



syride SYS'Nav XL Variometer User Guide

[Home](#) » [syride](#) » syride SYS'Nav XL Variometer User Guide 

STRIDE[®]

SYS'Nav XL Variometer
User Guide



Contents

- 1 [SYS'Nav XL Variometer](#)
- 2 [Setup the SYS PC Tool](#)
- 3 [Place the instrument](#)
- 4 [Charging the battery](#)
- 5 [Status bar](#)
- 6 [Menus Synoptic](#)
- 7 [Flight Screens](#)
- 8 [Configure your device](#)
- 9 [Advanced configuration](#)
- 10 [Customize your screens and vario sound](#)
- 11 [Locate Airspaces](#)
- 12 [Navigation](#)
- 13 [Bluetooth features](#)
- 14 [Display and delete a flight track](#)
- 15 [Warning and reset](#)
- 16 [Upload your flights](#)
- 17 [Parameters](#)
- 18 [Suggestion of use](#)
- 19 [Documents / Resources](#)
 - 19.1 [References](#)
- 20 [Related Posts](#)

SYS'Nav XL Variometer

Welcome in the Syriders community! Your SYS'NAV XL is an eXtra Light instrument with the most recent technologies. With it, you'll be able you to improve yourself and track your performances.

You will also be able to enjoy a unique and highly detailed online flight book. Your practice of paragliding is going to take a new dimension with the SYS'NAV XL!

As a member of the community, you will become to a key player in the evolution and continuous improvement of our flight instruments. The range of innovative sensors included in the SYS'NAV XL allows the development of future features... We encourage you to share with us your suggestions for your greater satisfaction.

Syride team wishes you amazing flights!

Setup the SYS PC Tool

1. Download the lastest version of theSYS PC Tool by checking the following webpage :

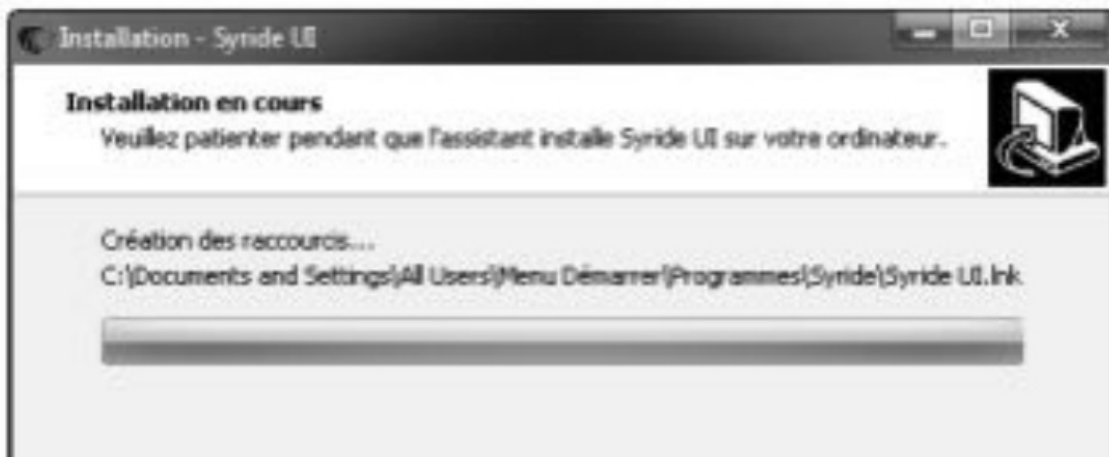
<http://www.syride.com/en/logiciel>

2. Follow the instructions to install it on your computer.



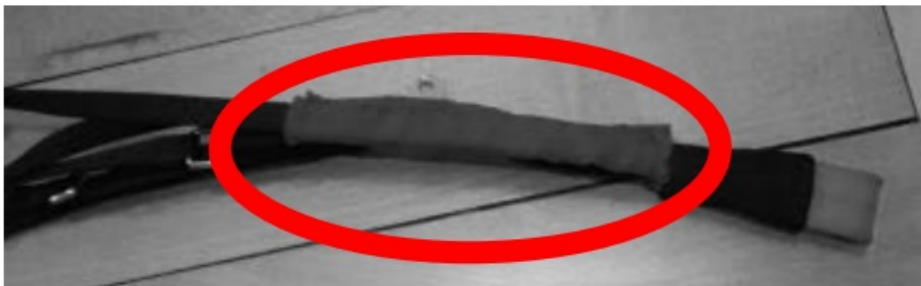
3. Once installed, an icon shows in the task bar. It detects when your instrument is connected.

The software will automatically start with your operating system (Windows only).



Place the instrument

1. Syride suggests to place your instrument on the risers. 2 velcros ables you to place it on any existing riser. Take care not to « lock » your rope or pulley accelerator. This position ables you to manipulate the instrument while flying without releasing the brakes. We recommend you to insert a protection between the velcro and your riser in order to avoid the abrasion of it.



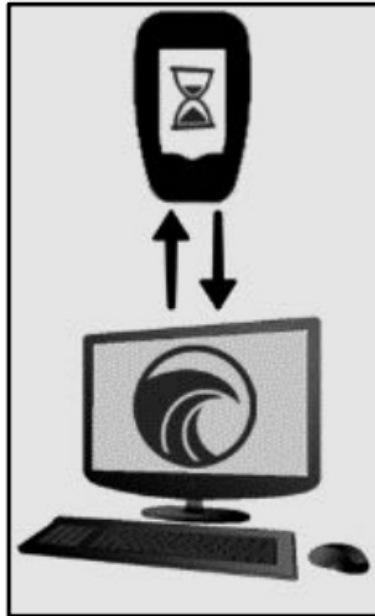
2. Velcros also allow placing the instrument on a cockpit, on thigh, (with extension) or on the wrist.



3. You can secure your instrument by using the strap provided for this purpose.

Charging the battery

1. Simply connect your instrument with the USB-C cable to a computer. A red led shows indicates the charging of the device. The led turns blue when the device is fully charged.



Charging while the device is turned on and plugged in to a computer

1. You can check the percentage of charge on the screen. To complete, a charge requires about 2 hours.
2. Disconnect USB to stop the charge. Your instrument has a Li-ion battery, which has no memory effect.



You can charge your instrument while using it, for example in flight. You have to select “Charger Mode” when plugging the charge cable so the track recording doesn’t stop.

Status bar

You can check the GPS reception status here with the number of synchronized satellites : 18 on this example.

The SYS'Nav XL is equipped with a new generation multi GNSS GPS. It allows the acquisition of several GNSS constellations simultaneously. We advise you to turn on your SYS'Nav XL a few minutes before take off (during your preflight check).

You can check the status of Bluetooth connectivity with this icon. (see XII. Bluetooth features).

This icon is displayed when your track is being recorded.

Sound volume level

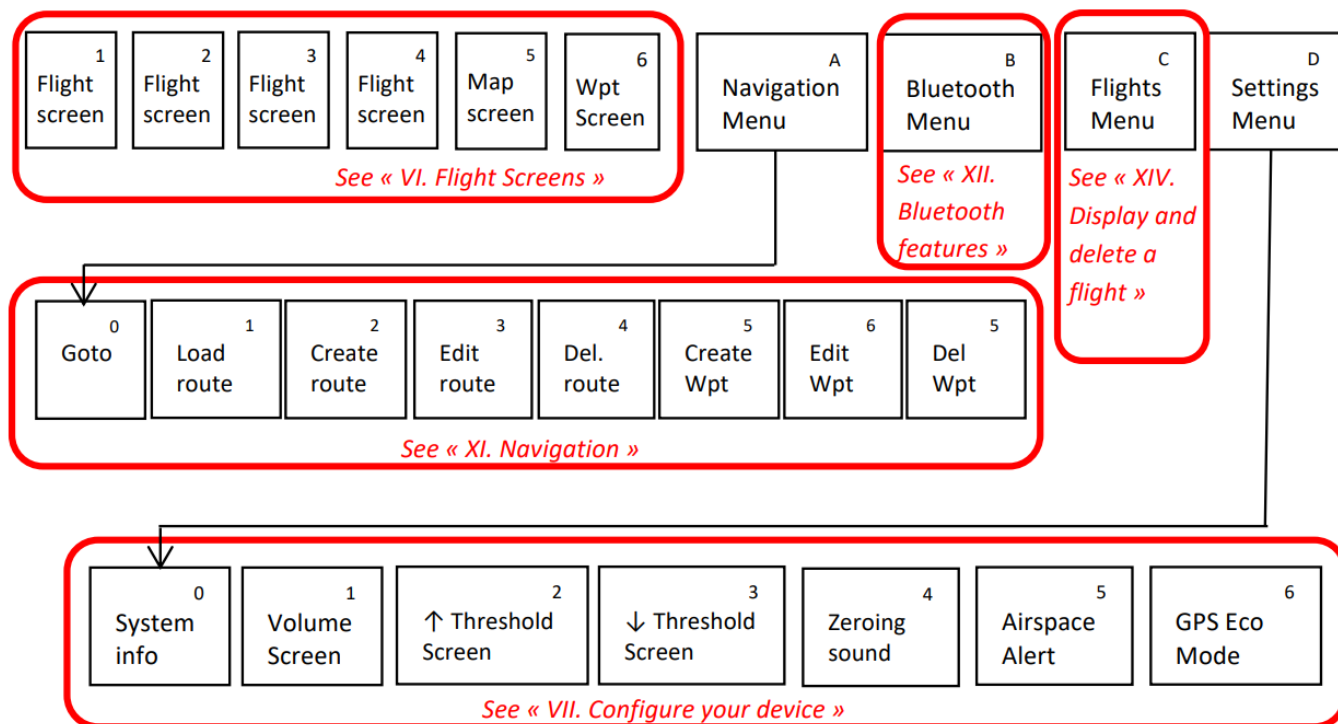
Battery level

The recording start is automatically detected (using speed and vario values) or manual (see VII. Configure Settings). A black dot in the center of the icon indicates that it is a manual trigger.



