# Airport Vehicle ADS-B Transmitter
# ADSBVT

AvionixTech

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## 1. **Introduction**

Airport vehicle incursions into critical safety and movement areas on airport surfaces can indeed pose significant risks for aircraft operations. AvionixTech offers vehicle tracking solution with ADSBVT. ADSBVT is a compact and fully autonomous Automatic Dependent Surveillance – Broadcast (ADS-B) transmitter used on airport vehicles. The unit reports the position and speed of the vehicle in real-time to nearby aircraft, other operations vehicles, ATC, and airport management for enhanced situational awareness and prevent vehicle runway incursions. ADSBVT provides instant visibility of mobile assets to ATC on any airport surface equipped with an MLAT or ADS-B surface surveillance system.

Some may call this an ADS-B transponder. However, this is not quite precise. A transponder is a device that replies to a request or interrogation signal. In contrast, ADSBVT doesn't reply to requests. Instead, it continuously broadcasts its information autonomously, known as squitter.

The ADSBVT ADS-B transmitter can be permanently or magnetically mounted to all airside vehicles, including utility, emergency, snow removal, airport rescue and firefighting, wildlife control, 'follow me' cars, push back tugs and maintenance equipment. Each vehicle is clearly and uniquely identified. The all in-one design includes a 20W 1090MHz ADS-B transmitter according to DO-260B/ED-102B standards, internal Global Positioning System (GPS) and integrated ADS-B and GPS antennas. The design of ADSBVT ensures easy integration and interoperability with 1090MHz ADS-B ground receiver, Multilateration (MLAT) and Advanced Surface Movement Guidance and Control System (A-SMGCS) surveillance solutions for airport surface monitor, control and situational awareness. The ADSBVT offers full compliance with industry standards, providing visibility to 1090 MHz-based airport surveillance systems in use around the globe.

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## 2.   **Specification**

➢        Transmit frequency: 1090MHZ

➢        Comply with D0-260B/ED-102B

➢        Transmit power: 20W

➢        Transmit message format: DF18

➢        GNSS update rate: 5Hz

- Input voltage: DC 10V ~ 40V

- Storage temperature: -20℃ ~ +70℃

- Working temperature: -10℃ ~ +50℃

- Robust design for outdoor operations

- Quick and easy configuration

- Easy identification by unique identity code

## 3. Operation

Connect ADSBVT with cigarette lighter on vehicle via the charging cable provided, ADSBVT would start working. There is an indicator light on the charging cable. When the light flashes in green, it indicates that the GPS is not positioned. When the light is steady on, it indicates that the ADSBVT is working.

There are four indicator lights on the ADSBVT transmitter, which is a light strip.

Yellow light: Indicates power supply status. When the yellow light is on, it confirms that the ADSBVT is power on and is operational.

Green light: Indicates GPS status. When the green light is flashing, it indicates GPS is not positioned. When the green light is steady on, it indicates GPS is operational.

Blue light: Indicates ADS-B signal emission status. When the blue light is flashing, it indicates ADS-B signal is being emitted.

Red light: Indicates working status. When the red light is off, it indicates ADSBVT is working normally. When the red light is on, it indicates there's a fault.
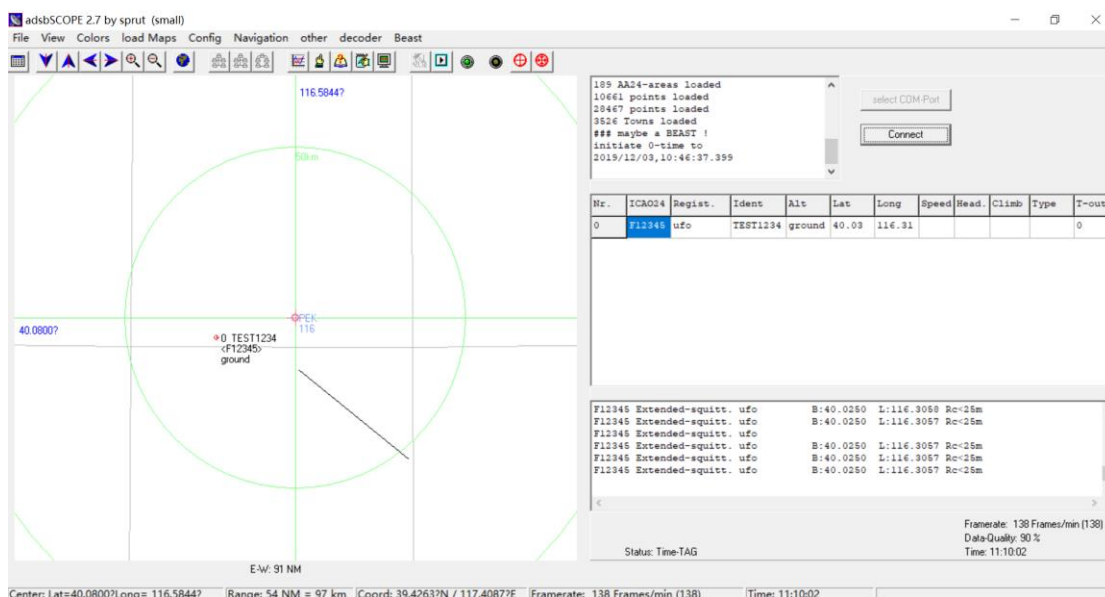
## 4.　Configuration

