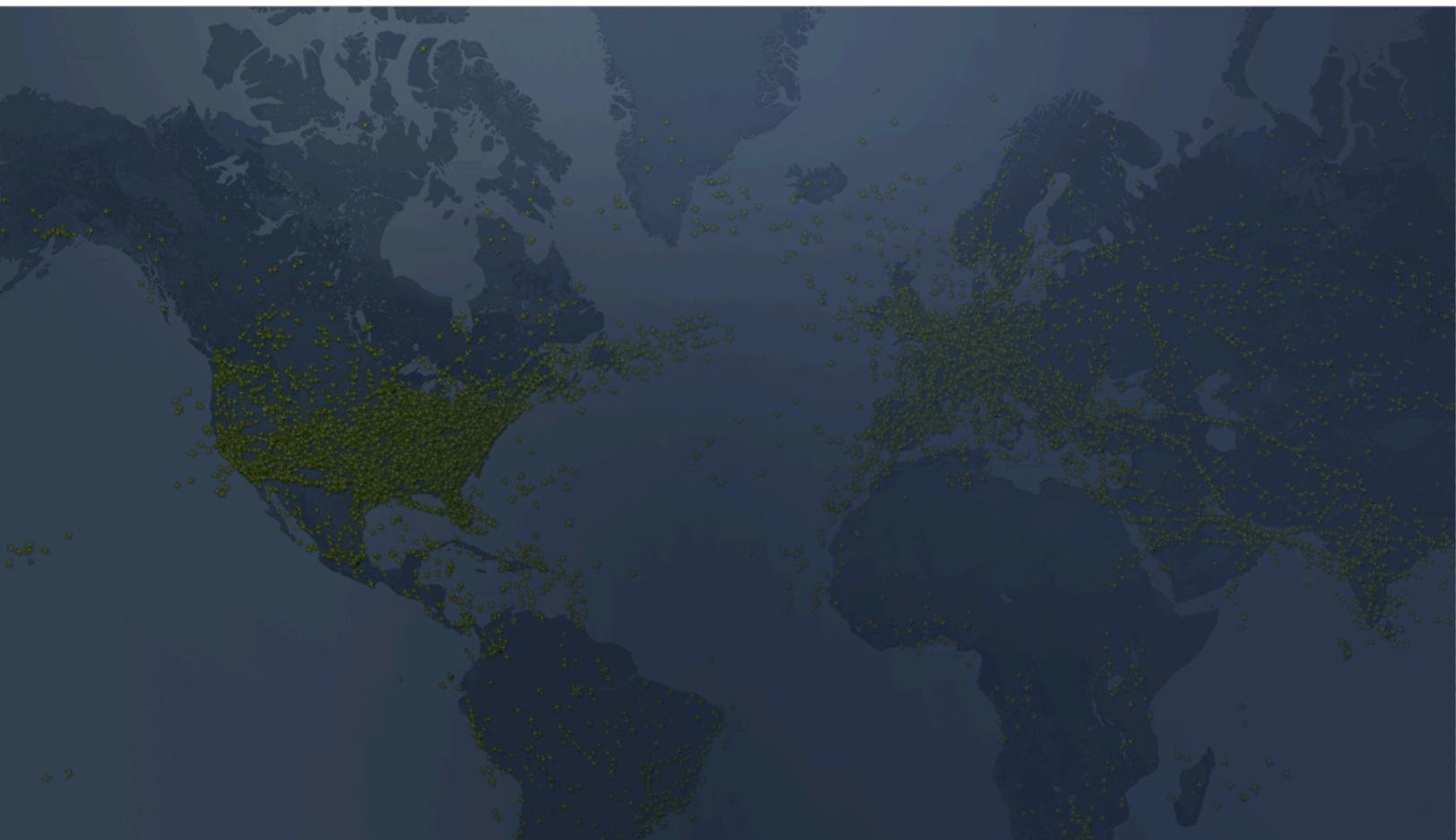


FLIGHTRADAR24

-KNOWLEDGE BASE-

“T-FEED MANUAL”



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1. INTRODUCTION

Data quality and consistency are always our primary concern and while we can reduce errors caused by our own FR24 equipment to a minimum, issues with third-party decoders producing stable and consistent results remain.