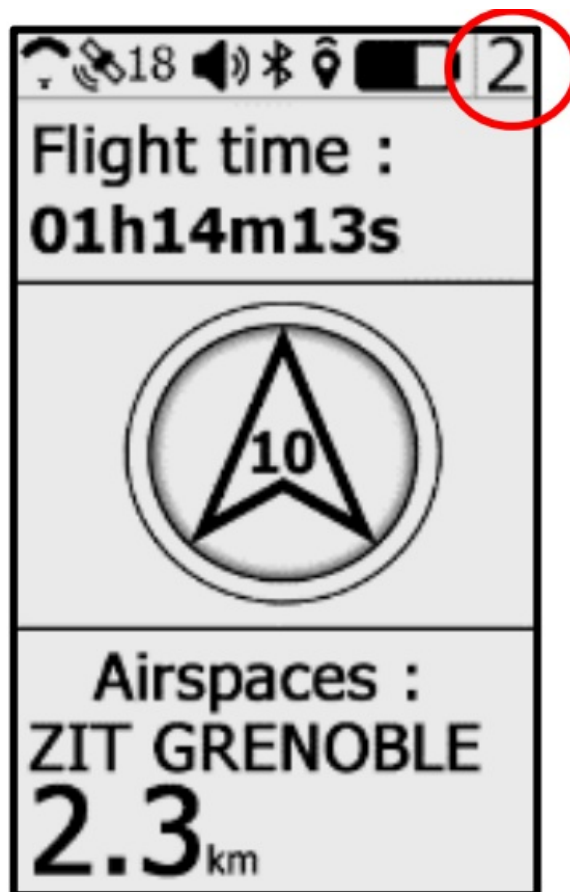
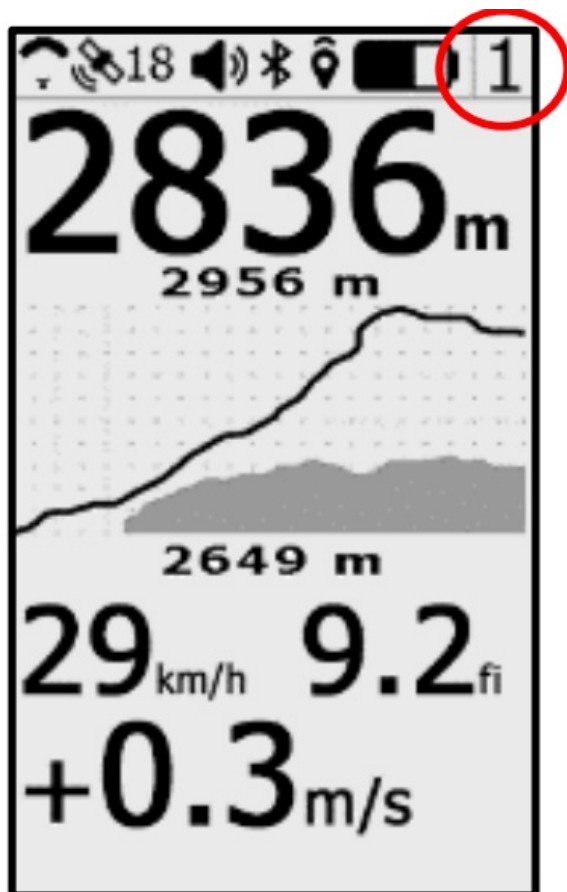
This displays the screen number. From 1 to 6 for the flight screens, from A to E for the menus. (See IV. Menu synoptic).

Menu Synoptic



Flight Screens

1. Screens 1 to 4 allow you to display the flight information you want. If you're not getting enough GPS signal, a NO GPS indication will appear.

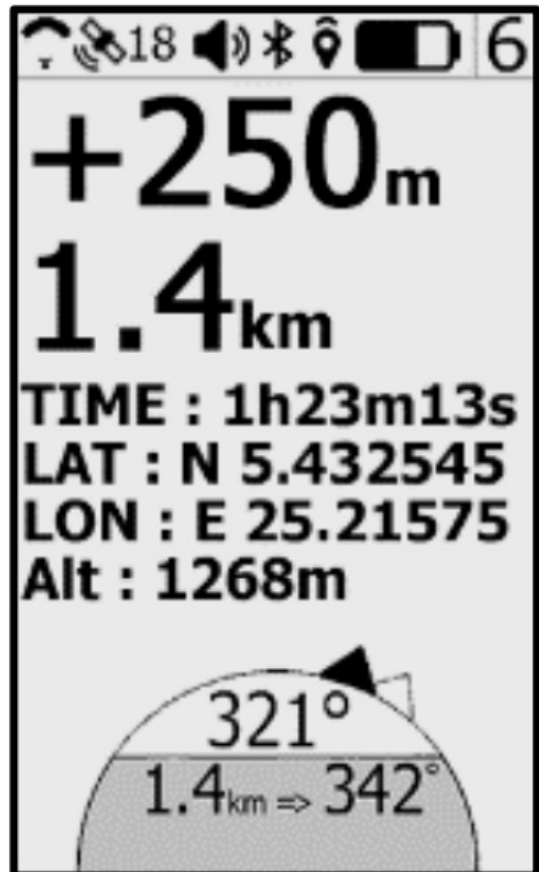


2. Pressing the main button will turn OFF and ON the sound of the vario. This is useful when you need to concentrate on a transistion or a landing.



3. Pressing on the main button allows you to record your position and obtain the GPS coordinates (useful for recovery!), the distance, the vertical gain, the time that has elapsed since the pointing of this point as well as an indication of the route to follow to return to this position. This is also often used by PPG to quickly save their

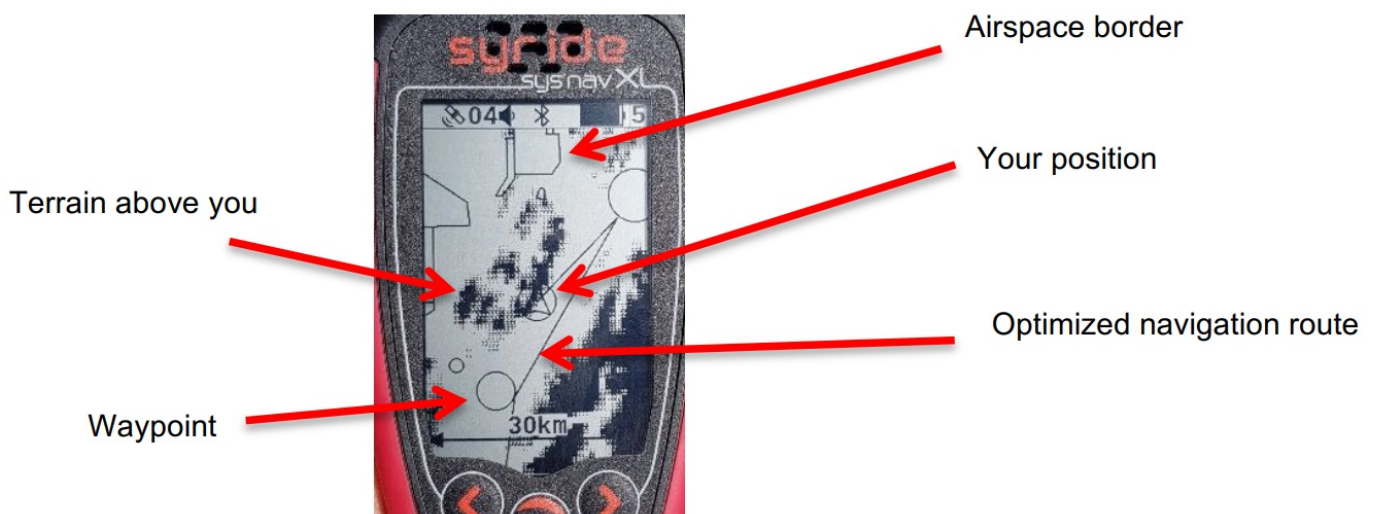
take-off position)



4. Screen #5 (MAP screen) displays on the whole LCD area. You can see :

- Your current position and heading on the middle of the screen
- The topography grayscaled
- Airspaces (if previously uploaded to the instrument)
- Your GPS track for the last 10 minutes
- Waypoints and optimized navigation route (if a route is loaded)

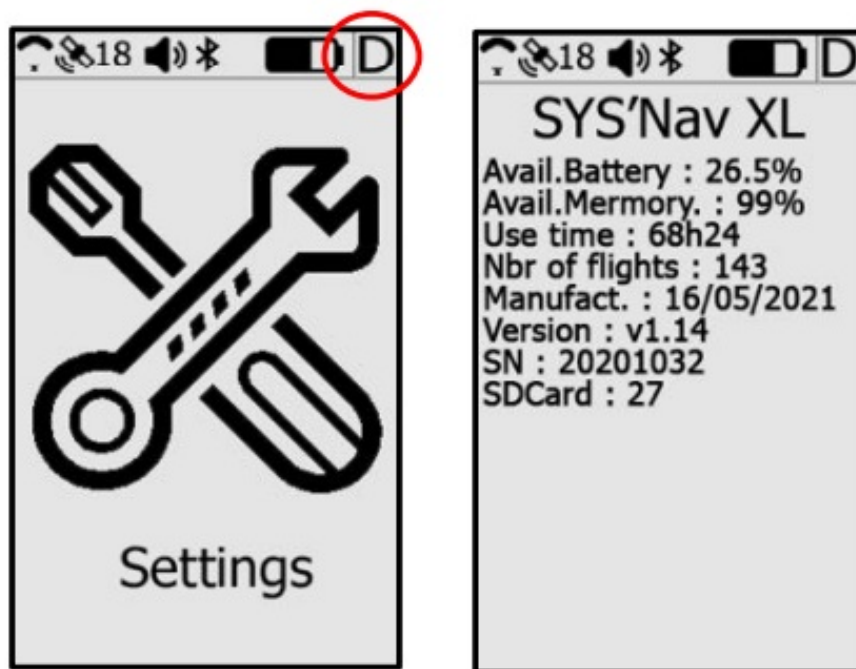
Pressing the middle button changes the zoom level.



