SKYTRAXX 5 Mini

HowToUse - User Manual

SKYTRAXX

At SKYTRAXX, the pilot is at the center of all developments. Our products are created from our own passion for flying and we work closely with a large number of pilots, from beginners to top athletes at world-class level. Our goal is to achieve perfection in function and technology, while at the same time ensuring that they are easy and intuitive to use. We always focus on the needs of everyday pilots in order to offer the best possible support when flying. To achieve this, we rely on sophisticated and flexible basic concepts and high-quality components. Our excellent team, creativity and the joy we take in our work also play an important role. We attach great importance to a healthy sense of proportion in order to find the balance between what is technically possible and what is practical in flight practice. At the same time, it is important to us to have short distances to our component manufacturers who guarantee fair production conditions in the region. We also maintain continuous contact with our customers.

Foreword

We are pleased that you have chosen a flight instrument from SKYTRAXX and thank you for your trust in our products. The SKYTRAXX 5 Mini is a

It is a state-of-the-art, universal flight instrument based on the groundbreaking SKYTRAXX concept, which has already proven itself in thousands of devices worldwide. It is characterized by comprehensive functions that go hand in hand with maximum user-friendliness, high reliability, long battery life, compact dimensions and low weight. The SKYTRAXX 5 Mini is simple and intuitive to operate and offers optimal support in flight for a wide range of pilots. Both the functions and the display on the screen can be individually adapted to your own flying style, personal preferences, specific needs and the current conditions. We wish you lots of fun and happy flights with the SKYTRAXX 5 Mini.

Michael Blank, Managing Director, Dr.-Ing. Jürgen Eckert, Chief Developer SKYTRAXX GmbH.

About this guide

With the HowToUse Guide for your SKYTRAXX 5 Mini, we would like to give you practical instructions for the sensible use of your new flight instrument. The focus is on which function you can best use when flying and how to optimally adapt the SKYTRAXX 5 Mini flight instrument to your personal flying requirements and preferences. The instructions are written for pilots with no prior knowledge of flight instruments. They are intended to help you understand how your SKYTRAXX 5 Mini works so that it can provide you with targeted and optimal support when flying. You will then immediately understand how operation and adjustment work for you without the respective configuration instructions (which you can of course also find here).

If you are already a crack and some explanations seem too detailed, refer to the table of contents to find the answer to your question directly.

We hope you enjoy reading this manual and even more enjoying flying your SKYTRAXX 5 Mini.

Table of contents

Main features

ÿ ultra-sensitive sensors, no delay

ÿ compact, very light device with integrated GNSS and logger ÿ airspace data,

obstacles, landing sites and take-off sites worldwide ÿ easy updating with integrated

SkyUp software ÿ reflective grayscale display with best contrast

ÿ very good speaker with excellent sound

ÿ Running time up to 60 hours

ÿ Thermal assistant

ÿ FANET and FLARM integrated, ADSL ready

ÿ FANET antenna integrated in the housing

ÿ Live tracking via FANET+

ÿ customizable fields on every page

ÿ Real-time XC points and FAI triangle calculator

Quick start

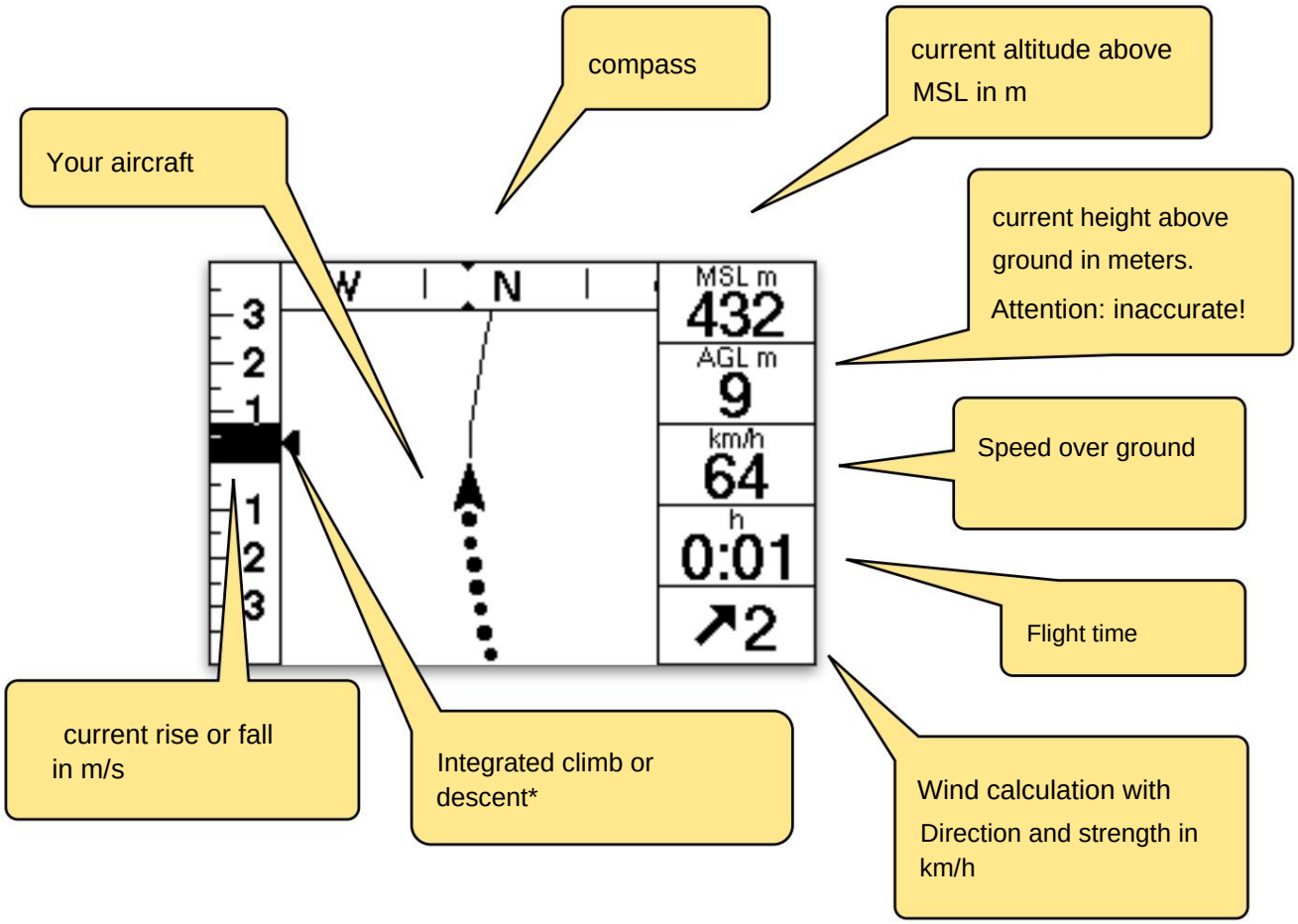
for SKYTRAXX connoisseurs, lazy readers and impatient people

We have pre-configured the SKYTRAXX 5 Mini for you so that you can start flying immediately after unpacking it. The battery is already sufficiently charged and the scratch-resistant display does not need a protective film.

So let's get started! **As an alternative** to the following three pages, watch the video here >

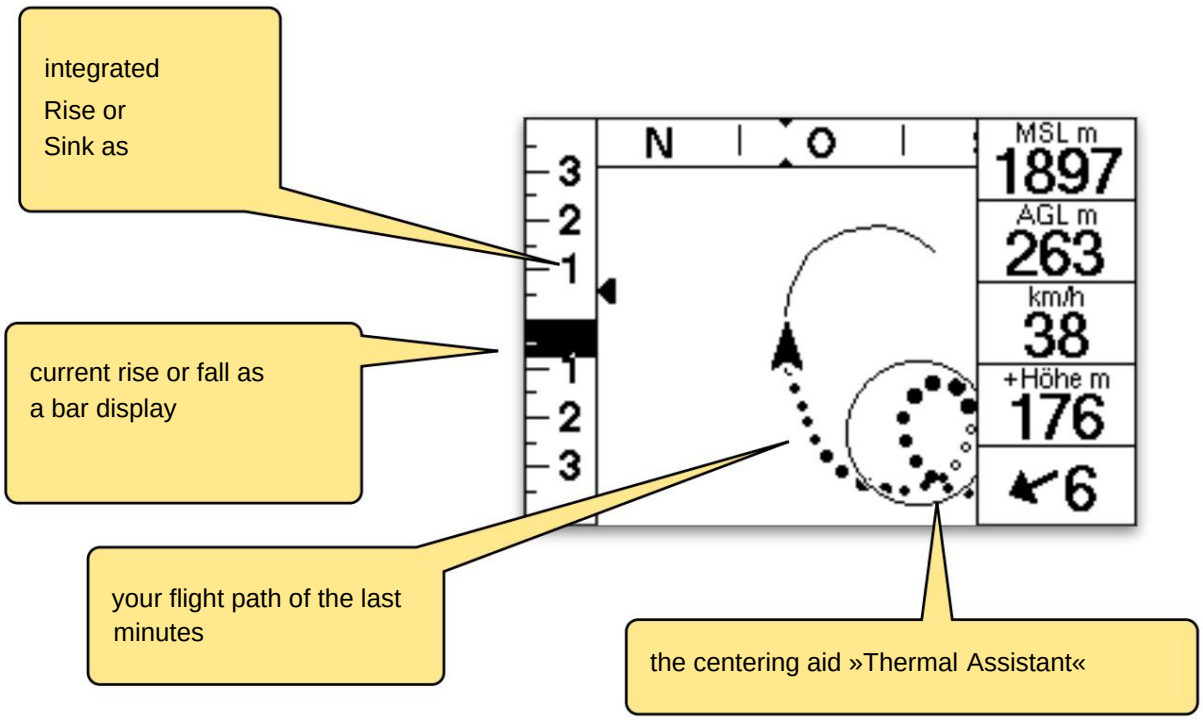
ÿ Briefly press the button on the left side of the device and then immediately press the button on the right: this is how you turn the device on.

ÿ you see the so-called main screen with various displays:



* The display changes automatically depending on the flight status (climbing / gliding).

During the flight you will see further information on the screen:



ÿ Flight track: the thicker, the stronger the climb ÿ Centering aid

Thermal assistant: you can find a detailed explanation in the **chapter**

Thermal Assistant

ÿ Depending on the individual configuration, other information appears on the display. You can find out what they mean and how you can switch them on or off in the

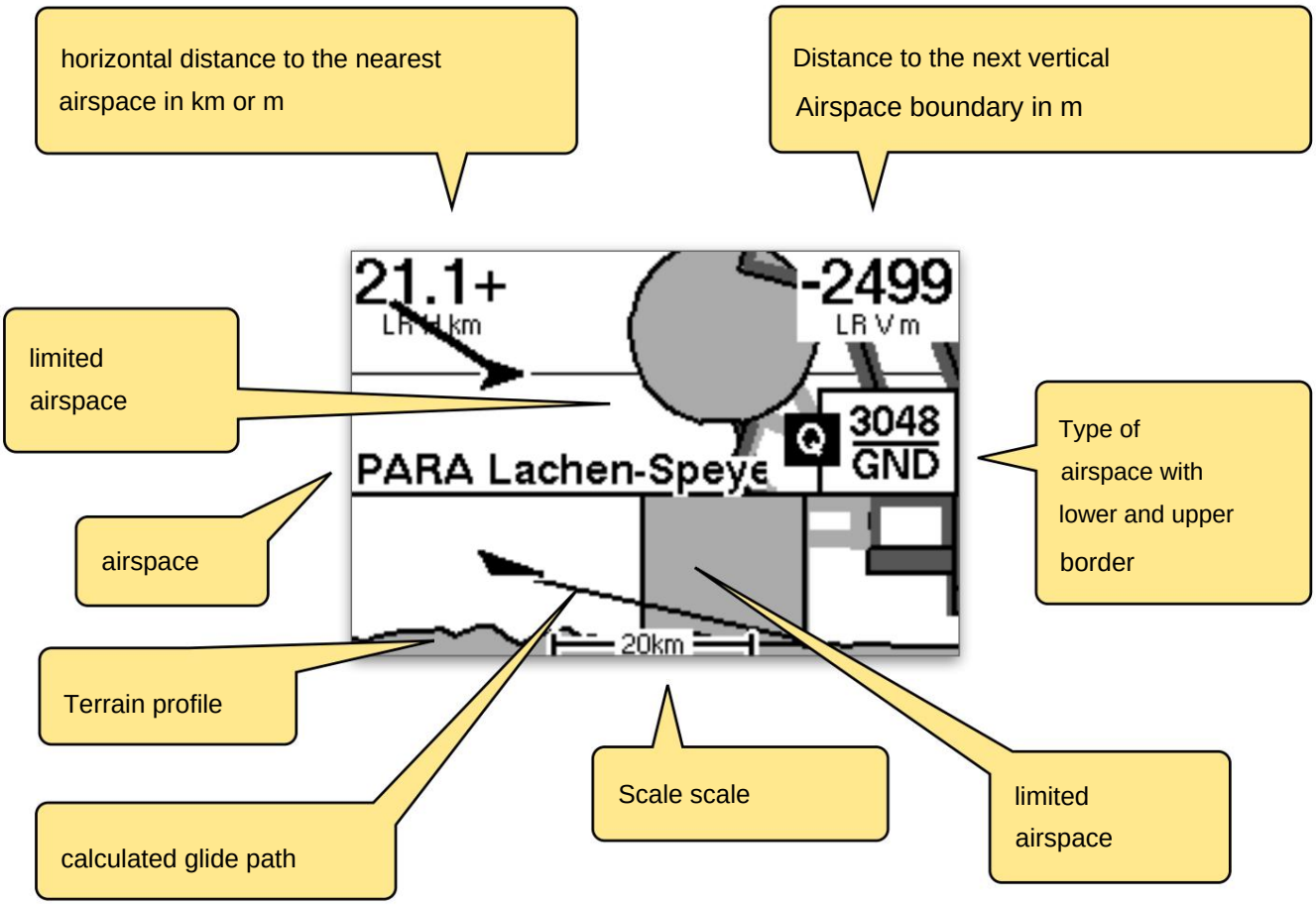
Chapter Defining flight screens.

In the standard configuration there is a second flight screen. It appears automatically when you approach a restricted airspace or when you click the button on the far right.

The display is divided:

ÿ the upper half shows a map view (view from above)

ÿ the lower half shows a side view

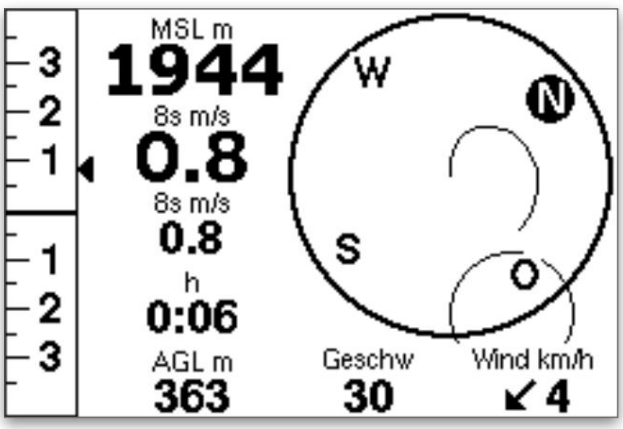


The two screens **switch automatically depending on the flight situation** (normal flight, approaching restricted airspace) or you can switch between the two using the right button (>OK).

If you get too close to an airspace, a warning screen will appear. Back to previous

You can return to the previous display using the >OK button.

For more information, see the chapters Defining **Airspaces** and **Flight Screens.**



If you miss the classic Skytraxx flight screen, read the chapters **Defining Flight Screens** and **Flight Screen Profile.**

Find out how to activate the classic screen there!

The SKYTRAXX 5 Mini also has this screen display in keeping with tradition.

SKYTRAXX 5 Mini - Basic functions

Imagine you have a construction kit with different colored building blocks. Each of these building blocks has a specific function, such as a column, a window or a roof element. You can combine these individual building blocks in many different ways to build your very own house: plain, simple and clear, large and complex, colorful and playful.

You can imagine your SKYTRAXX 5 Mini flight instrument as such a kit. The device provides you with the following basic functions:

ÿ **Variometer:** climb and descent rates of the aircraft

ÿ **barometric altimeter:** altitude measurement via air pressure

ÿ **GNSS:** Position determination using satellite signals

ÿ **Compass:** GNSS and magnetic

ÿ **Airspace information:** airspace class and boundaries, approach information

ÿ **Terrain information:** Information about the shape and height of the terrain as well as the current flight altitude above ground (approximate!)

ÿ **Obstacle information:** Cable car cables, power lines and other exposed obstacles obstacles in the airspace

ÿ **Thermal Assistant:** Centering aid when flying thermals

ÿ **FANET+:** Collision warning for other aircraft (FLARM) and complex information system

ÿ **Navigation information:** course, waypoints, route information, etc.

ÿ **Cross-country flight support:** Assistant for triangle optimization, calculation of XC-Points, XC type, XC km, distance flown

ÿ **Flight log:** database of your flights and hiked routes, statistics

ÿ **Administration:** menu language, pilot profile(s), OLC profile(s), units, etc.

We will explain the individual functions in detail in later chapters.

The concept of flight screens

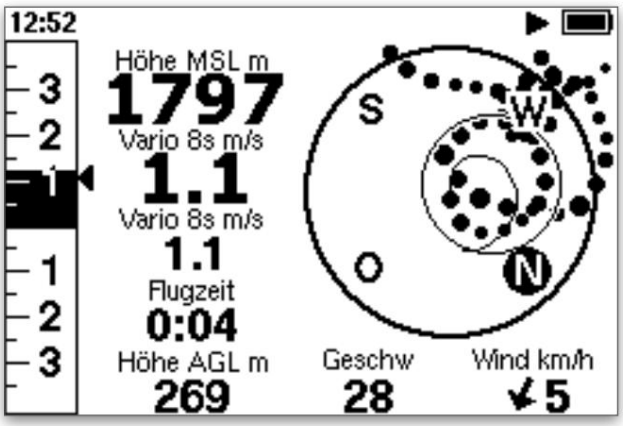
All of these functions are basically available to you. To make them quick and easy for you to access, there are predefined "assemblies", ie combinations of building blocks that were developed on the basis of many pilots' many years of practical flight experience.

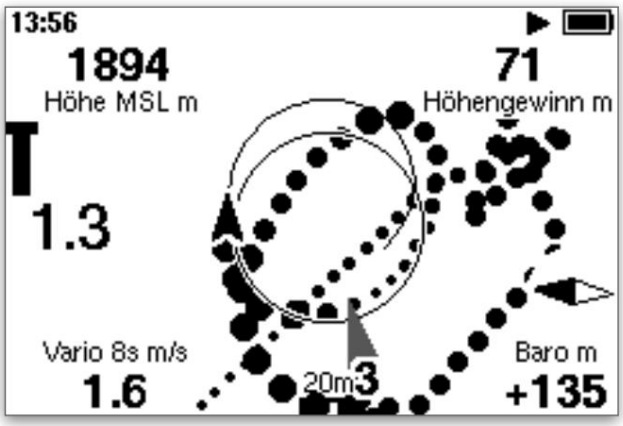
We call these function groups **“flight screens”** because they provide you with concentrated information on the display that is tailored to different flight situations.

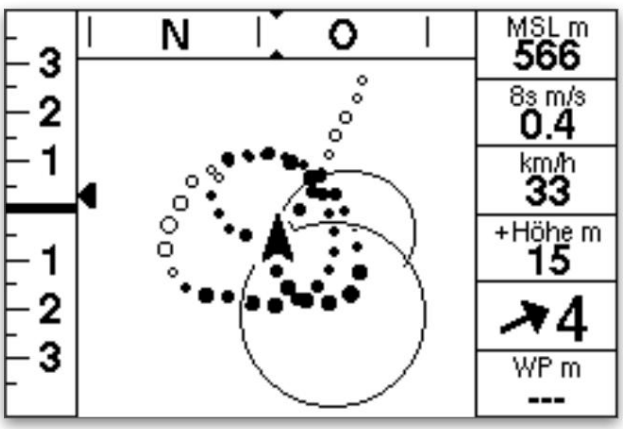
The motto is: less is more, the flight screens are designed in such a way that the information is available in a concentrated and clear manner, always only as much as you currently need or want to see.