To reduce issues with third-party decoders, we have created our own decoder which works with all commonly used Mode-S/ADS-B receivers and popular hardware platforms.

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

CURRENTLY SUPPORTED OPERATING SYSTEMS

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

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 & 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, however, it comes with most modern Linux distributions. Other receivers use modem emulation and should work without any external drivers.

The DVBT dongle requires some kernel modules to be disabled as well as a few extra libraries to be present in the system. Our Raspberry Pi (armhf, arm64) and Debian (x86/x64) packages contain everything you need to start feeding immediately.

2.1.2 Config file, web interface & log file

Config file location

ADS-B: **/etc/fr24feed.ini**

UAT: **/etc/fr24uat-feed.ini**

Web interface

ADS-B: <http://IP-of-Pi:8754>

UAT: <http://IP-of-Pi:8755>

*(replace **IP-of-Pi** above with the actual IP address of the Pi)*

Log file

ADS-B (run the following command on your Pi to view logs. CTRL+C to stop):

journalctl -u fr24feed -f (version 1.0.45* onwards)

tail -f /var/log/fr24feed/fr24feed.log (version 1.0.19 - 1.0.44)

UAT(run the following command on your Pi to view logs. CTRL+C to stop):

journalctl -u fr24uat-feed -f (version 1.0.45* onwards)

2.1.3 Installation

2.1.3.1 Build your own receiver using Raspberry Pi

Please follow the following link for more details on our website.

www.flightradar24.com/build-your-own

2.1.3.2 Raspberry Pi manual installation options



Refer to Appendix A if you are having problems answering setup questions.

For the Raspberry Pi, we have prepared a Debian package to simplify the setup process. If you have a working RPi device you can start off by logging in to it using either [SSH](#) or a physical keyboard/screen and following our simple instructions:

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

```
wget -qO- https://fr24.com/install.sh | sudo bash -s
```

You will be asked to enter your email address, antenna position, and other details.

OR

Installation Option 2(i) - 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 available package here:

<https://www.flightradar24.com/share-your-data>



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

```
wget https://repo-feed.flightradar24.com/rpi_binaries/fr24feed_1.0.46-0_armhf.deb
```

```
1. pi@rpi: ~ (ssh)
pi@rpi ~$ clear
pi@rpi ~$ wget -nv http://feed.flightradar24.com/raspberrypi/fr24feed_1.0.0-1_armhf.deb
2014-10-28 13:40:33 URL:http://feed.flightradar24.com/raspberrypi/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 ~$
```

Installation Option 2(ii) - Install the package using the following command; it may take a few short moments:

```
sudo dpkg -i fr24feed_1.0.46-0_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 ... 73381 files and directories currently installed.)
Unpacking fr24feed (from fr24feed_1.0.0-1_armhf.deb) ...
Setting up fr24feed (1.0.0-1) ...
pi@rpi ~$
```

Installation Option 2(iii) - Start the signup procedure:

```
sudo fr24feed-signup-adsb #for ADS-B 1090 MHz
sudo fr24feed-signup-uat #for UAT 978 MHz (Available in US ONLY)
```

Installation Option 2(iv) - Complete the configuration wizard (see [Appendix A](#) if you need help with answering the questions) and start sharing your data by typing:

```
sudo systemctl enable fr24feed #for ADS-B 1090 MHz
sudo systemctl start fr24feed
```

```
sudo systemctl enable fr24uat-feed #for UAT 978 MHz (USA ONLY)
sudo systemctl start fr24uat-feed
```