Configure your device

1. Press the center button to start the instrument and display the main flight screen.
2. Go to screen D using the keyboard arrows and press the center button (screen number is displayed in the top)

right)



3. The first screen of the settings menu allows you to obtain the system information. A long press on the central button on this page allows you to manually start recording the track.
4. On the next screen you can adjust the sound volume by pressing the center button.



5. The next 2 screens allow you to set the thresholds for the vario's climb and descent sounds. The threshold can be changed by pressing the center button.
6. The next screen allows you to activate/deactivate the zero-ing function (Thermal Sniffer). The instrument will emit a specific beep in flight when you are in a no-climb ($<0.1\text{m/s}$) and no-descent ($>-0.2\text{m/s}$) zone. This audible information may indicate that you are near a thermal or at the beginning of a thermal cycle.
7. The next screen allows you to activate or deactivate the audible and visual airspace alert.
8. The next screen lets you turn on the low power mode of the GPS chip. Your instrument will have a longer battery life, but the GPS track accuracy will be slightly lower. See "XVII. Practical Tips for Use" for more information
9. A central clic on the last page will take you back to the main menu



Advanced configuration

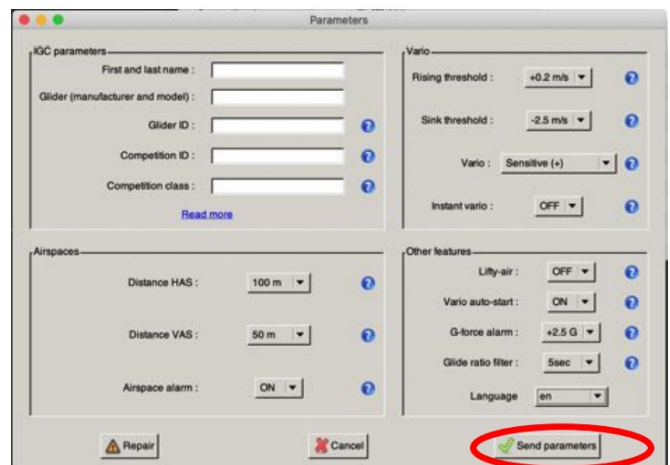
Connect your device to a computer with the SYS PC Tool to access to advanced setup page.

You can:

- Change the airspace « pre-violation » warnings (HAS for Horizontal distance to AirSpace, VAS for Vertical distance to AirSpace)
- Adjust the security alarm based on the G-meter
- Activate the instant vario
- Change your device language...

For this :

1. Turn-on the instrument and connect it to your computer
2. From SYS PC Tool, click on “configure my instrument” icon.
3. Change whatever you want.
4. Click on Send parameters.



Customize your screens and vario sound

With SYS'NAV, you can fully customize screens 1 to 4, as well your vario sound!

To customize your screen (tutorial video <https://www.youtube.com/watch?v=D3lfZWIS13M>) :

1. Go to : <http://www.syride.com/en/ssctool/NavXL>
2. Customize your screen by selecting an item with its font size and units, and then drag and drop it to the screen.
3. Download the config file to your computer.
4. Turn-on your instrument, and connect it to your computer.
5. On SYS PC Tool, click on "Send a file to my Instrument" icon.
6. Select the config file you just downloaded before and disconnect your instrument, done.



Feel free to create several screen customization files depending on your needs.

The vario sound setup follows the same principle, go to <https://www.syride.com/en/variosetup>

Here's a tutorial video: https://www.youtube.com/watch?v=3w4dxw3T_Vk

Locate Airspaces

To avoid an airspace violation, you can upload a database of airspaces with an OpenAir file format to your instrument.

Here are some tips regarding airspaces :

- Airspaces are regularly modified (about once per month). We recommend you to check the version of file you are using and keep updated.
 - Knowledge of aeronautic rules as well as preparing your flight are essential for your safety, and for an easy understanding of what your instrument is showing
 - Temporary forbidden areas can exist. They are signaled through a NOTAM (Notice To Airmen) or Sup AIP. They're usually available on your government website.
 - Each country has its own rules, especially for VFR flights. Take note of local rules before taking-off.
 - Even if your instrument is able to handle thousands of airspaces, we highly recommend you to fine-tune your OpenAir file. Editing the file can be done with any raw text reader software.
- Fine-tuning the openair file can increase your instrument's autonomy, and can ease the reading of the MAP screen.

In order to upload/update airspaces to your SYS'Nav XL:

1. Go to the webpage <https://www.syride.com/en/airspace>
2. Syride's online tool provides airspace databases in Open Air format by country. Download the file you want to your computer.
3. Turn on and plug your SYS'Nav into the USB port of your computer.
4. On the SYS PC Tool, click on the icon « send a file to my instrument ».
5. Select the OpenAir file you previously downloaded.

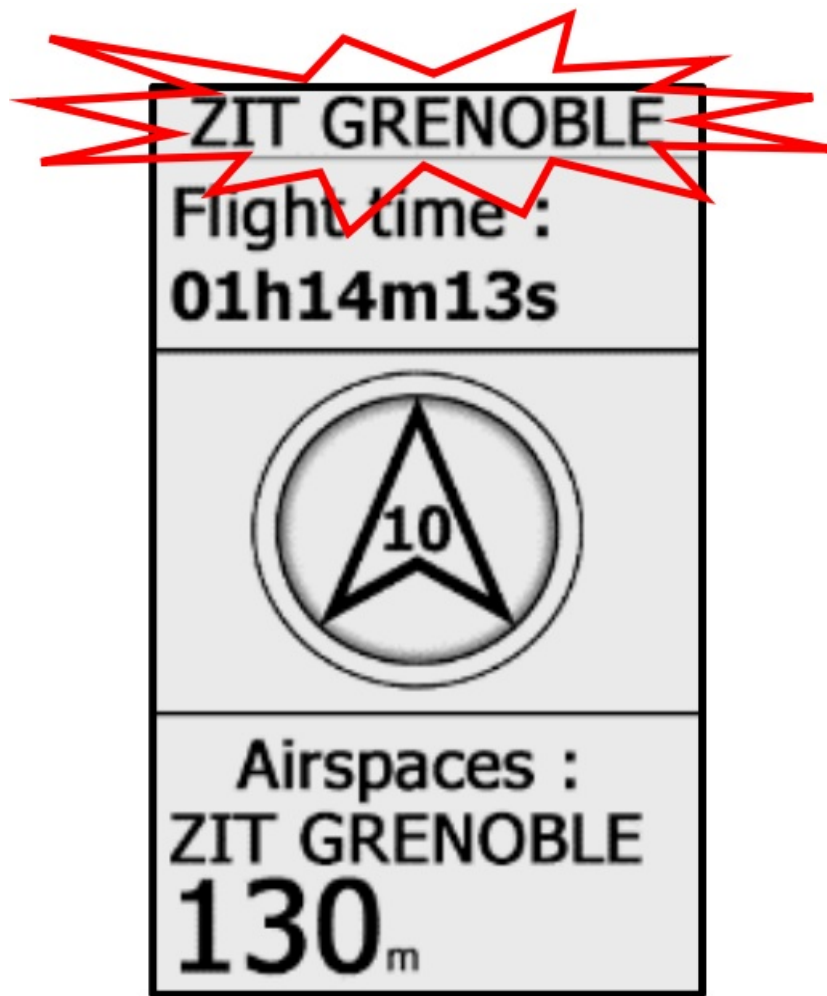


To locate airspaces, you have 2 options :

- The MAP screen will show you the airspace borders
- Indicators are available on the SSCTool, like name, horizontal and vertical distance to the nearest airspace.

There are 2 visual warnings with a siren that informs you are near an airspace :

The Airspace name flashes white at the top when you are near a zone (as defined by the HAS and VAS values in the advanced settings).

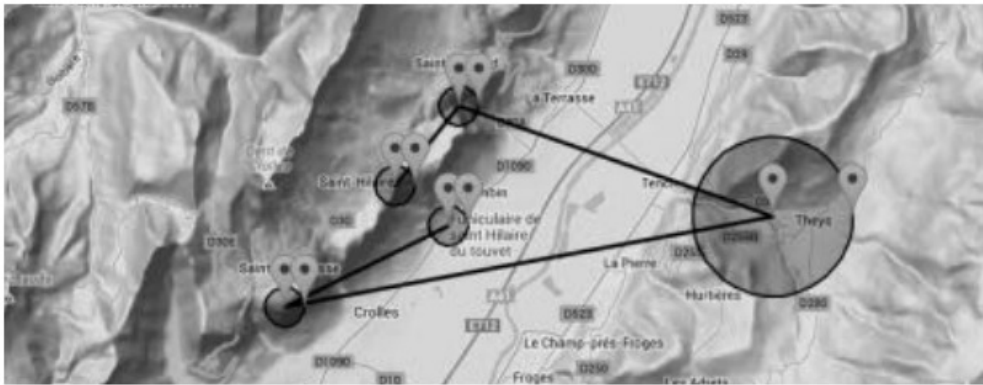


The Airspace name flashes black at the top when you are inside the airspace.



