

Manual

SKY TRAXX 2.0



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Introduction

Thank you for purchasing the SKYTRAXX 2.0 and for placing your trust in us.

The SKKYTRAXX 2.0 uses the most up-to-date componentry available and has been specifically designed for paragliding and hang gliding. The new technology has enabled us to produce a much more efficient unit and to offer many new features which we are certain you will appreciate.

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SKYTRAXX 2.0 is the result of a major product upgrade which includes many new features and functions. The new high performance 32bit Risc processor has huge processing power and together with its 4GB of internal memory offers new features never before thought possible.

The SKYTRAXX 2.0 has practically no flight recording limits. It is capable of logging thousands of flights each with a track interval of one second and can handle 60 000 waypoints together with masses of airspace data. In addition, the capacity to calculate and analyse maximum values and profiles for all recordings in **real-time** is nothing short of amazing.

Some SKYTRAXX 2.0 features include:

- A preinstalled worldwide database of all launch sites and landing fields.
- Preinstalled airspace information for 31 countries.
- All tracklogs are stored as IGC files and are signed with a G-Record.
- Compatible for use with Windows, MAC and Linux without additional software or driver requirements.
- Airspace information can be copied in OpenAir format directly to the SKYTRAXX.
- Waypoints are copied simply as text files.

External Features

A Mini-USB port allows data exchange and battery charging.

A reset button located near the USB port can be actuated by inserting a thin pencil or a paper clip, and gently pressing.



On the back cover there is an internal M4 thread.

The maximum depth is 6 mm.

If an accessory is attached, the included adhesive pad must also be used.



For in-flight security, a safety line can be attached using the two holes at the base of the unit.

Input Keys



The **Menu** key toggles to and from the Main Menu.

The **Minus/Plus** keys decrease and increase values respectively, as well as facilitating movement up and down within the Menu in the direction indicated by the arrows on the keys.

Pressing **OK** facilitates paging through the various views, as well as confirming an input or making a selection.

Turning the Unit ON and OFF

Connect the Skytraxx to the charger supplied and fully charge the unit.

To turn the unit **ON** press and hold the **Menu** key for 3 seconds and then press **OK**. To switch **OFF** press and hold the **Menu** key for 3 seconds and then press **OK**. In either case if confirmation by pressing **OK** is omitted, no changes will occur.

Note that when the device is connected to a PC it will not switch off.

The Main Screen is the default view when the unit is turned on.

Navigating the Menu

After the turning on the device press the **Menu** key.



Use the **Minus/Plus** keys to move the indicator up and down the list (2 pages). Press the **Menu** key anytime to return to the main screen. Press **OK** to open an indicated screen.

Menu Options:

- | | |
|--------------------------|--|
| • DEVICE STATUS | Date&Time, GPS coord.&height, Satelites |
| • TRAXX | Stored flight info and analyses |
| • USB | To connect to PC |
| • PARAMETER | Device settings |
| • AIRSPACE | Airspace options |
| • WAYPOINT | Waypoint management |
| • GOTO | To select a waypoint to navigate to |
| • TASK | Competition task management |
| • SIMULATOR | Simulates GPSreception&hypothetical flight |
| • PILOT DATA | To enter pilot data for exporting to IGC files |
| • USER FIELDS | Set the 3 user-definable fields in main view |
| • PLAY MUSIC | To play music |
| • FIRMWARE UPDATE | Update device firmware. |
| • FACORY DEFAULT | Return all settings to facory default |

Press the **Menu** key from any screen to return to Menu list.

First steps

1. Setting up Pilot details:

From the Main Menu select **PILOT DATA**.

Press **OK** to begin **editing** and use the keys next to the symbols which appear on the screen to navigate.

Example:

Your name is Max Mustermann

IGC-ID: MaMu (4 characters)

Pilot: Max Mustermann (max. 22 characters)

Glider: Advance alpha 3 (max. 22 characters)

Class: Paraglider (sport) (max. 22 characters)

To insert or delete characters, hold down the **OK** key in **edit** mode until the following symbols appear on the screen. Press the adjacent **Minus/Plus** key to effect the desired operation.



The following characters are available by using the **Minus/Plus** keys in the **edit** mode, holding down for rapid scanning:

[abcdefghijklmnopqrstuvwxyz.-](#)

[0123456789ABCDEFGHIJKLMNQRSTUWXYZ](#)

To insert a space, use the full-stop character.