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

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

```
fr24feed-status #for ADS-B 1090 MHz
fr24uat-feed-status #for UAT 978 MHz
```

```
pi@raspberrypi:~$ sudo systemctl start fr24feed
pi@raspberrypi:~$ fr24feed-status
[ ok ] FR24 Feeder/Decoder Process: running.
[ ok ] FR24 Stats Timestamp: 2018-01-26 13:21:33.
[ ok ] FR24 Link: connected [UDP].
[ ok ] FR24 Radar: T-ESSB113.
[ ok ] FR24 Tracked AC:..
[ ok ] Receiver: connected (3828 MSGS/0 SYNC).
[FAIL] FR24 MLAT: not running ... failed!
pi@raspberrypi:~$
```



You can now download the diagnostics file if you are using the FR24 RaspberryPi software version 1.0-19-8 or later by typing the following in your browser: http://IP-of-Pi:8754/diagnostics_dump.tgz

2.2 COMMAND LINE ARGUMENTS / PARAMETERS

While the web-based configuration should be satisfactory for most users, some 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 as "no", however.

NOTICE: Parameters stored in the config file (/etc/fr24feed.ini) do not have the "--" prefix!

--fr24key=0123456789ABCDEF - Your 16-character long sharing key that can be used only on one machine at a time. 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 to BaseStation as well. The default IP and port is 192.168.1.170:10001.

sbs1usb - SBS1, SBS1er, SBS3 connected directly via USB. For Linux users, the device path of the receiver needs to be specified using "**--path**" (see below). When using a Kinetic Avionics receiver an additional option "**--mpx**" is available so you can connect to BaseStation as well.

beast - Mode-S Beast connected directly via USB. For Linux users, the device path of the receiver needs to be specified using "**--path**" (see below).



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 a stand-alone dump1090 instance or another software-defined radio demodulator please use the "**avr-tcp**" receiver type instead.

--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 it as that feed is already provided - 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.



Also here: When using dump1090 with "--net" please disable it as that feed is already provided - 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 the BaseStation connection. For all other receivers this option is ignored.

--procargs="flags and arguments" - Extra arguments that should be passed to dump1090 application on startup. To enable HTTP server/web interface of 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" - This parameter lets you change the location of log files. Defaults to "**/var/log/fr24feed**".

--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.

--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 is 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 the 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 the FR24 decoder with the Airnav Radarbox receiver?

3.5 Possible conflicts when using RAW / BS data feeds and a 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 the software "ABCD"

One of the reasons many decoders show incorrect positions, callsigns, etc. is because the data is trusted too early, before it's been tracked long enough to be verified. We decided that it's better not to show an aircraft until we are certain to some extent that its 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 visualization 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 dongle, the easiest way to go is to configure the 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://IP-of-Pi:8754/settings.html> on the machine the decoder runs on and enable RAW data feed, if not enabled already. Next, 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.

3.2.1 Virtual Radar Server

Please go to the 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: IP address of the computer running FR24 decoder.

Port: 30334

Then select "Tools ->Reconnect to Data Feed->Receiver" to activate the data flow.

3.2.2 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 = IP address of the computer running the FR24 decoder

Port = 20072.

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

3.2.3 adsbSCOPE

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

Port number: 30334

URL: IP address of the computer running FR24 decoder.

3.2.4 Dataformat: binary

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

In the case of the DVBT dongle 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://IP-of-Pi:8754/settings.html> and change receiver type to AVR (TCP) entering "IP-address:30002" in the Host/IP field. Then save settings and restart the decoder.



While it is possible to run the FR24 decoder on a separate machine it is not recommended due to the 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 a reference point to calculate the actual position. It is possible to use the 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 the aircraft's previous position as it landed. Therefore, we store information about all aircraft landings 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 the 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 a DVBT dongle

When using a DVBT dongle with some advanced features of the dump1090 software, like an 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 a case, please make sure to disable both RAW and BS feeds by editing the `fr24feed.ini` config file or running the configuration wizard again.

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

Linux

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

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 the local host 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 - MANUAL SETUP

Setting up different types of receivers on Raspberry Pi

1. DVB-T: 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 previously fed FR24 with ADS-B data, enter your sharing key. If you don't remember your sharing key, you can find it in your account on the website under "My data sharing".

<https://www.flightradar24.com/account/data-sharing>

Enter your sharing key or press ENTER/RETURN to continue.