Navigation

To create a navigation route, the easiest way is to use our online « Route maker » tool. Simple, quick and efficient, it ables you to build a route in a few secondes.



To build a route with the « Route maker » :

1. Go to <http://www.syride.com/en/route>
2. Build your route in a few clicks, and then download it to your computer.
3. Turn-on your SYS'Nav and connect it to your computer
4. On the SYS PC Tool, click the « Send a file to my instrument » icon
5. Select the route file you've downloaded before
6. To activate the route in your instrument, go on the the Navigation menu in the SYS'Nav, then « Load a route ».



The route will show on the MAP screen. Think about adding the indicators you wish to use (e.g. Waypoint information) to your screen configuration (cf IX. Customize your screens).

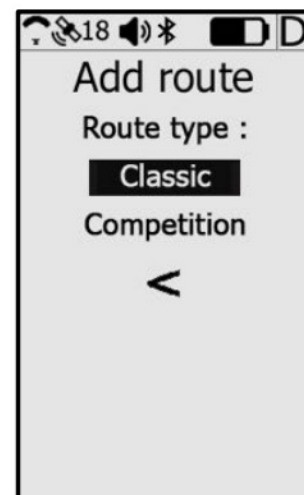
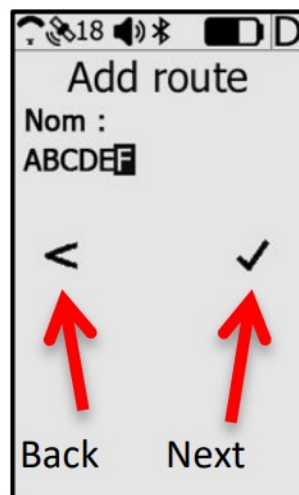
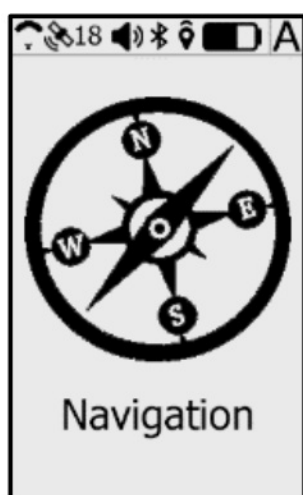
7. To skip a waypoint without reaching it, you can push the central button until the sound signal.

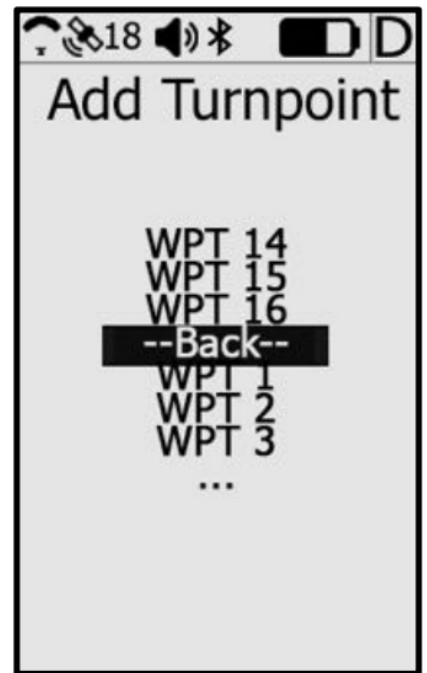
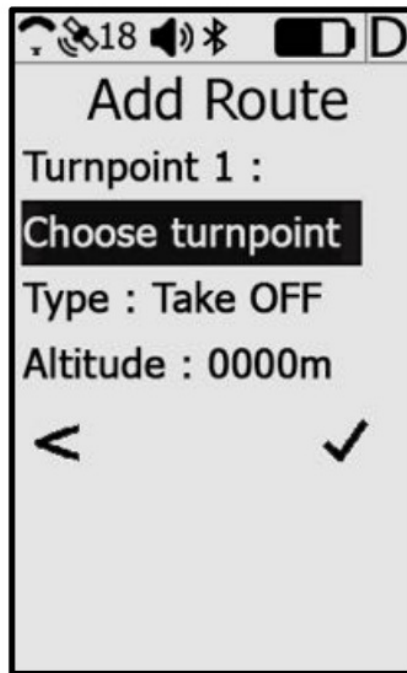
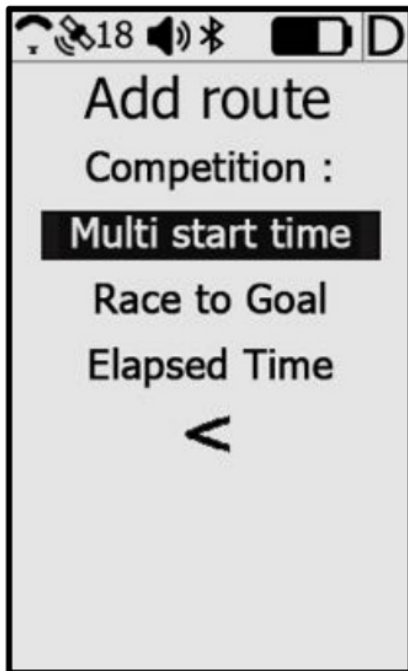
You can build a route from your instrument as well :

1. You first need to have some waypoints in your instrument. Create a waypoint on the SYS'Nav, with menu "Navigation" (screen 7), then "Create waypoint". The instrument will ask for a waypoint name, GPS coordinate, and altitude (optional).



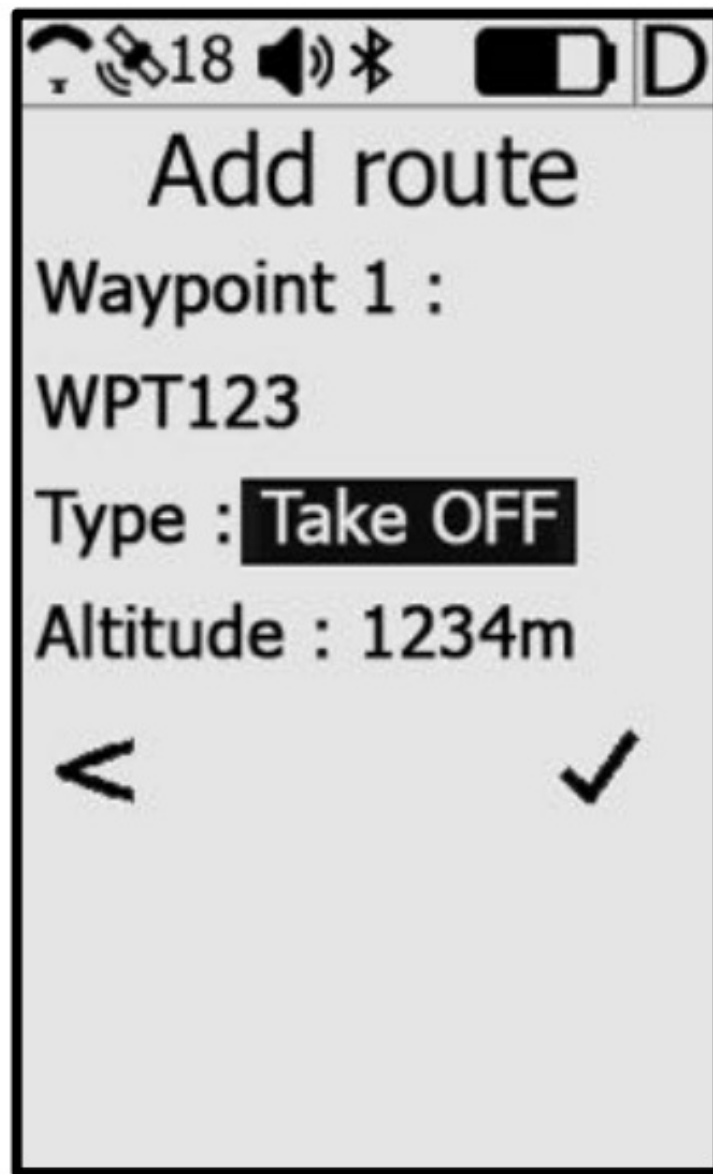
2. If you already have a waypoint file, you can upload it to your instrument with the SYS PC Tool (« Send a file to my instrument» icon). The SYS PC Tool only accepts OziExplorer and CompeGPS .wpt file format.
3. Then, in the SYS'Nav XL, go to the Navigation menu (screen N°A) and then to Create route menu. You will have to give it a name (move the cursor with the arrows and change the letter or validate with the central button) and choose whether it is a route intended for competition or a classic one. Competition routes will let you add "Take Off" and "Speed Section" waypoints.





3) Here are the kind of Waypoints you can add in competition:

- **Take off:** This waypoint is optional. It can only be selected as the first waypoint of a route. It is not taken into account in the navigation, and is only used to calculate the total distance of the task.



