



Multi-Target ADS-B Signal Simulator ADSBE500

Product Introduction

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1. Introduction

ADSBE500 is a multi-target ADS-B signal simulator that transmits ADS-B signals at 1090MHz, capable of simulating the transmission of ADS-B signals of up to 600 aircrafts. This kind of device is sometimes also called ADS-B signal emulator or ADS-B signal generator.

The ADSBE500 encodes aircraft DF17 messages and transmit the messages for reception and decoding by other ADS-B receivers.

ADSBE500 can be used in research and development departments for verifying and stress-testing the reception and decoding functionality of ADS-B receivers, setting up demonstration and verification environments for ADS-B systems in laboratories, as well as conducting performance and stress tests for ADS-B display software, among other applications.



Packing List:

No.	Item	Quantity	Remarks
1	ADSBE500	1 unit	Included
2	USB-TypeC	2 piece	Included
3	Ethernet Cable	1 piece	Included
4	ADS-B antenna	1 piece	Included

2. Specifications

No.	Specifications	
1	Frequency	1090MHz
2	Number of Simulated Targets	≤ 600
3	Transmit Power	$\geq -20\text{dBm}$ (adjustable before leaving factory)
4	Processing Capacity	≥ 1500 messages per second
5	Processing Delay	$< 1\text{ms}$
6	ADS-B Data Format	DF17
7	Power Consumption	2W
8	Input Voltage	DC 5V
9	Antenna Connector	SMA female
10	Configuration Port	RJ45
11	Physical Size	170*120*46 mm

3. System Architecture

The ADSBE500 consists primarily of hardware equipment and configuration software.

The hardware equipment is a dedicated ADS-B transmitter. Through its built-in powerful hardware platform, it generates precise ADS-B timing and encodes multiple targets with multiple pieces of information to simulate the transmission of ADS-B target aircrafts as required by the configuration software.

ADSBE500 hardware and software connection diagram as shown in Figure1.

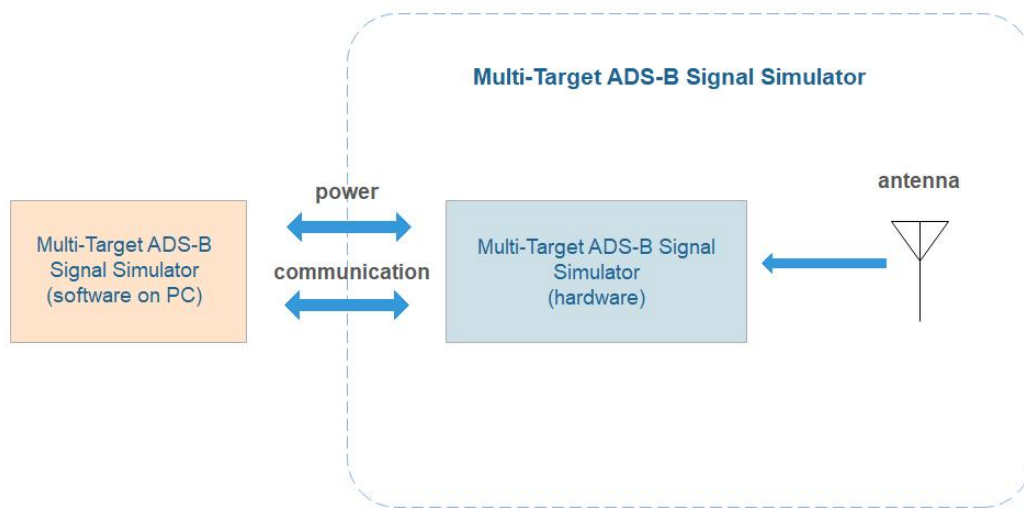


Figure 1: Hardware and Software Connection Diagram

The IP address of the ADSBE500 is 192.168.2.2. In this version, the IP address can't be configured. Therefore, the IP address of the PC where the configuration software is installed needs to be set to 192.168.2.XXX. For the purpose of this manual, the IP address of the PC is set to 192.168.2.100 as an example.

4. Usage Precautions

Due to the fact that ADSBE500 will emit standard ADS-B signals, these signals can be received by ADS-B receivers. Although the transmission power is very low, there is still a possibility of being received by nearby ADS-B receivers.

Therefore, it is recommended that users do not use ADSBE500 outside. Instead, you can connect the ADS-B simulator to the tested ADS-B receiver using a cable with an attenuator. If users must transmit the ADS-B signal into air (for example, when testing multiple receivers simultaneously), it is advisable to conduct the test inside a room, as far as you can away from windows and minimize the transmission time.

5. 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.

6. Contact Us

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

Tel: 13583269594

WeChat: 13583269594

Email: AeroNautEquip@163.com

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