:\$SharingKEY

Verifying sharing key...OK

Step 2.1 - Would you like to participate in MLAT calculations? (yes/no)**:\$yes**



For MLAT calculations it is very important that the antenna's location is entered very precisely!

Step 2.2 - Enter the antenna's latitude (DD.DDDD)

:\$xx.xxxx

Step 2.3 - Enter the antenna's longitude (DDD.DDDD)

:\$xx.xxxx

Step 2.4 - Enter the antenna's altitude above the sea level (in feet)

:\$xxx

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

Step 3.1 - 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 3.2 - Enter your additional dump1090 arguments or leave empty

\$:

Step 3.3 - Would you like to enable RAW data feed on port 30002 (yes/no)\$:no******Step 3.4 - Would you like to enable BaseStation data feed on port 30003 (yes/no)**\$:no****

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

Settings saved, please restart the application by running the command(s) below to use the new configuration!

`sudo systemctl enable fr24feed`

`sudo systemctl restart fr24feed`

2. DVB-T: 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, you can find it in your account on the website under "My data sharing".

<https://www.flightradar24.com/account/data-sharing>

Enter your sharing key or press ENTER/RETURN to continue.

\$:

Step 2.2 - Enter the 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 the nearest airport code or leave the field empty to provide the 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 the 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 3A - Enter the antenna's latitude (DD.DDDD)

\$:xx.xxxx

Step 3B - Enter the antenna's longitude (DDD.DDDD)

\$:xx.xxxx

Step 3C - Enter the 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 - 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

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 /etc/fr24feed.ini...OK

Settings saved, please restart the application by running the command(s) below to use new configuration!

sudo systemctl enable fr24feed

sudo systemctl restart fr24feed

3. DVB-T: When you have PIAWARE OR your own instance of DUMP1090 or DUMP1090-Mutability running

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, you can find it in your account on the website under "My data sharing".

<https://www.flightradar24.com/account/data-sharing>

Enter your sharing key or press ENTER/RETURN to continue.

\$:SharingKEY

Verifying sharing key...OK

Step 2A - Would you like to participate in MLAT calculations? (yes/no)**:\$:yes**



For MLAT calculations it is very important that the antenna's location is entered very precisely!

Step 2B - Enter the antenna's latitude (DD.DDDD)

\$:xx.xxxx

Step 2C - Enter the antenna's longitude (DDD.DDDD)

\$:xx.xxxx

Step 2D - Enter the antenna's altitude above 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 the existing receiver configuration, or you can manually configure all the parameters.

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

Step 3.1A - Please select desired logfile mode:

0 - Disabled

1 - 48 hour, 24h rotation

2 - 72 hour, 24h rotation

Select logfile mode (0-2):**1**

Step 3.1B - 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.

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

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

4. SBS1/SBS1er via USB with BaseStation is getting data from FR24 software

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

\$:**abc@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, you can find it in your account on the website under "My data sharing".

<https://www.flightradar24.com/account/data-sharing>

Enter your sharing key or press ENTER/RETURN to continue.

\$:**SharingKEY**

Verifying sharing key...OK

Step 2 - Would you like to participate in MLAT calculations? (yes/no)\$:no

Step 3.1 - 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 3.2 - Please select connection type:

1 - Network connection

2 - USB directly to this computer

Enter your connection type (1-2)\$:2

Step 3.3 - Please enter your receiver's COM port number/device path

\$/dev/ttyUSB1

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)\$:3

Step 3.4 - Would you like to enable RAW data feed on port 30334 (yes/no)\$:no

Step 3.5 - Would you like to enable BaseStation data feed on port 30003 (yes/no)\$:no

Step 3.6 - Would you like to enable SBS/BaseStation RAW data feed on port 20072
(yes/no)\$:**yes**

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

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-> IP-address, 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 in BaseStation to Use Network.

5. SBS1/SBS1er via Network 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, you can find it in your account on the website under "My data sharing".