- **Start Speed Section (SSS)** : This waypoint is available for a “Race to goal” or for a “Elapsed time” race. It is required for the creation of a competition route. It can be selected as an entry or exit SSS. A start time must be associated with the SSS. SSS in Race to Goal: To validate an Exit start, the pilot must cross the cylinder radius from the inside to the outside after the start time. To validate an Enter Start, the pilot must cross the cylinder radius for the outside towards the inside after the start time. In both cases, the competition time will start at the start time (wether the SSS is validated by the pilot or not).

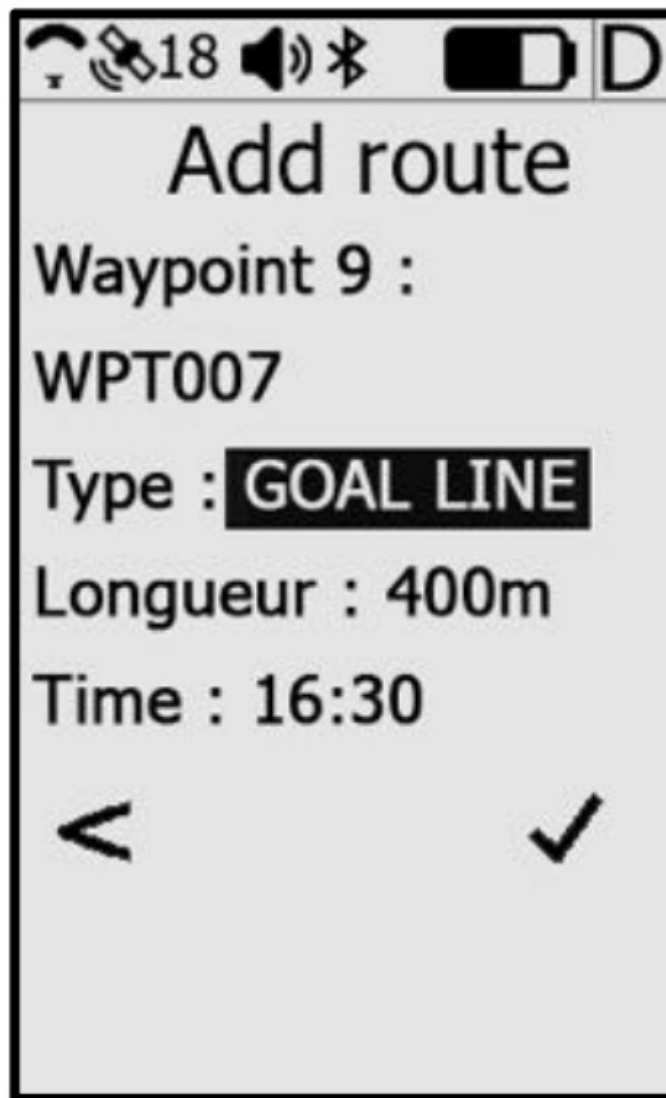
The image shows a mobile application screen with a status bar at the top displaying signal strength, the number 18, a speaker icon, a Bluetooth icon, a battery level indicator, and a 'D' icon. The main content area has a light gray background and contains the following text: 'Add Route' in a large font, 'Waypoint 2 :', 'WPT456', 'Type : SSS' (where 'SSS' is highlighted in a dark box), 'Altitude : 1234m', 'Radius : 000400m', and 'Direction : Enter'. At the bottom of the screen, there are two large, dark icons: a left-pointing chevron on the left and a checkmark on the right.

SSS in the case of an Elapsed time race: Contrary to the classic race to goal race, the validation of the SSS and the start of the competition time will start only when the waypoint is crossed (entry or exit direction, as defined on the tasks) after the start time. It is possible to reset the competition time by passing the start in the correct direction as many times as desired, as long as the next waypoint hasn't been validated.

- **End of Speed Section (ESS)** : The ESS will be available after an SSS has been entered in a task. It determines the end of your competition time. However, the task is only completed if you reach the goal.

The image shows a mobile application screen with a status bar at the top displaying signal strength, the number 18, a speaker icon, a Bluetooth icon, a battery level indicator, and a 'D' icon. The main content area has a light gray background and contains the following text: 'Add route' in a large font, 'Waypoint 8 :', 'WPT789', 'Type : ESS' (where 'ESS' is highlighted in a dark box), 'Altitude : 1234m', and 'Radius : 000400m'. At the bottom of the screen, there are two large black icons: a left-pointing chevron on the left and a checkmark on the right.

- **Conical End Speed Section (ESS)** . Same as above except that you must indicate the inclination of the cone instead of the radius (0.4 by default according to the PWC rules)
- **Goal cylinder** : This is the last waypoint you can enter after an ESS. It is optional.



- **Goal line** : Same as above in the form of a finish line (displayed as a semi-circle). The default length 200m (according to PWC) represents a line of 100m on both sides of the finish point. The minimum length of the line is 50m

The competition route is finished when you have entered a “Goal” and pressed OK. Don’t forget to go to the “Load Route” menu to start your navigation on the SYS’Nav XL.

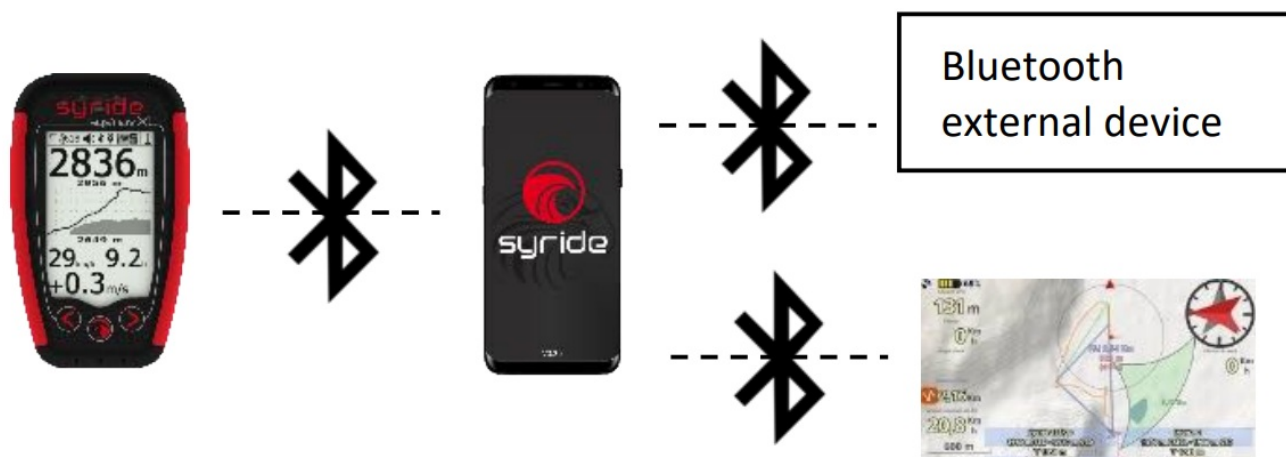
Bluetooth features

The SYS’Nav XL allows the pairing of a Bluetooth device. If you want to connect several devices at the same time (e.g. be live on Syride and connect to XCTrack), you will have to use the Syride application from your cell phone as a hub which will centralize the connections of the devices:

Case 1 : I want to be connected to the Syride app (live tracking, receive weather reports, automatically send my track...)



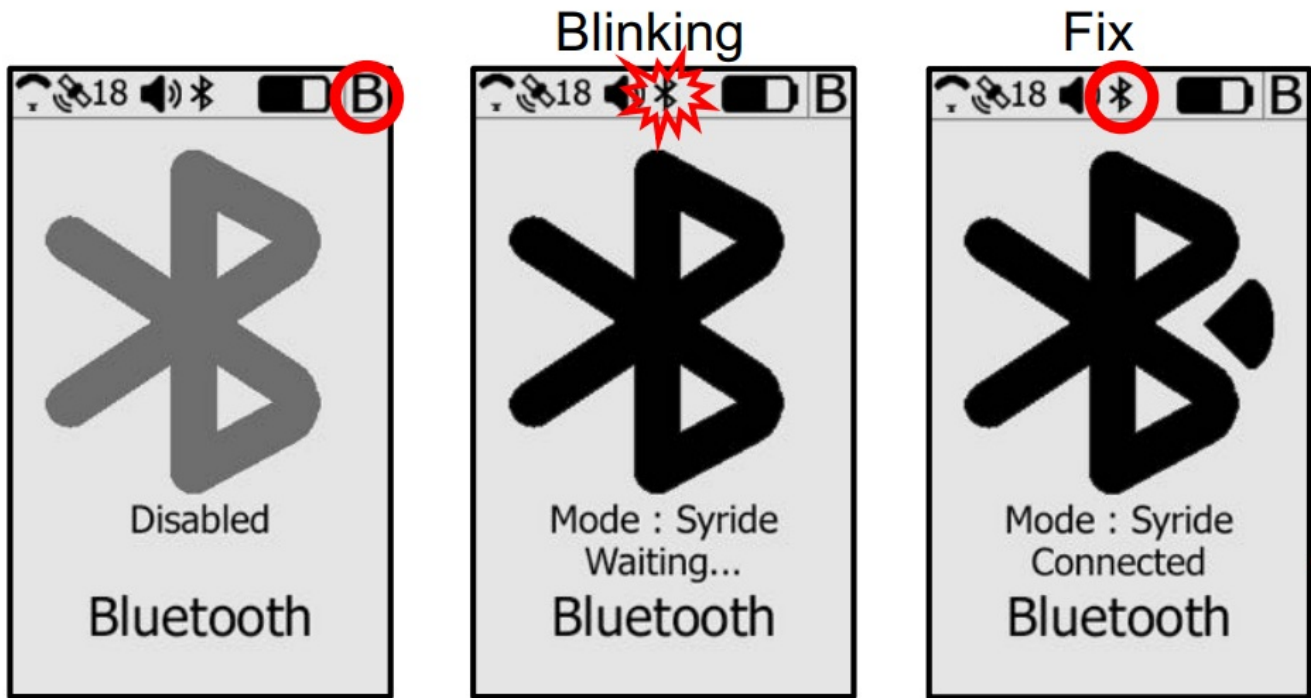
Case 2 : I want to be connected to a third party application (for example XCTrack) to forward the GPS and barometric data of the SYS'Nav XL sensors.