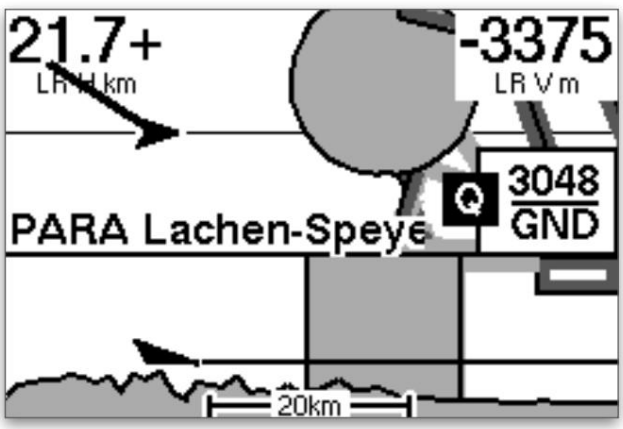
You can define as many of these flight screens of the same or different type as you like in any order and display them by pressing the OK button to switch to the next flight screen.

different flight screens on the SKYTRAXX 5 Mini:









The concept »simple yet flexible«

You can start flying your SKYTRAXX 5 Mini immediately after unpacking without any configuration effort.

We provide you with a tried-and-tested standard configuration of various flight screens, on which the most important displays for different flight situations are predefined.

For example, you will find a flight screen with information on the climb and descent rates of your aircraft, with an altimeter, current glide ratio over ground, wind information and a thermal centering aid. Another flight screen shows the airspace information on a map display, etc.

This compilation of flight screens is summarized in the so-called Classic Theme.

In **the >Main menu** under **>Settings >Flight Screens** you can add additional types of flight screens to your current configuration, change the order of the screens or delete individual flight screens.

On each flight screen you can also define display fields with desired information.

>Main Menu >Settings >Flight Screens

Select the flight screen and define the display of the fields.

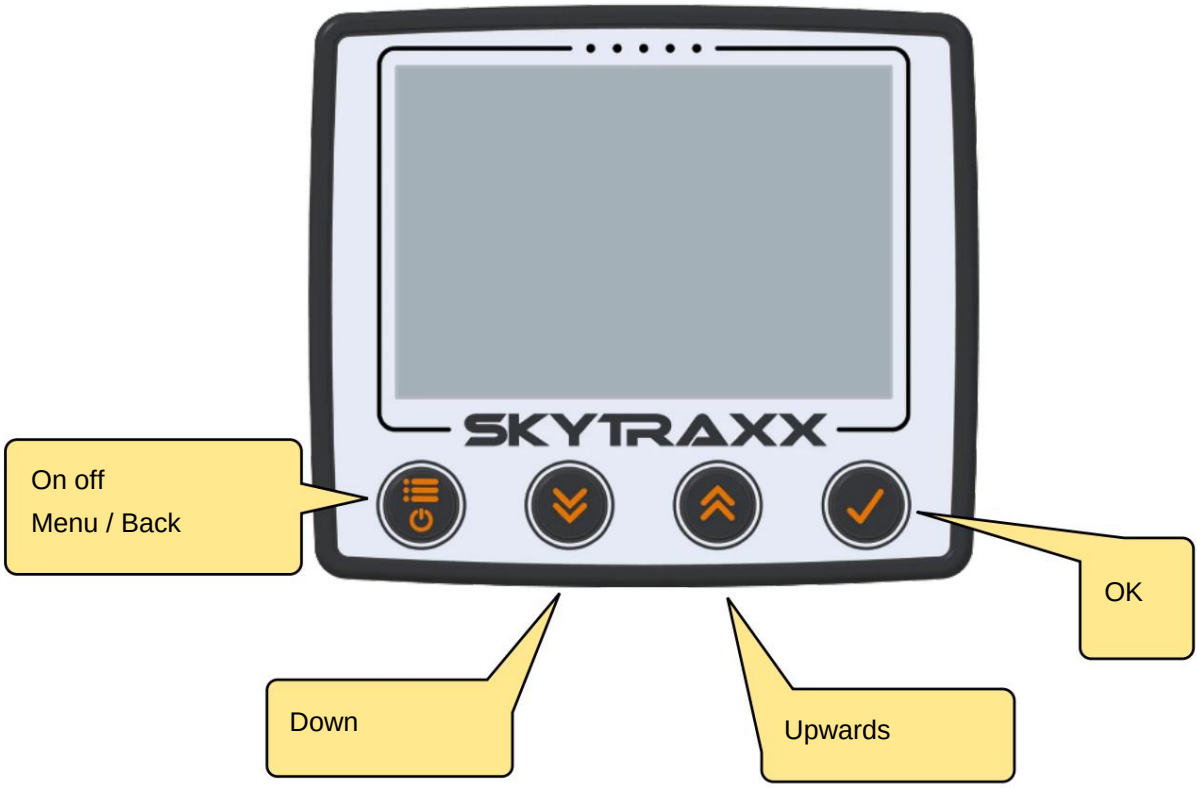
In addition, you can enable or disable certain functions of your individual flight screens. We explain these functions in the following chapters.

Detailed descriptions can be found in the chapter Defining flight screens.

You can also select other flight screen combinations from the **>Main menu** under **>Settings >** Flight Screens.

! Please note that your current configuration will be overwritten.

Overview



Function keys

All functions and settings can be controlled using the four function buttons. They are easy to operate even when wearing gloves.

The **button on the far left** (>Menu) has the following functions:

ÿ Switch on (press briefly and confirm with >OK)

ÿ Switch off (press for a few seconds, then confirm with >OK)

ÿ Menu (press briefly to go to the main menu) ÿ Back (press briefly

to go back one level in the menu)

ÿ Reset: Press and hold the button for 10 seconds, the device will restart.

not deleted by any data.

Functions **of the two middle buttons** (>up / **>down):**

ÿ Browse through individual menu items or change the setting values

ÿ Change volume (classic page) or scale (map pages)

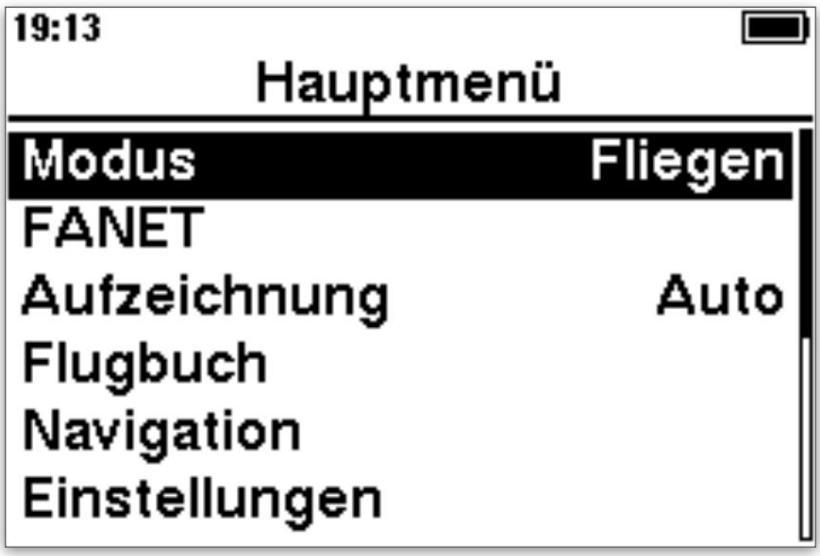
The **right button** (>OK) has the following functions:

ÿ confirm your selection

ÿ Switch between screen pages

Main menu

The main menu gives you access to the individual modules (basic functions) of your SKYTRAXX 5 Mini, for example to configure your screen displays, call up your flight log or make general settings. You can access the main menu using the **button on the far left of your device** (>On / Off / Menu).



Use the arrow keys to select the desired menu item and confirm with the button on the far right of your device (>OK).

Press **>OK** to go one step further in the menu, and press the **>Menu** button to go back one step.

You have the following choices in the main menu:

ÿMode: Switch between flying and walking.

ÿ **FANET:** Shows currently active FANET users, FANET wind or ground stations.

ÿ **Recording:** Switch between automatic recording after startup or manual recording. Long press prevents recording.

ÿ **Flight log:** Contains the saved data sorted by year, month and day and start time.

ÿ **Navigation:** Management of waypoints and routes, competition functions. ÿ

Settings: Individual adjustments. ÿ **Extras:**

Device status, change log after software updates.

ÿ **Notifications:** Information about automatic downloads (airspace, obstacles) as well as such as active airspace and obstacle warnings.

ÿ **Turn off**

Status bar

A status bar at the top of the screen provides information about:

The individual symbols have the following meaning:

	Search for update information
	USB connection active
	Update active
	GNSS fix (sufficient GPS reception)
	Airspace warning temporarily deactivated
	Playback (Flight log)
	Battery charge level
	Battery is charging

The status bar is visible in all menus and for a few seconds when switching screens. You can set how long the status bar appears on the flight screens when switching at

>Settings >General management >Hide status bar

Basic settings

The SKYTRAXX 5 Mini.0 is **ready to fly straight from the factory without any changes to the settings.**

The pre-configuration is based on the years of practical experience of many pilots.

General administration

In **the main menu** under **>Settings >General administration** you will find the settings for the language, the units of measurement in the display and the duration of the status display.

The individual options are:

ÿ **Dark Mode:** light font on dark background

ÿ **Hide status bar:** after the selected time, the status bar at the bottom of the screen disappears.
lower edge of the screen

ÿ **Double tap:** determines what happens when you double tap the device's case
knock.

ÿ **Language:** Choice between German, French, English, Polish and Italian

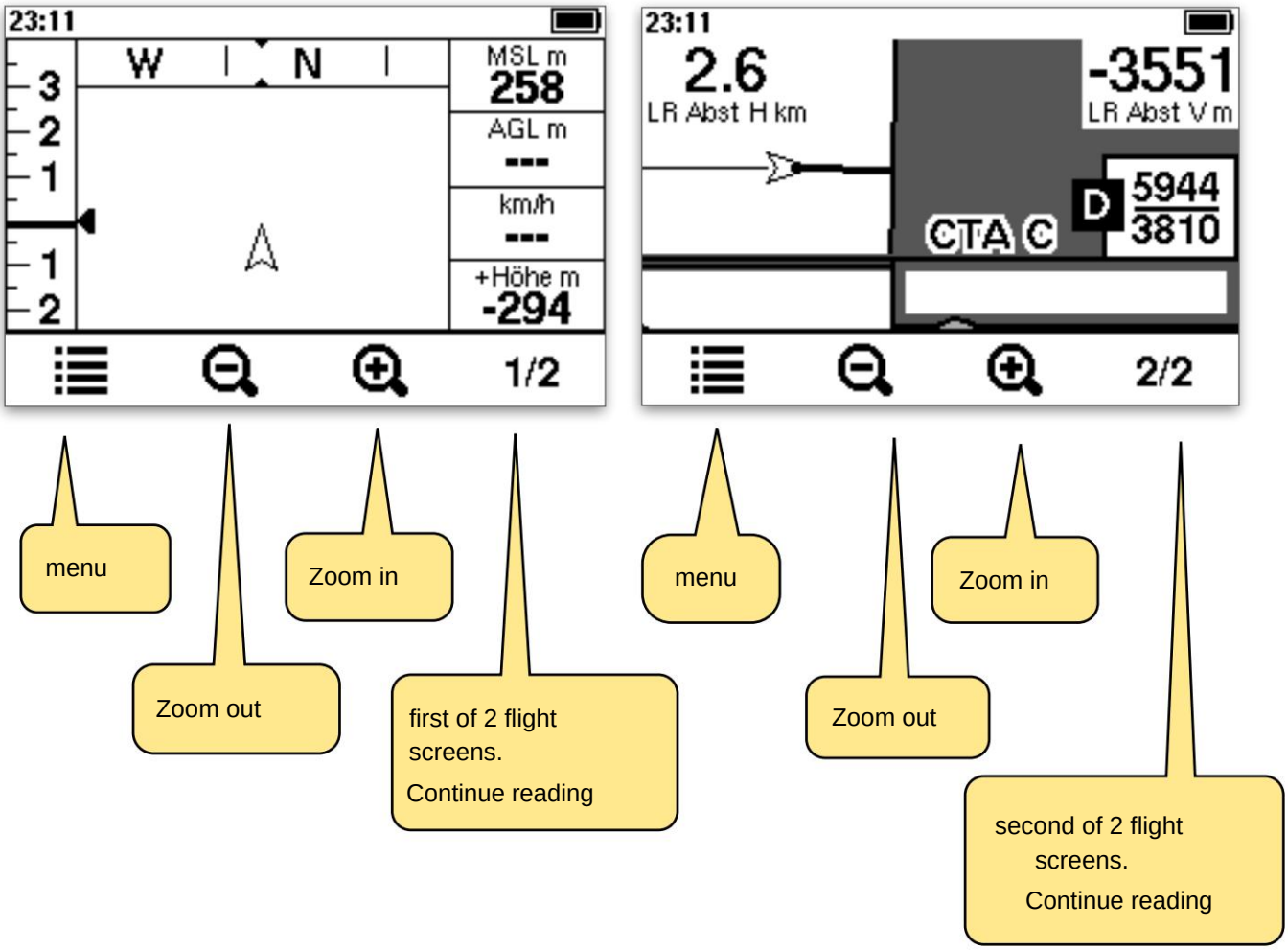
ÿ **Units:** Selection of units for speed, distance and coordinates
System.

ÿ As a rule, you do not need to change these settings.

Flight screen info

When switching between flight screens, the

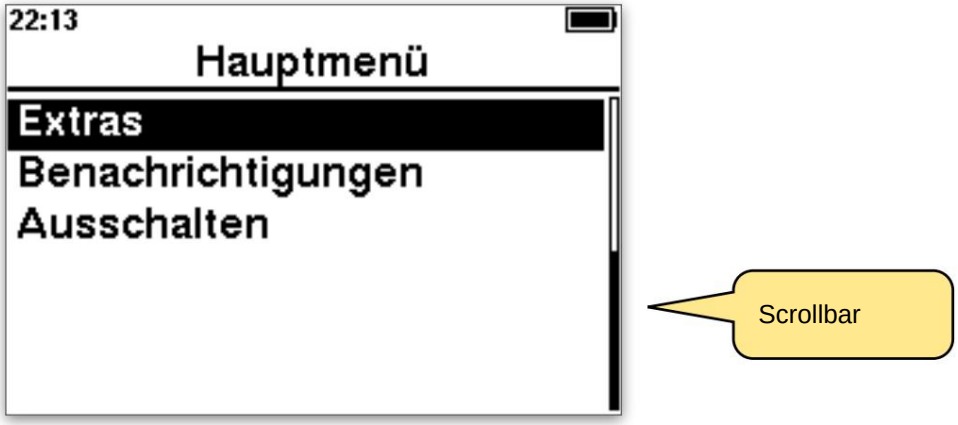
Information about the current meaning of the four buttons on the device:



Scrollbar

The gray bar on the right edge of the screen indicates that a menu has multiple pages.

Scroll up or down using the arrow keys.



Personalize your SKYTRAXX 5 Mini

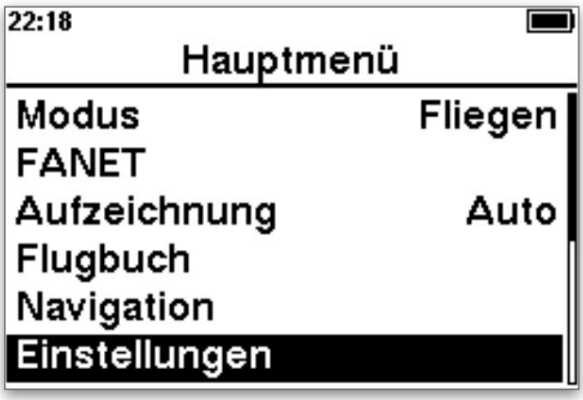
Your flight instrument can **communicate** with other pilots via **FANET+ ,** transmit the current flight data for **live tracking** and, after the flight, transfer the IGC file in which your flight is recorded to an **online server** (DHV-XC, XC-Contest, XCglobe ...).

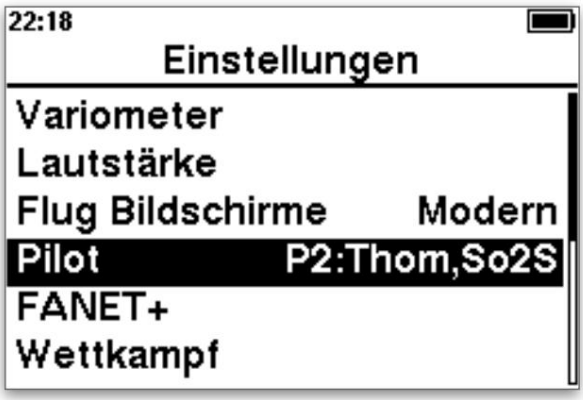
If you enable the corresponding options, the device will also transmit your name and aircraft.

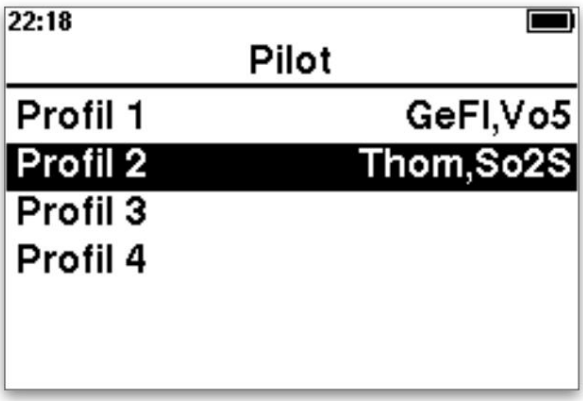
It is therefore best to save your pilot data on the SKYTRAXX 5 Mini in the **pilot profile.** If you have several wings or different pilots fly with the flight instrument, you can also create several pilot profiles and select them accordingly for each flight.

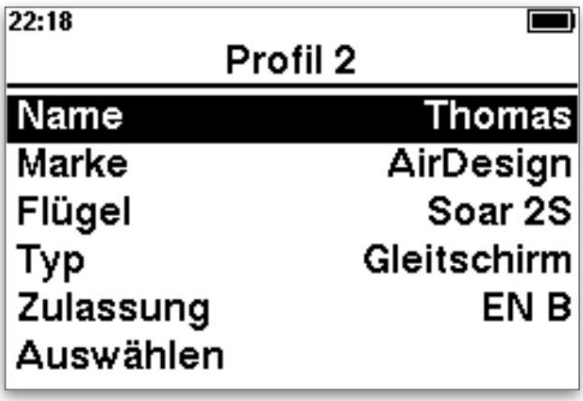
Pilot profile

Use the **left button** (>On/Off / Menu / Back) to open the main menu on your device and then use the arrow keys to select **Settings** and **Pilot.**







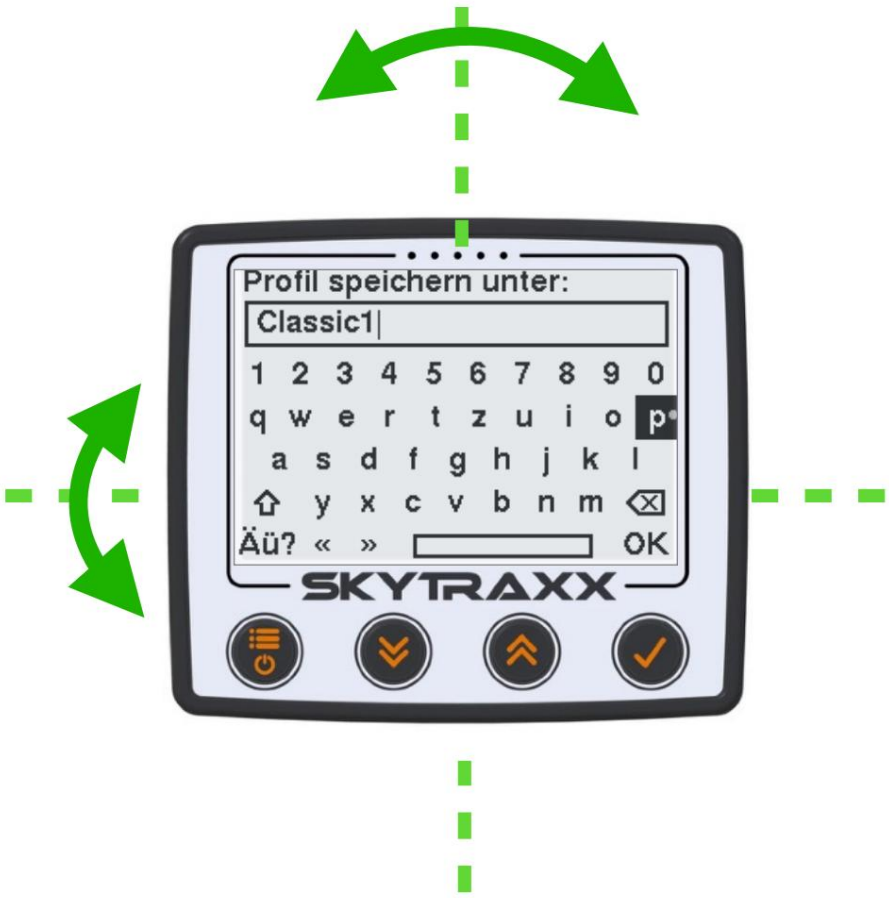


Edit mode

! Hold your device **horizontally** before selecting one of the input fields. A screen similar to a computer keyboard will now appear.

