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1. Introduction

Data quality and consistency is always our primary concern and while we are able to reduce errors caused by our own equipment to a minimum, issues with 3rd party decoders producing stable and consistent results remain.

Therefore, we have decided to make our own decoder work with all commonly used Mode-S/ADS-B receivers, popular hardware platforms and operating systems.

To help us ensure the highest quality data, we ask you to give it a try!

Currently supported operating systems:

Linux (ARM=Raspberry Pi, BeagleBoard, x86, x64)

MacOS X (10.9 Mavericks or later)

Microsoft Windows (XP or later)

Currently supported receivers:

Kinetics SBS1, SBS1er, SBS3 - USB and Network

Mode-S Beast - USB and Network

Most DVBT sticks - USB and Network

Most "AVR" compatible receivers - USB/Serial and Network

MicroADSB – USB and Network

2. Installation and Configuration

2.1 Linux

2.1.1 Requirements

When using any receiver except for the DVBT dongle no special changes or dependencies are required. Most installations will work out of the box. For some USB connected receivers (SBS1/1er/3 & Mode-S Beast) `ftdi_sio` kernel module is required, but it comes with pretty much all modern Linux distributions. Other receivers use modem emulation and should work without any external drivers.

DVBT stick, however, requires both some kernel modules to be disabled as well as a few extra libraries to be present in the system. Our Raspberry Pi (ARM) and Debian (x86/x64) packages contain everything you need to start feeding immediately.

2.1.2 Config file location

The default config file location is /etc/fr24feed.ini

2.1.3 Installation

2.1.3.1 Raspberry Pi

NOTE: Refer to Appendix A if you are having problems while setting up the software.

For the Raspberry Pi we have prepared a Debian package which makes the entire process a lot easier. If you have a working RPi device you can start off by logging in to it using either SSH or physical keyboard/screen and following our simple instructions:

Installation Option 1 – Copy and paste this script into RPI terminal and it will download FR24 sharing software and install it.

```
sudo bash -c "$(wget -O - http://repo.feed.flightradar24.com/install\_fr24\_rpi.sh)"
```

You will be asked to enter your email address, antenna position and other details. For manual installation, please click [here](#).

Installation Option 2 - A - Download our Raspberry Pi package containing everything you need to start sharing your data with us:

You will find the download link to the latest image here:

<http://feed.flightradar24.com/raspberry-pi/>

The command below is just an example; replace the version number with the latest one!

```
wget http://feed.flightradar24.com/raspberry-pi/fr24feed_a.b.c-d_armhf.deb
```

```
1. pi@rpi: ~ (ssh)
pi@rpi ~$ clear
pi@rpi ~$ wget -nv http://feed.flightradar24.com/raspberry-pi/fr24feed_1.0.0-1_
armhf.deb
2014-10-28 13:48:33 URL:http://feed.flightradar24.com/raspberry-pi/fr24feed_1.0.
0-1_armhf.deb [296798/296798] -> "fr24feed_1.0.0-1_armhf.deb" [1]
pi@rpi ~$ ls -l
total 292
-rw-r--r-- 1 pi pi 296798 Oct 28 10:45 fr24feed_1.0.0-1_armhf.deb
pi@rpi ~$
```

B - Install the package using the following command; it may take a few short moments:

```
sudo dpkg -i fr24feed_a.b.c-d_armhf.deb
```

```
1. pi@rpi: ~ (ssh)
pi@rpi ~$ sudo dpkg -i fr24feed_1.0.0-1_armhf.deb
Selecting previously unselected package fr24feed.
(Reading database ... 73301 files and directories currently installed.)
Unpacking fr24feed (from fr24feed_1.0.0-1_armhf.deb) ...
Setting up fr24feed (1.0.0-1) ...
pi@rpi ~$
```

C - If this is the first time you're going to share data with us please use the command below:

```
sudo fr24feed --signup
```

Otherwise please find your sharing key and start the configuration process by executing:

```
sudo fr24feed --reconfigure --fr24key=0123456789ABCDEF
```

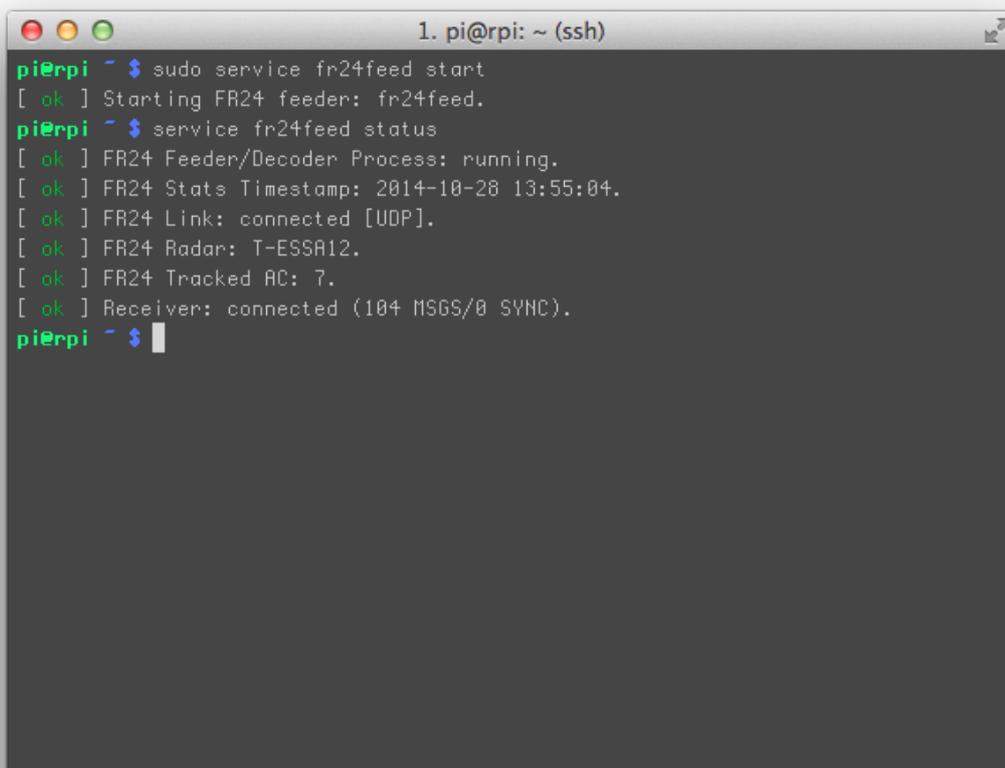
D - Complete the configuration wizard and start sharing your data by typing:

```
sudo service fr24feed start
```

During the next system restart our decoder/feeder will start automatically.