When finished in one field, press **Menu**. Move fields with the **Minus/Plus** keys, then press **OK** to edit the next field and so on.

Save your entered details by pressing the MENU key, then OK to confirm.

This information becomes the header of your IGC-File.

2. Select the country being flown from the **AIRSPACE** menu. Germany is the default setting.

3. Using the **PARAMETERS** menu it is possible to set personal parameter preferences. (See „Parameters“ for more detail.)

Main screen



- | | | | |
|---|----------------------|---|--------------------------|
| ① | GPS Height AMSL | ⑨ | Wind direction |
| ② | Digital vario | ⑩ | Position of last Thermal |
| ③ | User-definable field | ⑪ | Track |
| ④ | User-definable field | ⑫ | GPS strength |
| ⑤ | User-definable field | ⑬ | Battery level |
| ⑥ | Groundspeed | ⑭ | Analog vario |
| ⑦ | Windspeed | ⑮ | Vario over 30 Seconds |
| ⑧ | Temperature | | |

Map screen



- | | |
|------------------------------------|--------------------|
| ① Airspace within warning distance | ⑦ Waypoints |
| ② Airspace warning distance | ⑧ Groundspeed |
| ③ Wind | ⑨ Track |
| ④ Scale | ⑩ GPS Height AMSL |
| ⑤ Distance to next airspace | ⑪ Current position |
| ⑥ Track log | ⑫ Thermal source |

A short press on the Minus/Plus keys changes the scale. Holding either one down displays Airspace information. Further pressing scrolls through the information. Press Menu to exit back to Map. See next page for more details.

Using the Map Screen

In the **Map** view the scale can be changed by short-pressing the centre keys (**Minus/Plus**).

Provided airspace maps have been loaded and there is GPS reception, holding down either of the centre keys will show airspace info. Whilst viewing the airspace info, the centre keys scroll through airspace data files.

Additionally, if the thermal database is loaded, thermal points can be viewed from the second scale setting upwards.

Adding thermal points

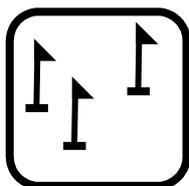
After connecting the Skytraxx to a PC, use the following link to download the thermal database and then copy it into the **WAYPOINTS** folder:

<http://xc.dhv.de/xc/modules/leonardo/data/files/dhvxc-thermals.wpt>

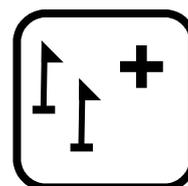
Then in the Skytraxx, select **WAYPOINTS** from the menu list and then select **Select waypoint file**.

Choose New File or Add File.

New File



Add File



Manual Altitude Setting



To manually set the altitude, press one of the middle keys whilst viewing the **Main Screen**. Adjust the values using the middle keys. Confirm by pressing **OK**.

For more details on height calibration see next page.

More about Height Calibration

A false GPS height indication will blink on and off. Once a signal is established the value ceases to blink. The height is then calibrated.

The GPS height values are correct to within +/- 30 metres. With poor GPS reception the inaccuracy may be even greater. Where this is the case, the height may be manually adjusted as follows:

In the main screen, pressing either one of the Minus/Plus keys will open a new screen (see previous page). Use these middle keys again to adjust the height in the direction indicated by the arrows on the buttons. *Note that 3D GPS reception overrides any manually-entered height values which will automatically be corrected whenever 3D GPS reception is available.*

The GPS height is indicated on the DEVICE STATUS screen. *Note that if logging is switched on the height can no longer be manually adjusted.*

If a height is indicated in the ELEVATION list using an appropriate HGT file, Skytraxx then knows the height of the entire area and will also use this height information when no 3D GPS reception is available. *The hgt File contains the topography data.*