Don't connect the cigarette lighter yet. Connect with computer via the serial port cable provided first. Open the device manager and locate the corresponding com port. In this case, it's COM11.
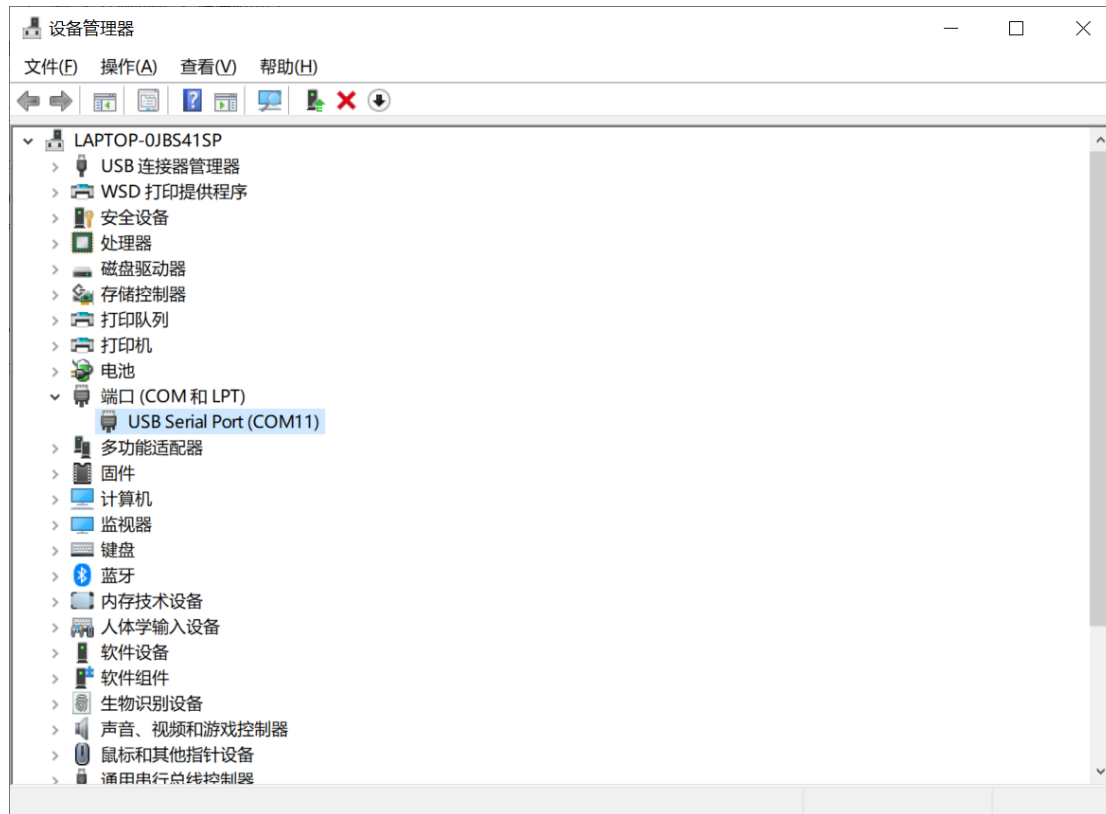


Open serial tool, connect the serial port, keep pressing keyboard and now you can connect with the cigarette lighter.