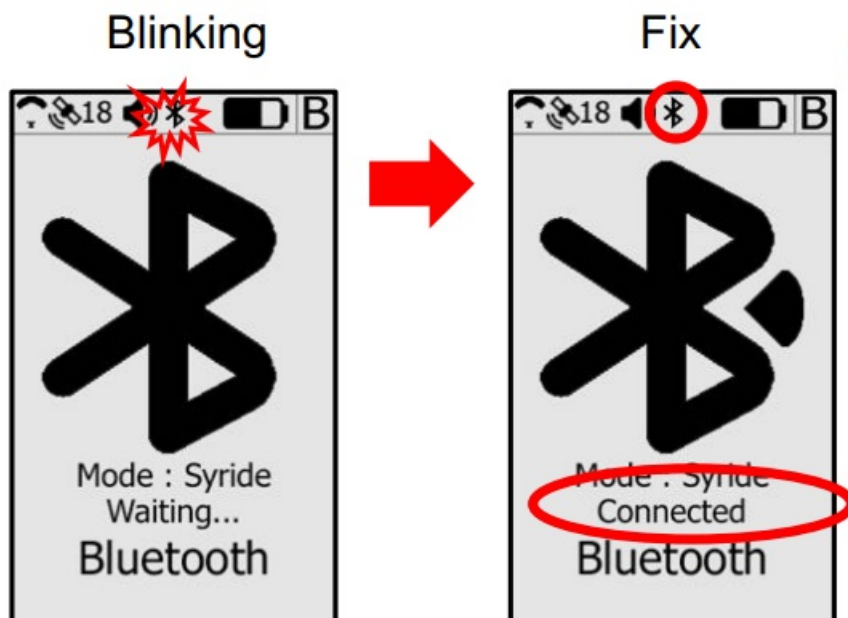
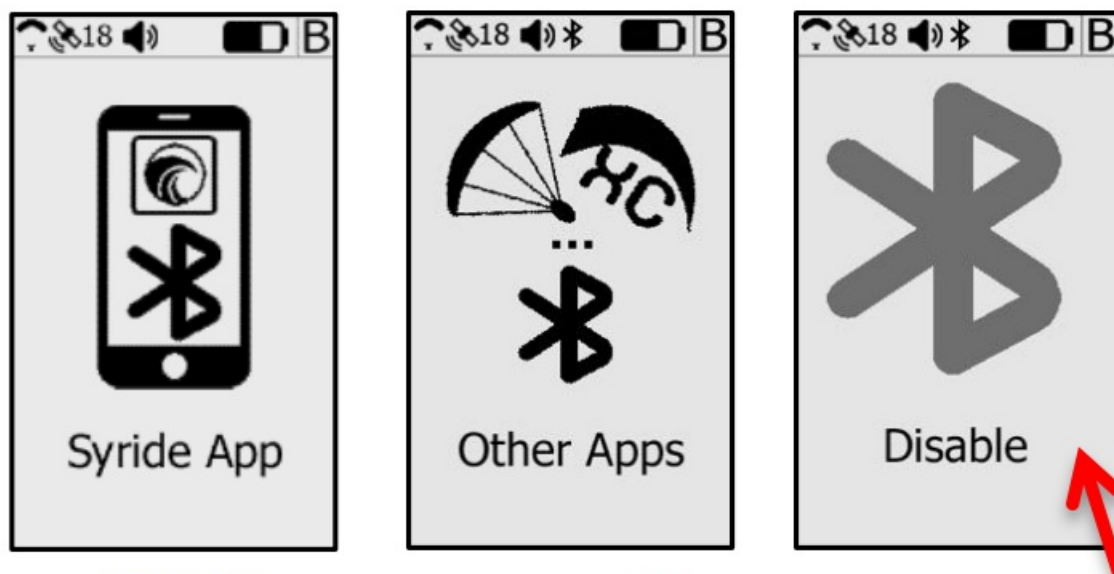
Case 3 : I want to be connected to the Syride app, XCTrack and for example to an external bluetooth device (to come in the future).

Here's how to pair your instrument:

1. Go to the Bluetooth menu of the instrument (page "B"). This page can display 3 different statuses depending on whether the Bluetooth is inactive / active but not paired / active and paired with a device.



2. If you wish to pair a device, click on the central button to access the Bluetooth menu. Select the pairing mode you wish to use (third party app or Syride app) and click on the central button. If you are already paired with another device, it will be disconnected.



Only available when the BT is active

3. Your Sys'Nav XL is now ready to be paired from the application menu.

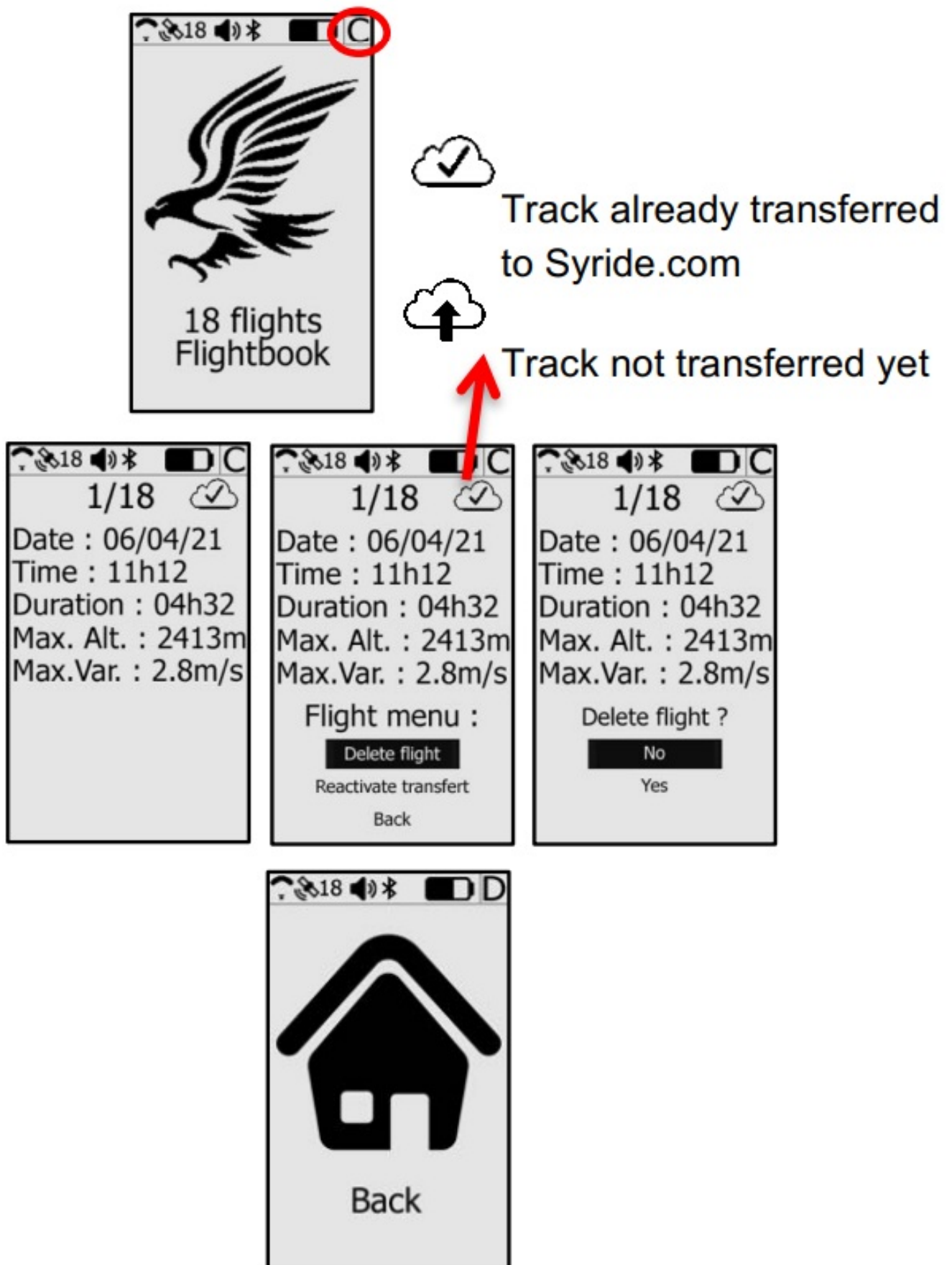
Connecting to the Syride app	<ul style="list-style-type: none">– Install the Syride application on your phone by downloading it from the PlayStore or AppleStore.– Launch the application and enter your Syride credentials (or register if you don't have yet).– Set your Sys'Nav XL to 'Syride App' pairing mode (see previous page)– Click on "connect my SYS'Nav XL" when launching the application.– In the list of nearby Bluetooth devices, select your Sys'Nav XL
Connecting to XCTrack	<ul style="list-style-type: none">– Wait until you have GPS reception on your SYS'Nav XL– Put your SYS'Nav XL in 'Other App' pairing mode (see previous page)– Launch XCTrack and go to "Preferences" in the app– Select "Connection and sensors", then click on "external sensor" and choose "Bluetooth sensor".– In the list of nearby Bluetooth devices, select your Sys'Nav XL– To use the GPS data from the Sys'Nav XL, don't forget to check "Use external GPS"– If the connection remains "pending" on the SYS'NAV XL, restart XCTrack
Connecting to XCTrack	<ul style="list-style-type: none">– Wait until you have GPS reception on your SYS'Nav XL– Put your SYS'Nav XL in 'Other App' pairing mode (see previous page)– Launch the FlySkyHy application on your iPhone and drag from the bottom to the top to display the application menu– When it appears, click on "Settings" then "Vario". Select "Other Bluetooth vario".– To use the GPS data from the Sys'Nav XL, don't forget to check 'Use GPS from device'.