Tilt your device **slowly** lengthwise and crosswise to move the cursor and confirm the selected letter with the **>OK button.**

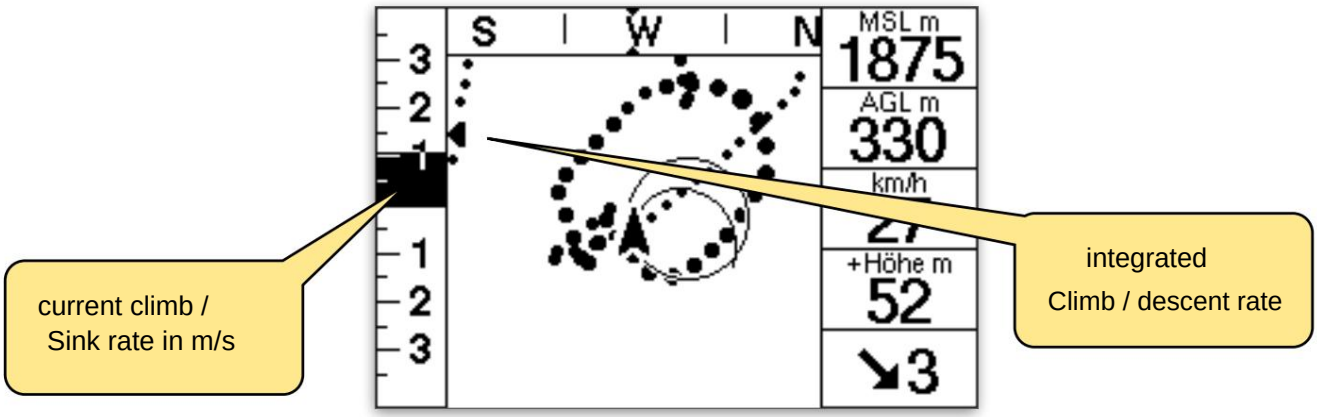
Finally, confirm your entry with **OK on the on-screen keyboard.** Repeat this for each input field.



The basic functions of the SKYTRAXX 5 Mini

Variometer

The most important component of your flight instrument is the variometer. It tells you whether your aircraft is climbing or descending. How strong the climb or descent is depends on the speed of the aircraft. The device can indicate to you as an acoustic signal or on the display whether the water is sinking.



Optical display on the screen

The bar shows the current climb or descent value determined by various sensors. If the value exceeds +4 m/s or -4 m/s, the scale automatically changes to
higher values.

The small horizontal bar shows the value averaged over a freely selectable time interval: **Settings > Variometer > Vario integration time.**

ÿ We recommend a value between 7 and 10 seconds. A thermal circuit lasts in
usually between 15 and 20 seconds. If you have climbed over half a circle on average, it is worth turning and re-centering (default setting: 10 seconds).

ÿ You can also display the integrated climb or descent value as a number on one of the display fields. For more information, see the Flight Screens chapter.

Acoustic signal (beep)

The acoustic Vario signal helps you to concentrate on your surroundings when thermalling without having to look at the display.

When configured correctly, it gives you immediate and very accurate information about the thermals and your flight status.

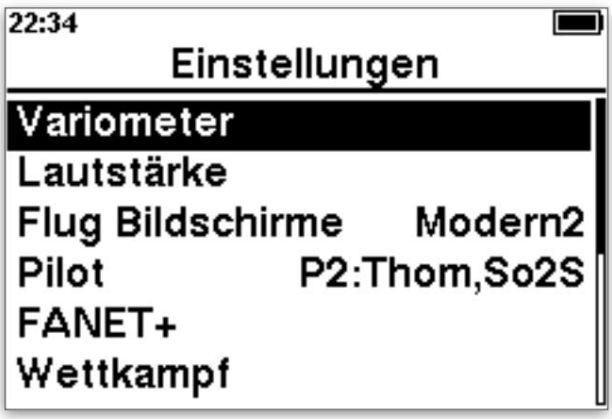
Many pilots will be happy with the standard setting. However, you can also adjust the acoustic signal precisely to your preferences and the conditions at the flying site.

Settings for the variometer

Rise tone use

The climb tone setting defines at what point your aircraft climbs the vario starts to beep. However, the thermals in which the aircraft is located are already rising significantly more than the value of the climb tone setting (aircraft climbing in updrafts = air mass rising - aircraft sinking).

ÿ As a rule, it is recommended to use the climb tone at 0.2 m/s (>Settings **>Vario-meter >Climb tone).** You will then receive acoustic information when the altitude is really rising.



If you already have some experience with thermal flying, using a climb tone from -0.3 m/s can also be helpful. Because if your sink rate is lower than the natural sink rate of your aircraft (approx. -0.8 to -1 m/s), you are in a rising air mass.

Sinktone use

The sink tone can inform you about a strong sink. It is usually set so that the load (see above) is at 100%, ie it is a continuous tone (you can clearly distinguish it from the climb tone).

ÿ If you are in a strong descent, you should change your flight path (approx. 45°) and accelerate against the wind.

Whether you want to use the sink tone is a matter of taste.

Adjusting the sensitivity

The sensitivity determines how immediately the Vario reacts to changes in climb or descent. Sinking responds. The built-in sensors are extremely precise and respond without delay. With a high sensitivity setting, your SKYTRAXX 5 Mini will inform you of every small change in the flight position with a display and a beep.

ÿ For pilots with a lot of thermal experience, a sensitive vario setting is helpful.

ÿ If you have little experience with If you are a thermal flyer, we recommend a sensitivity of 50-60%, otherwise the strong fluctuations in the acoustic signal will confuse you rather than benefit you.

Further setting options for the Vario

ÿ **Quiet on the ground:** the Vario only beeps during flight. ÿ

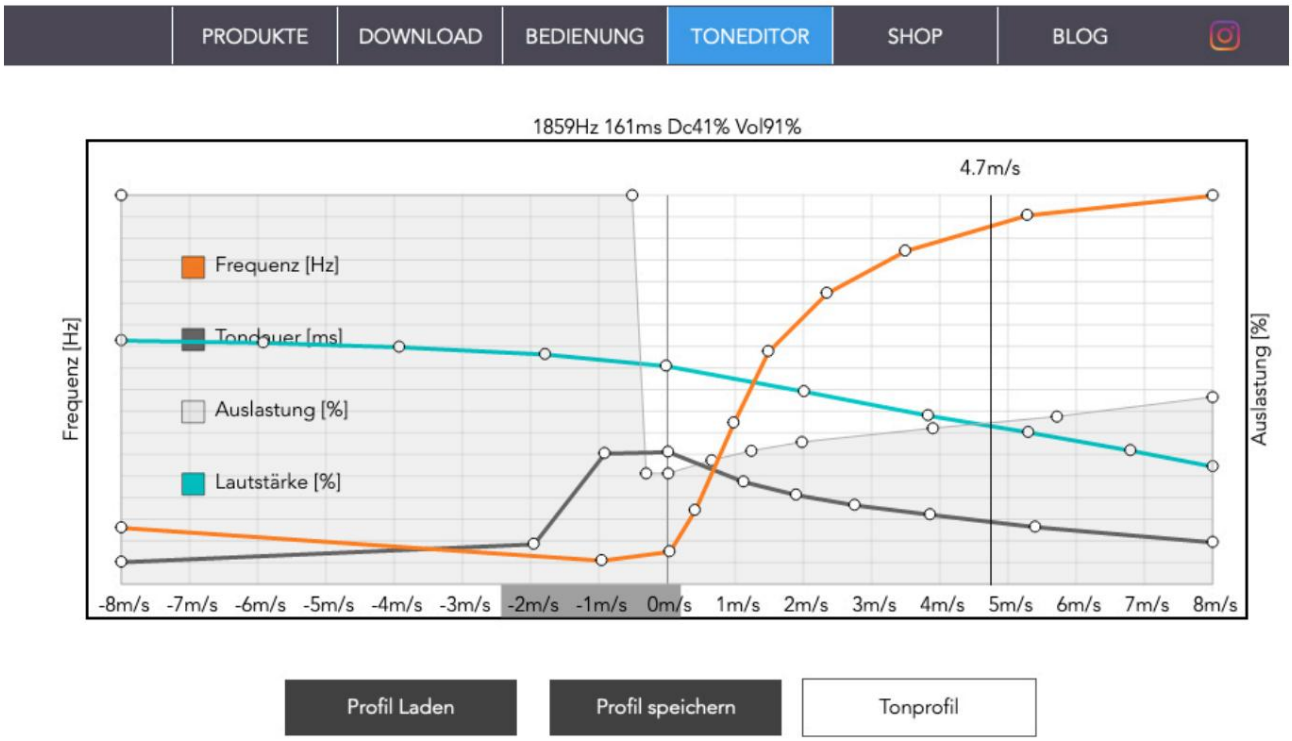
Dynamic frequency: the tone frequency adapts immediately to the climb or descent values, ie even a single beep can vary in pitch.

ÿ The Vario settings of the SKYTRAXX 5 Mini are preconfigured to be suitable for very well suited to many requirements in flight practice.

Sound profile

You can adjust the acoustic Vario signal to your needs using four parameters.
fit:

1. **Frequency:** pitch depending on the climb or descent value
2. **Tone duration:** Duration of each beep
3. **Utilization:** Duration of the pause between the beeps. High utilization = short pause, low utilization = long pause
4. **Volume:** depending on the climb or descent rate



All these parameters are configurable using the sound editor on the Skytraxx website.

Link to the sound editor on the Skytraxx website >

ÿ Choose the sound profile and the vario sensitivity depending on the flight conditions. The settings can be changed quickly.

volume

ÿ Set the volume as low as possible, ideally so that you can just about hear the beep during flight. This way you can use the beep to support thermal flying, but at the same time train your instinct.

Recommendation for sound profile settings

ÿ **Flat land,** rather low climb rates in thermals and rather difficult entry or
zile centering:

ÿ Choose a **significant increase** in the tone frequency in the range of +0.2 m/s to approx. 2 m/s. Then let the frequency curve gradually flatten out. If you have very strong climb values, a difference of +/- 0.2 or 0.3 m/s is of little relevance.

ÿ In the area of weak climb, however, it is very advantageous for centering if you have **small differences** displayed via the Vario acoustics.

ÿ **High mountains** or generally strong climb and descent values, rather easy centering

ÿ Choose a **flatter curve** for the rise of the **pitch** depending on the rise worth.

ÿ Tone duration and utilization: a **short tone duration** in combination with a **high utilization** transmits even the smallest changes within a short time.

ÿ Volume: the human ear perceives the higher vario tones more strongly than the lower ones. If the high tones annoy you when climbing strongly, reduce the volume in this range.

Once you have configured all parameters to your liking, save your sound profile as a file. Then upload this file to the **»vario-tones«** directory on your

SKYTRAXX and **select the sound profile** on the device under

>Settings >Variometer >Sound profile .

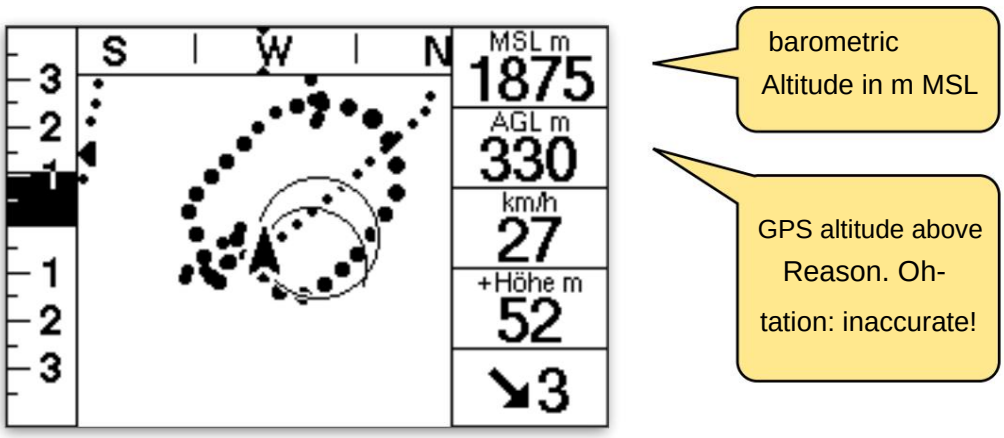
The sound profiles are compatible and interchangeable between devices in the 2.1, 3.0, 4.0 and 5 series.

ÿ You will already find a number of predefined sound profiles for different flight conditions on your device. Try it out!

Altimeter

The SKYTRAXX 5 Mini basically determines the flight altitude using air pressure (this is a legal requirement under aviation law). However, since this fluctuates, the device calibrates itself at takeoff using the determined GPS position and its altitude information.

This means that **regardless** of the weather conditions (or air pressure) after take-off, you will always see the correct (and only relevant barometric altitude under aviation law) in the altitude MSL (Main Sea Level) display field.
get.



Since air pressure can change during flight, the altitude displayed may differ slightly from the correct altitude (even more so the longer the flight).

ÿ Therefore always use the visual altitude for landing bearings!

The SKYTRAXX can also give you an approximate height above ground level (AGL). The device calculates this height based on an internal database for the terrain height and your current GPS position.

! CAUTION: the AGL display **only approximates** the actual height above ground and can **deviate considerably from it.** This display is useful for navigation in airspaces where there are limits to the height above ground (eg RMZ). **Never** use AGL for landing bearings!

Since your SKYTRAXX 5 Mini compares the barometric altitude measurement with the determined GPS position, the altitude converted to normal air pressure (1013.25 hpa) is also available **(altitude QNE).**

What are QFE / QNE / QNH / QFF?

For an explanation, see the article on the Q groups at the DWD >

Airspace

The SKYTRAXX 5 Mini offers excellent support for navigating airspace thanks to its very clear display on the screen.

Your SKYTRAXX flight instrument contains a database of airspace worldwide. The data for this is provided by the XContest.org platform .

If the data connection on the SKYTRAXX 5 Mini and the online services are activated, the device automatically updates the airspace data on an ongoing basis.

Many airspaces are **only active temporarily.** The activation times or the periods in which the temporary airspaces are not active are also stored in the device's internal airspace database.

In the menu under **>Settings >Airspace >Activation time** you can choose whether you want to be warned about an approach (activation time OFF) or only when the airspace is active (activation time ON).

! Please note that in exceptional cases, short-term changes are possible which the airspace database cannot take into account. Only the activation times published daily in the relevant NOTAMs are legally binding.

The SKYTRAXX 5 Mini can **display airspaces in all map views** (>Settings **>Flight Screens** - select Flight Screen, then option **>Airspaces ON)**

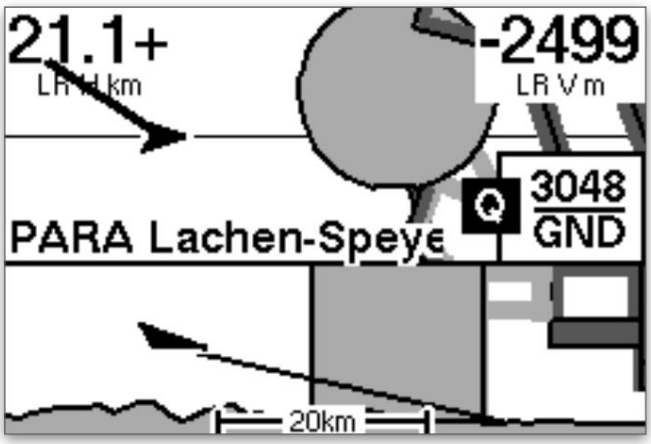
The SKYTRAXX 5 Mini displays the horizontal limits as on the ICAO map and the vertical limits **as altitude MSL.** The device calculates the AGL altitudes as well as

the flight levels **are adjusted to the current air pressure** at MSL altitude.

If an airspace boundary is marked with 2980, for example, then according to the current air pressure at the airspace boundary, the **altitude MSL** display field also shows exactly 2980m.

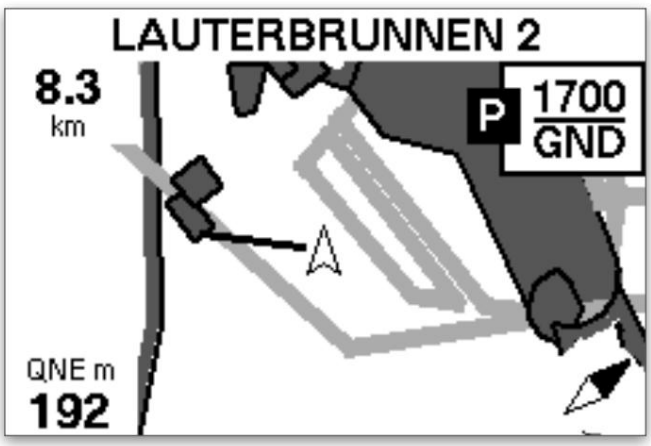
Flight screen landscape view

In the basic configuration of the SKYTRAXX 5 Mini, you will find the "Cross View" flight screen next to the main screen "Home Page". This will **automatically be visible** as soon as you approach an airspace for which restrictions apply.
You can also switch between the two flight screens manually with **>OK .**



The **landscape view** makes it easier for you to dimensional orientation.

Flight screen airspace



The **Airspace flight screen** also shows you detailed information about individual airspaces.

You will see **a connecting line** on the screen between your position (arrow in the middle of the screen) and the currently selected airspace . It initially points to the airspace closest to your position.

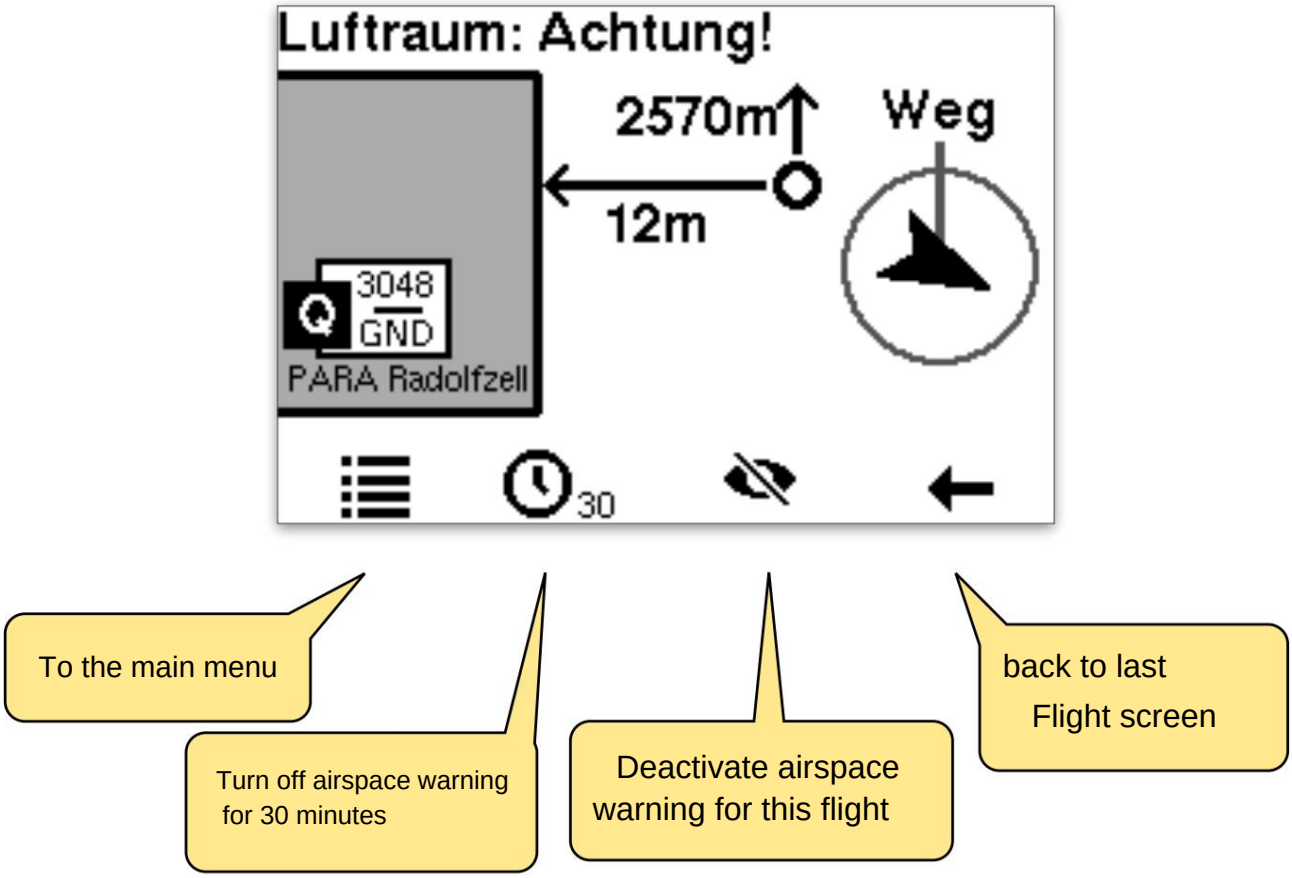
Use the **arrow keys** to access information about the **next airspace.**

Airspace warning - warning distances

If you **approach a restricted airspace or a danger zone,** the SKYTRAXX 5 Mini will warn you in good time. You can set both the horizontal and vertical distance at which you will receive a warning from the device.