Note: Keep pressing the keyboard before connecting with the cigarette lighter. It is important to keep pressing the keyboard, as the time to enter the configuration menu is very short.
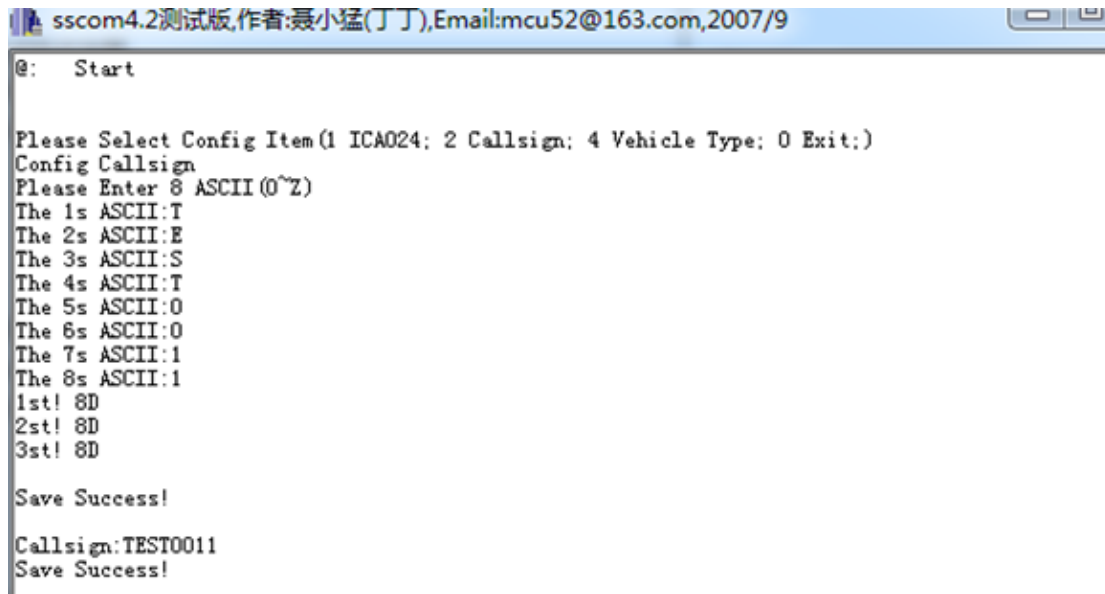
The following interface appears:
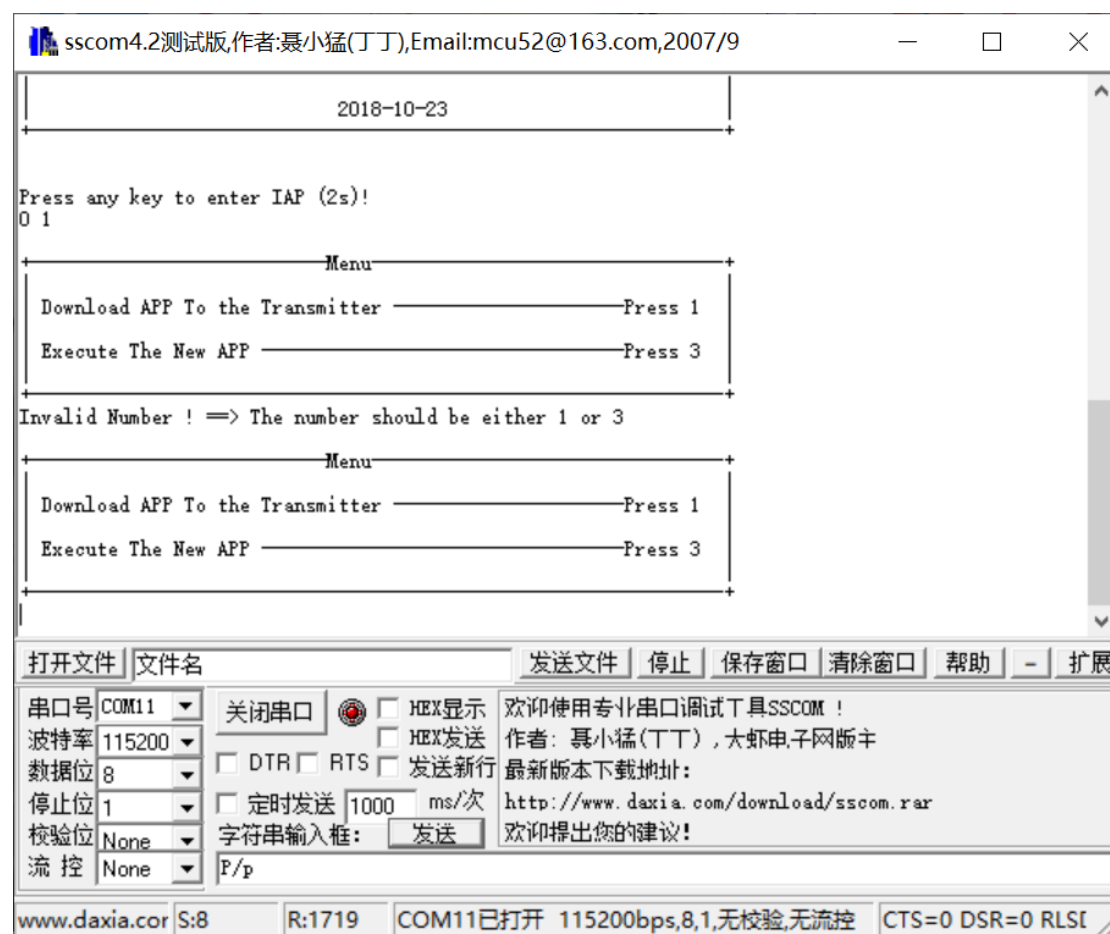
Note: This is a demo serial tool we use, you may use your own serial tools.

Press 3 while keep pressing the keyboard and below interface will appear:



Input: c to modify the corresponding parameters.

```
sscom4.2测试版,作者:聂小猛(丁丁),Email:mcu52@163.com,2007/9

@:    Start

Please Select Config Item(1 ICAO24; 2 Callsign; 4 Vehicle Type; 0 Exit;)
Config Callsign
Please Enter 8 ASCII(0~Z)
The 1s ASCII:T
The 2s ASCII:E
The 3s ASCII:S
The 4s ASCII:T
The 5s ASCII:0
The 6s ASCII:0
The 7s ASCII:1
The 8s ASCII:1
1st! 8D
2st! 8D
3st! 8D

Save Success!

Callsign:TEST0011
Save Success!
```

## 5. 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.