You can check FR24 Feeder's status any time by executing:

```
service fr24feed status
```



```
1. pi@rpi: ~ (ssh)
pi@rpi ~$ sudo service fr24feed start
[ ok ] Starting FR24 feeder: fr24feed.
pi@rpi ~$ service fr24feed status
[ ok ] FR24 Feeder/Decoder Process: running.
[ ok ] FR24 State Timestamp: 2014-10-28 13:55:04.
[ ok ] FR24 Link: connected [UDP].
[ ok ] FR24 Radar: T-ESSR12.
[ ok ] FR24 Tracked AC: 7.
[ ok ] Receiver: connected (104 MSGS/0 SYNC).
pi@rpi ~$
```

More feed status information can be found in the output log located in `/var/log/fr24feed.log`.

2.1.3.2 Build your own receiver using Raspberry Pi

Please follow the given link for more details on our website. You can download [Pi24 Image](#) from there as well.

www.flightradar24.com/build-your-own

2.2 Windows

2.2.1 Requirements

Depending on the receiver used there could be no or very few dependencies/required libraries needed to run our decoder. The one receiver that you need to be careful with is the DVBT stick. It requires you to install the **libusbK.dll** driver (see below) using Zadig USB Driver Installation utility that you can download from <http://zadig.akeo.ie/>. Other receivers may require their own drivers, but because we support many we are unable to say exactly what steps you need to take.

Our Decoder was tested on Windows 7, 8.1 and 10. It should also work on Vista and XP but there is a known issue on Windows XP when using the DVBT stick. It makes the background process of SDR/ModeS processor (dump1090) stay in background when the feeder itself quits. We will try to fix this as soon as possible.

2.2.2 Config file location

On Windows the default config file (fr24feed.ini) location is in the application root directory, which is wherever you decide to extract our feeder.

2.2.3 Installation

A - Download the latest version

You will always find the latest build on our feeding site (see below), we do not include the direct URL to an archive as it changes with new versions coming up.

<http://feed.flightradar24.com>

B - Extract it

At this moment all you need to do is extract the latest version archive in a location of your choice. In future we may include an installer, but we think simple solutions are the best. Because there are no system files modified, no registry entries used, we can't justify having an installer at this point.

C - Start it

To start the sharing simply double click on **fr24feed.exe!**

Upon the first start a console window will pop up presenting you the signup/config wizard (see next page). It will let you configure your receiver as well as sign up for a new feed and tune some of the feeder's settings.

```
fr24feed
[main][i]FR24 Feeder/Decoder [0x02107000]
[main][i]Version: 1.0.7-2/generic
[main][i]Built on Nov 14 2014 15:02:14 (r:284/Windows/i386)
[main][i]Copyright 2008-2014 (c) Piotr Pawluczuk
[main][i]Flightradar24 AB(http://flightradar24.com)

Welcome to the FR24 Decoder/Feeder sign up wizard!

Before you continue please make sure that:

 1 - Your ADS-B receiver is connected to this computer or is accessible over net
work
 2 - You know your antenna's coordinates up to 1 decimal point
 3 - You have a working email address that will be used to contact you

To terminate - press Ctrl+C at any point

Step 1.1 - Enter your email address (username@domain.tld)
$:
```

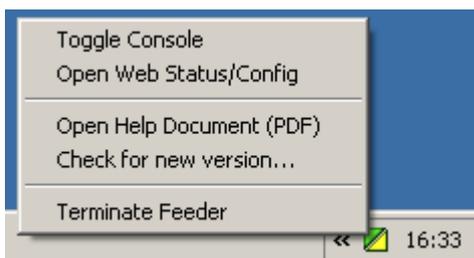
If you already have a key, you will be asked for it in the second step of the configuration wizard. Please make sure you use the same email address as you did before, otherwise you will be prompted to enter the correct one or register a new feed :)

Note:

1. If you would like to use a stand alone instance of dump1090 or another decoder and not the built-in option (dump1090), please refer to **Section 2.4** or **Appendix A**
2. If you want to use Basestation with SBS1, SBS1er, SBS3, please refer to **Section 2.4** or **Appendix A**.

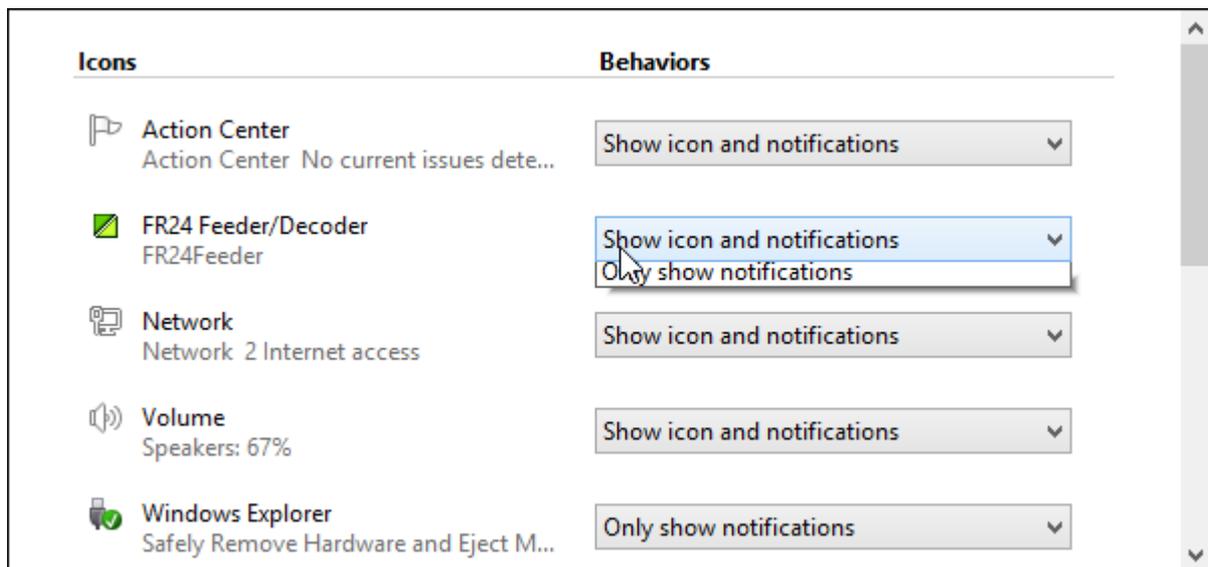
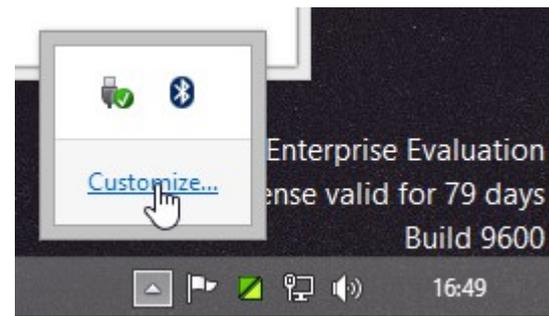
D - Feeding and more