(>Settings **>Airspace >Warning distance** …)

If the warning distance is exceeded, you will hear a clear acoustic signal and a warning screen will appear:

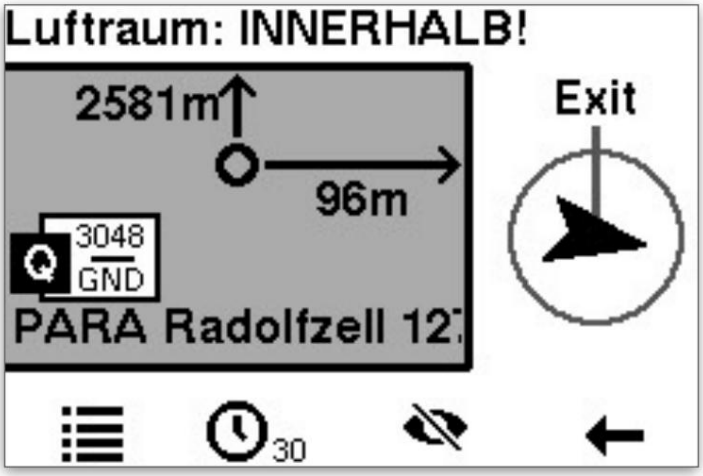


On the right side of the screen you will see an arrow pointing in the direction of the shortest way out of the approach area.

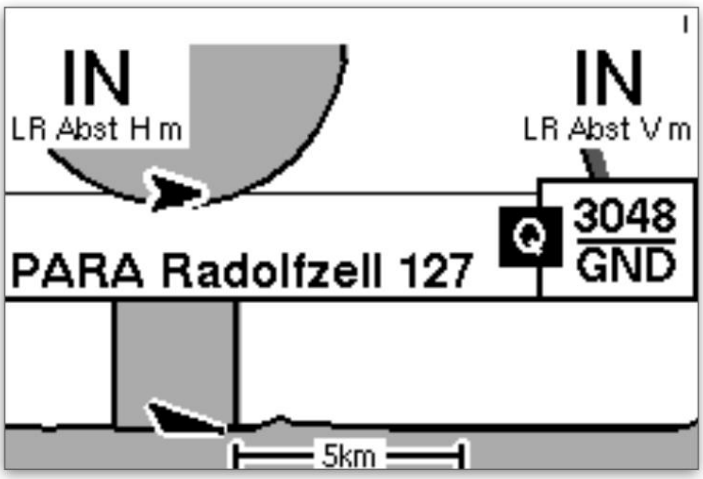
ÿ To leave the critical area, fly so that the arrow points upwards! This is the current flight direction!

You can switch off the airspace warning for a period of 30 minutes or for the duration of the entire flight, e.g. if it is a temporary airspace and you are sure that it will not be activated or if it is a danger zone (e.g. skydiving zone).

If you are already **within** a restricted airspace or danger zone, the following screen appears:



For the escape route and the temporary deactivation of the warning so



GPS functions

Your SKYTRAXX 5 Mini flight instrument has a built-in satellite navigation module (GPS). After switching on, the device needs about 1-2 minutes (in rare cases up to 5 minutes) until it receives enough satellite signals to determine the exact position.

ÿ Always switch on your SKYTRAXX 5 Mini a few minutes before flight.

The barometric altimeter is then automatically compared with the GPS altitude.

By determining the position in space, the GPS module can perform numerous functions for Provide:

ÿ Speed over ground

ÿ Glide ratio over ground

ÿ Wind direction and speed

ÿ Navigation functions such as GoTo, route, competition tasks, hiking routes, etc.

ÿ Cross-country flight calculations such as distance covered, rated distance according to competition rules, XC points, XC km, XC speed, triangle optimization

ÿ Warning before approaching an airspace

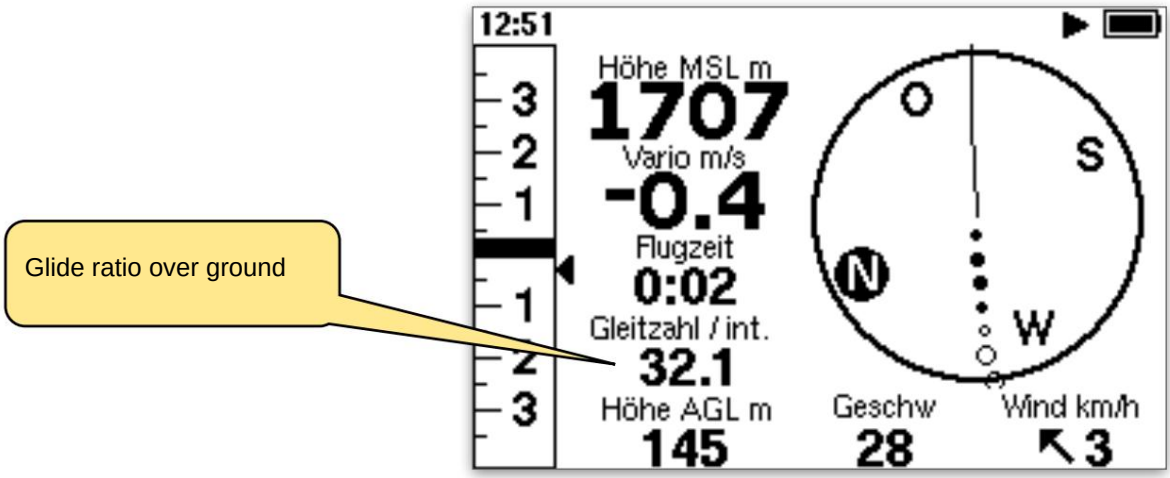
ÿ Warning of approaching an obstacle (cable car cable, high-voltage line, wind turbine etc.)

ÿ Time and flight time

You can view the GPS module's calculations on the **various flight screens** as well as on the **hiking mode screen .**

Some displays are preset depending on the flight screen, others you can configure yourself. See the chapter Defining flight screens.

Glide ratio over ground



The Skytraxx calculates your glide ratio over the ground based on the distance covered and the simultaneous loss of altitude. In calm air without thermals, it is typically in the range of 8 to 10.

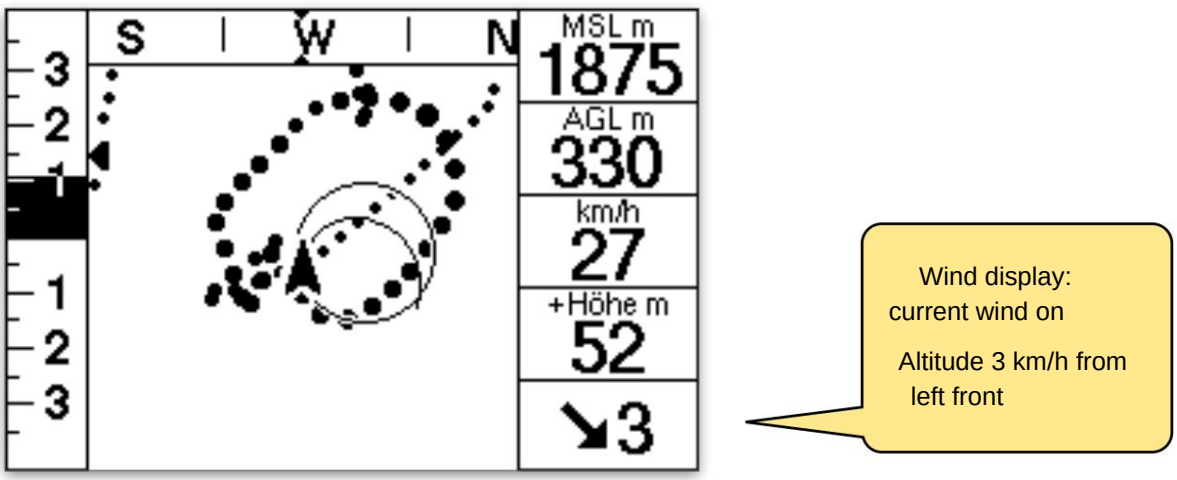
If the glide ratio is (significantly) lower, it may be worth using the speed bar.

ÿ You can use the glide ratio display to determine whether accelerated flying is worthwhile.

ÿ If your glide ratio is very high, you have a tailwind or are in a rising airflow.
mass.

ÿ When climbing, the integrated climb value appears instead of the glide ratio.

Wind direction and speed



Skytraxx calculates the wind data from the different speeds in different flight directions. The calculation is most accurate if you have flown one or more even circles, e.g. in thermals.

At the beginning of the flight there is therefore no reliable wind calculation, even if the device shows something.

! The wind calculation is only an **indication** and the actual wind values may may differ from this, especially at different heights.

ÿ Therefore, pay particular attention to possible wind indicators on the ground before landing (Windsock, flags, smoke plumes, trees, grasses …)

ÿ The most reliable wind information for landing is the windsock at the landing site!

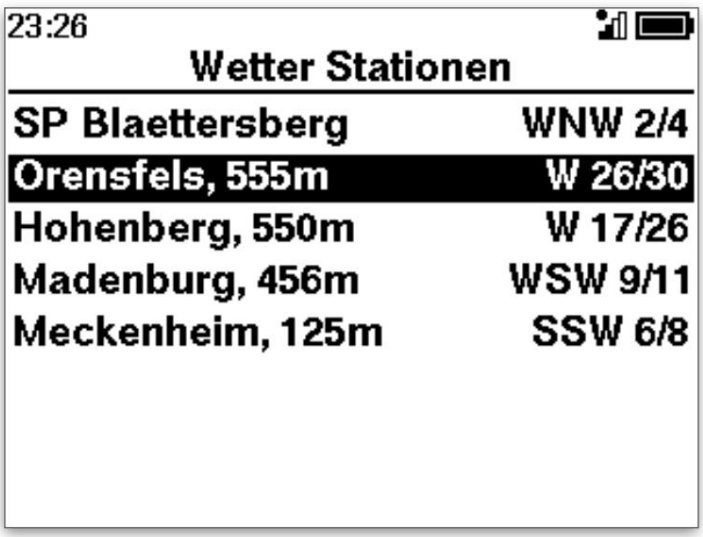
Information on surface wind

There are now numerous wind stations at take-off or landing sites as well as at relevant positions for assessing the current weather situation.

You can receive all wind data sent via **FANET** directly with the SKYTRAXX 5 Mini:

ÿ on a **map page** if you have activated the **Wind Gauge** option (>Menu >On-Settings >Flight Screens)

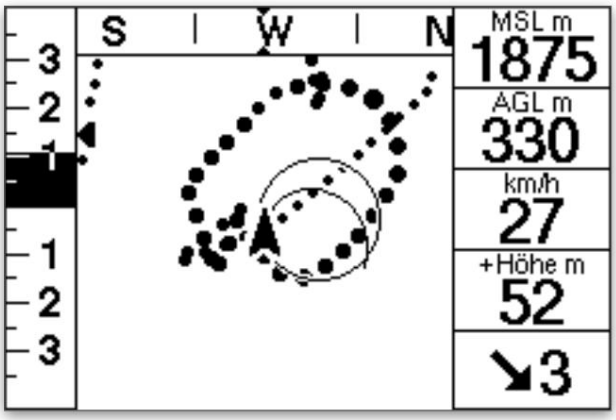
ÿ via the **FANET** user list (>Menu >FANET >Wind stations)



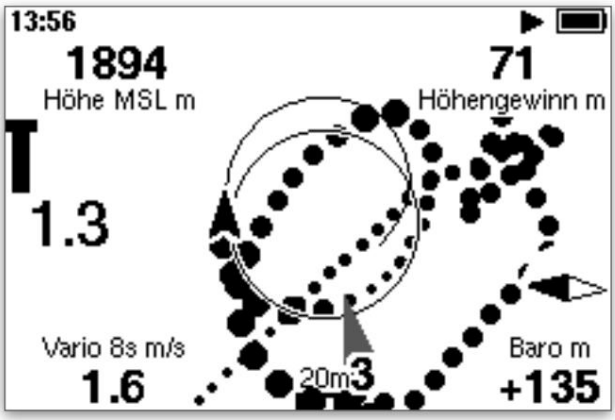
Thermal Assistant

The SKYTRAXX 5 Mini provides you with a sophisticated **centering aid .** It is available via different flight screens:

Flight Screen **Home**



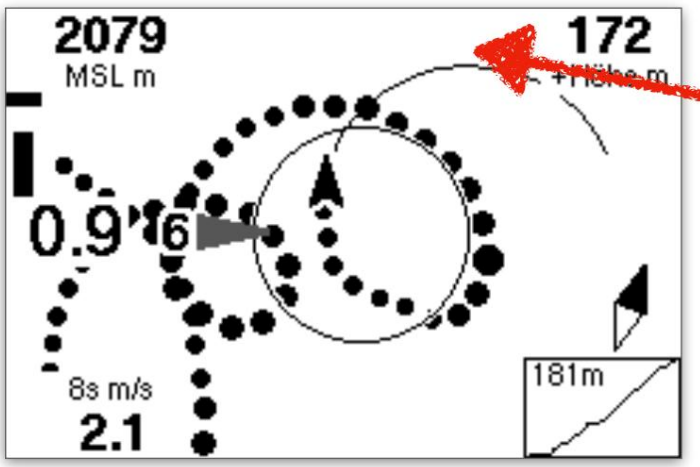
Flight screen **Thermal Assistant**



ÿ The **arrow keys** change the zoom factor of the view

Flying with the thermal assistant

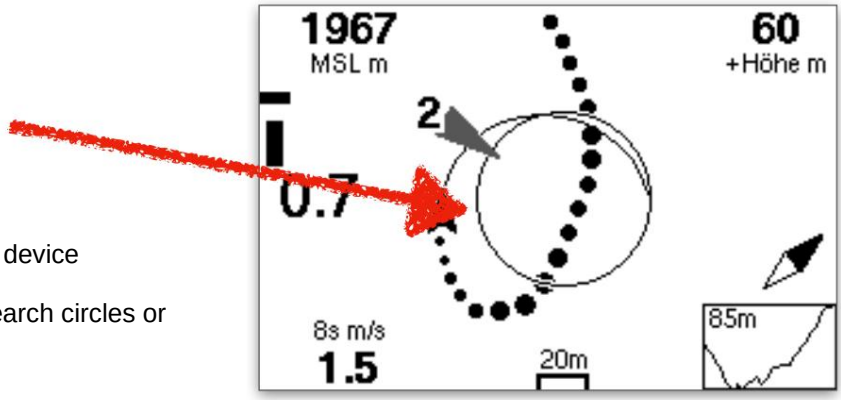
The SKYTRAXX 5 Mini shows your **flight path** on the screen . The thicker the dots on the flight path, the stronger the climb.



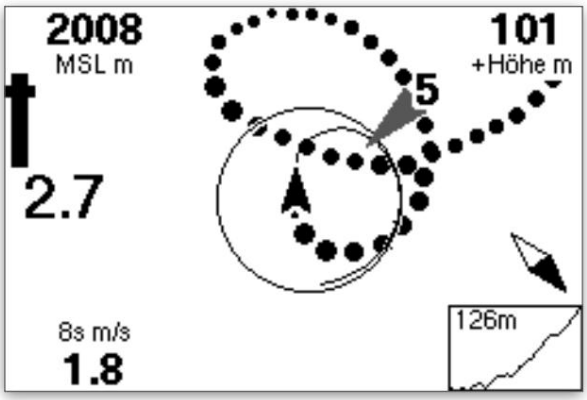
The **thin line** shows the expected flight path for the next few seconds, i.e. the flight path if you continue to fly with a constant turning radius as you are now.

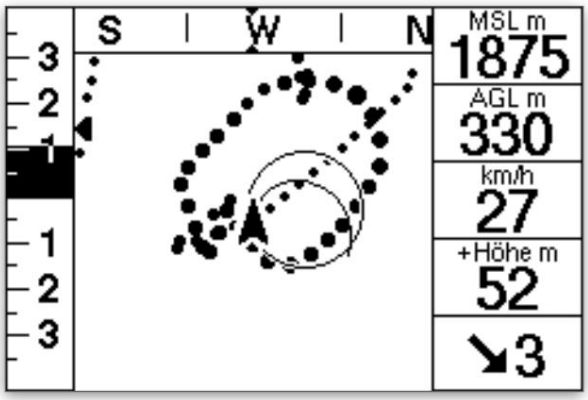
As soon as you have made the first circles or loops in the updraft, the device recognizes the area of best climb. The Skytraxx now calculates the area of best **climb** (thermal center) from the climb rate, wind offset and the aircraft's own sink rate. A **circle appears on the screen:**

calculated thermal center

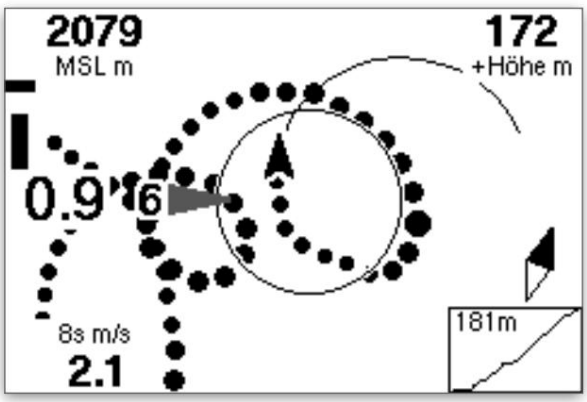


The updraft center calculated by the device can also be outside your previous search circles or loops.





ÿ Now continue to fly so that the **thin line always stays in the calculated thermal circle remains.**



ÿ **Correct** your curve radius or trajectory if the thin line leads out of the circle.

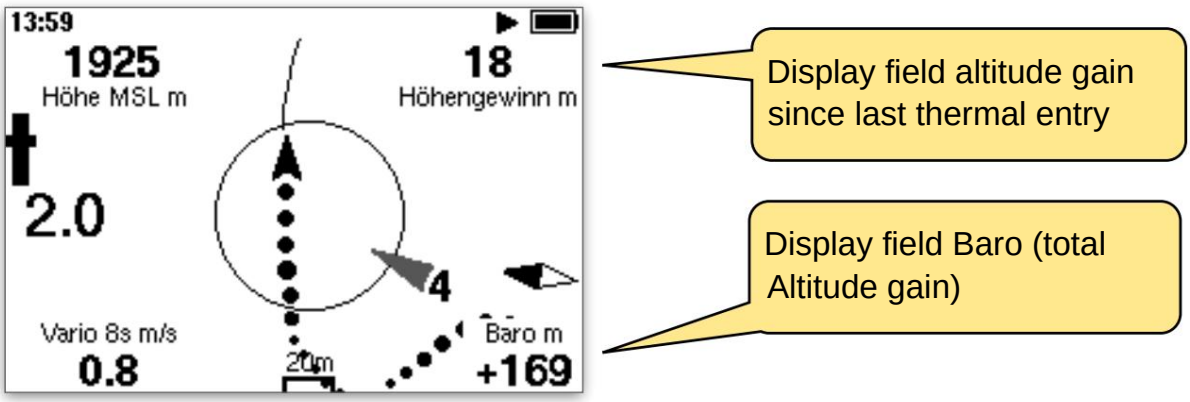
If you have switched on the **automatic activation of the thermal assistant** in the configuration of your flight screens (for more information, see the chapter "Configuring flight screens") , the screen display automatically switches to the thermal assistant flight screen when usable updraft is detected and **after leaving the updraft** back to the previous flight screen.

ÿ Use either the Flight Screen Main Page **OR** the Flight Thermal Assistant screen.

