altitude_baro": 20700,
22   "altitude_baro_last_update": "2025-01-23T06:36:16.623Z",
23   "ground": false,
24   "ground_last_update": "2025-01-23T06:36:25.135Z",
25   "ground_speed": 408.8275920238261,
26   "ground_speed_last_update": "2025-01-23T06:36:25.135Z",
27   "heading": 96.74256860639846,
28   "heading_last_update": "2025-01-23T06:36:25.135Z",
29   "icao_addr": "781B7F",
30   "last_update": "2025-01-23T06:36:25.206Z",
31   "latitude": 36.84544372558594,
32   "longitude": 119.02273178100586,
33   "position_last_update": "2025-01-23T06:36:16.623Z",
34   "vertical_rate_baro": 0,
35   "vertical_rate_baro_last_update": "2025-01-23T06:36:25.135Z"
36 },
37 {
38   "acid": "CDG2203",
39   "acid_last_update": "2025-01-23T06:35:39.846Z",
40   "altitude_baro": 31100,
41   "altitude_baro_last_update": "2025-01-23T06:36:23.300Z",
42   "ground": false,
43   "ground_last_update": "2025-01-23T06:36:24.354Z",
44   "ground_speed": 460.2195128414266,
45   "ground_speed_last_update": "2025-01-23T06:36:24.354Z",
46   "heading": 167.3226530108672,
47   "heading_last_update": "2025-01-23T06:36:24.354Z",
48   "icao_addr": "780D0A",
49   "last_update": "2025-01-23T06:36:24.354Z",
50   "latitude": 36.43657619670286,
51   "longitude": 117.32743932845746,
52   "position_last_update": "2025-01-23T06:36:23.300Z",
53   "vertical_rate_baro": -64,
54   "vertical_rate_baro_last_update": "2025-01-23T06:36:24.354Z"
55 },
56 {
57   "acid": "CH6261",
58   "acid_last_update": "2025-01-23T06:36:16.103Z",
59   "altitude_baro": 32100,
60   "altitude_baro_last_update": "2025-01-23T06:36:24.158Z",
61   "ground": false,
62   "ground_last_update": "2025-01-23T06:36:24.607Z",
63   "ground_speed": 373.68703482994985,
64   "ground_speed_last_update": "2025-01-23T06:36:24.607Z",
65   "heading": 260.9157790756205,
66   "heading_last_update": "2025-01-23T06:36:24.607Z",
67   "icao_addr": "780D19",
68   "last_update": "2025-01-23T06:36:24.607Z",
69   "latitude": 37.42418192200741,
70   "longitude": 117.95763762100883,

```

## Decoded JSON Data Example:

```

{
  "altitude_baro": 22600,
  "altitude_baro_last_update": "2025-01-23T06:37:14.213Z",
  "ground": false,
  "ground_last_update": "2025-01-23T06:37:14.485Z",
  "ground_speed": 396.50472884948044,
  "ground_speed_last_update": "2025-01-23T06:37:14.485Z",
  "heading": 182.89126959679598,
  "heading_last_update": "2025-01-23T06:37:14.485Z",
  "icao_addr": "7820E2",
  "last_update": "2025-01-23T06:37:14.485Z",
  "latitude": 36.20709228515625,
  "longitude": 117.28546142578125,
  "position_last_update": "2025-01-23T06:37:14.213Z",
  "squawk": "4136",