You may have noticed that when you started the feeder, a tray icon showed up next to your system clock. When the feeder is offline and there is no connection to the receiver itself both of the triangles are red as in the picture on the right. When everything is working fine they turn green and blink slowly once in a while (see next figure).



Another thing to remember is that the tray icon lets you access the context menu. It will let you hide or show the console window as well as access the web status/configuration site which contains useful information about your receiver and feed status.

On newer versions of Windows this icon may at some point become invisible due to the operating system trying to save some space. You can fix that by accessing its settings (left) and choosing "Show icon and modifications" next to the FR24 Feeder/Decoder entry.



If you want to make the feeder start automatically please make a shortcut to the fr24feed.exe and move it to the Startup folder. If you run latest version of Windows you may have hard time finding it, but here is how <http://support.microsoft.com/kb/2806079> :)

If you want to hide the console window by default, you can do so by either choosing it while going to the configuration/signup wizard or changing settings afterwards:

E - Known issues and other things to remember

We know there are some things missing and we will work hard to include them in the upcoming releases. If you find any bugs or typos please report them to us and we will make sure to fix them.

NOTE: Refer to Appendix A if you are having problems while setting up the software.

2.3 MacOSX

2.3.1 Requirements

The GUI version of FR24 Feeder requires MacOSX 10.9 Mavericks or later to run. If you are using an older version (back to MacOSX 10.7 Lion) we can offer a console build of our application that will still let you feed data to us. When using SBS1/SBS1er or SBS3 via USB you will need to download and install FTDI VCP driver for your operating systems. All other receivers, including DVBT stick, should work out of the box.

Instructions below assume that you use the GUI version, for the console build please refer to Linux instructions.

2.3.2 Config file location

On MacOSX the default config file location is `~/fr24feed.ini` that is your home directory.

2.3.3 Installation

A - Download the latest version

You will always find the latest build on our feeding site (see below), we do not include the direct URL to an archive as it changes with new versions coming up.

<http://feed.fliht radar24.com/osx/>

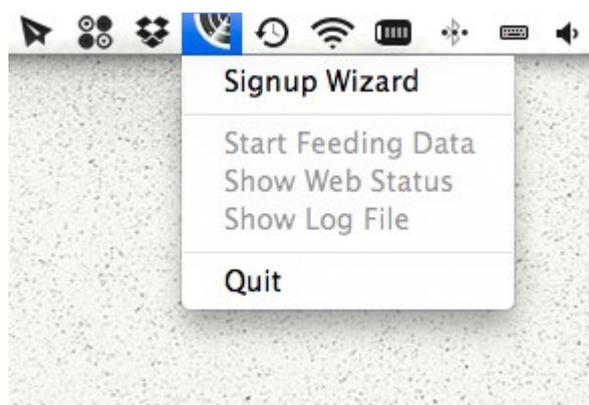
B - Extract it

At this moment all you need to do is extract the latest version archive in a location of your choice. A good practice is to keep your own apps inside your `$HOME/Applications` directory.

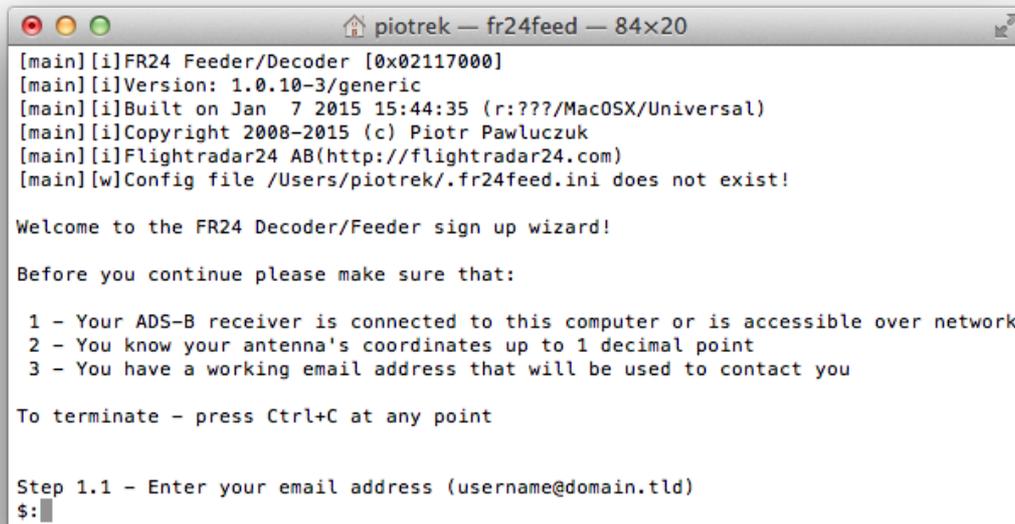
C - Start it

To start the feeder simply double click on **FR24FeedOSX**

The application itself is windowless. There is, however, a top-menu icon which lets you access the context menu as well as indicates the current feeding state. Using the context menu you can start/stop feeding, terminate the application and access the web based status/configuration interface.