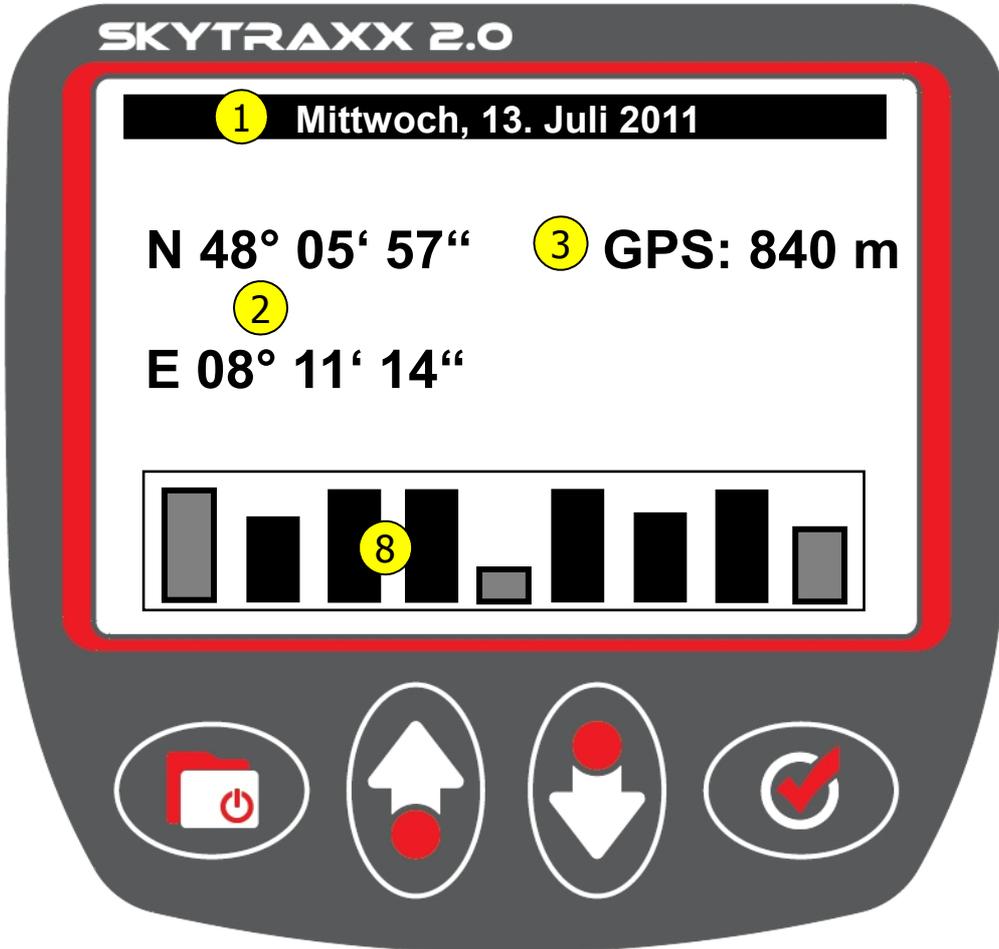
Points to remember

The Main Screen is the default screen-setting after start-up.

After receipt of a 3D GPS signal, and whilst viewing the Main Screen, logging can be toggled on and off by holding down the **OK** key. Confirm each time by again pressing **OK** or exit by pressing **Menu**.

Logging starts the flight time chronometer.

Device Status



① Day and date

③ GPS Height

② GPS Coordinates
of current location

④ Satellites

TRAXX file selection



Use the middle keys to select a period and press **OK** to accept.

To delete a period:

- Select the period using the middle keys.
- Press and hold the **OK** key until the delete symbol appears.
- Press **OK** to delete or exit by pressing **Menu**.

Menu choice TRAXX

All flight recordings are filed by year, month and day similar to a flight log.

Selecting a day brings up a list of all flights logged on that day.
To view the details of a particular flight:

