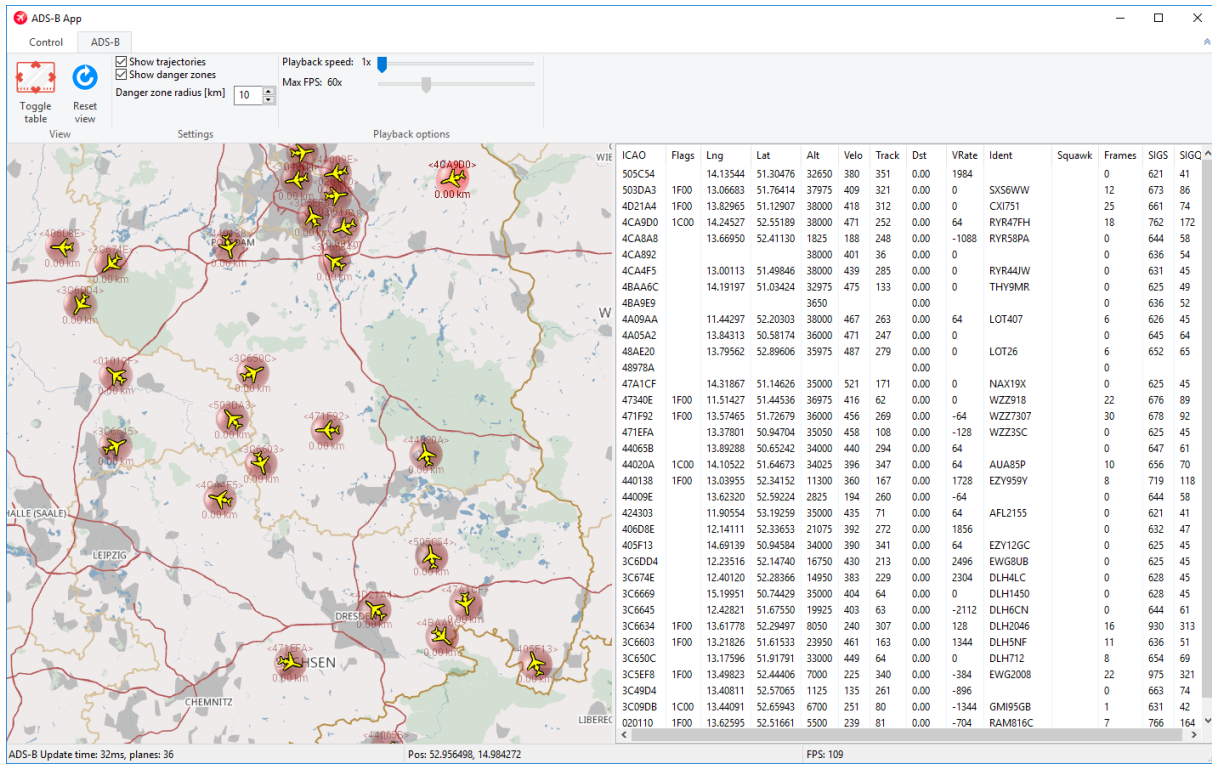


Micro ADS-B Software



Introduction

AEROBITS Micro ADS-B application is used to quickly familiarize yourself with the functioning of the company's devices. It enables visualization of air traffic in both tabular and 3D forms. Air traffic can be recorded to file for later playback. The application also allows to configure and update the firmware of all devices manufactured by AEROBITS.

Features

- Quick start with the products of AEROBITS company
- Easy air-traffic visualization
- Product settings configuration
- Recording air-traffic to file for later replay
- Product firmware upgrade
- Aircraft flight parameters preview

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1 Software preparation

1.1 Driver installation

1.1.1 Driver for evaluation kits

When connecting evaluation sets, you must install the FTDI VCP driver. The driver can be found at ftdichip.com/Drivers/VCP.htm. Download and install the driver appropriate for your operating system.

1.2 Download of installer

The current version of the software may be downloaded from the www.aerobits.pl website. The software is continuously optimised and developed, thus it may be a good idea to visit our website from time to time for updates.