When you first run it, please select the “Signup Wizard” option and follow the onscreen instructions. The signup itself will be performed in the Terminal application.



```
piotrek — fr24feed — 84x20
[main][i]FR24 Feeder/Decoder [0x02117000]
[main][i]Version: 1.0.10-3/generic
[main][i]Built on Jan 7 2015 15:44:35 (r:??/MacOSX/Universal)
[main][i]Copyright 2008-2015 (c) Piotr Pawluczuk
[main][i]Flightradar24 AB(http://flightradar24.com)
[main][w]Config file /Users/piotrek/.fr24feed.ini does not exist!

Welcome to the FR24 Decoder/Feeder sign up wizard!

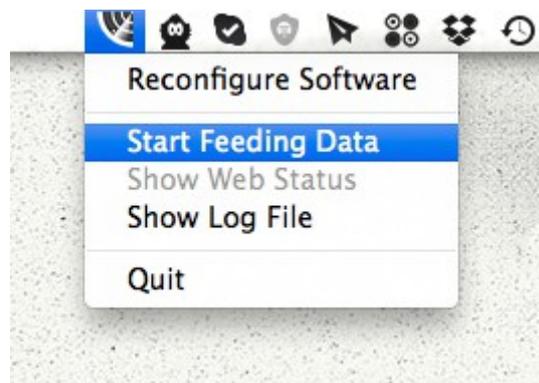
Before you continue please make sure that:

1 - Your ADS-B receiver is connected to this computer or is accessible over network
2 - You know your antenna's coordinates up to 1 decimal point
3 - You have a working email address that will be used to contact you

To terminate - press Ctrl+C at any point

Step 1.1 - Enter your email address (username@domain.tld)
$:
```

After the signup procedure is complete, you will need to restart the Application to reload the config file. Once you do that, a new option called “Start Feeding Data” will be available in the context menu.



When the feeding application is running (subprocess) the icon will turn light blue and you will be able to check the log output and access the web status. Please review the log output or check the web status to ensure correct operation. We will modify the application to turn the icon green when both network and receiver connection is up.

2.4 Command line arguments/parameters

While the web based configuration should be satisfactory for most Windows and MacOS X users, some Linux users may want to have a little extra control over the configuration. Below is a list of available arguments with their default values. For boolean type we use “yes” and “no” lowercase. Anything different than “yes” will be considered “no”, however.

NOTICE: Parameters stored in the config file (/etc/fr24feed.ini for Linux, ~/.fr24feed.ini for OSX and fr24feed.ini for Windows) do not have the “--” prefix!

--fr24key=0123456789ABCDEF - Your 16 character long sharing key that can be used only on one machine simultaneously. If you have multiple receivers please request more sharing keys as otherwise it might get blocked due to one session kicking the other out.

--receiver=TYPE - Defines the receiver FR24 Decoder should connect to. There is no default value as you need to know what receiver you have.

Supported types are:

sbs1tcp - SBS1, SBS1er, SBS3 connected via Ethernet/TCP, please specify its IP and port by using “**--host**”, see below. When using a Kinetic Avionics receiver an additional option “**--mpx**” is available so you can connect Basestation as well. The default IP and port is 192.168.1.170:10001.

1. Configure Basestation to connect to TCP rather than USB using the following details:

Settings-> Hardware settings-> Network-> 127.0.0.1, port 20072

2. Edit the fr24feed.ini and add the following line:

mpx=“yes”

3. Start FR24 software first so it connects to the SBS-1e over USB

4. Start Basestation that will connect to FR24 software via TCP

5. Make sure to have DATA SOURCE changed to Use Network.

sbs1usb - SBS1, SBS1er, SBS3 connected directly via USB. For Linux and MacOSX users the device path of the receiver needs to be specified using “**--path**” (see below). Windows users may omit this parameter when only one receiver is connected as it will be detected automatically. When using a Kinetic Avionics receiver an additional option “**--mpx**” is available so you can connect Basestation as well.

beast - Mode-S Beast connected directly via USB. For Linux and MacOSX the device path of the receiver needs to be specified using “**--path**” (see below). Windows users should provide serial number or leave it empty when only one Mode-S Beast is connected to the system. **Only the binary output mode at 3Mbit is currently supported.**

beast-tcp - Mode-S Beast connected via TCP (serial to network, etc). Please specify its IP and port by using "**--host**", see below.

dvbt - DVBT USB dongle connected directly via USB. Only one DVBT dongle can be used at a time. When using with stand alone dump1090 instance or another software defined radio demodulator please use the "**avr-tcp**" receiver type instead.

dvbt-mr - Same as above, but using Malcolm Robb's dump1090 version that has some additional features like built in HTTP interface etc.

--raw=BOOL - Defaults to "no" and decides whether or not the RAW data stream should be available on port 30334 for all receivers but DVBT which uses port 30002 instead. **When using dump1090 with "--net" please disable as that feed is already provided and otherwise it will cause conflicts.**

--bs=BOOL - Defaults to "yes" and decides whether or not the Basestation compatible data stream should be generated on port 30003. **When using dump1090 with "--net" please disable as that feed is already provided and otherwise it will cause conflicts.**

--mpx=BOOL - Defaults to "no" and decides whether or not the SBS1/3 compatible data stream should be enabled on port 10001. This option is only available when Kinetic Avionics receiver is used to enable Basestation connection. For all other receivers this options is ignored.

--procargs="flags and arguments" - Extra arguments that should be passed to dump1090 application on startup. To enable HTTP server/web interface of Malcolm Robb's dump1090 please set to "**--net --net-http-port 8888**" and make sure both "**bs**" and "**raw**" feeds are switched off to avoid conflicts.

--logpath="/path/to/logfile/directory" - On Linux and OSX this parameter lets you change the location of log files. Defaults to "/var/log" on Linux and "/var/tmp" on OSX. Windows users have their log file located in the application directory itself.

--logmode="MODE" - Changes log file mode "0" - no log file, "1" - rotate at midnight keep for 48 hours, "2" - rotate at midnight keep for 72 hours. Defaults to "0" that is no logfile stored.

--windowmode="MODE" - Decides whether the console window should be visible "0" or hidden "1" on startup. This parameter is only used in the MS Windows build. Defaults to "0" that is show console window.