Altitude gain / Baro display field

The SKYTRAXX 5 Mini shows the altitude gain since entering the last thermal as well as the total altitude gain since takeoff in two additional display fields on the Thermal Assistant flight screen.

You can also activate these display fields on **other screen pages .**

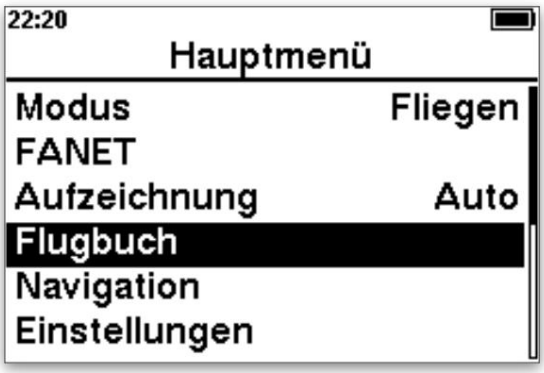


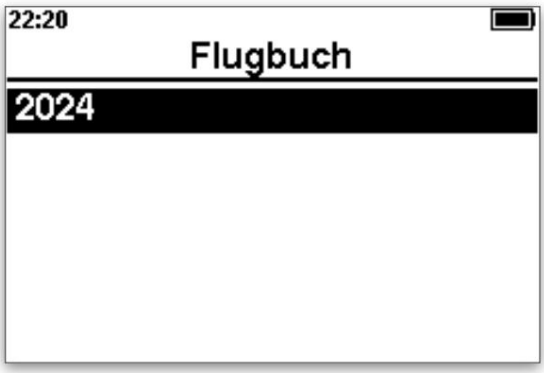
Flight log

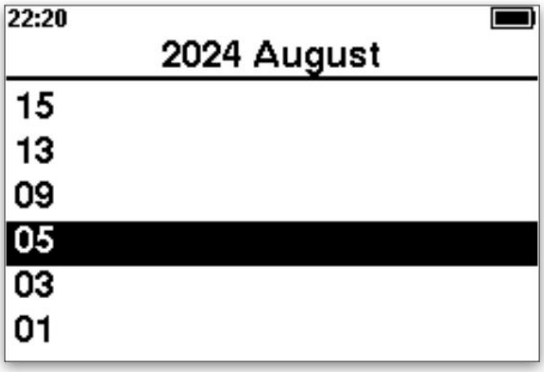
The SKYTRAXX 5 Mini saves the recorded flight data in the device's internal flight log as an IGC file (optionally also as a KML file for Google Earth).

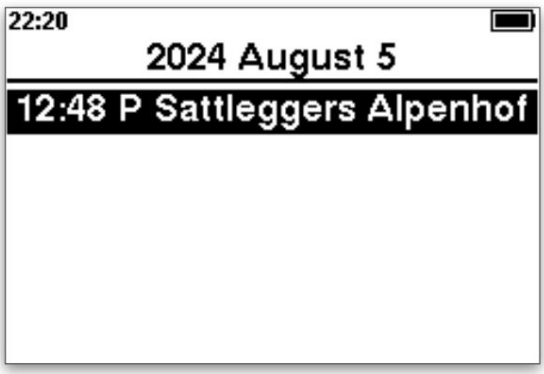
Call up with **>Menu >Flight log**

The stored records are sorted by year, month, day and start time.



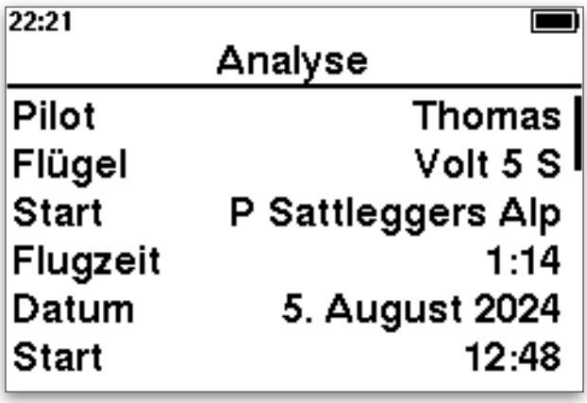


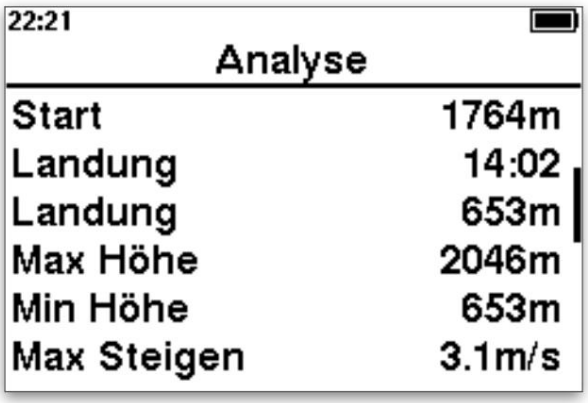


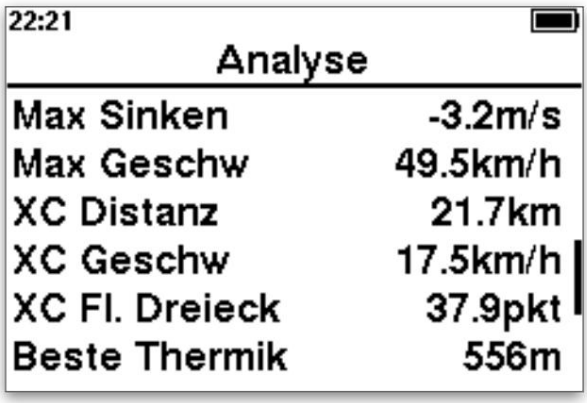


Flight Analysis

Find the desired flight from the flight log and then select **>Analysis**





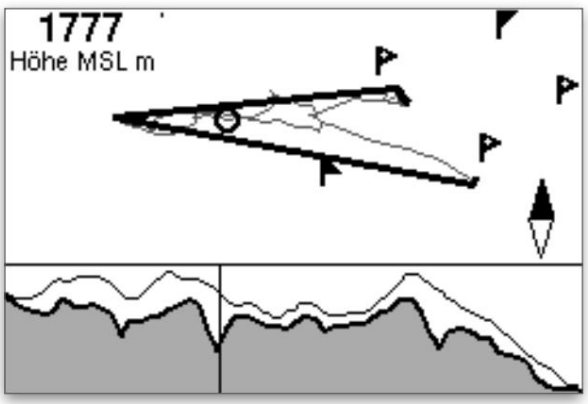


Switch between the **individual pages** with the **arrow keys >up >down.**

Show flight

You can also view the flight on a shared map page with the elevation profile of the

Show flight:



Use the arrow keys to scroll along the flight path.

The small circle on the map marks the current position,

and the vertical line on the altitude profile marks it.

Upload flight

ÿ Connect your SKYTRAXX 5 Mini to your computer using the USB-C cable,

ÿ wait a moment until it appears in the file manager (Windows) or Finder (OSX) as an external disk is visible.

ÿ Switch to the »flights« directory. There you will find your flights sorted by year, month and day.

ÿ Select the desired flight and download the IGC file to your computer.

ÿ Upload the flight file to the corresponding OLC server. You will need an account with access data there.

ÿ Follow the instructions to upload flights of the corresponding OLC server.

Use flight as path

You can re-fly a route you have already flown, for example if you are planning a longer route and would like to work it out in sections.

To do this, select the relevant flight in the flight log and then select **Use as path.**

A direction arrow on the flight screen now shows you the way.

ÿ Upload flights from other pilots to your flight log to follow interesting routes (e.g. from an OLC server).

Play flight

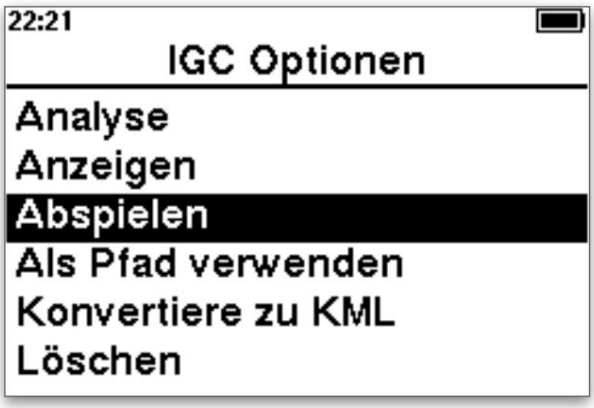
If you wish, your SKYTRAXX 5 Mini will show you a flight from the flight log in real time or in acceleration (2x, 4x, 8x, etc.) on the display, just as in the flight itself.

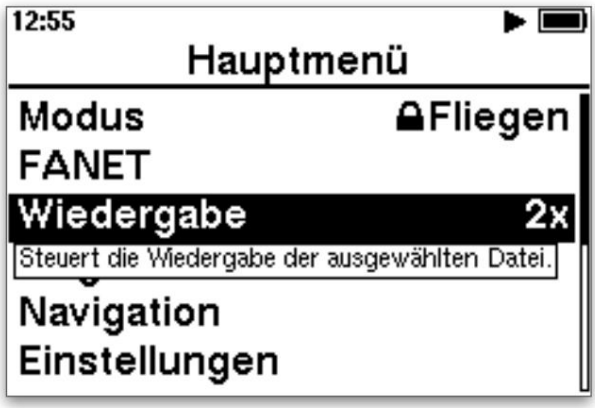
To do this, select the flight by year, month, day and start time and then select IGC Options **> Play.** You will now see all the screen displays exactly as they would appear in the flight itself, including the airspace and obstacle warnings.

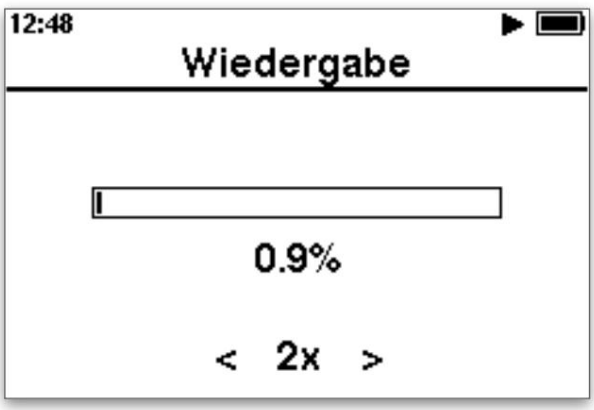
ÿ Playing back flights is a great way to test your **settings for the to test flight screens.**

You can change flight screens during playback, make changes to their configuration (display fields, parameters for map display) or their order, add or delete flight screens (>Menu >Settings >Flight screens).

You can change the **playback speed** with **>Menu >Play** and then with the **arrow keys.** Confirm and return to the flight with **>Menu.**







To **stop playback ,** select **>Menu >Play** and then use the left button (>Menu / back) to exit the playback dialog.

Confirm that **you want to cancel** playback by selecting **Yes .**

Hike & Fly with the SKYTRAXX 5 Mini

The SKYTRAXX 5 Mini is an excellent companion for hike & fly tours. In addition to its compact dimensions, low weight and very long battery life, the device also offers special functions for hiking:

ÿ Recording of the hike as a GPX file

ÿ Routes can be planned in advance using route planning tools (eg Komoot) and loaded onto the SKYTRAXX 5 Mini as a GPX file. In hiking mode, the device will show you closing the way.

ÿ Hiking log: similar to the flight log, the SKYTRAXX 5 Mini saves the routes you have run and provides the evaluations and statistics. You can also you can share the tracks with others as a GPX file.

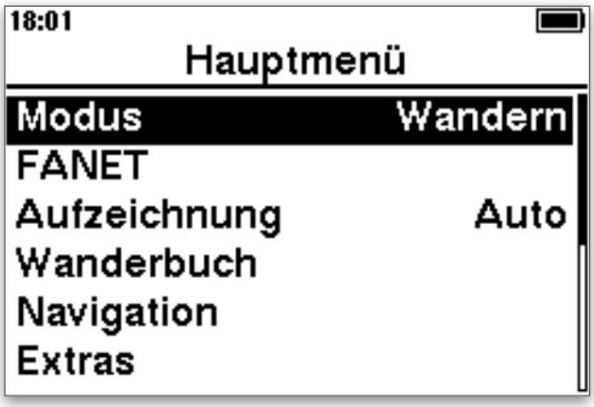
Hiking mode

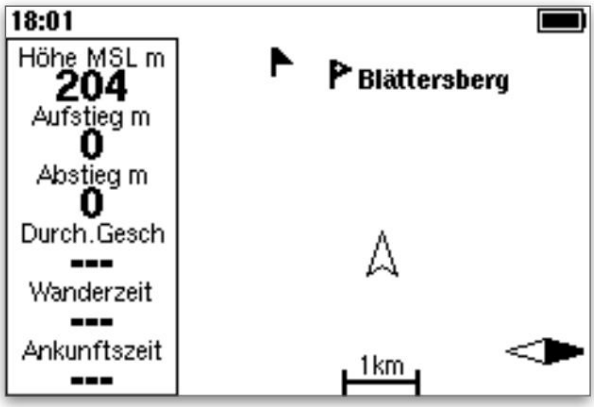
To record a hiking route, first change the **mode** from flying to hiking in **the >main menu** using **>OK .**

The hiking log now appears in the menu instead of the flight log.

Once the device has detected your geo-position, you can either start recording manually or the SKYTRAXX 5 Mini will start recording automatically as soon as you start the

start running. If you take a longer break, the recording stops automatically and continues automatically after the break.

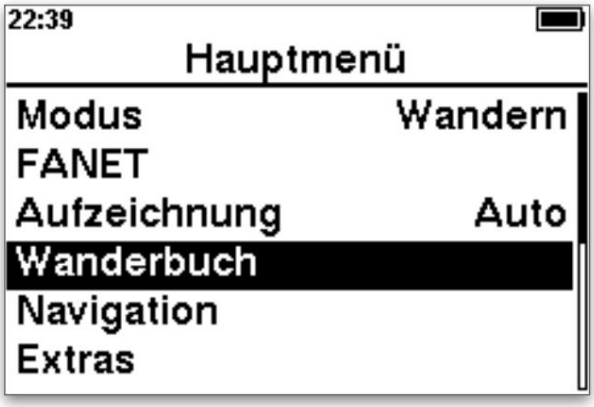


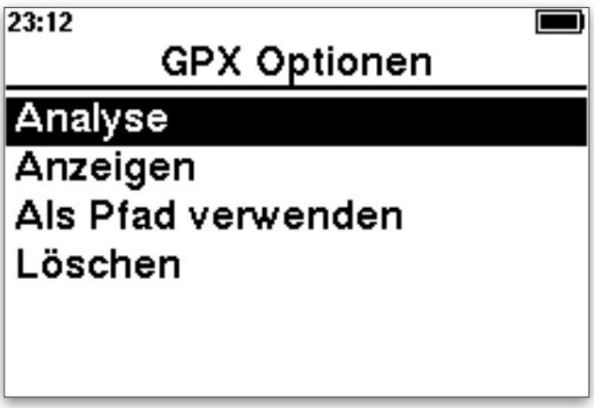


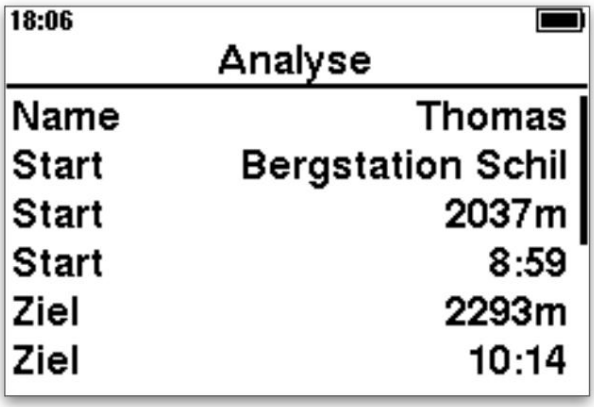
A special screen page will now appear.

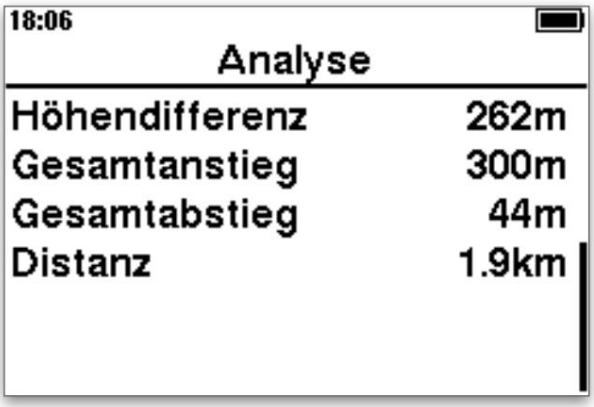
Hiking book

You will then find the GPX file with the recorded hiking route in the hiking book sorted by year, month, day and start time.

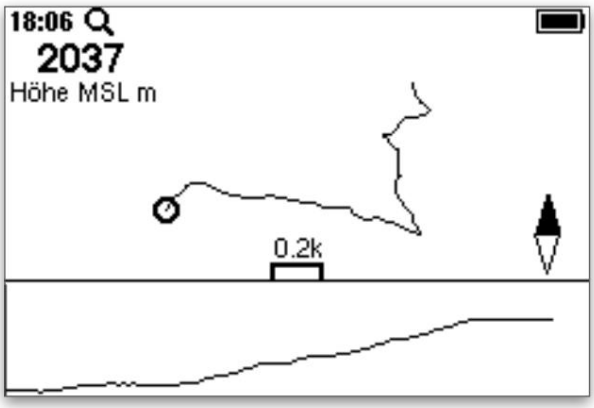


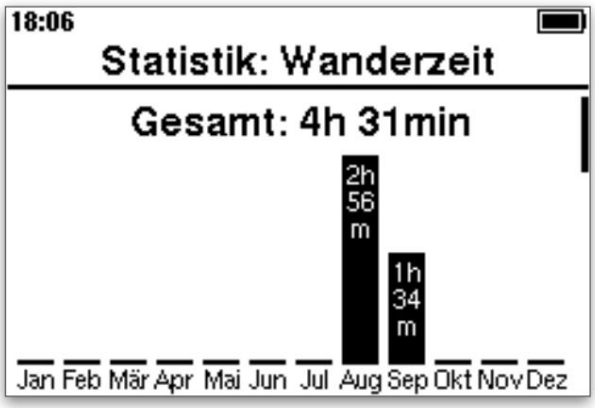






With the **Display** option in the hiking book menu, the device shows a simplified representation of the hiking route. Statistics are also available.





Route planning and navigation

You can also download GPX files with hiking routes from a planning tool or share them with others. Good planning tools include the Hike & Fly Planner at Burnair, GPX-Studio or Komoot.

ÿ Create a hiking route with the planning tool

ÿ upload the corresponding GPX file to the **trails** directory on your SKYTRAXX 5 Mini

ÿ Activate **>Navigation** in the main menu and select the appropriate **hiking route**

The SKYTRAXX 5 Mini now shows you the way.

FANET+

FANET is a sophisticated radio network-based **communications system** for exchanging information between aircraft.

FANET+ also sends position data in a form that can be evaluated by FLARM receivers.

FLARM is a **collision avoidance** system .

FLARM receivers evaluate the position data of the FANET signal and calculate whether a collision could occur if both aircraft continue on their flight path unchanged. If this is the case, the FLARM warns the pilot of the aircraft at a greater distance and suggests an evasive course.

By **linking FANET+ and FLARM,** our fast-flying colleagues such as gliders, motor aircraft or helicopters can detect us early and avoid us in good time.

Paragliders are so slow that an electronic collision warning is not necessary; we can react and avoid each other more quickly based on sight.

Data transmission with FANET

FANET+ continuously transmits **position data,** speed, course (direction of flight), climb or descent rate, the type of aircraft (paraglider, hang glider, glider, etc.), a status and a unique identifier (FANET ID).

Optionally, you can have your name transmitted in **plain text .**

For the SKYTRAXX 5 Mini, you specify the name, type and kind of aircraft in the pilot profile (see chapter Pilot Profile).

Other FANET participants, FLARM receivers and numerous FANET and FLARM compatible ground stations can receive this data as long as they are within radio range.

FANET devices also function as relay stations, i.e. they forward signals from others that may not be within direct reception range.