1.3 Installation

Run the Micro ADS-B setup.exe file and follow the instructions of the installation wizard. A red icon of the Micro ADS-B application should appear on the desktop.

2 How to use

2.1 Main window

The main application window performs the following functions:

- Connection with the device
- Device configuration
- Firmware update
- Record of current air traffic to a file
- Replay of the recorded air traffic
- Sending commands to the device and monitoring data received from the device

The application can operate in two modes. Off-line and On-line mode. In Off-line mode, the application visualizes previously recorded air traffic, while in On-line mode it visualizes the current air traffic received by the connected device.

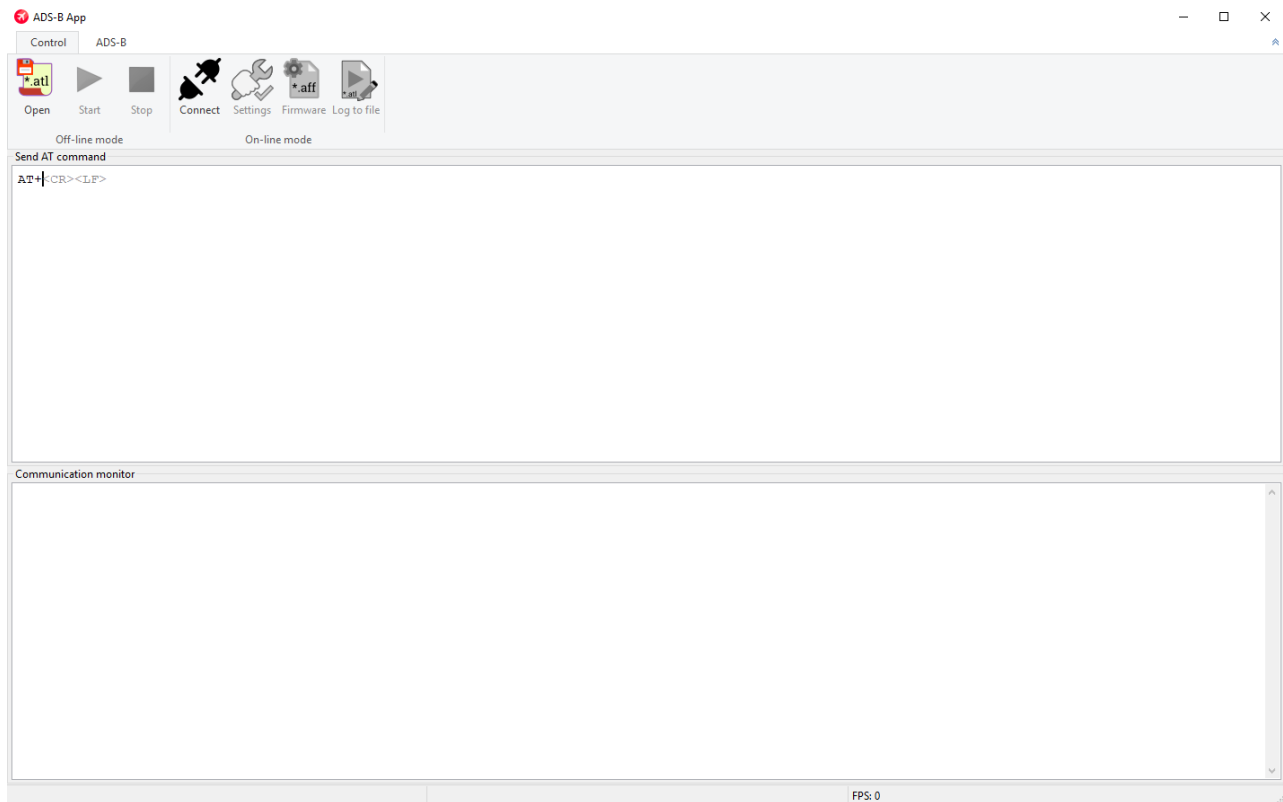


Figure 1: Main window of application

2.2 On-line mode

2.2.1 Connect

In order to connect to the device, press the "CONNECT" button and wait until the application finds the device. It is possible to only connect with one device at a time. After finding the device, the application will add it to the list along with its type and

serial number. After selecting the device, click "OK" to finalize the connection.