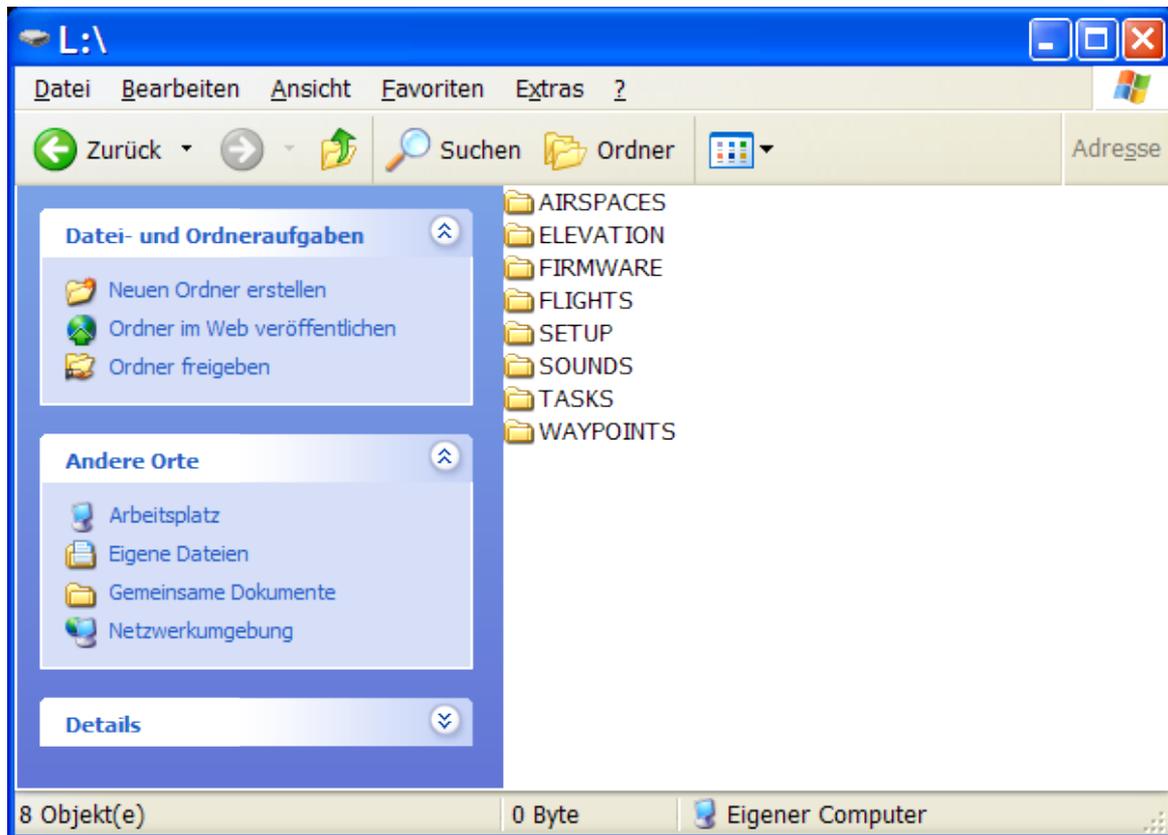
- Select the highlighted flight by pressing **OK**.
- Pressing **OK** scrolls the lists of logged flight data, the last view being a graphic of the type shown below which includes the tracklog and height profile.

Using the **Minus** and **Plus** keys, the track can be navigated.



Menu choice USB

Turn on the unit and from the Menu list select the USB option. Connect Skytraxx to a PC using the USB cable. After few seconds a window opens on the PC displaying the contents of the Skytraxx. In Windows XP it looks like this:



AIRSPACES	→	Airspace data
ELEVATION	→	Height data
FIRMWARE	→	Firmware versions
FLIGHTS	→	All Tracks
SETUP	→	Settings
SOUNDS	→	Music files
TASKS	→	Competition data
WAYPOINTS	→	Waypoint data

Important!

Do not attempt to make any changes to either the file system or any data in the files.

Corrupted data will lead to false readings and the system will lock-up.

Menu choice **PARAMETER**

Parameter settings can be changed by scrolling to the parameter to be changed using the middle keys, selecting that parameter by pressing **OK** and then altering its setting using the middle keys again.

Sink threshold	Sink-rate at which the vario begins sounding
Climb threshold	Climb-rate at which the vario begins sounding
Time zone UTC offset	Local time difference from UTC
Track interval	Track Log recording interval (1 - 60 sec.)
Volume	Vario sounding volume (0 - 8)
Display contrast	Display screen contrast setting (0 - 24)
Units	Choice between °C/metres and °F/feet
Coordinates format	Format for displaying GPS coordinates in the DEVICE STATUS view.
Language	German, English, French, Dutch, Polish, Spanish, Italian, Romain, Slovakian
Expert settings:	
Integralvario:	Integral value of the digital vario (1 - 60 sec.)

Menu choice PARAMETER (contd)

Expert settings (contd):

Tone pitch rise

Tone gain

Beep pitch

Tone gap sink

Max. audio frequency

Vario sensibility

Auto silent

Thermal lane

Rescue alert

Temperature offset

Voice output

Airspace audio output

Bluetooth

Maximal G-force

GoogleEarth

Karte/Map

Choice between Course up
and North up

Altitude limit

Menu choice AIRSPACE

Show Airspace

Press **OK** then choose from the options on the screen to display airspace in the vicinity. Press **OK** to toggle between activating and deactivating any airspace for displaying on the screen.