About the Bluetooth features :

- Pairing is only needed once or after you've changed Bluetooth mode. Then your instrument will automatically connect to the last connected device.
- Livetracking, weather reports and automatic flight upload can only work if the instrument is connected to the Syride app on your phone. Your phone must also be able to exchange data with the Syride server, which means there must be a mobile network.
- To save energy, Bluetooth will automatically turn off if it is not paired within 15 minutes of activating it or starting the instrument.
- Private live can be configured from the application or from the instrument, it is only visible to users who have a link with a key. This link is visible on the "My account" page of the Syride.com site: <https://www.syride.com/en/moncompte>
- Live only activates when the track is being recorded. To use the live tracking without being in flight, force the recording (see "VII. Configure options").
- To display wind reports, you must configure your screens and add the weather station items you need (see "IX. Customizing the display and the vario").

Display and delete a flight track

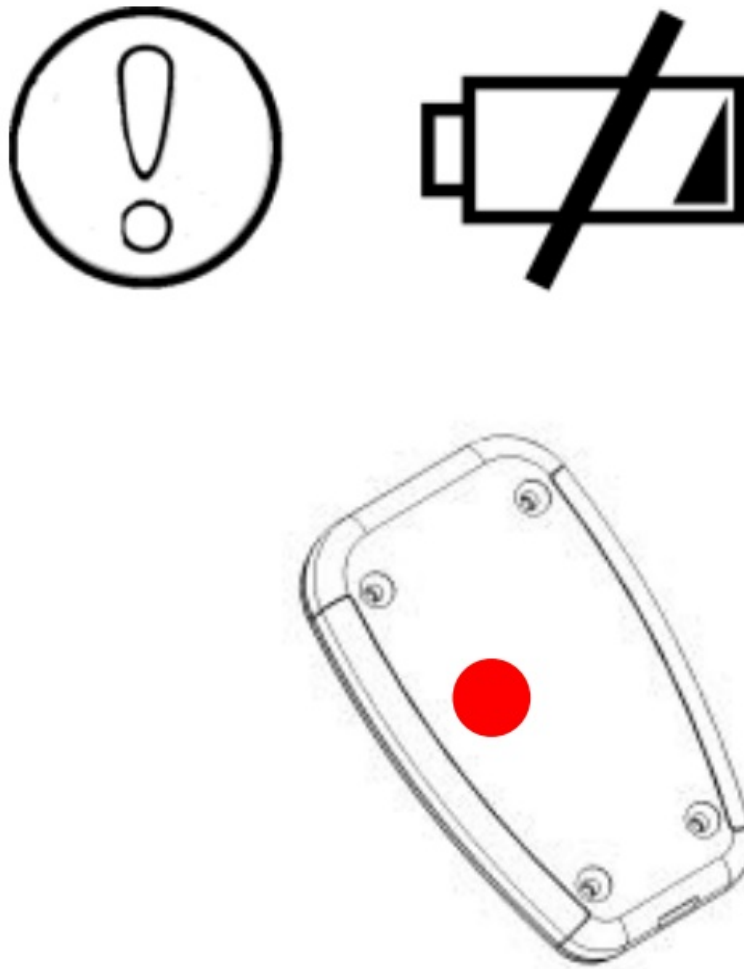
1. Press the center button when you are on screen C allows to check the data of flight in the instrument memory, delete a track and mark a flight as "not transferred yet" should you need to transfer it again.



2. Each flight track has its own page. Flight tracks are kept in memory even after they have been uploaded to the online flightbook. When the memory is full, the oldest track is automatically deleted.
3. A click on the center menu displays a menu which allows to delete a flight, or mark the flight as "Not uploaded"
4. Press « back » to go back to the flight pages

Warning and reset

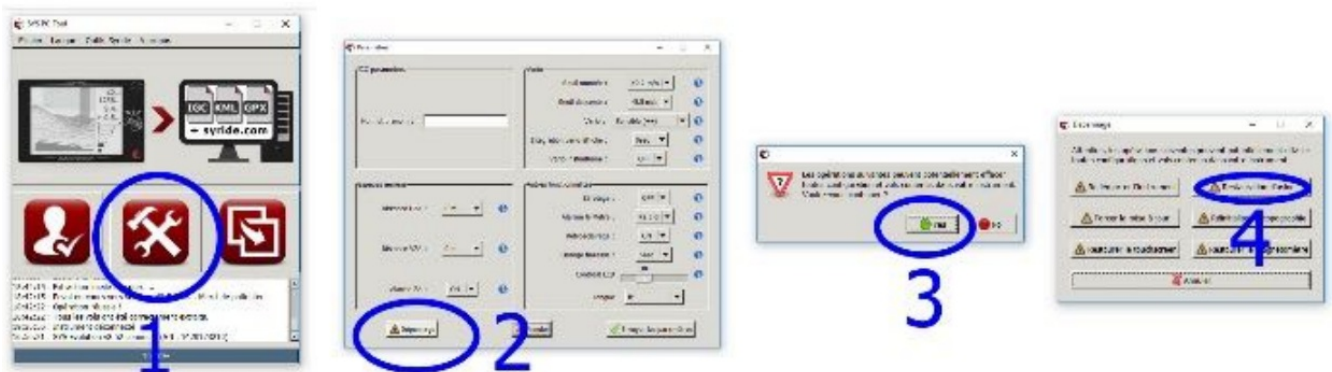
The battery is <3%. The SYS'Nav XL must be recharged. If you are in flight the instrument will record your track and turn off automatically.



To force restart the instrument, insert a paperclip into the hole provided for this purpose at the back of the case. This action does not erase memory or your settings. It only forces the instrument to restart.

Upload your flights

1. A factory restore is possible from the SYS'PC TOOL (menu parameters / troubleshooting / Factory restore). The instrument will be completely reset to new. All of your flights and settings will be erased.



2. Be sure you've installed the SYS-PCTool software on your computer (<https://www.syride.com/en/software>)



3. Turn on and connect your instrument with the USB cable.
4. Click on Account configuration icon.
5. The IGC/GPX and KML files are systematically duplicated on your computer.



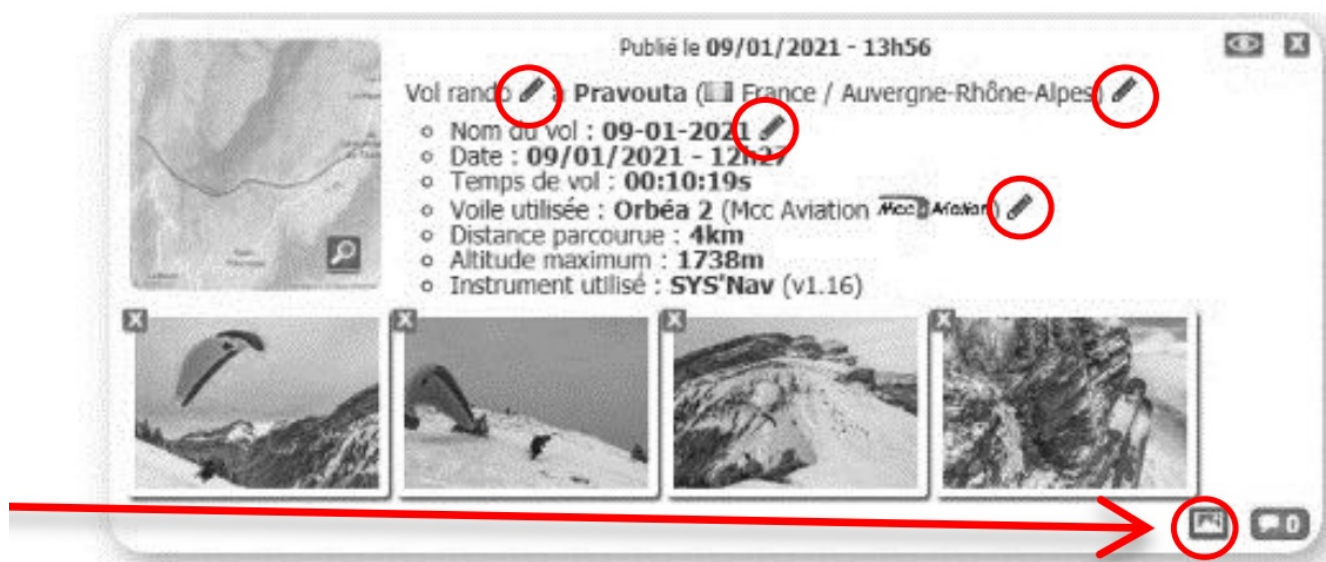
6. To use the advanced flight analyzer on syride.com, you must enter your email and password of your Syride

account (create one on <http://www.syride.com>)

7. Turn on your instrument and plug it with the USB cable to your computer.
8. Press the “Download recorded flights” icon, and your flights will be sent from the instrument to your computer and the online flight book. You can have access to the files on your computer by clicking on File/open local directory