--bind-interface="IP_ADDRESS" - Changes the network interface that all FR24 Feeder services listen on. By default it listens on all available interfaces (0.0.0.0). This affects BS/RAW/MPX feeds as well as the WWW interface.

--gt=TIMEOUT - Defines global timeout, in seconds, for receiver data/mode-s frames. When no frame is received within that time it will reconnect to the receiver or restart the process in case of DVBT stick used directly. Defaults to 600 seconds.

--config-file="/path/to/fr24feed.ini" - Lets you override the default configuration file location. Useful only for standalone version users, lets you have multiple configs for different receivers etc.

3. Frequently Asked Questions

3.1 I don't see as many aircraft as before when I used software "ABCD"

3.2 Running FR24 decoder side by side with your own software

3.3 Why am I not seeing ground traffic?

3.4 Can I use FR24 Decoder with the Airnav Radarbox receiver?

3.5 Possible conflicts when using RAW / BS data feeds and DVBT stick

3.6 What is the name and location of the configuration file?

3.7 How to restrict network access to data feeds and web configuration?

3.1 I don't see as many aircraft as before when I used software "ABCD"

One of the reasons many decoders show incorrect positions, callsigns, etc. is trusting data too early, before it's been tracked long enough to be trusted. We decided that it's better not to show an aircraft until we are certain to some extent that it's position is correctly decoded. If you feel like you really want to see more aircraft locally please read the next section: "**Running FR24 decoder side by side with my own software**".

3.2 Running FR24 decoder side by side with your own software

There might be occasions when you want to run your own software side by side with the FR24 decoder. The most common reason is missing some advanced features like visualisation and local flight database or being able to see more aircraft even when their position is not 100% certain.

For all the supported receivers, except the DVBT stick, the easiest way to go is to configure FR24 Decoder as the primary processing application and then configure the software of your choice to connect to it using TCP. To do so, please go to FR24 Settings by accessing <http://localhost:8754/settings.html> on the machine decoder runs on and enable RAW data feed, then save settings and restart the decoder. The next step is configuring your software to access RAW data. Below you will find two example configurations, one using the adsbSCOPE and the other using Virtual Radar Client.

Virtual Radar Server

Please go to Tools->Options menu, then select Receivers from the tree view on the left and configure the connection as follows:

Data source: AVR or Beast Raw Feed

Connection type: Network

Reconnect at startup: yes

Address: localhost (when running FR24 decoder on the same machine) or IP address of the computer running FR24 decoder.

Port: 30334

Then select “Tools->Reconnect to Data Feed->Receiver” to activate data flow.

Kinetic Avionics Basestation*

To enable SBS1 compatible data feed please enable the “MPX” feed either by using the WWW configuration form or by adding mpx=”yes” in the fr24feed configuration file. After you do that you can start Basestation and configure its data interface to use TCP/IP connection where IP = 127.0.0.1 and port = 20072.

* - This option is only available for those who own a Kinetic Avionics SBS1/3 family receiver.

adsbSCOPE

Please select “Other->Network->Network Config” from the top menu bar then configure RAW-data-client section as follows:

Portnumber: 30334

URL: localhost (when running FR24 decoder on the same machine) or IP address of the computer running FR24 decoder.

Dataformat: binary

Then select the “Other->Network->RAW Data Client active” to start receiving and processing data.

In case of the DVBT stick it is better to use another approach as some data is filtered out at an early signal processing stage. To do so, you will need to configure dump1090 to access your DVBT dongle directly (please refer to dump1090 manual) and enable networking by adding “--net” parameter to the command line. After you start dump1090 you can configure FR24 Decoder to use its RAW data stream. Please go to <http://localhost:8754/settings.html> and change receiver type to AVR (TCP) entering “localhost:30002” in the Host/IP field. Then save settings and restart decoder.

NOTICE: While it is possible to run FR24 decoder on a separate machine it is not recommended due to high network traffic volume of RAW data.

3.3 Why am I not seeing ground traffic?

Because of the way ground positions are transmitted we need to use reference point to calculate the actual position. It is possible to use receiver’s location, but our experience has shown that this often leads to incorrect results and aircraft being shifted by several miles. This happens because many ADS-B receivers exceed the maximum range designed for ground traffic especially when they are located in flat, unobstructed areas, for example on the other side of a big lake or a small sea. The only reliable way of getting a good reference point is using aircraft previous position as it landed. Therefore we store information about all aircraft landing near your receiver and save it in a file. In the beginning or when not used for a while this file does not contain recent entries and needs to be filled up by landing traffic.

3.4 Can I use FR24 Decoder with the Airnav Radarbox receiver?

No, unfortunately this particular receiver is not supported due to data encryption.

3.5 Possible conflicts when using RAW / BS data feeds and DVBT stick

When using DVBT stick with some advanced features of the dump1090 software, like HTTP server, you may end up causing port number conflicts. Using dump1090 with **--net** in particular will make it listen on ports 30003 and 30002 which are also used for BS and RAW data feeds by **fr24feed**.

In such case, please make sure to disable both RAW and BS feeds by editing the fr24feed.ini config file or running configuration wizard again.

3.6 What is the name and location of the configuration file?

Windows

fr24feed.ini - located inside the application folder itself

Linux

/etc/fr24feed.ini - default location, standalone version users can override it with **--config-file=/path/to/fr24feed.ini**

OSX

~/fr24feed.ini - located directly inside your HOME directory. This is a hidden file and will not be visible in Finder by default. The best way to access and modify it is using terminal and **vi** or **nano** editor.

3.7 How to restrict network access to data feeds and web configuration?

To have full control over the network access we recommend that you use a firewall. You can, however, limit the access by binding to localhost interface. To do that, please add **bind-interface="127.0.0.1"** inside your config file. To find its location, see point 3.6 above.

Appendix A

Setting up different types of receivers.

1. DVB-T on Windows when you already have a sharing key.

Step 1.1 - Enter your email address (username@domain.tld)

\$:Abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.

If you don't remember your sharing key, please use the retrieval form:

http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.