Select File

To load airspace data for use, files can be saved in one of two ways. First select a highlighted file by pressing **OK** and then following the on-screen prompts:

Option1: Only the selected file will be loaded for use, over-riding any existing files.

Option2: The selected file will be added to any existing files in use.

Warning distance horizontal/Warning distance vertical

Using the middle keys, the distances for the sounding of a proximity warning when approaching an airspace can be set. Press **OK** to confirm the new value. Horizontal and vertical proximity values can be independently set.

Menu choice **WAYPOINTS**

New Waypoint

A new waypoint at the current position can be created by pressing **OK**. A number is offered as the default name of the new waypoint. To label the waypoint differently, press the **Minus** key and enter the preferred label using the middle keys. When finished, press the **Menu** key twice and then select from Save, Cancel or Delete using the middle keys, confirming with **OK**.

Edit Waypoint

Select the waypoint to be edited from the list by pressing **OK** and go into **edit mode** by pressing **OK**. Edit using the middle keys. When finished with a field, press **Menu** to exit the **edit mode**. Use the middle keys to shift fields and edit by pressing **OK**, and so on. When finished, press **Menu** and select from the options using **OK** to confirm the choice.

Select Waypoint File

Select a file from the list offered by pressing **OK**. Two options are available for entering waypoint data to be accessed and shown on the map:

Option1:

By pressing the **Plus** key (next to the symbol **without** the '+'), only the selected waypoint file will be entered; all previously entered waypoint data will no longer be available.

Option2:

By pressing **OK** (next to the symbol **with** the '+'), the selected waypoint file will be added to any existing data.