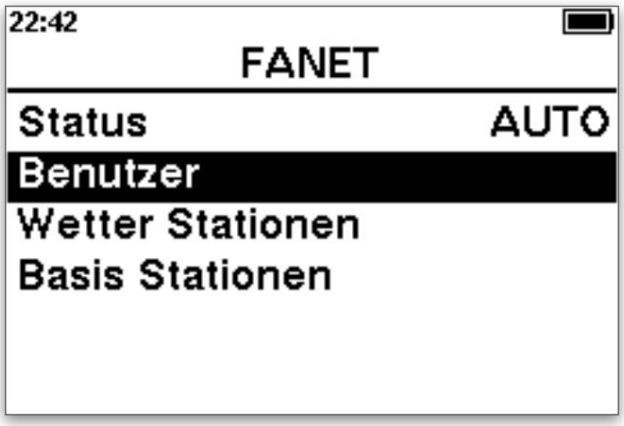
This results in a range of the FANET signal in the air and in good weather of 10 km to over 150 km.

! Attention: if you have activated FANET or FLARM on your device (standard setting position), your position data is **public,** i.e. visible on numerous online platforms for live tracking and of course for other FANET and FLARM participants.

ÿ If you do not want to transmit your name in plain text, **deactivate** the option Submit names at **>Main menu >Settings >FANET**

FANET Status

The SKYTRAXX 5 Mini automatically detects whether you are flying or moving slowly on the ground or whether your position remains constant and it sends the corresponding FA-NET **status flying** or **walking.**



List FANET Status

ÿ Auto - automatically detects if you are flying

ÿ Hiking - automatically set if you are not flying

ÿ Vehicle - traveling with rapid movement, but not in flight.

ÿ Take me with you

ÿ Landed safely - Safety feature: the SKYTRAXX 5 Mini asks after landing whether it should send the status. This allows others to see that - if the device remains switched on and the position does not change - no accident has occurred. ÿ Need technical help

ÿ Need medical help

ÿ SOS call - **all** FANET participants in the reception area are **informed** and can continuously see the SOS signal in the user list and in the FANET radar (flight screen). The SOS status also appears in live tracking (if the online platform recognizes it as such). With another FANET device, you can easily find the SOS transmitter using the **follow function .**

ÿ After landing, **confirm** the status **“landed safely”.** ÿ In case of **emergency,** set the status to **SOS.**

You can also send additional status messages via **>Main menu >FANET**

Live tracking

Live tracking with FANET (if activated): **>Main menu >Settings >FANET** - activate online tracking.

! The prerequisite for live tracking is a FANET ground station or at least one FANET device with a mobile connection within reception range.

There are now numerous Internet portals through which live tracking can be followed with more or less time delay and comfort, e.g.

ÿ www.burnair.cloud - currently the best optimized system for paragliders with numerous additional features. See also www.burnair.ch and the **Burnair** chapter in this manual

ÿ openglidermap.org

ÿ glidertracker.org

FANET Thermal

The SKYTRAXX 5 Mini can evaluate the flight data of other FANET participants to detect when they successfully gain altitude in the updraft.

With the **FANET Thermal** option (activate with **>Main menu >Settings >Flight screens,** then select the appropriate flight screen), these participants are visible on flight screens with map display as well as on the Thermal Assistant flight screen as points (map) or circles (Thermal Assistant and map at high zoom).

bear.

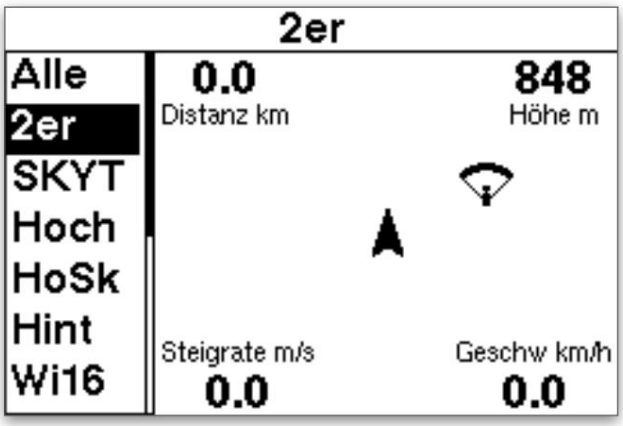
If you are looking for thermals, **simply fly to the nearest FANET thermal circle.** The SKYTRAXX 5 Mini calculates and uses the circle to mark the spot where you need to enter the updraft to catch the thermals.

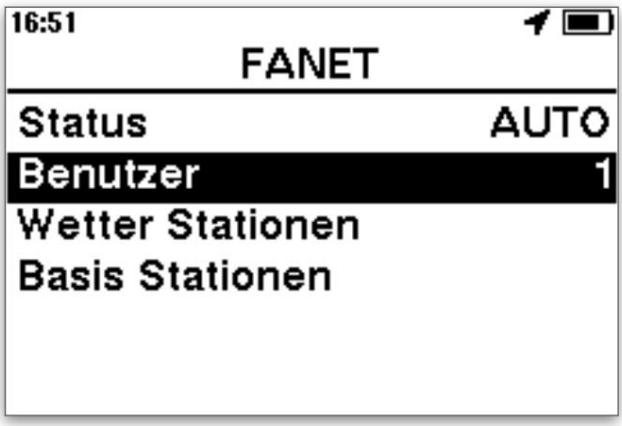
The device takes into account both the wind offset and your current sinking or climbing rate.

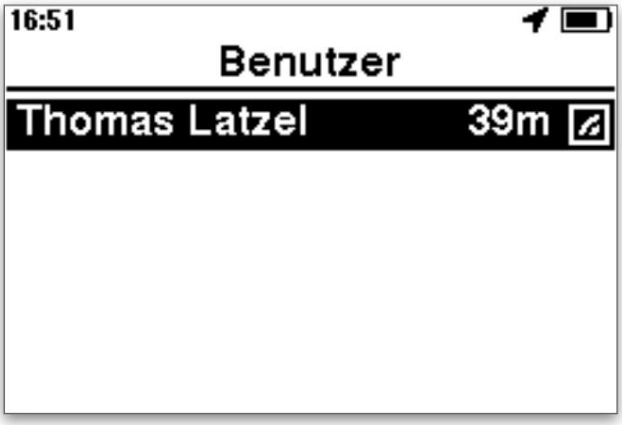
FANET User

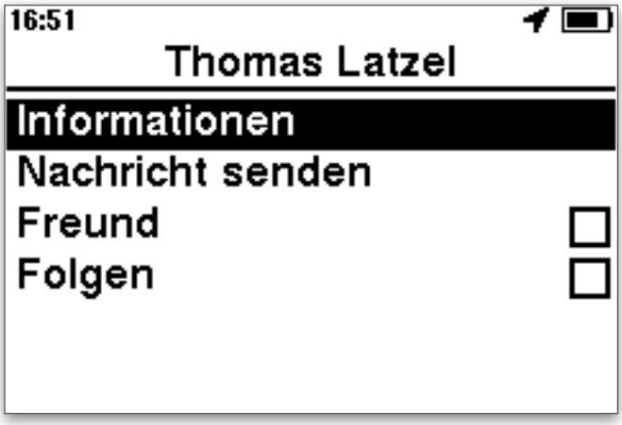
You can display other FANET users on your flight screens (see options on the flight screens) or access information about the users via the menu: **>FANET >Users.** Select the desired user from the list and then **>Information.**

Or activate the flight screen **FANET radar:**









FANET Friend

If there are many FANET users active in a flying area such as Bassano, a map display can quickly become confusing due to all the FANET displays.

You can therefore **limit visibility** to those you want to see (FANET friends).

In order to define a **FANET friend** as such, they must be **active in your reception area once .** They will then remain your friend until you remove them from the friends list.

Set **FANET friend :**

ÿ >Main menu >FANET >User

ÿ then **select** the desired **participant** from the list of active users

ÿ Activate **friend** option

FANET participants who are defined as **friends** appear **green** in the user list (default: yellow).

Follow Function

Flying together is a special flying experience. FANET offers an interesting option to stay connected even outside of visual range: the follow function.

In the same way as defining a friend, you can **activate following.** On every map display, you will now find a **straight line** between your position and that of the other FANET participant (regardless of whether they are a FANET friend or not).

You can also display your partner's altitude MSL, distance, climb rate, etc. in the freely definable fields of the flight screens (see chapter Configuration of flight screens).

Information from ground stations (e.g. weather stations)

There are already weather stations in numerous locations, mostly launch sites, that send their data via FANET. These values are usually available on the Internet at the same time.

The SKYTRAXX 5 Mini **detects weather stations** and displays them **as a windsock** on flight screens with map display when the option (wind meter) is activated .

(See also the chapter Flight Screen Configuration)

With **>Main menu >FANET** you can access the list of active users / weather stations / Base stations. Select Weather Stations or Base Stations to access the information of the individual stations.

Short messages

Send short messages to other FANET participants:

ÿ >Main menu >FANET >User

ÿ Select user

ÿ Select **Send message**

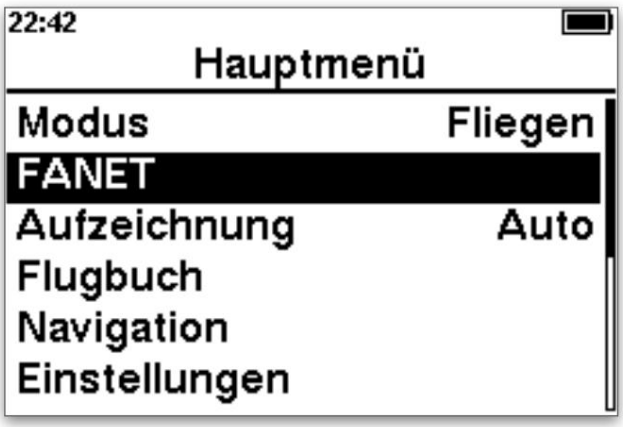
You can select the message from a list of predefined texts or use the input

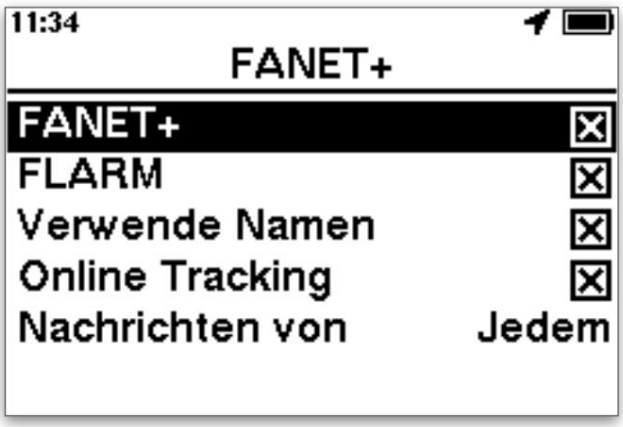
Edit output function.

ÿ The SKYTRAXX 5 Mini file directory contains the file **fanetMsg.txt.** Edit this file with any text editor (note: plain text without formatting!) to quickly and easily create your own message templates.

FANET Settings

You can configure the general settings for FANET via **>Main menu >Settings >FANET+**





ÿ **FANET+** - basic activation or deactivation of the FANET functions

ÿ **FLARM** - send FLARM signal to avoid collision with other

ÿ **Use names** - Publish names from the pilot profile in plain text. If deactivated, only the FANET ID is displayed to others.

ÿ **Online Tracking** - If deactivated, the position will not be publicly displayed on the Internet. shows.

ÿ **Messages from** - receive messages from all participants or only from FANET friends

In addition to the general settings for FANET+, there are FANET **options on the Flight screens:**

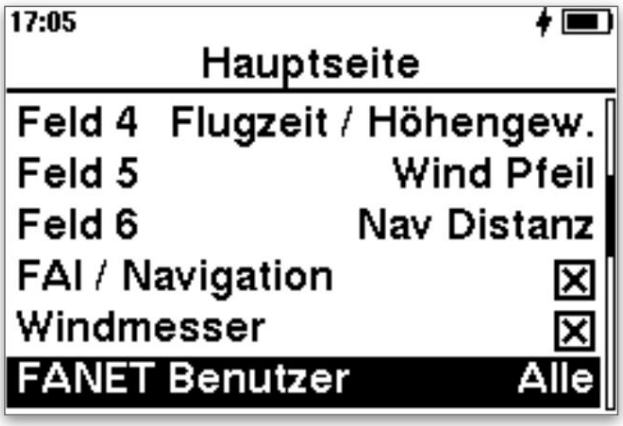
ÿ **Display fields** with information about other participants, e.g. altitude MSL, gradient, distance, course, etc.

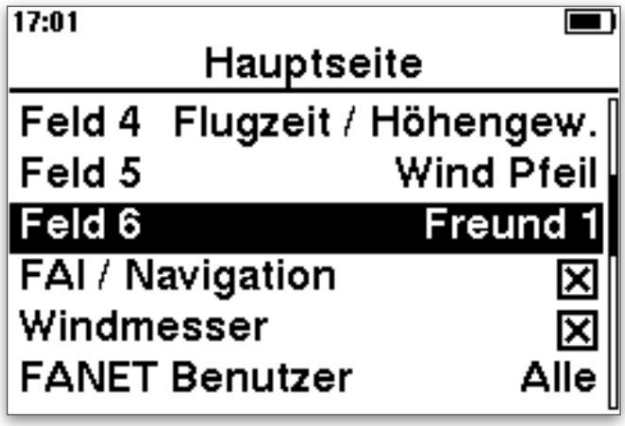
ÿ FANET **users** - show all or only FANET friends

ÿ FANET **Thermals** - see chapter FANET Thermals above.

Configuration with **>Main Menu >Settings >Flight Screens**

Then select **the desired flight screen ,** then the **display field** and finally the **desired content.**





Define flight screens

You now know how your SKYTRAXX 5 Mini flight instrument and its individual function modules work and can decide which calculations your SKYTRAXX 5 Mini should display in which flight situation and how.

We have already put together appropriate screen displays for many flight situations with the preconfigured flight screens. You can simply use these 1:1 or adapt them individually.

The idea behind it is to focus the screen display clearly and intuitively on what you specifically need, **depending on the situation .** This way, you get the information you need with just a few glances at the device and have a clear view of the airspace and to enjoy the landscape.

In the standard configuration of the SKYTRAXX 5 Mini you will find two predefined flight screens (main page, landscape view), which cover the requirements for most flight situations.

Via **>Main Menu >Settings >Flight Screens**

you can insert additional flight screens into the predefined row , change the **order** and **delete** individual flight screens .

You can use each type of flight screen **as often as you like ,** for example if you want to use multiple map or navigation pages for better overview when navigating.

To **change flight screens** during flight, use the **>OK button.**

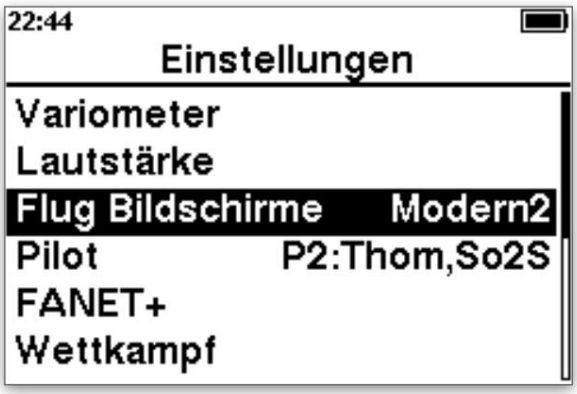
Each press of the button takes you one flight screen further in the order you specified.

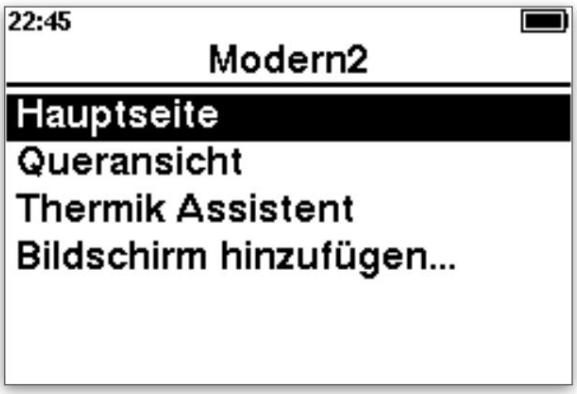
The **arrow keys** change the **volume** (classic side) or have **a zoom function**
(Pages with map display)

Flight Screen Profile

You can combine a **series of flight screens** into so-called **profiles** and save them as such.

You will already find some **predefined profiles** on your device for different flight situations, tastes and preferences. If you already know a Skytraxx 2.0 or 2.1, you will find your usual screen display in the Classic profile.



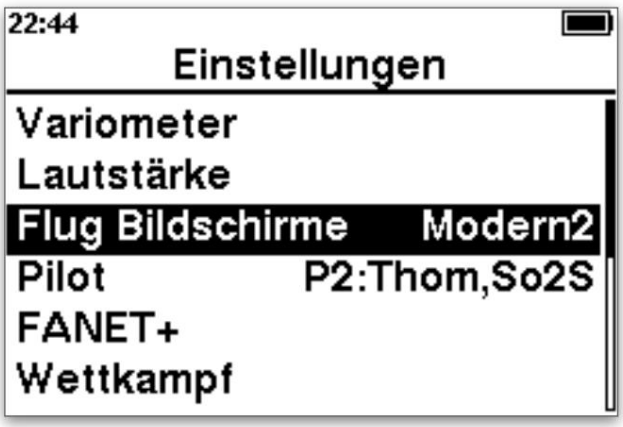


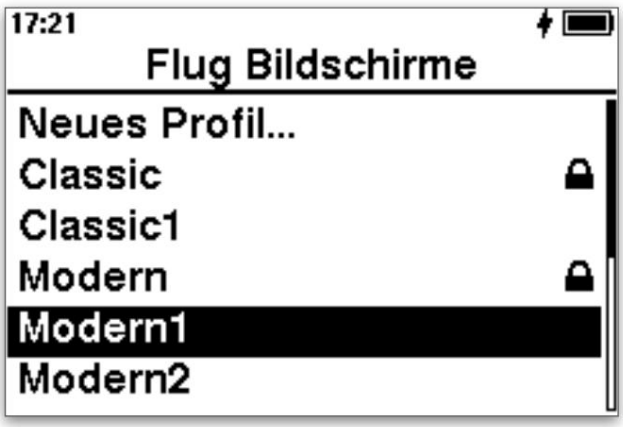
The default profile is **Modern** with **main page** and **landscape view.** On the **main page**
There is a map display, the thermal assistant, compass, vario with bar display and numeric display as well as further display fields for MSL, AGL, speed, over ground, glide ratio over ground or integrated climb, altitude gain or flight time and wind. The screen also shows your flight path for the last few minutes.

On the **landscape view** you can see a map with **airspace representation** in the upper part
and in the lower half of the screen a side view also with airspace display
Additional display fields provide information about the horizontal and vertical distance to the next airspace.

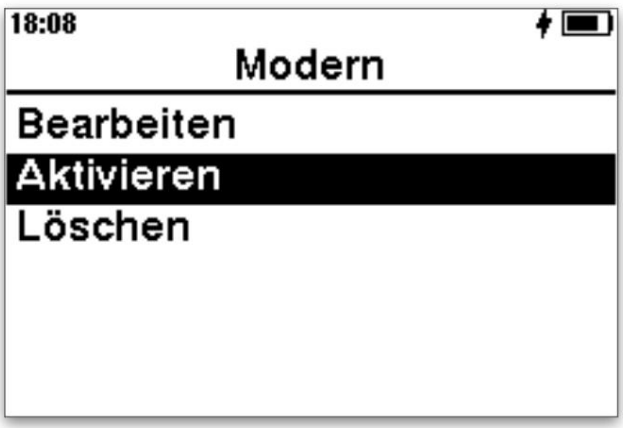
The two flight screens **switch automatically** depending on the flight situation, but you can also switch manually using the >OK button.

Select or change your profile using **>Main Menu >Settings >Flight Screens.**



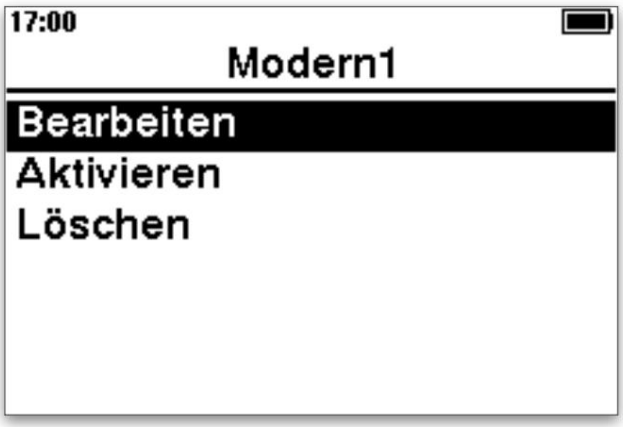


and then **>Activate** to select or **>Edit** to suit your needs.
requirements.