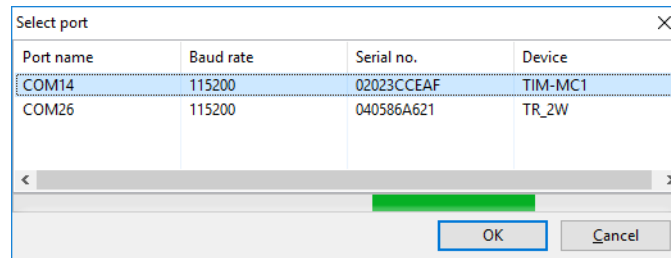


Figure 2: Connect window

2.2.2 Communication

The upper part of the window is labeled "Send AT command". It is used to send AT commands to the device, while the lower part shows the data sent from the device to the host.

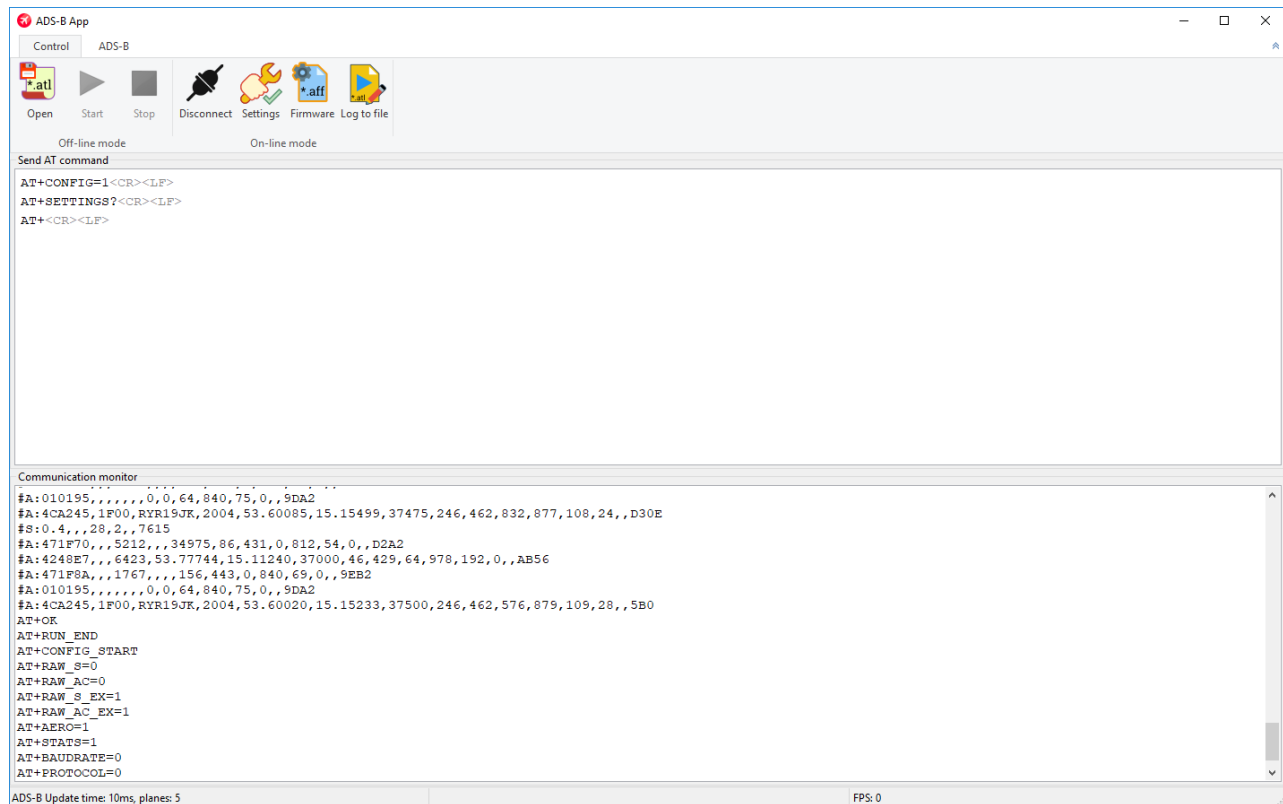


Figure 3: Communication with device

2.2.3 Settings

To change the device settings, first connect to it and then press the "Settings" button. The application will automatically download the list of available settings from the device and display it to the user. The change of the setting is carried out by entering a new value in the "Value" window. The "Load Default" button allows you to load the factory settings. Sending new parameters to the device is possible using the "Set" button.

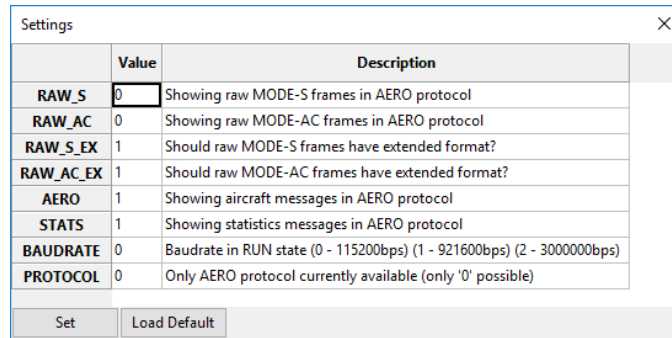


Figure 4: Settings window

2.2.4 Firmware upgrade