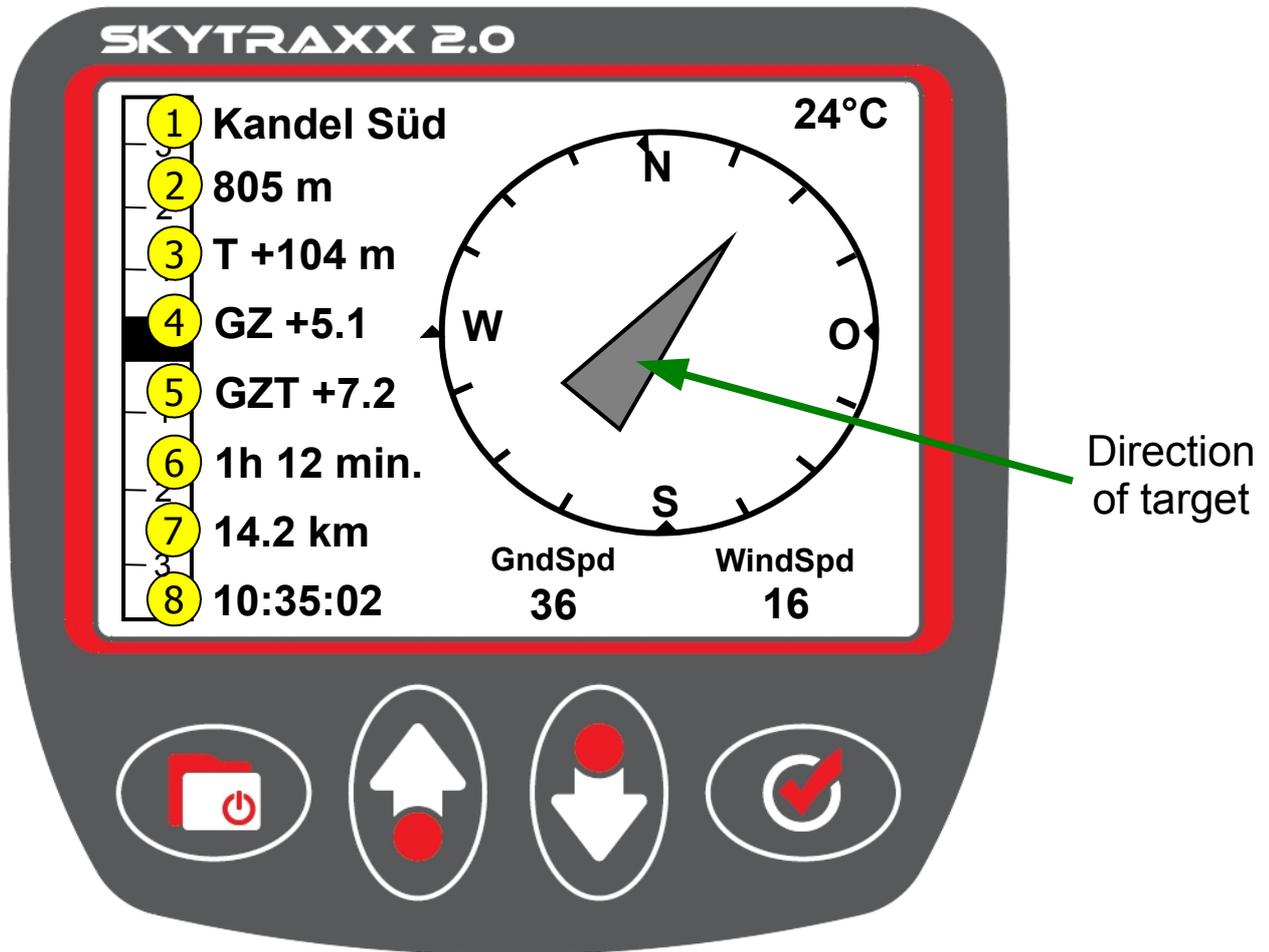
Menu choice **GOTO**

Selecting **GOTO** presents a list of the waypoint data which has been loaded for viewing. (For how to load waypoint data see **Menu choice WAYPOINTS** on page 20.)

When a waypoint is selected, a screen is created with all the information necessary to navigate to the chosen waypoint. The navigation details shown on the **GOTO** screen are described on the following page. To view the screen, scroll to it using **OK**. To select a new target, hold down **OK** whilst viewing the **GOTO** screen and select from the waypoint list shown.

To exit from **GOTO**, simply go to the list (either via the menu or by holding down **OK** in the **GOTO** view) and press **Menu**.

Goto / Endflight



- | | |
|-----------------------------|--------------------------------------|
| ① Waypoint name | ⑤ Glide ratio needed to reach target |
| ② Current GPS Height | ⑥ Time to target |
| ③ Height relative to target | ⑦ Distance to target |
| ④ Current Glide ratio | ⑧ Lapsed Time |

Whilst using route, **Minus/Plus** keys switch to adjacent waypoints.

Menu choice TASK

New task

Select **New task** with **OK** and give it a title using the middle keys. Create the task by pressing **Menu**. Once a task exists waypoints can be added to it.