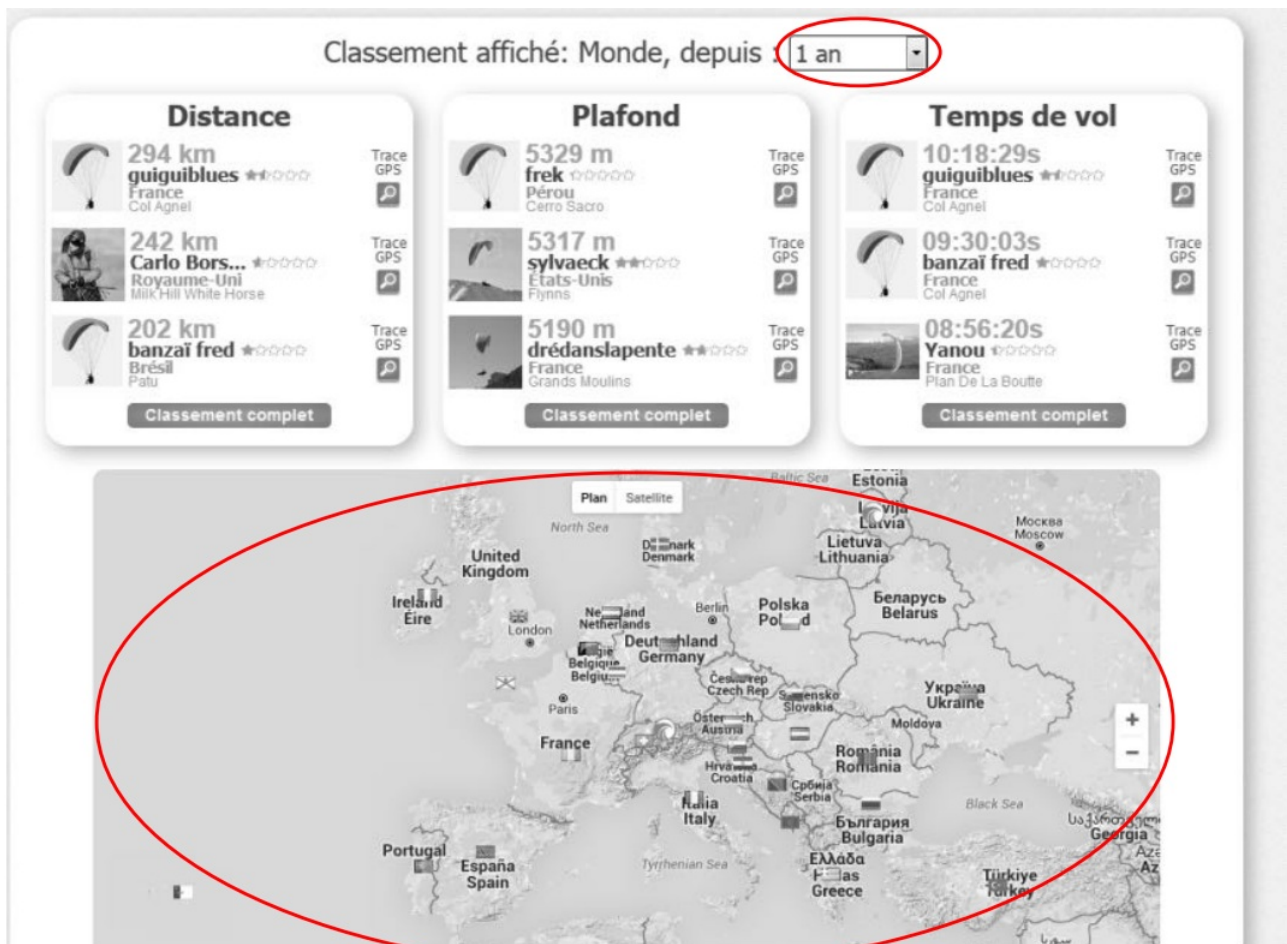
9. You can modify your flight information (e.g. name, used glide, take off site and the type of flight) by clicking on the red pen and validate your modification with the green arrow. You can also add pictures and videos links to your flight track.



10. To watch your track, click on the picture.



11. You can make your flight invisible for the Syride community by clicking on the eye icon on the top right. It will stay on your profile but the Syride users won't be able to see it.
12. You can track your personal evolution on the flight page through time. You can also compare your stats and performances to the other riders.



Parameters

Here is a list of parameters preprogrammed in your instrument in order to improve its use and its operating time:

- Flight tracks less than a minute long will be automatically deleted by the SYS PC Tool
- When flying, your instrument will automatically stop recording the flight if neither a ground speed or a vario is detected, unless you've manually forced the recording see chapter V.

- Your instrument will automatically turn OFF if a 20 minutes inactivity is detected, unless you're flying.
- Time and date are set up thanks to the GPS (to get the GMT time) and your computer (to apply the timezone).
In order to correctly set the time, connect your device to Sys'PC tool.

Suggestion of use

- We suggest you turn on your SYS'Nav XL while preparing your gear in order to make sure you get the GPS fix before taking-off.
- Use the lanyard to secure your instrument while flying.
- Electromagnetic perturbations from VHF antennas can disturb GPS signal (Altitude/Speed/Glide ratio...)
- If the SYS'NAV is very hot and you fly in very cold air, fog can appear on the screen. It will dissipate within minutes.
- When plugging your SYS'Nav XL on a USB charger, it will charge even if it is turned off.
- The lifespan of your battery will depend on the conditions of use and its storage environment. Do not leave it without charge for a long time and do not leave your instrument in the trunk of your car in direct sunlight (Your wing won't like it either).
- If the battery is too hot (instrument left in the sun in summer), the instrument will not allow you to start it. So wait for your SYS'Nav XL to cool down before trying again
- Charging can be done on any USB charger (computer, phone charger, solar panel...) provided that it respects the USB standards (avoid cheap chargers).
- Operating time and settings :

The operating time very related to your settings. Here is a table allowing you to estimate the operating time of your instrument according to its settings:

	With GPS Eco mode		Without GPS Eco mode	
	Sinking sound ON	Sinking sound OFF	Sinking sound ON	Sinking sound OFF
Sound OFF	40h	40h	20h	20h
Volume 1	19h	28h	13h	16h30
Volume 2	13h	21h30	10h	14h
Volume 3	10h	17h30	8h	12h30
Volume 4	8h	15h	6h30	11h
Volume 5	6h30	12h30	5h30	10h
Max olume 6	5h30	11h	5h	9h

Bluetooth activation has very little impact on the operating time.

Notes

Important : Safety Notices and Warnings

Precautions of use for the SYS'GPS

Never leave your SYS'GPS unattended

Take care of your equipment by cleaning with a soft cloth regularly. Do not open the product, the screws are tight with a certain degree which guarantees the seal of the unit. This action would cancel your guarantee. If water were introduced by inadvertency into your SYS, open the USB cache to air it and wait until it is dry before lighting

it. Do not expose your device to too high or too low temperatures, which risk damaging it for good. Avoid leaving it in full sun as an ornament, or putting it in the freezer! The soaring in the Antarctic is not guaranteed!! Ensure that the product is well in position before taking off. Syride cannot be held responsible for the loss of the product during the flight (takeoff included).

We give great importance to constantly improve the treatment results of sessions. We can provide an estimate of the indicators. If your results are not consistent with reality, please let us know so we can improve our data processing.

Battery

This product uses a LiPo battery. Do not expose to temperatures above 50 ° C (120 ° F). The SYS tells the user if it detects a temperature above 50 ° C (120 ° F) when in function. Risk of fire, explosion or burning. If leakage and contact with liquid leaking from the battery, clean thoroughly with water and seek medical advice immediately. For safety reasons and to extend battery life, charging can be done in an ambient temperature range.

Temperatures: Standard operation: 0 ° C (32 ° F) to +45 ° C (113 ° F) short- term storage: -20 ° C (-4 ° F) at 60 ° C (140 ° F) Storage long term -20 ° C (-4 ° F) at 25 ° C (77 ° F).

Do not check out, or do not attempt to remove the battery, which is not user replaceable. If battery problem, please contact Syride support.



Notice to users regarding collection and disposal of batteries and electrical and electronic equipment.

LIPO BATTERY AND ELECTRONIC CIRCUIT IN THIS PRODUCT CAN NOT BE ADDED TO THE HOUSEHOLD WASTE. To allow proper recycling, please bring it to a collection point for. Directive 2002/96/EC applies within the European Union. For the procedure applicable in countries outside the European Union, please check with local authorities

DO NOT ATTEMPT RECHARGING THE DEVICE WITH A DIFFERENT USB CORD THAN THE ONE PROVIDED. RATING : 5VDC 500mA.

GPS (Global positioning System).

The GPS is a Global Positioning System satellite that is controlled by the Government of the United States of America. Syride not responsible for the availability and accuracy of GPS

CE Mark

This product meets the requirements of the CE mark as part of a residential, commercial or light industrial.

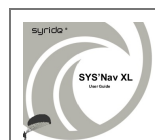
About this document

The greatest care was taken in the preparation of this document. However, due to the commercial development of the product, some information may not be quite up to date. The information in this document is subject to change without notice. Syride not responsible for any omissions or technical or editorial errors in this manual, in the event of incidental or consequential damages resulting from the content or use of this docu



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Documents / Resources



[syride SYS'Nav XL Variometer](#) [pdf] User Guide
SYS Nav XL Variometer, Variometer, SYS Nav XL

References

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