<https://www.flightradar24.com/account/data-sharing>

Enter your sharing key or press ENTER/RETURN to continue.
\$:SharingKEY

Verifying sharing key...OK

Step 2.1 - 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 2.2 - Please select connection type:

1 - Network connection
2 - USB directly to this computer

Enter your connection type (1-2)\$:1

Step 2.3 - Please enter your receiver's IP address/hostname
\$:192.168.X.X

Step 2.4 - Please enter your receiver's data port number
\$:10001

Step 2.5 - Would you like to enable RAW data feed on port 30334 (yes/no)\$:no

Step 2.6 - Would you like to enable BaseStation data feed on port 30003 (yes/no)\$:no

Step 2.7 - Would you like to enable SBS/BaseStation RAW data feed on port 20072 (yes/no)\$:yes

Saving settings to fr24feed.ini...OK
Settings saved, please start the application again to use the 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-> IP-address, 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.



The procedure is the same for the SBS3 Over Network and USB

6. 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, you can find it in your account on the website under "My data sharing".

<https://www.flightradar24.com/account/data-sharing>

Enter your sharing key or press ENTER/RETURN to continue.

\$: **SharingKEY**

Verifying sharing key...OK

Step 2.1 - 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 2.2 - Please select connection type:

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

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

Step 2.3 - Please enter your receiver's COM port number/device path

\$/dev/tty**USB1**

Step 2.4 - 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 2.5 - Would you like to enable RAW data feed on port 30334 (yes/no):**no**

Step 2.6 - Would you like to enable BaseStation data feed on port 30003 (yes/no):**no**

Saving settings to fr24feed.ini...OK

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

Press any key to continue . . .

7. DVB-T on Linux desktop

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, you can find it in your account on the website under "My data sharing".

<https://www.flightradar24.com/account/data-sharing>

Enter your sharing key or press ENTER/RETURN to continue.

\$/**SharingKEY**

Verifying sharing key...OK

Step 2.1 - 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 2.2 - 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 2.3 - Enter your additional dump1090 arguments or leave empty

\$:

Step 2.4 - Would you like to enable RAW data feed on port 30002 (yes/no):**no**

Step 2.5 - Would you like to enable BaseStation data feed on port 30003 (yes/no):**no**

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

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

8. UAT - Using dump978-fr24

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

\$:abcd@xyz.com

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

If you don't remember your sharing key, you can find it in your account on the website under "My data sharing".

<https://www.flightradar24.com/account/data-sharing>

Enter your sharing key or press ENTER/RETURN to continue. **(leave empty if you are signing up for a UAT feed. DO NOT USE ADS-B SHARING KEY)**

\$:**SharingKEY**

Verifying sharing key...OK

Step 4.1 - Receiver selection:

1 - DVBT Stick (DUMP978-FR24 RAW UDP)

2 - DVBT Stick (DUMP978-FA RAW TCP)

Select your receiver type (1-2):**1**

Step 4.2 - Please enter the UAT raw data port number or leave empty for default (10978)

\$:

Saving settings to /etc/fr24uat-feed.ini...OK

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

9. UAT - if you have dump978-fa installed already

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

\$:abcd@xyz.com

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

If you don't remember your sharing key, you can find it in your account on the website under "My data sharing".

<https://www.flightradar24.com/account/data-sharing>

Enter your sharing key or press ENTER/RETURN to continue. **(leave empty if you are signing up for a UAT feed. DO NOT USE ADS-B SHARING KEY)**

\$:SharingKEY

Verifying sharing key...OK

Step 4.1 - Receiver selection:

- 1 - DVBT Stick (DUMP978-FR24 RAW UDP)
- 2 - DVBT Stick (DUMP978-FA RAW TCP)

Select your receiver type (1-2)**\$:2**

Step 4.2 - Please enter the UAT raw data port number or leave empty for default (30978)

\$:

Saving settings to /etc/fr24uat-feed.ini...OK

Settings saved, please restart the application by running the command(s) below to use the new configuration!

```
sudo systemctl enable fr24uat-feed
sudo systemctl restart fr24uat-feed
```