



Simplified Serial Port ADS-B Ground Receiver ADSBR101

Product Introduction

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1. Introduction

ADSBR101 is a simple ADS-B ground receiver engineered for precision surveillance applications. Featuring an onboard ADS-B signal processing module, this compact device delivers real-time ADS-B messages with full compliance to DO-260B/DO-260C standards. ADSBR101 can output raw ADS-B messages, including DF17 and DF18, via USB or serial port with protocol support for RS232 and RS485. ADSBR101 provides ADS-B data reception, processing, and display services, and can be applied in fields such as civil aviation flight tracking, airport management, general aviation aircrafts surveillance, Detect-and-Avoid (DAA) subsystem, ADS-B IN capability for UAS situational awareness, radar calibration, academic research and education.



Packing List:

No.	Item	Quantity	Remarks
1	ADSBR101	1 unit	Included
2	Type-B USB Data Cable	1 piece	Included

3	ADS-B Antenna and Bracket	1 set	Included
4	ADS-B Antenna Cable	1 piece (10 meters)	Included

2. Specifications

ADSBR101:

No.	Specifications	
1	Power Supply	5V 2A
2	Power Consumption	0.5W
3	Reception Frequency	1090MHz
4	Sensitivity	$\leq -90\text{dBm}$
5	Reception Range	> 250km (no interference, unobstructed)
6	Data Format	ADS-B raw messages
7	Data Interface	Type-B USB & DB9 female
8	Serial Protocol	RS232 / RS485
9	ADS-B Antenna Interface	SMA female
10	Dimensions	100*76*35mm
11	Weight	190g

ADS-B Antenna:

No.	Specifications	
1	Frequency Range	1089-1091MHz
2	Bandwidth	60MHz
3	Gain	6dBi
4	VSWR	≤ 1.5
5	Direction Type	Omnidirectional
6	Polarization	Vertical polarization
7	Length	60cm
8	Weight	0.6kg
9	Connector Type	N female

10	Mounting Type	Mast mount
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3. Interface Description



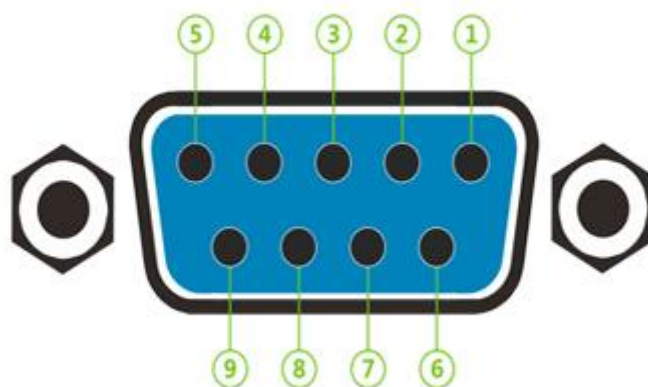
Interface:

No.	Interface Name	Interface Function
1	PWR	Power supply indicator
2	DATA	Data reception indicator
3	USB	Data interface 1, Type-B connector (default output interface)
4	ANT	ADS-B antenna interface, SMA female
5	SERIAL	Data interface 2, DB9 connector

Note: The default data output interface is USB. For serial port output, please contact us.

USB / SERIAL Configuration:

No.	Name	Configuration
1	Baud Rate	921600
2	Data Bits	8
3	Parity	none
4	Stop Bits	1



RS232 Interface Pinout Description:

Pin Number	Description
2	RXD
3	TXD
5	GND

RS485 Interface Pinout Description:

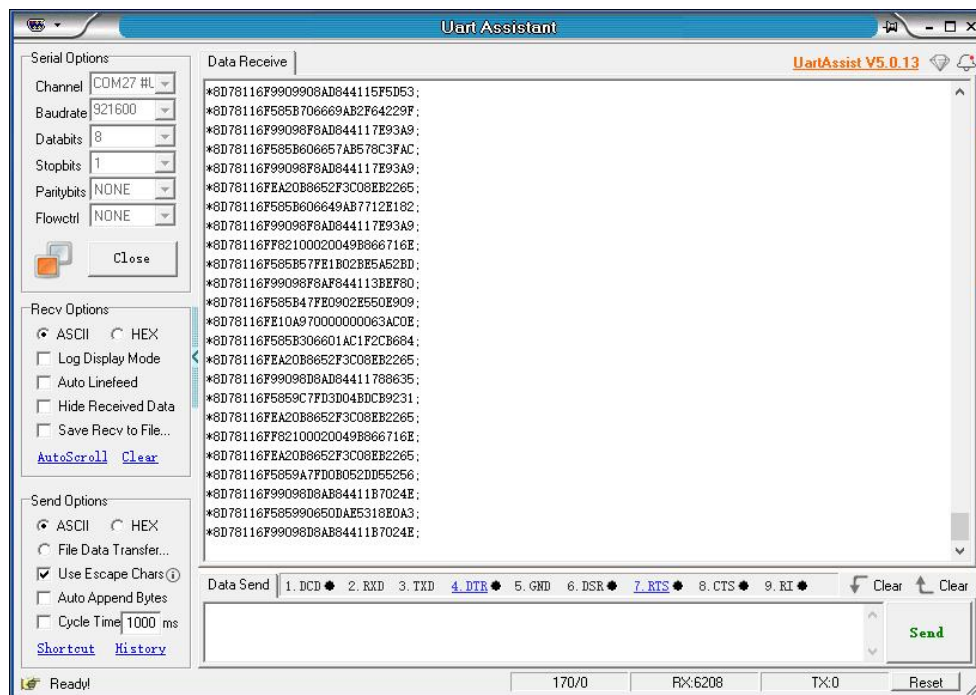
Pin Number	Description
6	485-A
7	485-B

4. Connection

Connect the ADSBR101 to the computer using a USB data cable. The computer's Device Manager will recognize it as a USB-SERIAL CH340 COM port.

Enter the connection information for the COM port in the serial debugger. Once connected, data reception will begin.

ADS-B Raw Message Reception:



Example of Raw Message Data:

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

5. LEDs



The front panel of the device has two LED lights: PWR and DATA.

The red PWR LED remains steadily ON when the device is powered on.

The green DATA LED flashes when ADS-B data is received.

6. Software Connection

ADSBR101 can be connected to the free display software adsbScope.

7. 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.

8. Contact Us

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

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