To update the firmware of the device, connect to the device and then press the firmware button. A window will appear as in Figure 5. Click "Browse" and select the appropriate file with the extension ".aff". After pressing the "Load" button, the firmware update process will start automatically.

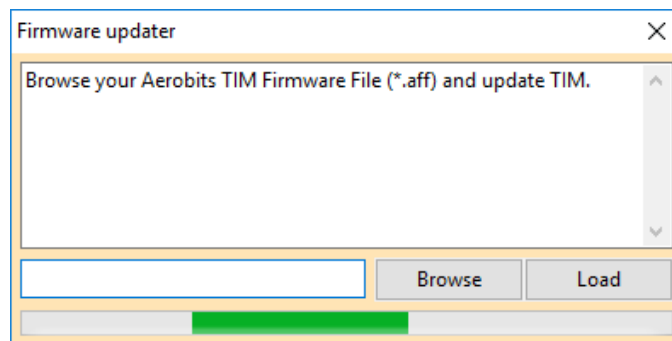


Figure 5: Firmware upgrade window

After about 1min, a message as seen in Fig.6 will appear to confirm the firmware upgrade process has finished. It is required to reconnect to the device after upgrade.

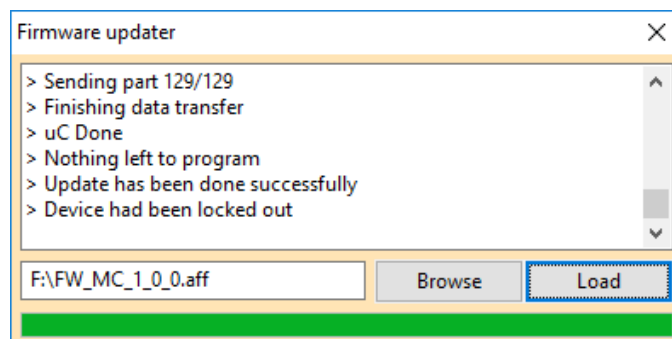


Figure 6: Firmware upgrade finished successfully

2.2.5 Recording air-traffic

In order to start recording air traffic, during the operation of the application, press the "Log to file" button and select the destination where the data will be recorded. After confirming the location, the data will be recorded until the "Stop logging to file" button is pressed.