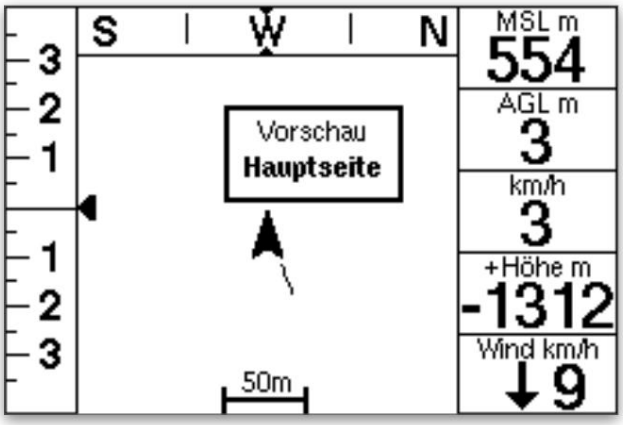


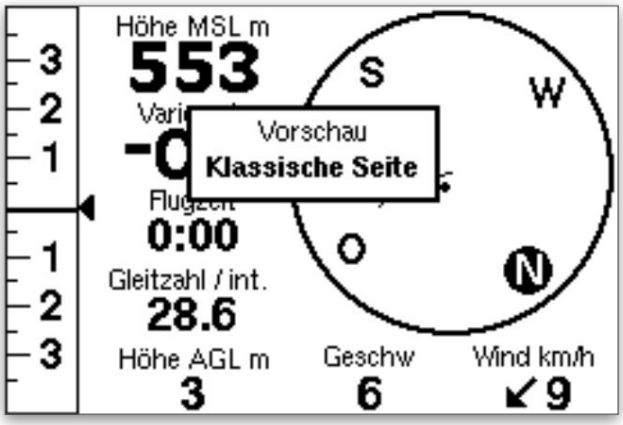
Editing Flight Screen Profiles

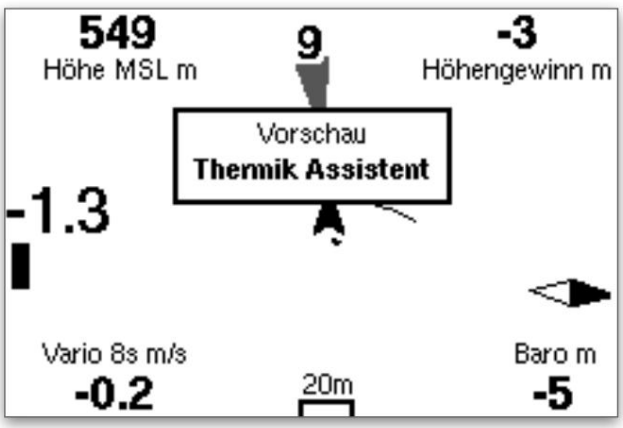
Create a new profile, add flight screens to an existing one or delete
Flight screens from a profile:

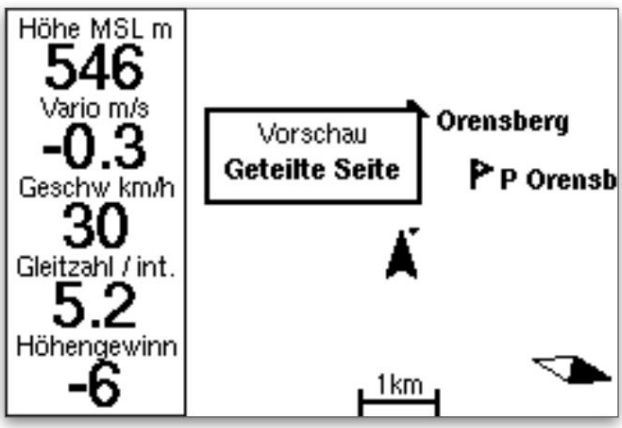


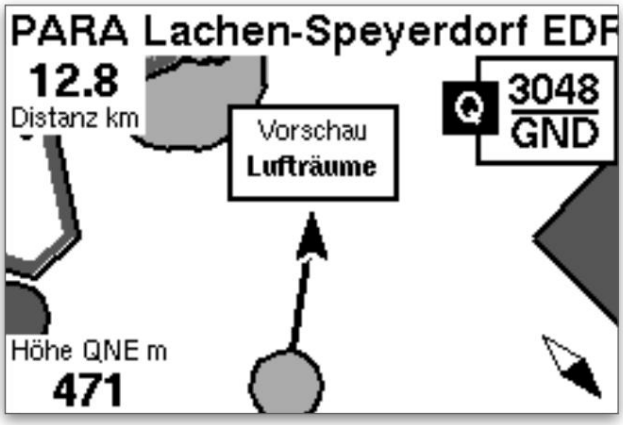
If you select Add Screen, you can choose from the following predefined flight screens and then customize them if necessary:

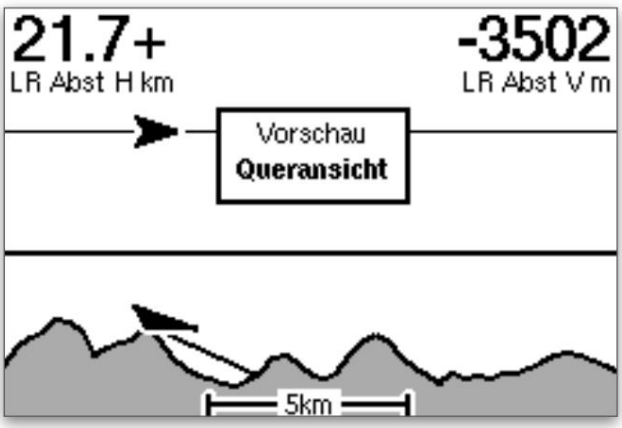


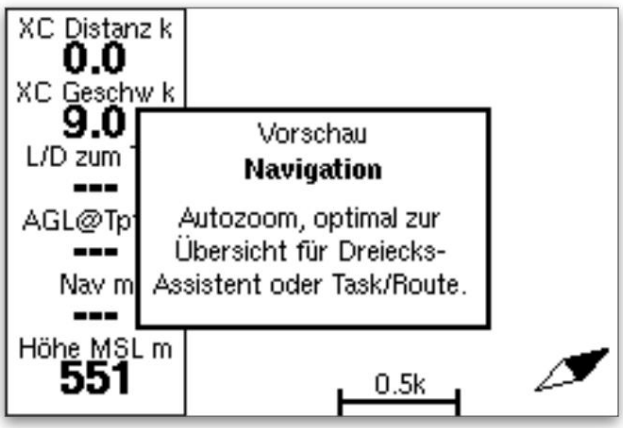


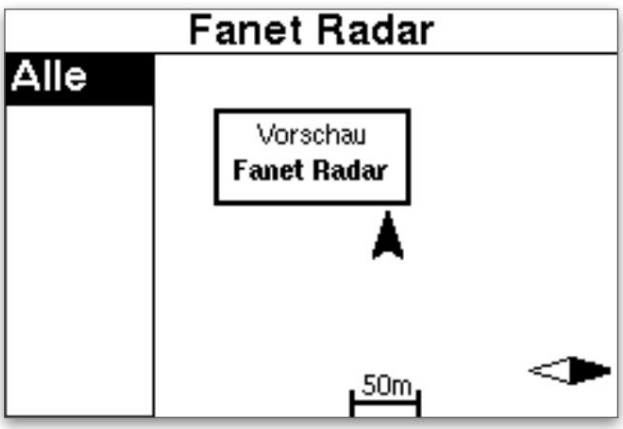






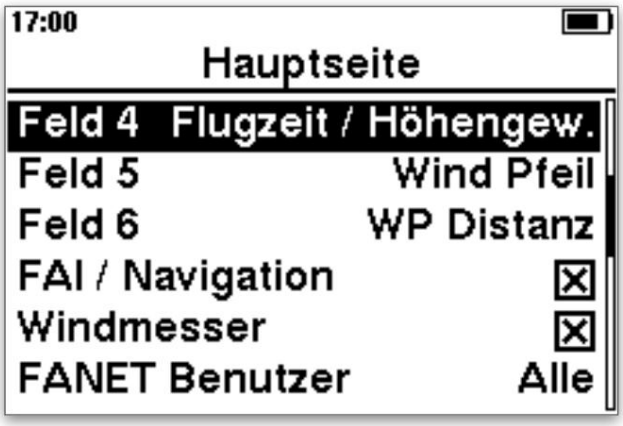






! Then save the finished flight screen profile under the same name (the previous one will be overwritten) or a new name.

To change the **order** of the flight screens in the profile, the **content** of the individual display fields and the display **options ,** select the corresponding flight screen from the list in the profile and confirm the selection with >OK.



The following display options are available:

ÿ Orientation: Heading or North up

ÿ FAI / Navigation - Display of triangle calculation, routes, competition cylinders

ÿ FANET User

ÿ FANET Thermals - Thermals that other FANET users are currently successfully boosting

ÿ Waypoints - take-off and landing sites, own waypoints

ÿ Airspace

ÿ Gliding range: the area that can be flown over the current landscape depends on the gliding angle.
gig of the current altitude and the current glide angle above ground

ÿ other aircraft via SafeSky

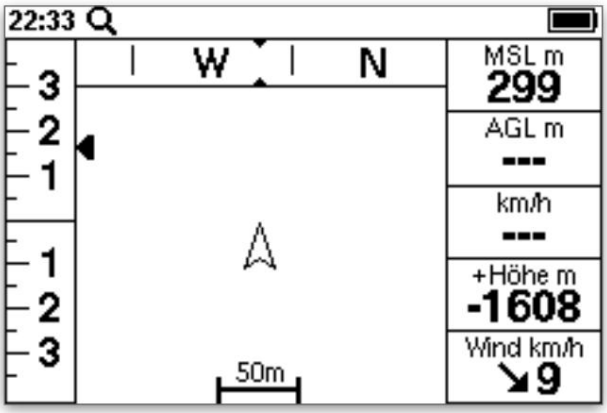
ÿ Automatically display - the screen appears depending on the current flight status.
tuation: Climb / Glide / Airspace approach

ÿ Turnpoint Event - the screen appears when the turnpoint is reached ÿ SSS Open - the

screen appears when the Start of Speed Section is entered
may be.

Define display fields

In addition to the defined content, several display fields can be freely defined on each screen page: **>Main menu >Settings >Flight screens**



You have the following options for the contents of the display fields:

ÿ Vario - current or integrated value

ÿ MSL - Main Sea Level - Height above mean sea level ÿ AGL - Height Above

Ground Level (Caution! Inaccurate due to the system!)

ÿ QNE - QFE expressed as altitude value, calculated according to ICAO standard atmosphere

ÿ QFE - Air pressure at current position

ÿ Flight level

ÿ Speed over ground

ÿ Glide ratio over ground / int. Vario - changes automatically depending on the flight situation

ÿ Local time

ÿ UTC local time

ÿ Flight time

ÿ Flight time / altitude gain - changes automatically depending on the flight situation

ÿ Wind arrow - Wind indicator with direction arrow and wind speed

ÿ Wind texts - Wind display with wind speed and wind direction

ÿ Windsock - Wind display as windsock symbol and wind speed kit

ÿ Follow: Distance - Distance to the flight partner (defined in the FANET settings) ÿ Follow: Course -

Course to the flight partner ÿ Follow: Altitude -

Altitude MSL of the flight partner

ÿ Consequences: climb rate - climb / descent of the flight partner

ÿ Consequences: Speed - Speed of the flight partner

ÿ XC points - calculated according to the rules of the online contest

ÿ XC distance - calculation according to the rules of the online contest

ÿ XC Type - free course, flat triangle, FAI triangle according to FAI rules ÿ XC Speed -

average speed on the XC course

ÿ Airspace Distance Horizontal

ÿ Airspace Distance Vertical

ÿ Altitude gain - cumulative altitude since the start of the last crank

ÿ WP Distance - Distance to the next waypoint ÿ L/D to

Tpt - required glide ratio to the next turnpoint ÿ AGL@WP - expected

arrival altitude at the next waypoint

ÿ Nav Distance - distance travelled on the active route

ÿ Start - distance to the starting

position ÿ Task Timer - time until or time since StartOpen (competition)

ÿ Course

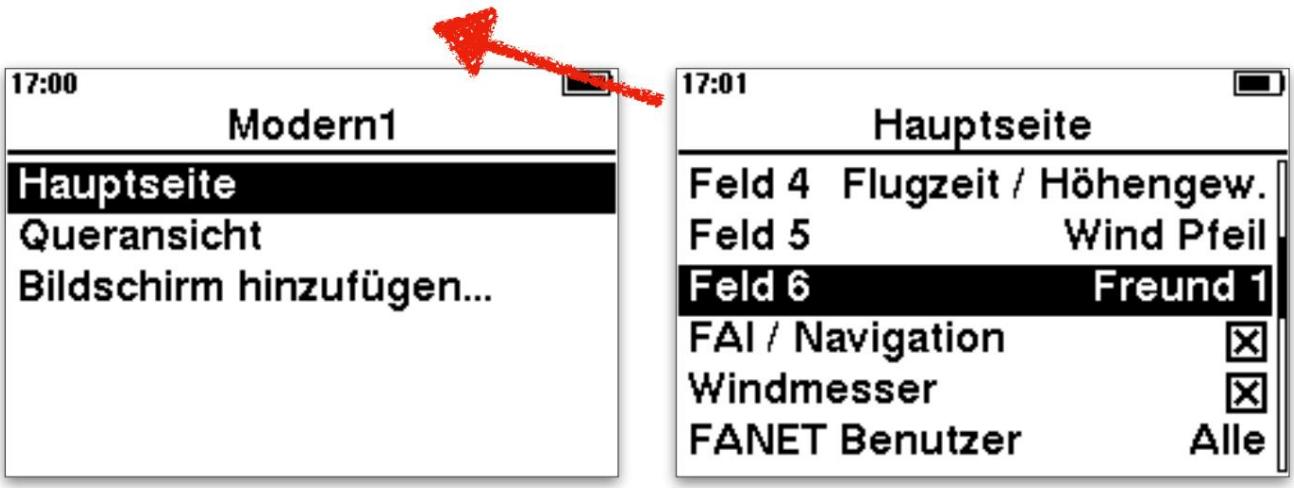
… Friend 8 - F Information about a FANET member defined as a friend ÿ Friend 1

taker

ÿ g-Sensor - acceleration value

ÿ Barogram

To configure the display fields, first select the flight screen and then the corresponding display field.



Navigation, cross-country flying and competition

The SKYTRAXX provides you with extensive functions for navigation, to support cross-country flying and for competitions:

Navigation:

ÿ Flight screens with map display

ÿ GoTo: Destination flight to a selected waypoint

ÿ Route: Navigation to a destination via any number of waypoints

Cross-country flying:

ÿ In-flight calculation of XC kilometers, XC points, XC speed and XC type with selectable OLC factors

ÿ Triangle assistant to optimize FAI triangles during flight

Competition:

ÿ complex competition routes with TakeOff, Start of Speed Section, Waypoints, End of Speed Section and Goal according to current FAI competition rules

ÿ Approach calculator for required glide ratio / departure altitude to the next waypoint, AGL at Arrival at the waypoint, time calculation

ÿ Task Timer

Navigation - Map

The classic and simplest tool for navigation is the map. Various flight screens on the SKYTRAXX 5 Mini therefore offer you map displays:

ÿ Home

ÿ Map page

ÿ Shared page

ÿ Airspace

ÿ Landscape view

To orient yourself in the terrain, you can choose whether **north points upwards** (as with the classic paper map) or whether the map display is aligned with the direction of flight **(course up).**

Navigation - Waypoints

Distinctive fixed points in the terrain (peaks, towers, small lakes, bridges, etc.) have proven useful for orientation during cross-country flying.

You can also use virtual fixed or **waypoints** in addition to or instead of these .
If these are stored in your flight instrument with their **geographical coordinates ,** you can fly to them using the navigation functions of the SKYTRAXX 5 Mini.

Your SKYTRAXX 5 Mini already contains a **database with the coordinates and names**

list of take-off and landing sites for almost all **airfields worldwide.** The device updates this database automatically and continuously if you have activated the online services. You can also update the file manually (see chapter Update).

Additional waypoints can be entered on the device or **imported as a file.**

See also the chapters Importing waypoints via file and USB connection / internal memory.

Use current location as waypoint

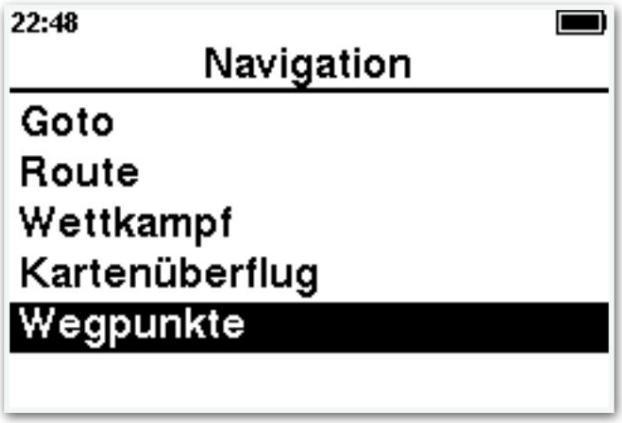
In the >Main menu you will find under >Navigation **> Waypoints**

Select **>Add…**

The geographical **coordinates** correspond to your current **location.** You can edit the individual parameters (name, coordinates, altitude).

With >Menu / back (left button) the entry is saved as a waypoint.

The SKYTRAXX 5 Mini internally creates the file **user.gpx** in the **waypoints** directory for its own waypoints .

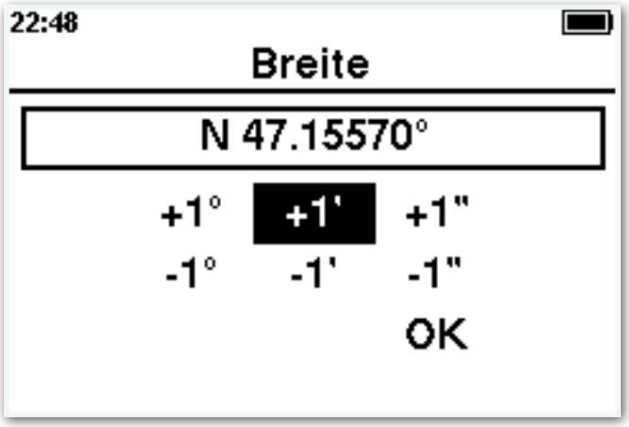


Enter waypoint with coordinates

Create a new waypoint as described above with

>Menu >Navigation >Own waypoints >Add…

Edit the name or coordinates, confirm with OK and exit the input menu with >Menu / back.



Import waypoints via file

Connect your SKYTRAXX 5 Mini to a computer using a cable via the USB-C interface. Copy your **waypoints file** into the **waypoints** directory on the SKYTRAXX 5Minis.

The file must be saved in CompeGPS format as .wpt or in GarminGPX format as .gpx .

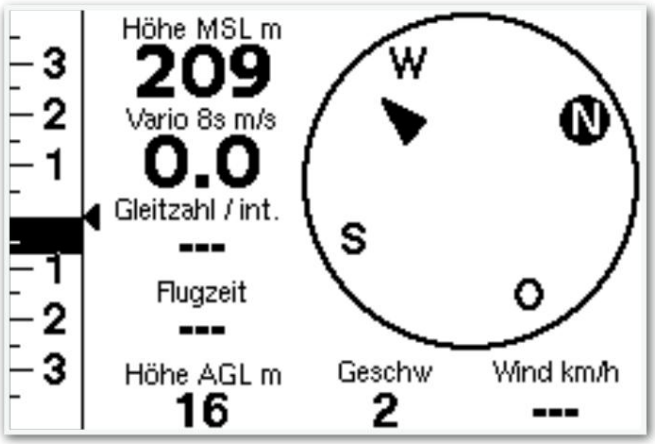
ÿ If you want to see all imported waypoints on your maps **at all times ,** use the file name on the SKYTRAXX 5 Mini **User zer.gpx**

ÿ If you use other file names for the file(s), the map display will settings only the waypoints of a **currently active route are visible** (see below, destination flight and route).

ÿ This way you can avoid overloading your map display with the names of waypoints that you do not need for the current navigation

Navigation - GoTo (destination flight)

When flying to your destination, a permanent guideline on the map shows you the shortest route between your current position and the destination.