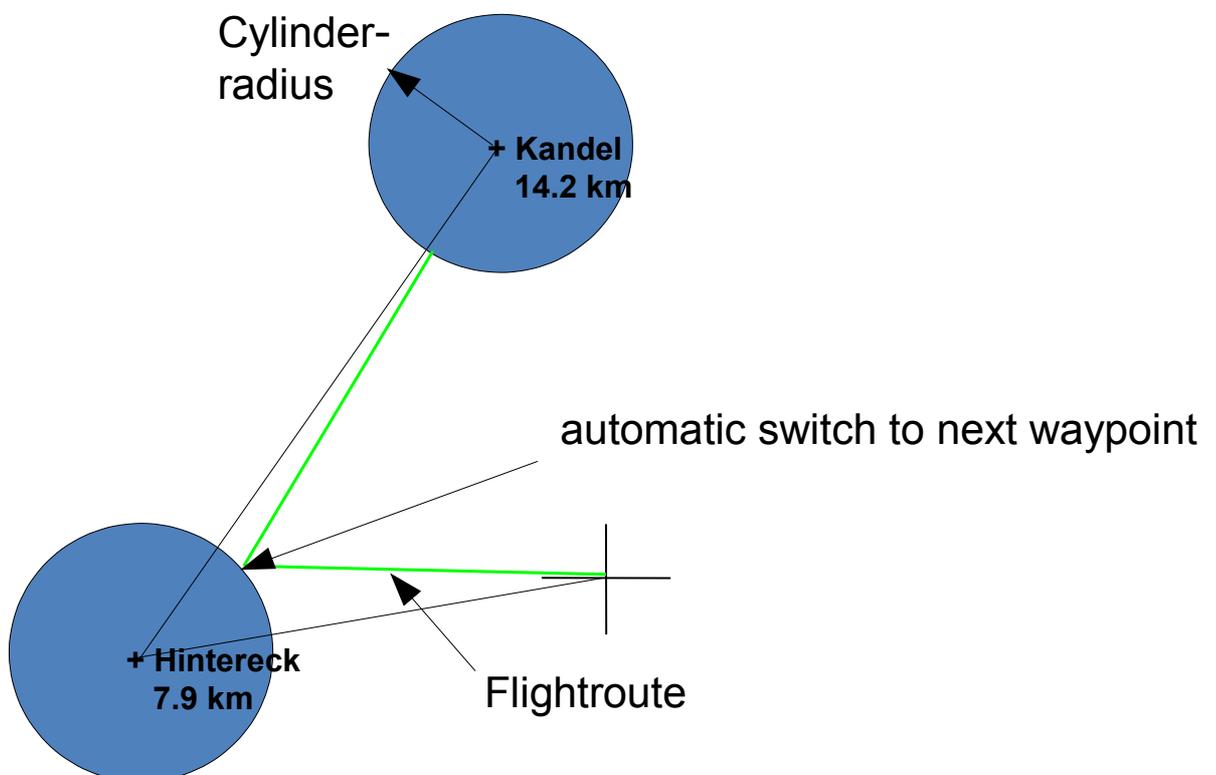
Edit task

Any existing task can be edited. Press **OK**, select the task to be edited and **OK** again to begin the edit and select an operation from the options shown:

- **Add waypoint** to the bottom of the list.
- **Edit waypoint** to edit the highlighted waypoint.
- **Insert waypoint** above the highlighted waypoint.
- **Delete waypoint** which is highlighted.
- **Set cylinder** radius using the middle keys.

Activate task

Select task to be activated using **OK**. Deactivate using **Menu**.



Example of a task.

When a cylinder is reached, an additional track log point is automatically recorded.

Menu choice SIMULATOR

To view the range of possible announcements and functions, select the simulator mode; GPS reception is simulated.

In flight the simulator must be switched off!

Menu choice PILOT DATA

Setting up of IGC file information is carried out by selecting this from the menu. See **First steps** on page 7.

Menu choice USER FIELDS

Three user-definable fields (see pg. 8) can be set to any of the parameters in the list below.

To change the parameters in these fields, select **USER FIELDS** from the menu by pressing **OK**. Select the field to be changed and then select the desired parameter from the list.

The following choices are available:

- Time - actual time
- Flight time - time since start of logging
- AGL - height above ground (*only if the suitable HGT file exists in the ELEVATION folder*)
- AGL (feet) - height above ground in feet (*only if the suitable HGT file exists in the ELEVATION folder*)
- Altitude – GPS height(AMSL)
- Altitude (feet) GPS height(AMSL) in feet
- Relative altitude - height relative to take-off
- Altitude gain – cumulative height gained during whole flight
- Flight level .
- Pressure – QNH (in hPA)
- Course over Ground – track being travelled
- Distance to Waypoint - distance to next selected waypoint
- Distance to Airspace - distance from nearest airspace
- Distance to Airspace vertical
- Distance to take off – distance from point of take-off
- Distance from track – distance from intended path
- Battery level
- Empty Field – leaves field blank
- Barogram – Cross-sectional picture of height vs time/track.
- Glide ratio
- Race start – time set on race-start timer
- Alt of arrival
- G-force (if sensor is installed)

Menu choice **PLAY MUSIC**

If desired, audio files can be loaded into the unit and played. The files must be entered using a special format.

This function is to enable testing of the unit's sound quality. For anyone interested in trying this out, the programme „Switch Sound File Converter“ can be used to convert files for use.

The following settings must be used:

- Output format: .raw
- encoder Options:
 - Format: 8 bits signed
 - Sample rate: 22050
 - Channels: Mono

The converted files can then be copied to the SOUNDS folder using a PC.