  "squawk_last_update": "2025-01-23T06:37:02.356Z",
  "vertical_rate_baro": 0,
  "vertical_rate_baro_last_update": "2025-01-23T06:37:14.485Z"
},
{
  "acid": "CDG2230",

```

```

"acid_last_update": "2025-01-23T06:36:46.170Z",
"altitude_baro": 20700,
"altitude_baro_last_update": "2025-01-23T06:37:15.406Z",
"ground": false,
"ground_last_update": "2025-01-23T06:37:15.406Z",
"ground_speed": 438.308110807911,
"ground_speed_last_update": "2025-01-23T06:37:14.160Z",
"heading": 130.55875881014302,
"heading_last_update": "2025-01-23T06:37:14.160Z",
"icao_addr": "7809A2",
"last_update": "2025-01-23T06:37:15.406Z",
"latitude": 36.25309753417969,
"longitude": 117.35332489013672,
"position_last_update": "2025-01-23T06:37:15.406Z",
"squawk": "0052",
"squawk_last_update": "2025-01-23T06:37:01.379Z",
"vertical_rate_baro": 0,
"vertical_rate_baro_last_update": "2025-01-23T06:37:14.160Z"
},
    
```

Data Description:

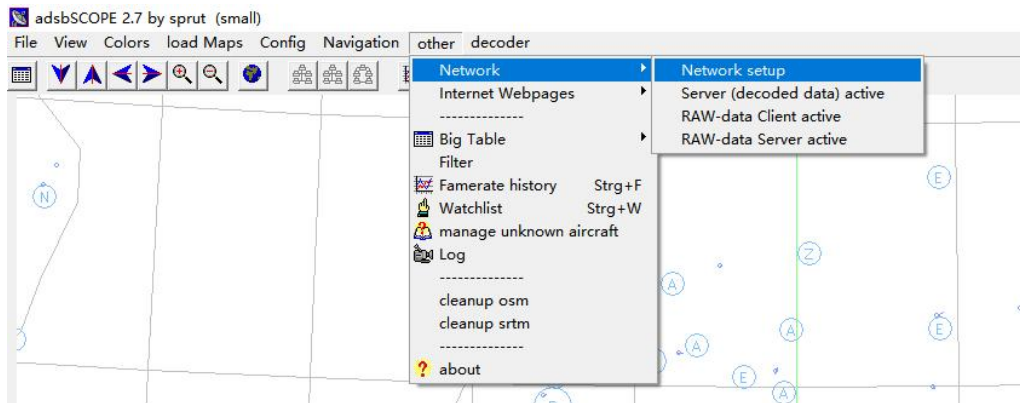
Data Items	Example Data	Descriptions
acid	CDG2230	Callsign
acid_last_update	2025-01-23T06:36:46.170Z	Last Updated Time of Callsign
altitude_baro	20700	Pressure Altitude (feet)
altitude_baro_last_update	2025-01-23T06:37:15.406Z	Last Updated Time of Pressure Altitude
ground	false	Ground Indicator, true indicates on the ground, false indicates in the air
ground_last_update	2025-01-23T06:37:15.406Z	Last Updated Time of Ground Indicator
ground_speed	438.308110807911	Ground Speed (knots)
ground_speed_last_update	2025-01-23T06:37:14.160Z	Last Updated Time of Ground Speed
heading	130.55875881014302	Heading Angle (degrees)
heading_last_update	2025-01-23T06:37:14.160Z	Last Updated Time of Heading Angle
icao_addr	7809A2	ICAO 24-bit Address

last_update	2025-01-23T06:37:15.406Z	Last Updated Time of Track
latitude	36.25309753417969	Latitude (degrees)
longitude	117.35332489013672	Longitude (degrees)
position_last_update	2025-01-23T06:37:15.406Z	Last Updated Time of Position
squawk	0052	Secondary Code
squawk_last_update	2025-01-23T06:37:01.379Z	Last Updated Time of Secondary Code
vertical_rate_baro	0	Vertical Rate (feet/minute)
vertical_rate_baro_last_update	2025-01-23T06:37:14.160Z	Last Updated Time of Vertical Rate

## 8. ADS-B Display Software adsbscope

The ADSBR502 can be connected to the ADS-B display software adsbscope. The detailed steps are as follows:

- (1) Open the ADS-B display software adsbscope.
- (2) In the top menu, go to other, then select Network, then Network setup.



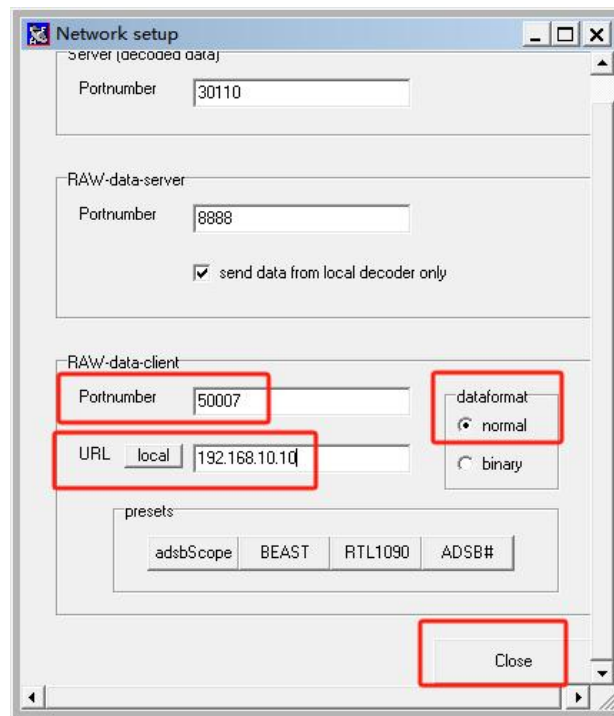
- (3) In the pop-up window, enter the following:

Port number: Fill in the Dataport Setting—>Message Output Configuration—>TCP Server Port used.