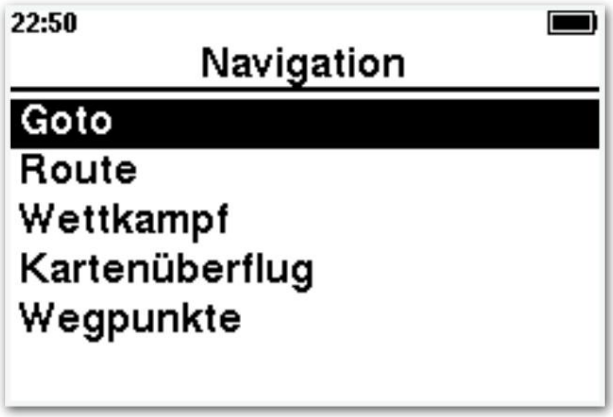
Direction of flight to the target.

ÿ Define a flight screen for destination and route flights with the display fields **Dist WP** (distance to waypoint / destination), **AGL@WPm** (expected arrival altitude at WP / destination under constant conditions) and **L/D to Tpt** (glide ratio required to reach the WP / destination).

For more information on configuring the display fields, see the Flight Screens chapter.

Select destination

Select the destination for your flight from your current **surroundings** (shows a list of waypoints in your vicinity) or from a special **file** that you have previously loaded onto your device or using the so-called **map flyover.**



After selecting the desired waypoint, navigation is activated.

It remains active until you reach your destination or until you deactivate it using >Menu >Navigation **>End navigation .**

Turning off your SKYTRAXX 5 Mini also deactivates navigation.

A **line** appears on the screen (main page, map page, navigation page). It shows the shortest route from the current position to the destination.

On the classic side, an arrow appears in the compass rose (see above). It indicates the direction to the target point.

Navigation - Route

Analogous to a direct flight, you can also navigate to a destination along a flight route via waypoints (turnpoints).

Waypoints (turnpoints) on routes

Waypoints determine the **course of the route.** Strictly speaking, the term "waypoint" is somewhat misleading, because they are vertical **virtual cylinders.** The waypoint or turnpoint, defined as a pair of coordinates, is the intersection point of the central axis with the earth's surface.

Each cylinder is defined by its **geographical coordinates** and a **radius :** This varies between a few meters and a few kilometers.

Entering a route on the SKYTRAXX 5 Mini

ÿ Select >Menu >Navigation **>Route**

ÿ to add a **new route** select **>Add…**

ÿ to **edit** an existing route, select it with the **arrow keys** and **>OK**

For each new route, you first give it a name, then enter any number of waypoints or turnpoints.

For each turn point you define the cylinder radius (default: 500m). With the menu item **>Overview** the SKYTRAXX 5 Mini shows you the route with a map display.

Activate the route in the route menu with **>activate.**

The route remains active until the last turnpoint is reached or until the device is switched off. You can deactivate it early with >Navigation **>End navigation**

Fly route by waypoints

When a route is activated, a **line shows from the current position to the next waypoint.** When this is reached, an acoustic signal sounds and the waypoint disappears from the display.

Cross-country flying with the SKYTRAXX 5 Mini

Cross-country flying is a very popular variation of our sport. In addition to the pure joy of discovery and amazement, the sporting challenge is also attractive.

Cross-country flight scoring according to points system

A points system was developed as a "benchmark" for cross-country flight performance. The points are calculated by multiplying the distance flown (km) by a rating factor.
This depends on the general scoring system (DHV-XC, XC Contest ...) and the type of route flown:

- **free route:** between take-off and landing, a maximum of 3 additional waypoints count. (smallest scoring factor)
- **flat triangle:** route around three waypoints, if take-off and landing are max. 20% of the total distance from each other (medium rating factor).
- **FAI triangle:** like a flat triangle, the length of the shortest leg is at least 28% of the total distance (largest scoring factor).

The points calculation for cross-country flights is carried out using evaluation software. To do this, you upload the track log of your flight (IGC file) into an electronic flight log or onto an online platform (Online Contest, OLC). For more information, see the chapters Flight Log and OLC.

Cross-country flight calculations for the SKYTRAXX 5 Mini

The SKYTRAXX 5 Mini **continuously calculates during the flight:**

- **Distance to start**
- **XC kilometers** (according to FAI cross-country flight classification)
- **XC points** (depending on the scoring factors set in the OLC profile)
- **XC type** (free course, flat triangle, FAI triangle)

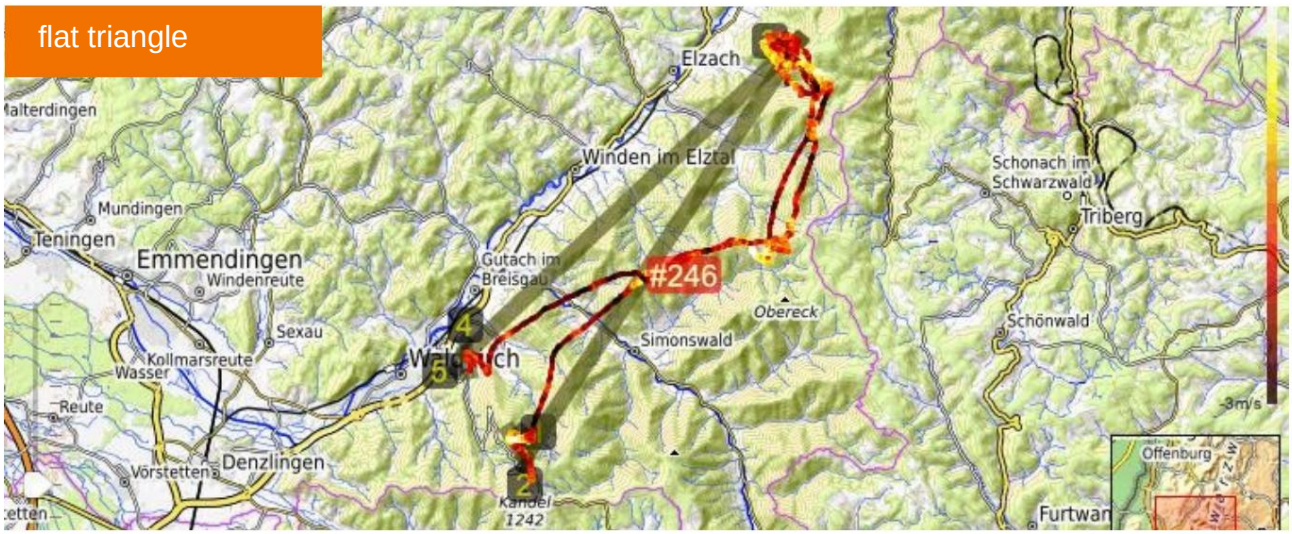
You can **display** these **calculations** on the flight screens (for configuration see the Flight Screens chapter)

We will add more details about this to this guide soon.

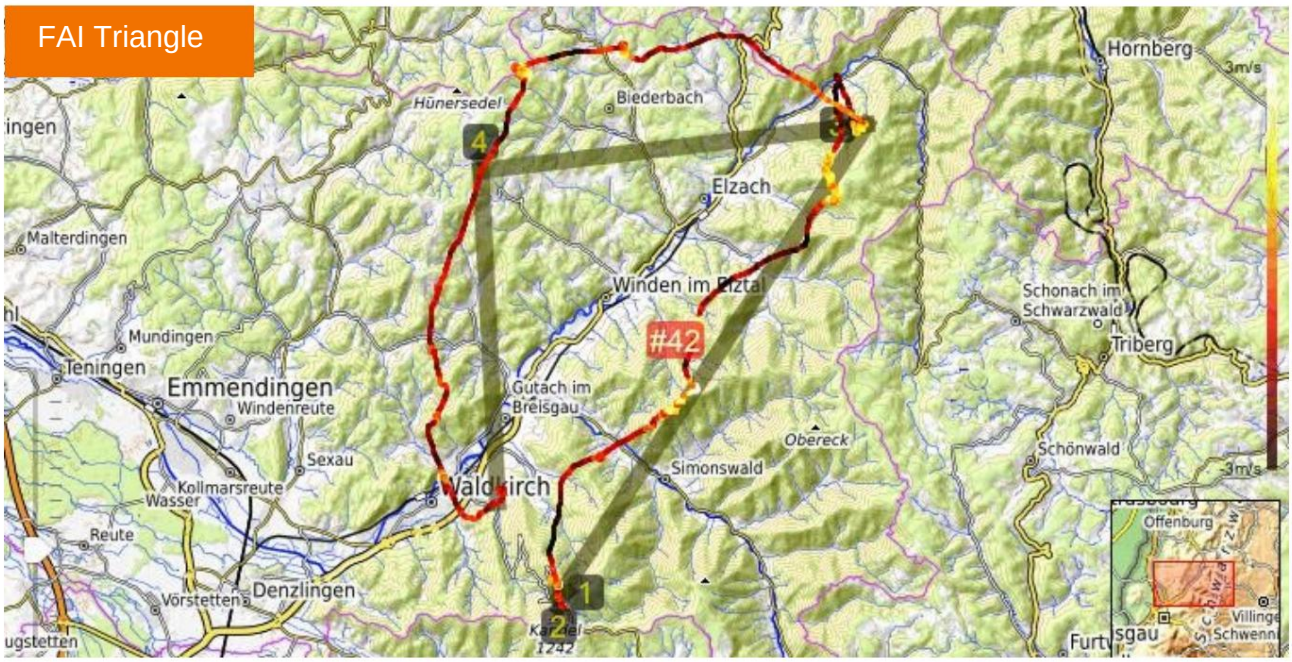
Examples of route flight calculations

free route

flat triangle



FAI Triangle



Navigation - Triangle Assistant

In the FAI triangle, the **maximum number of points** is determined in relation to the distance flown. It is considered the supreme discipline in free cross-country flying, because it places high demands on navigation in the terrain and is only successful in favorable flight conditions (influence of wind!).

We cannot influence the weather, but the SKYTRAXX 5 Mini provides an excellent assistant for navigation. The triangle assistant enables **optimal route finding for FAI triangles** during the flight.

ÿ The display of the FAI triangle sectors is **available on all flight screens with map display.**

ÿ The **rated XC route** is also shown on the **Triangle Assistant** flight screen visible as a line and always the **complete calculated triangle** (zoom inactive).

We will add more details about this to this guide soon.

Competition flying

There are now a whole range of different competition formats. The "classic" variant is **timed cross-country flying.** The aim is to fly a predefined course (flight route) in the shortest possible time.

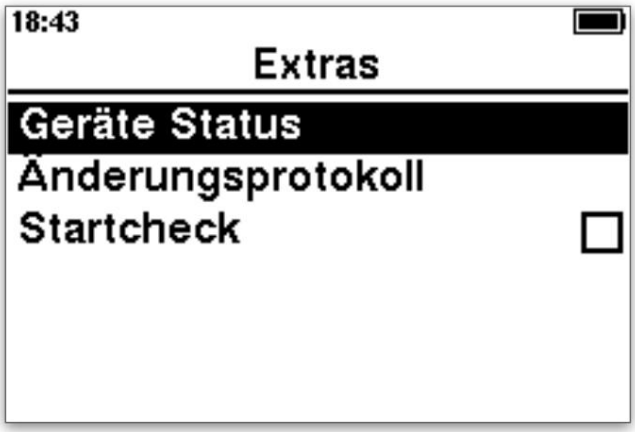
Between takeoff and landing, a flight task usually passes through several **fixed waypoints or turning points.** You can imagine these as buoys in a sailing regatta. However, these waypoints (turnpoints) are usually three-dimensional virtual **cylinders** with different radii, the central axis of which is defined by geographical coordinates. Navigation from point to point is done using GPS.

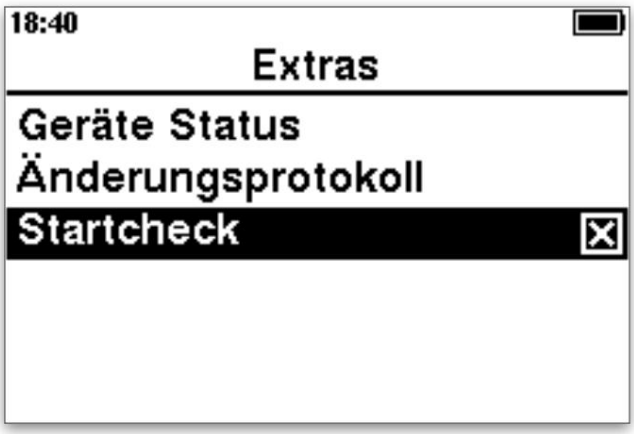
We will add more details about this to this guide soon.

Extras

Some setting options for your flight instrument can be found in the main menu under "Tools":

ÿ **Device status:** Shows various information such as geo-position, battery status, etc. ÿ **Change log:** Changes with the last firmware update ÿ **Start check:** Query the standardized 5-point check after switching on

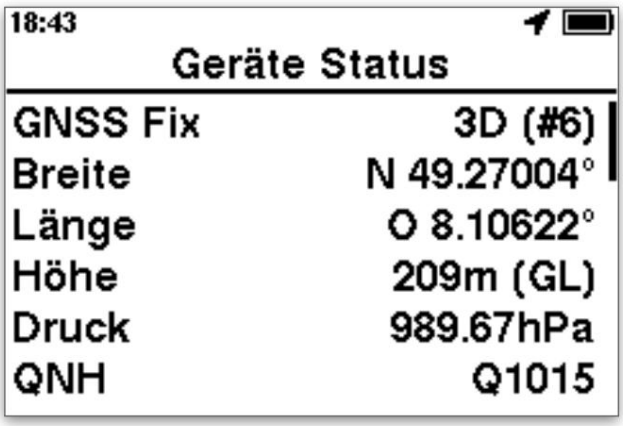


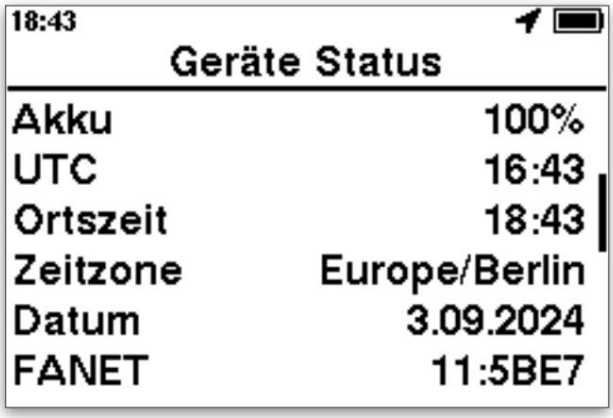


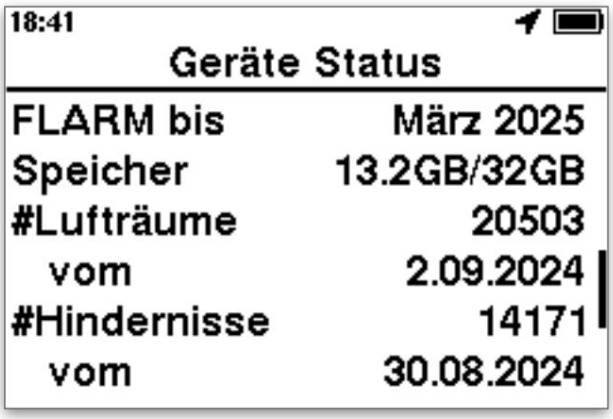
ÿ With a careful check before starting, many difficulties can be avoided. (line knots, tangled brakes, open buckles ...). The 5-point check is essential for a safe takeoff and a good flight.

Device status

Use the arrow keys to go to the next or previous screen.







ÿ In case of emergency, the device status gives you the coordinates of your current ell location.

ÿ The coordinate format is set under >Settings >General administration > Units defined.

USB port / internal memory

The SKYTRAXX 5 Mini is equipped with a large internal **flash memory .** This memory can be easily connected to Windows, Mac (from OSX 10.7) or Linux-based computer systems as an external drive via the **USB-C port** on the bottom of the device.

To do this, plug the supplied USB-C cable into the bottom of the device and connect it to a USB port on the computer. The symbol for a USB connection will now appear on the display.

The **SKYTRAXX file directory** contains the folder »flights«. The flight data is stored as IGC files in subfolders sorted by year and month; the file name consists of the date, time and flight area.

If the SKYTRAXX is no longer required as an external mass storage device on the computer, you should disconnect the connection from the computer by selecting **"Eject drive" .** This ensures that no data is lost or damaged.

Update

We are constantly adapting the SKYTRAXX 5 Mini software to the requirements of our pilots, supplementing it with practical experience and correcting any weak points.

To update

ÿ Connect the SKYTRAXX 5 Mini to a computer using the USB cable, ÿ wait a moment until it appears as an external storage device on the computer.

ÿ In the file directory of the SKYTRAXX 5 Mini you will find the program »SkyUp«.

ÿ Start SkyUp with a double click. ÿ The SKYTRAXX 5 Mini automatically updates all necessary databases and the System software.

ÿ Exit SkyUp and disconnect the SKYTRAXX 5 Mini as an external drive.

System reset

By pressing the >Menu button for a longer period (10 seconds), the SKYTRAXX 5 Mini performs a system tem rest.

Disclaimer

In rare cases, the flight instrument may not provide any data or may provide incorrect data. SKYTRAXX GmbH will not be held liable for any damage caused by the malfunction of your device.

The free and freely accessible data such as airspace[1], take-off and landing sites[2] and altitude data were created with the greatest possible care. However, SKYTRAXX GmbH does not guarantee that the free and freely accessible data provided is correct and up-to-date. Simply downloading the free and freely accessible content does not create any contractual relationship between the user and the provider, and the provider has no intention of being legally bound.

The pilot alone is fully responsible for the safe conduct of his/her flights.

[1] Airspace data provided by: https://airspace.xcontest.org

[2] Take-off and landing sites provided by: http://www.paraglidingspots.com/defaul-t.aspx

Safety instructions

Use of the SKYTRAXX flight instrument is at your own risk. The manufacturer assumes no liability for damage or loss of data.

Furthermore, the manufacturer expressly assumes no liability, in particular for dangerous flight situations caused by possible incorrect displays of altitude, position and speed.

The instrument display may only be read if the current flight situation permits it.

Environmental protection / disposal

The SKYTRAXX 5 Mini contains a battery that requires special disposal. As an end user, you are legally obliged to return all used batteries and rechargeable batteries (Battery Ordinance). Disposal in household waste is prohibited by law!

Removing the battery:

Loosen the 4 screws on the back of the device.

Lift the cover and remove the battery by pulling on the battery socket.

The battery and the device can now be disposed of separately.

You can return your used batteries free of charge to the collection points in your community or anywhere where batteries are sold.

You thereby fulfil your legal obligations and make your contribution to environmental protection

WEEE Reg. No. DE 97761594

The company SKYTRAXX GmbH is connected to the dual system.

Technical data

Power supply: Lithium ion battery 2700 mAh 3.7 V, running time up to 60 hours.

Memory:	32GB
GPS:	Global Navigation Satellite System (GPS, Galileo, GLONASS, BeiDou)
Sensors:	Pressure sensor, magnetic sensor, gyro
Display:	3.7" grayscale, reflective
Interface:	USB-C
Weight:	180 grams light
Dimensions:	101mm x 88mm x 16mm

guarantee

We provide a 24-month guarantee on our devices from the date of purchase for material and manufacturing defects. Mechanical damage, such as broken casing or display, is not covered by the guarantee.

For warranty claims, please contact your dealer or the manufacturer directly.
Opening the case will void any warranty claim.

Support

You will find most of the answers to questions about how to use your device in the detailed operating instructions on the website www.skytraxx.eu under “Operation”.

If your SKYTRAXX 5 Mini is damaged by a fall, water landing or other influences or malfunctions occur, please contact our support by email:

support@skytraxx.eu

or please send your device with a detailed description of the error to: SKYTRAXX GmbH, Im Bildstöckle 5, 79822 Titisee-Neustadt

We will endeavour to process your request as quickly as possible.

Simplified EU declaration of conformity

Skytraxx GmbH hereby declares that the device SKYTRAXX 5 mini complies with

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Directive 2014/53/EU. The full text of the EU Declaration of Conformity

is available at the following Internet address:

https://www.skytraxx.org/skytraxx5mini/eudecl5m.pdf

Frequency bands and maximum transmission power of the SKYTRAXX 5 mini

Frequency band	**Transmission power**
868.0 MHz to 868.6 MHz	13.52 dBm

Simplified EU Declaration of Conformity

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Frequency bands and maximum transmit power of the SKYTRAXX 5 mini

frequencyband	**transmission power**
868.0MHz to 868.6MHz	13.52 dBm

Finally

We hope that this manual will provide you with a good guide to the sensible use of your SKYTRAXX 5 Mini flight instrument.

We endeavour to keep this guide up to date and to supplement it as necessary.
If you have any constructive suggestions for this guide, please send us an email to thomas@gemeinsam-fliegen.de

We wish you many nice flights with the SKYTRAXX 5 Mini

Photos (unless otherwise stated): Jutta Reiser, Thomas Latzel