\$:SharingKey

Verifying sharing key...OK

Step 4.1 - Receiver selection:

1 - DVBT Stick (USB)

2 - SBS1/SBS1er (USB/Network)

3 - SBS3 (USB/Network)

4 - ModeS Beast (USB/Network)

5 - AVR Compatible (DVBT over network, etc)

6 - microADSB (USB/Network)

7 - SBSx via Basestation (localhost:30006)

Enter your receiver type (1-7):1

Checking for dump1090...FOUND

Step 4.3 - Enter your additional dump1090 arguments or leave empty

\$:

Step 5.1 - Would you like to enable RAW data feed on port 30002 (yes/no):no

Step 5.2 - Would you like to enable Basestation data feed on port 30003 (yes/no):no

Step 6A - Please select desired logfile mode:

0 - Disabled

1 - 48 hour, 24h rotation

2 - 72 hour, 24h rotation

Select logfile mode (0-2):1

Saving settings to fr24feed.ini...OK

Settings saved, please start the application again to use new configuration!

Press any key to continue . . .

2. DVB-T on Windows when registering for the first time.

Step 1.1 - Enter your email address (username@domain.tld)
\$:abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.
If you don't remember your sharing key, please use the retrieval form:
http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.
\$:

Step 2 - Enter nearest airport code (IATA or ICAO)

We need to know your antenna's approximate position to filter bogus traffic as well as to enable ground position decoding. You can either enter nearest airport code or leave the field empty to provide exact antenna location. If your antenna is farther than 20 miles from the nearest airport we strongly recommend providing its true position instead as it may affect decoder's performance.

If you will ever need to change the location, please run the sign-up wizard again.

Enter airport code or leave empty\$:

Step 3.A - Enter antenna's latitude (DD.DDDD)
\$:xx.xxxx

Step 3.B - Enter antenna's longitude (DDD.DDDD)
\$:xx.xxxx

Step 3.C - Enter antenna's altitude above the sea level (in feet)
\$:xxx

Would you like to continue using these settings?

Enter your choice (yes/no)\$:yes

Step 4.1 - Receiver selection:

- 1 - DVBT Stick (USB)

- 2 - SBS1/SBS1er (USB/Network)
- 3 - SBS3 (USB/Network)
- 4 - ModeS Beast (USB/Network)
- 5 - AVR Compatible (DVBT over network, etc)
- 6 - microADSB (USB/Network)
- 7 - SBSx via Basestation (localhost:30006)

Enter your receiver type (1-7)\$:1
Checking for dump1090...FOUND

Step 4.3 - Enter your additional dump1090 arguments or leave empty
\$:

Step 5.1 - Would you like to enable RAW data feed on port 30002 (yes/no)\$:no

Step 5.2 - Would you like to enable Basestation data feed on port 30003 (yes/no)\$:no

Step 6A - Please select desired logfile mode:

0 - Disabled
1 - 48 hour, 24h rotation
2 - 72 hour, 24h rotation
Select logfile mode (0-2):2

Submitting form data...OK

Congratulations! You are now registered and ready to share ADS-B data with Flightradar24.
+ Your sharing key (SharingKey) has been configured and emailed to you for backup purposes.
+ Your radar id is T-XXXX, please include it in all email communication with us.
+ Please make sure to start sharing data within the next 3 days as otherwise your ID/KEY will be deleted.

Thank you for supporting Flightradar24! We hope that you will enjoy our Premium services that will be available to you when you become an active feeder.

To start sending data now please start the application again!

Saving settings to fr24feed.ini...OK
Press any key to continue . . .

3. As AVR-TCP

In case you already have a decoder running that's giving out AVR compatible data. In this case we take RTL1090 running on the same computer but **it's strongly recommended to use FR24 software standalone.**

Step 1.1 - Enter your email address (username@domain.tld)
\$:abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.
If you don't remember your sharing key, please use the retrieval form:
http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.
\$:SharingKey

Verifying sharing key...OK

Step 4.1 - Receiver selection:

1 - DVBT Stick (USB)

2 - SBS1/SBS1er (USB/Network)
3 - SBS3 (USB/Network)
4 - ModeS Beast (USB/Network)
5 - AVR Compatible (DVBT over network, etc)
6 - microADSB (USB/Network)
7 - SBSx via Basestation (localhost:30006)

Enter your receiver type (1-7):5

Step 4.2 - Please select connection type:

- 1 - Network connection
- 2 - USB directly to this computer

Enter your connection type (1-2):1

Step 4.3A - Please enter your receiver's IP address/hostname

\$:localhost (If your data is coming from another computer/decoder/device, enter it's IP here)

Step 4.3B - Please enter your receiver's data port number

\$:31001 (this port will be different depending on the decoder you are using)

Step 5.1 - Would you like to enable RAW data feed on port 30334 (yes/no):no

Step 5.2 - Would you like to enable Basestation data feed on port 30003 (yes/no):no

Step 6A - Please select desired logfile mode:

- 0 - Disabled
- 1 - 48 hour, 24h rotation
- 2 - 72 hour, 24h rotation

Select logfile mode (0-2):2

Saving settings to fr24feed.ini...OK

Settings saved, please start the application again to use new configuration!

Press any key to continue . . .

4. SBS1/SBS1er USB with Basestation getting data from FR24 software.

Step 1.1 - Enter your email address (username@domain.tld)

\$:abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.

If you don't remember your sharing key, please use the retrieval form:

http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.

\$:SharingKey

Verifying sharing key...OK

Step 4.1 - Receiver selection:

- 1 - DVBT Stick (USB)
-
- 2 - SBS1/SBS1er (USB/Network)
- 3 - SBS3 (USB/Network)
- 4 - ModeS Beast (USB/Network)
- 5 - AVR Compatible (DVBT over network, etc)
- 6 - microADSB (USB/Network)
- 7 - SBSx via Basestation (localhost:30006)

Enter your receiver type (1-7):2

Step 4.2 - Please select connection type:

- 1 - Network connection
- 2 - USB directly to this computer

Enter your connection type (1-2):2

Step 5.1 - Would you like to enable RAW data feed on port 30334 (yes/no)\$:no

Step 5.2 - Would you like to enable Basestation data feed on port 30003 (yes/no)\$:no

Step 5.3 - Would you like to enable SBS/Basestation RAW data feed on port 20072 (yes/no)
\$:yes

Step 6A - Please select desired logfile mode:

- 0 - Disabled
 - 1 - 48 hour, 24h rotation
 - 2 - 72 hour, 24h rotation
- Select logfile mode (0-2)\$:2

Saving settings to fr24feed.ini...OK

Settings saved, please start the application again to use new configuration!