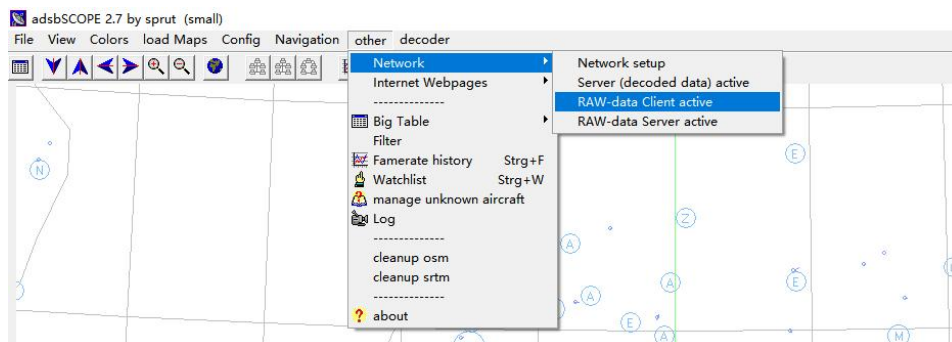
URL: Enter the ADSBR502 IP address.

Data format: Select normal.

Click the Close button.

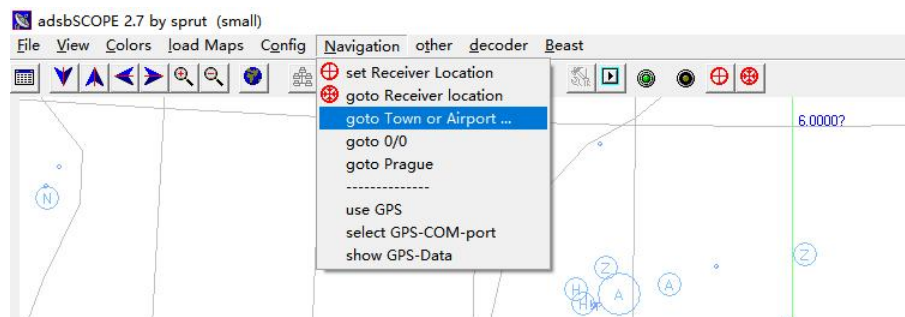


(4) Then, click Network in the top menu again, and select RAW-data Client active.



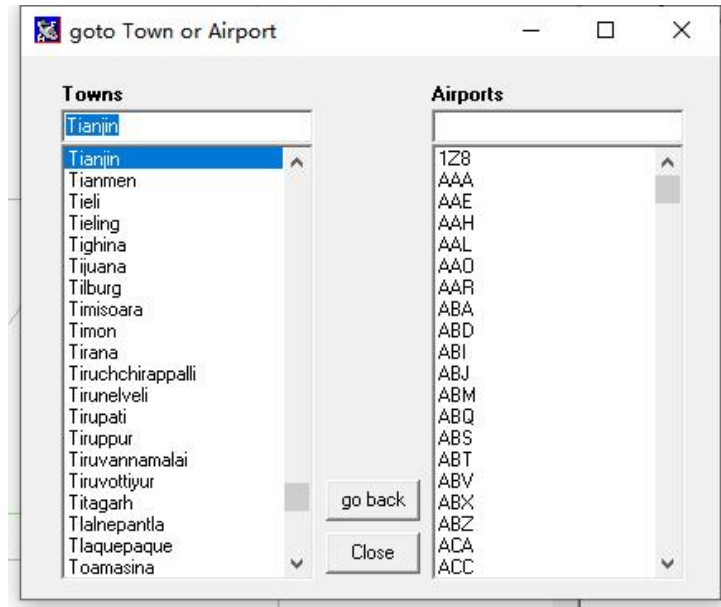
(5) Now you should see the received data on the right side of the software.

(6) Next, select Navigation in the menu and then select Goto Town or Airport....