2.3 Off-line mode

In the "Off-line mode" section, press the "Open" button to play the recorded air traffic, and select the file with the extension ".atl". After confirmation, the application will start to play the recorded data. This will be visible both in the communication preview window and data visualization on the "ADS-B" tab. To stop the replay, click on the "Pause" or "Stop" button.

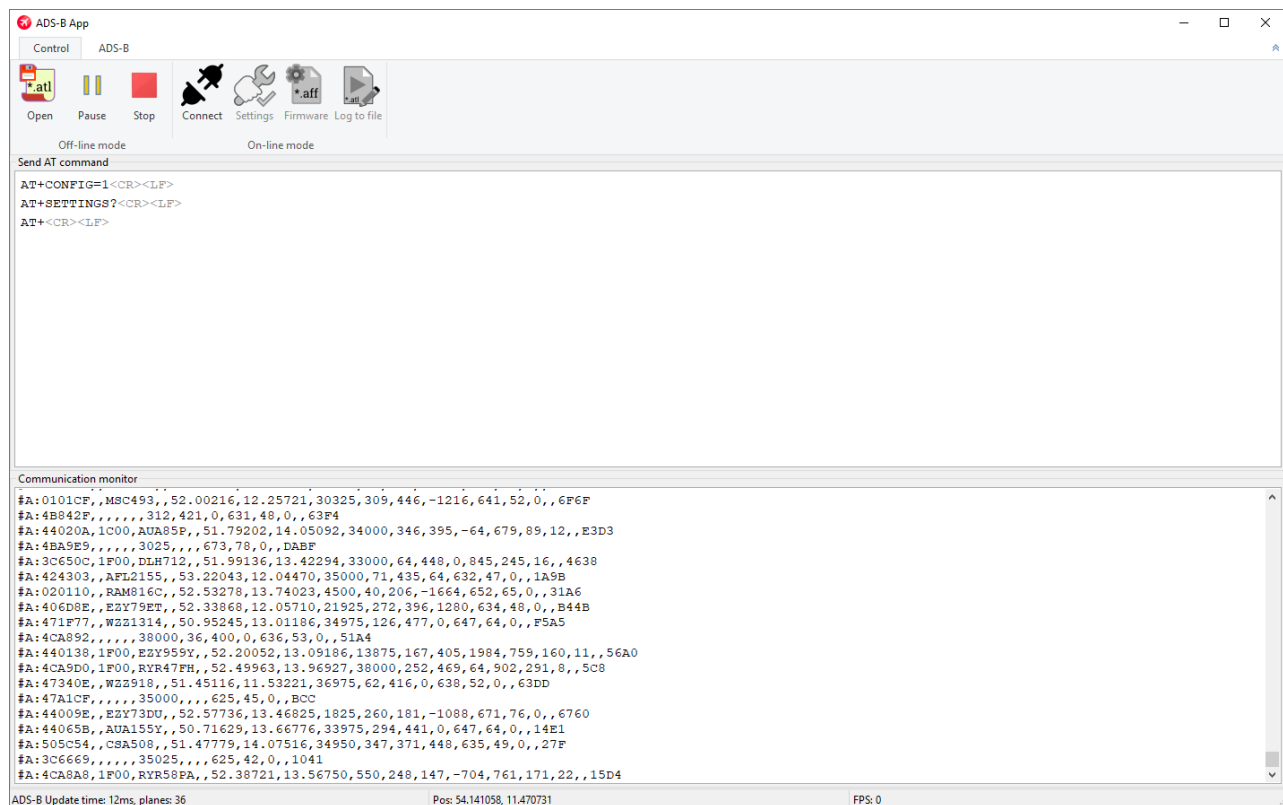


Figure 7: Replay of recorded Air-traffic

2.4 3D Visualization

To enter the data visualization mode (On-line or Off-line), click the "ADS-B" tab. This window is divided into 2 parts. The left visualizes air traffic in the 3D form. The right shows the flight parameters of all tracked units. To close / open the table, click on the "Toggle table" button. The "Reset view" button allows the camera to return to the default position. Disabling drawing of protective spheres and trajectory of objects is carried out using check boxes. In Off-line mode, it is possible to speed up the playback using the "Playback Speed" slider. Moving the map is done by moving the mouse with the left mouse button pressed, while the camera rotation with the right mouse button pressed. Mouse wheel can be used to zoom in and out view. Single click on aircraft on 3D form center view on it. Double click on the aircraft highlights corresponding row in table form. One can set maximum number of fps using appropriate slider.