Press any key to continue . . .

Now make the following changes to your Basestation so that it can get data from FR24 software.

1. Configure Basestation to connect to TCP rather than USB using the following details:
Settings-> Hardware settings-> Network-> 127.0.0.1, port 20072
2. Start FR24 software first so it connects to the SBS-1e over USB
3. Start Basestation that will connect to FR24 software via TCP
4. Make sure to have DATA SOURCE changed to Use Network.

5. SBS1/SBS1er via Network with your Basestation getting data from FR24 software.

Step 1.1 - Enter your email address (username@domain.tld)
\$:abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.
If you don't remember your sharing key, please use the retrieval form:
http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.

\$:SharingKey

Verifying sharing key...OK

Step 4.1 - Receiver selection:

- 1 - DVBT Stick (USB)

- 2 - SBS1/SBS1er (USB/Network)
- 3 - SBS3 (USB/Network)
- 4 - ModeS Beast (USB/Network)
- 5 - AVR Compatible (DVBT over network, etc)
- 6 - microADSB (USB/Network)
- 7 - SBSx via Basestation (localhost:30006)

Enter your receiver type (1-7)\$:2

Step 4.2 - Please select connection type:

- 1 - Network connection
- 2 - USB directly to this computer

Enter your connection type (1-2):1

Step 4.3A - Please enter your receiver's IP address/hostname

192.168.X.X

Step 4.3B - Please enter your receiver's data port number

10001

Step 5.1 - Would you like to enable RAW data feed on port 30334 (yes/no):no

Step 5.2 - Would you like to enable Basestation data feed on port 30003 (yes/no):no

Step 5.3 - Would you like to enable SBS/Basestation RAW data feed on port 20072 (yes/no)

yes

Step 6A - Please select desired logfile mode:

- 0 - Disabled
- 1 - 48 hour, 24h rotation
- 2 - 72 hour, 24h rotation

Select logfile mode (0-2):2

Saving settings to fr24feed.ini...OK

Settings saved, please start the application again to use new configuration!

Press any key to continue . . .

Now make the following changes to your Basestation so that it can get data from FR24 software.

1. Configure Basestation to connect to TCP rather than USB using the following details:
Settings-> Hardware settings-> Network-> 127.0.0.1, port 20072
2. Start FR24 software first so it connects to the SBS-1e over USB
3. Start Basestation that will connect to FR24 software via TCP
4. Make sure to have DATA SOURCE changed to Use Network.

Note: Procedure is the same for SBS3 Over Network and USB.

6. FR24 software getting data from Basestation.

Use this method to get data from your Basestation into your FR24 software. Basestation connects to your SBSX directly and FR24 gets data from it. It is pretty simple. FR24 software and Basestation should be both running on the same computer.

Step 1.1 - Enter your email address (username@domain.tld)

abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.

If you don't remember your sharing key, please use the retrieval form:

http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.
\$:SharingKey

Verifying sharing key...OK

Step 4.1 - Receiver selection:

- 1 - DVBT Stick (USB)
-
- 2 - SBS1/SBS1er (USB/Network)
- 3 - SBS3 (USB/Network)
- 4 - ModeS Beast (USB/Network)
- 5 - AVR Compatible (DVBT over network, etc)
- 6 - microADSB (USB/Network)
- 7 - SBSx via Basestation (localhost:30006)

Enter your receiver type (1-7):7

Step 6A - Please select desired logfile mode:

- 0 - Disabled
 - 1 - 48 hour, 24h rotation
 - 2 - 72 hour, 24h rotation
- Select logfile mode (0-2):2

Saving settings to fr24feed.ini...OK
Settings saved, please start the application again to use new configuration!
Press any key to continue . . .

7. Mode-S Beast Serial.

Step 1.1 - Enter your email address (username@domain.tld)
\$:abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.
If you don't remember your sharing key, please use the retrieval form:
http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.
\$:SharingKey

Verifying sharing key...OK

Step 4.1 - Receiver selection:

- 1 - DVBT Stick (USB)
-
- 2 - SBS1/SBS1er (USB/Network)
- 3 - SBS3 (USB/Network)
- 4 - ModeS Beast (USB/Network)
- 5 - AVR Compatible (DVBT over network, etc)
- 6 - microADSB (USB/Network)
- 7 - SBSx via Basestation (localhost:30006)

Enter your receiver type (1-7):4

Step 4.2 - Please select connection type:

- 1 - Network connection
- 2 - USB directly to this computer

Enter your connection type (1-2):**2**

Step 4.3A - Please enter your receiver's COM port number/device path
\$:**COM3** (You can find COM port by going to Device Manager -> Ports (COM & LPT))

Step 4.3B - Please select your receiver's data baudrate:

- 1 - 57600 | Generic AVR
- 2 - 115200 | microADSB
- 3 - 921600 | SBS1, SBS1er
- 4 - 1000000 | ModeS Beast - older configuration
- 5 - 3000000 | ModeS Beast, SBS3

Select baudrate (1-5):**5**

Step 5.1 - Would you like to enable RAW data feed on port 30334 (yes/no):**no**

Step 5.2 - Would you like to enable Basestation data feed on port 30003 (yes/no):**no**

Step 6A - Please select desired logfile mode:

- 0 - Disabled
- 1 - 48 hour, 24h rotation
- 2 - 72 hour, 24h rotation

Select logfile mode (0-2):**2**

Saving settings to fr24feed.ini...OK

Settings saved, please start the application again to use new configuration!

Press any key to continue . . .

8. Beast over Network.

Step 1.1 - Enter your email address (username@domain.tld)

\$:**abcd@xyz.com**

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.

If you don't remember your sharing key, please use the retrieval form:

http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.