Menu choice **FIRMWARE UPDATE**

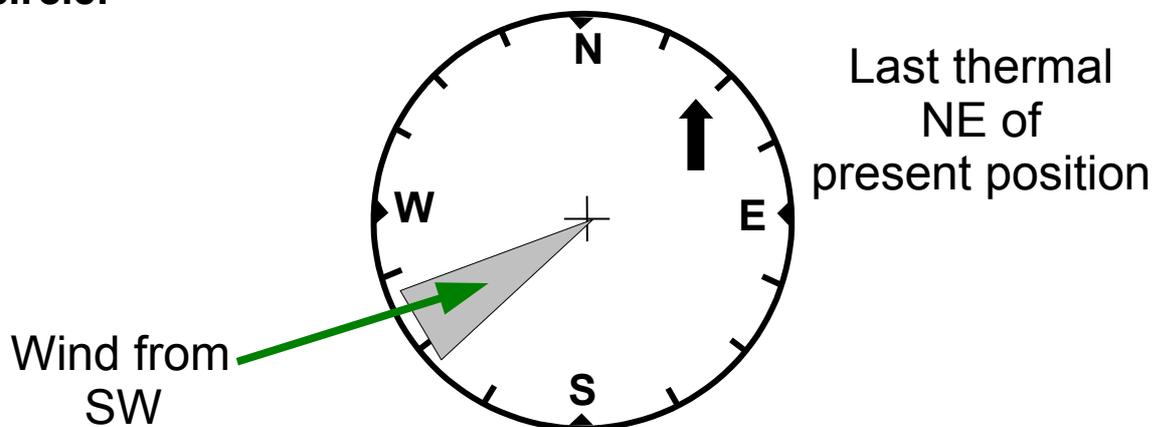
Displays the current Firmware version and whether any updates have been downloaded and ready for installation. If new versions exist and are waiting to be installed, press **OK** to start the installation. A restart is necessary so when installed, the unit will shut down automatically.

Thermal and wind indication

The unit indicates the position of the last encountered thermal, which is in effect, the last position with the highest rate of climb.

The wind direction is indicated as soon as a change of course is flown.

The best indication of wind direction is gained by flying a full circle.



The *position of the arrow in the compass ring* indicates the direction to the last thermal.

The *distance the arrow is from the centre* indicates how far the thermal is away; the further away the thermal, the further the arrow will be from the centre. An arrow in the centre indicates the thermal is very close.

The *length of the arrow* gives an indication of the strength of the thermal; a longer arrow indicates a stronger thermal.

The last thermal is approached by flying until the arrow is positioned at the top of the compass ring and then flying straight ahead. When the arrow is in the centre of the compass ring, the thermal has been reached.

Battery

The SKYTRAXX II is powered by the latest in high-quality lithium ion batteries. The battery is not affected by the so-called memory effect common to some other types of batteries.

Use only the battery charger provided or the PC connection. When the unit is charging an indicator shows on the main screen. Once fully charged, this indicator disappears.

Should the unit not be used for an extended period, it is highly recommended that the battery be charged to at least 30% before use.

WARNING:

DO NOT DISPOSE OF THE BATTERY BY BURNING!!

Technical data

Power supply: Lithium-Ion accumulator 3.7 V 2600 mAh

Operating time on one charge: 30 – 40 hours

Memory size: 2 gigabytes (extendable)

Dimensions: 120 x 98 x 27 mm

Weight: 185 grams

Supplied with:

Delivery includes 220 V battery charger and USB cable.

24 month guarantee from date of purchase.

Water landings

In case water has penetrated the device:

- Turn the device off
- Dry the unit (e.g. with a hair dryer)
- Send the device to us at Blankform for inspection .

The guarantee is invalidated through improper use e.g. landing in water or by opening the device.

Guarantee and disclaimer of liability

In the rare case that the device is faulty, or if for any other reason the unit provides inaccurate or incorrect information, Blankform cannot be held liable for any losses thereby incurred. Responsibility for the proper execution of any flight must be born exclusively by the pilot.

Our product is guaranteed for 24 months from the date of purchase against material and production faults. Mechanical damage, such as case breakage or a broken display screen, is not covered by the guarantee.

Disposal

The end user has a legal obligation to dispose of the battery and the unit in an appropriate manner and in accordance with local by-laws.

Disposal in domestic waste is prohibited!

Pollutant-containing batteries and accumulators are marked with the symbol below, indicating prohibition of disposal in domestic waste.

The chemical symbols for heavy-metals are as follows:

Cd = cadmium

Hg = mercury

Pb = lead

Products containing such substances can be disposed of free of charge at collection sites provided by municipalities or where such products are sold.

Help fulfil your environmental and legal obligations by sending the device at the end of its life back to the manufacturer. Expert disposal is thereby guaranteed, and a credit of 25€ may be claimed.



WEEE-Reg.-Nr. DE 76592335

Safety information

Skytraxx Varios are used exclusively at the owner's risk.

No liability will be accepted by the manufacturer for any damage or overwriting of files which may occur through the use of the provided PC software.

The manufacturer expressly assumes no liability for any possible death or injury in relation to height, position or speed configurations arising from dangerous flying situations.

Visual attention to the instrument during flight should only be undertaken if the situation allows. It is recommended that the audio information be used wherever possible.

We wish you many nice flights with your new Vario.