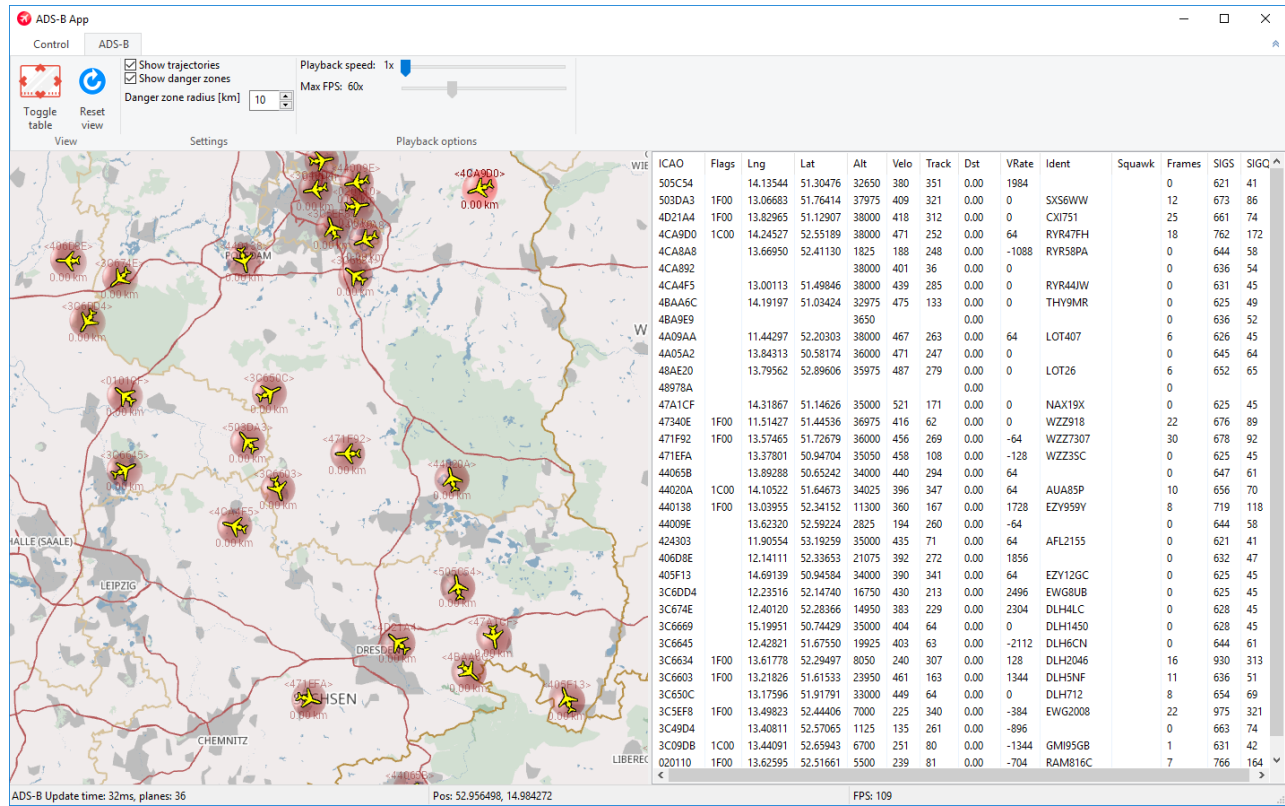


Figure 8: 3D visualization of air-traffic

3 Revision history

Date	Revision	Changes
16-July-2018	1	Initial release.

Table 1: Revision history

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