\$:**SharingKey**

Verifying sharing key...OK

Step 4.1 - Receiver selection:

- 1 - DVBT Stick (USB)
-
- 2 - SBS1/SBS1er (USB/Network)
- 3 - SBS3 (USB/Network)
- 4 - ModeS Beast (USB/Network)
- 5 - AVR Compatible (DVBT over network, etc)
- 6 - microADSB (USB/Network)
- 7 - SBSx via Basestation (localhost:30006)

Enter your receiver type (1-7):**4**

Step 4.2 - Please select connection type:

- 1 - Network connection
- 2 - USB directly to this computer

Enter your connection type (1-2):1

Step 4.3A - Please enter your receiver's IP address/hostname
\$:192.168.X.X

Step 4.3B - Please enter your receiver's data port number
\$:30334

Step 5.1 - Would you like to enable RAW data feed on port 30334 (yes/no):no

Step 5.2 - Would you like to enable Basestation data feed on port 30003 (yes/no):no

Step 6A - Please select desired logfile mode:

- 0 - Disabled
- 1 - 48 hour, 24h rotation
- 2 - 72 hour, 24h rotation

Select logfile mode (0-2):2

Saving settings to fr24feed.ini...OK

Settings saved, please start the application again to use new configuration!

Press any key to continue ...

9. DVB-T on Linux

Step 1.1 - Enter your email address (username@domain.tld)
\$:abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.
If you don't remember your sharing key, please use the retrieval form:
http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.

\$:SharingKey

Verifying sharing key...OK

Step 4.1 - Receiver selection:

- 1 - DVBT Stick (USB)

- 2 - SBS1, SBS1er or SBS3 (USB/Network)
- 3 - ModeS Beast (USB/Network)
- 4 - AVR Compatible (DVBT over network, etc)
- 5 - microADSB (USB/Network)

Enter your receiver type (1-5):1

Step 4.2 - Please select dump1090 variant:

- 1 - Original Salvatore Sanfilippo's variant
- 2 - Malcolm Robb's fork

Enter your connection type (1-2):2
Checking for dump1090...FOUND

Step 4.3 - Enter your additional dump1090 arguments or leave empty
\$:

Step 5.1 - Would you like to enable RAW data feed on port 30002 (yes/no):no

Step 5.2 - Would you like to enable Basestation data feed on port 30003 (yes/no):no

Step 6A - Please select desired logfile mode:

- 1 - Disabled
- 2 - 48 hour, 24h rotation
- 3 - 72 hour, 24h rotation

Select logfile mode (1-3):2

Step 6B - Please enter desired logfile path (/var/log):
\$:

Saving settings to /etc/fr24feed.ini...OK
Settings saved, please run "sudo service fr24feed restart" to use new configuration.

10. DVB-T on RPI when you have a Sharing Key

Step 1.1 - Enter your email address (username@domain.tld)
\$:abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.
If you don't remember your sharing key, please use the retrieval form:
http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.
\$:SharingKey

Verifying sharing key...OK

Step 1.3 - Would you like to participate in MLAT calculations? (yes/no):yes

IMPORTANT: For MLAT calculations the antenna's location should be entered very precise!

Step 3.A - Enter antenna's latitude (DD.DDDD)
\$:xx.xxxx

Step 3.B - Enter antenna's longitude (DDD.DDDD)
\$:xx.xxxx

Step 3.C - Enter antenna's altitude above the sea level (in feet)
\$:xxx

Using latitude: xx.xxxx, longitude: xx.xxxx, altitude: xxft above sea level

Step 4.1 - Receiver selection:

1 - DVBT Stick (USB)

2 - SBS1/SBS1er (USB/Network)

3 - SBS3 (USB/Network)

4 - ModeS Beast (USB/Network)

5 - AVR Compatible (DVBT over network, etc)

6 - microADSB (USB/Network)

7 - SBSx via Basestation (localhost:30006)

Enter your receiver type (1-7):1

Checking for dump1090...FOUND

Step 4.3 - Enter your additional dump1090 arguments or leave empty

\$_:

Step 5.1 - Would you like to enable RAW data feed on port 30002 (yes/no):no

Step 5.2 - Would you like to enable Basestation data feed on port 30003 (yes/no):no

Step 6A - Please select desired logfile mode:

0 - Disabled

1 - 48 hour, 24h rotation

2 - 72 hour, 24h rotation

Select logfile mode (0-2):2

Step 6B - Please enter desired logfile path (/var/log) or leave empty:

\$_:

Saving settings to /etc/fr24feed.ini...OK

Settings saved, please run "sudo service fr24feed restart" to use new configuration.

11. DVB-T on RPI when you have PIAWARE or running your own instance of DUMP1090 or DUMP1090-Mutability

Step 1.1 - Enter your email address (username@domain.tld)

\$_:abcd@xyz.com

Step 1.2 - If you used to feed FR24 with ADS-B data before enter your sharing key.

If you don't remember your sharing key, please use the retrieval form:

http://feed.flightradar24.com/forgotten_key.php

Otherwise leave this field empty and continue.

\$_:SharingKey

Verifying sharing key...OK

Step 1.3 - Would you like to participate in MLAT calculations? (yes/no):yes

IMPORTANT: For MLAT calculations the antenna's location should be entered very precise!

Step 3.A - Enter antenna's latitude (DD.DDDD)
\$:xx.xxxx

Step 3.B - Enter antenna's longitude (DDD.DDDD)
\$:xx.xxxx

Step 3.C - Enter antenna's altitude above the sea level (in feet)
\$:xxx

Using latitude: xx.xxxx, longitude: xx.xxxx, altitude: xxft above sea level

We have detected that you already have a dump1090 instance running. We can therefore automatically configure the FR24 feeder to use existing receiver configuration, or you can manually configure all the parameters.

Would you like to use autoconfig (*yes*/no)\$:yes

Step 6A - Please select desired logfile mode:

0 - Disabled
1 - 48 hour, 24h rotation
2 - 72 hour, 24h rotation
Select logfile mode (0-2)\$:1

Step 6B - Please enter desired logfile path (/var/log):
\$:

Submitting form data...OK

Congratulations! You are now registered and ready to share ADS-D data with Flightradar24.
+ Your radar id is T-XXXXNN, please include it in all email communication with us.
+ Please make sure to start sharing data within the next 3 days as otherwise your ID/KEY will be deleted.

Thank you for supporting Flightradar24! We hope that you will enjoy our Premium services that will be available to you when you become an active feeder.

To start sending data now please execute:
sudo service fr24feed start

Saving settings to /etc/fr24feed.ini...OK
Settings saved, please run "sudo service fr24feed restart" to use new configuration.