(7) In the pop-up window, input the name of the nearest Town or Airport (in English).

Select it from the query list below, then click Close at the top right corner.



(8) The ADS-B display software will now show the aircrafts' location properly.

## 9. ADS-B Antenna



An outdoor omnidirectional antenna specifically designed for ADS-B frequencies. It

adopts double-sided sealed waterproof construction and features waterproof, UV-resistant, and cold-resistant performance.

The antenna is rugged, durable, and corrosion-resistant, effectively protecting the internal radiating elements and making it suitable for various environments. The internal structure uses pure copper loop radiating elements, providing stable performance, high gain, low VSWR, wide bandwidth, and precise impedance matching for longer communication distance. In addition, high-quality pure copper connectors are used to minimize signal loss.

Specifications:

No.	Specifications	
1	Frequency Range	1090 MHz
2	Bandwidth	60 MHz
3	Gain	7 dBi
4	VSWR	≤ 1.5
5	Impedance	50 Ω
6	Polarization	Vertical
7	Connector Type	N Male
8	Mounting Method	Pole Mount
9	Dimensions	Length: 55 cm, Diameter: 3 cm
10	Weight	0.9 kg
11	Waterproof Rating	IP67
12	Operating Temperature	-15°C ~ +55°C

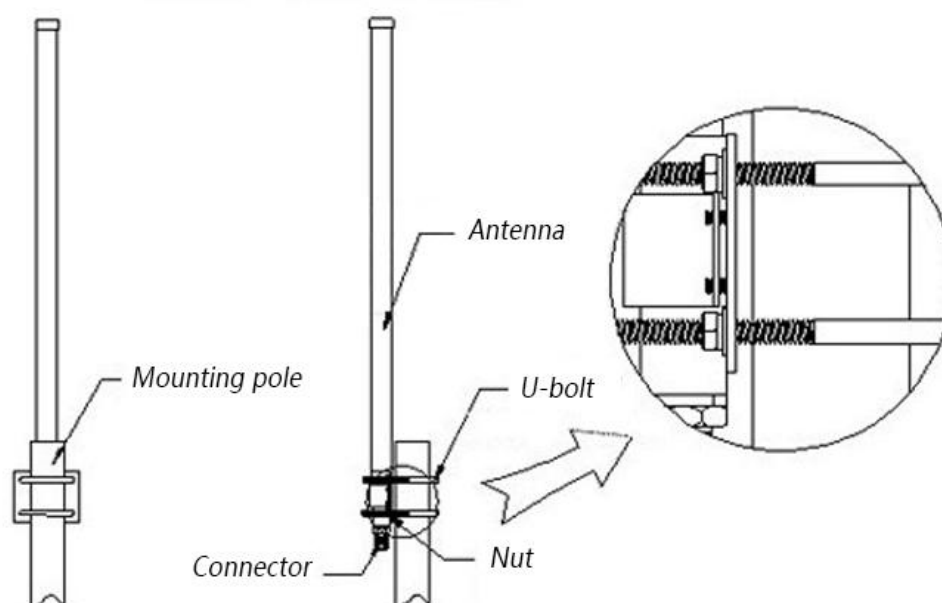
Installation Method:

The antenna should be installed in an open area free from tall surrounding obstructions. A certain installation height is required, and higher installation

positions generally provide better signal reception performance.

The antenna should be installed vertically to ensure that its signal reception polarization matches the polarization of the aircraft transmission signal, thereby achieving optimal reception performance.

Pole-mount installation is supported. Optional pole diameters range from  $\Phi 30$  mm to  $\Phi 60$  mm, with  $\Phi 50$  mm recommended. The installation method is shown in the figure below:



## 10. GNSS Antenna



Specifications:

No.	Specifications	
1	Frequency Range	1550 – 1580MHz (covering GPS \ BDS)
2	Gain	28dBi(including LNA)
3	Impedance	50Ω
4	Polarization	RHCP
5	Noise Figure	≤1.5dB
6	DC Supply Voltage	3~5V
7	Supply Current	20mA
8	Cable Length	3m
9	Connector	SMA Male
10	Mounting Method	Magnetic Absorption

## 11. 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.

## 12. 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.

## 13. Contact Us

We welcome users, integrators, and distributors to contact us.

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WeChat: 13370551411

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Website: <https://www.aeronautequip.com>