

syride[®]

EN

SYS'Evolution

User manual



Foreword

Welcome to Syride community ! You are maybe owning the best instrument of Syride range ! Your SYS'Evolution belongs to a new generation of flying instrument, we call it a "flight computer".

Let's move on and stop reading this boring preamble ! If you want to take benefit of all the features of your instrument, read this user manual !

Syride team wishes you great flights...

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I. Setup Syride communication software

This software is mandatory. It is called the « SYS PC Tool », and ables you to update your instrument, fine-tune the settings, download your flights (and optionnaly send them to Syride online flightbook), upload routes, waypoints, etc...

Please be aware that the SYS'Evolution is also compatible with GPSDump software.

1. **Download the latest version of the SYS 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.
4. The software will automatically start with your operating system.



II. Turn ON and OFF the flight computer

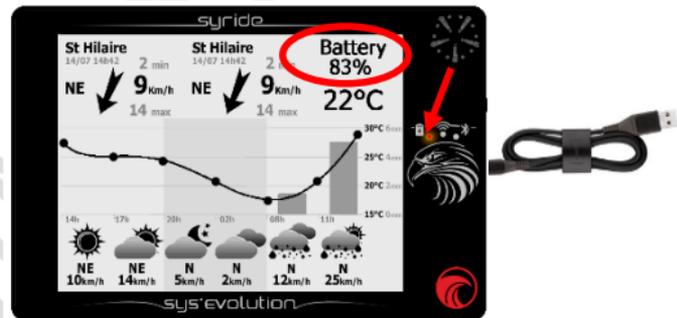
It is important to know that compared to other displays, the one the SYS'Evolution is using does not require any power to keep its image displayed. This is why when you received it, some information were already displayed on the screen ! Do not wait for the displayed to be empty, it does not work as usual.

1. To turn ON your flight computer, press the START button once. **A small red light turns-on in the eye of the eagle to indicate that the instrument is ON.**
The start sequence takes a few seconds before displaying the main screens and indicators.
2. The instrument will be automatically turned OFF after 20 minutes of inactivity. To manually turn it OFF, press the START button during 2 seconds, until the display wipes out.

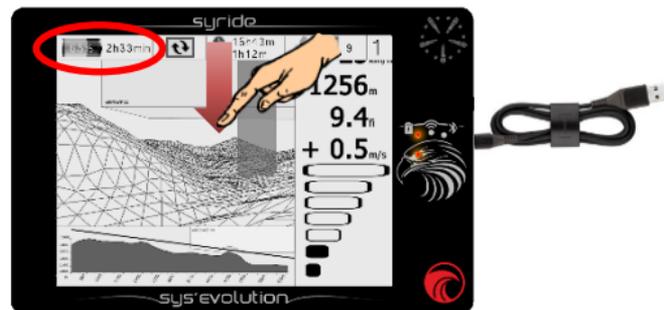


III. Charge the battery

1. In order to charge the instrument, just use any mini-USB cable that you could connect to any power supply (computer, phone charger, cigarette lighter...). A red light on the battery icon indicates the flight computer is charging. A full charge from an empty battery takes up to 8 hours.
It is NOT recommended to charge through a USB hub device.



2. The charge state is indicated in standby mode.
3. In running mode, draw a “slide-down” movement on the screen with your finger in order to display the top banner during a few seconds.



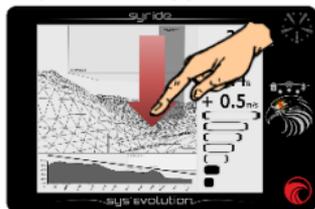
IV. Place the instrument in flight

1. Syride suggest to place the SYS'Evolution on a cockpit.
Two adhesive velcro bands are included and can be stucked on the back of the instrument.
Please take care not to obstruct the Reboot hole with the velcro.
2. The size of the flight computer permits to place it on a ventral rescue parachute.
3. You can secure the SYS'Evolution using the lanyard.
4. For more comfort, a neoprene protection housing with velcros is sold separately.

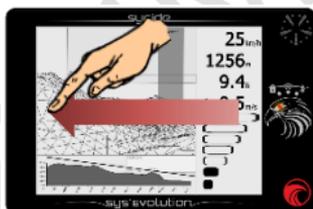
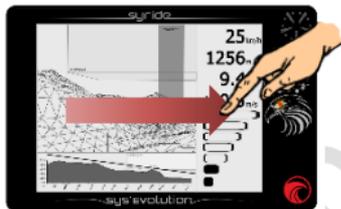
V. General ergonomics

While the instrument is running, the whole display is dedicated to flight items. In order to make the menus appear, draw a slide-down or slide-up movement with your finger on the screen :

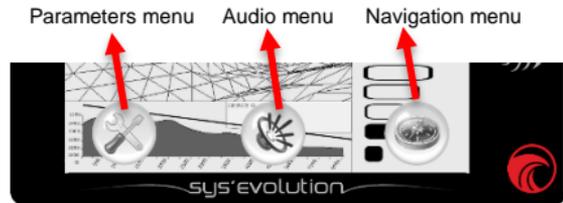
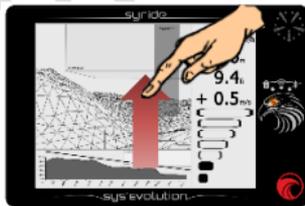
- The top banner appears during a few seconds by sliding down :



- Slide left or right in order to go to next or previous flight screen :



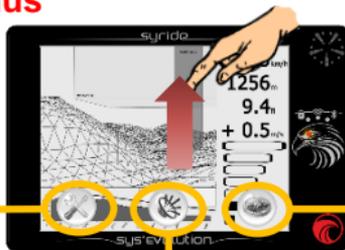
- Slide UP to display menus :



For your information :

- The take-off is automatically detected and starts the log. The flight time in the top banner appears after take-off.
- The touch-screen is designed to be used with or without gloves.
- Any flight item that requires GPS needs at least 3 satellites. Otherwise, a “NO GPS” message may show up instead of the item.
- **The first GPS fix can take several minutes in case of long power-off or in case of significant change in position. Any first GPS fix should be done outside. We recommend you to turn ON the instrument a few minutes before taking-off.**
- The temperature only indicates the temperature of the electronics. This cannot be used as a reference for ambient temperature.
- A 3.5mm jack socket is available on the right side of the device. Plugging a headset automatically transfers any sound from the speaker to the headset (and cuts-off the speaker).

VI. The 3 main menus



Parameters menu



Audio menu

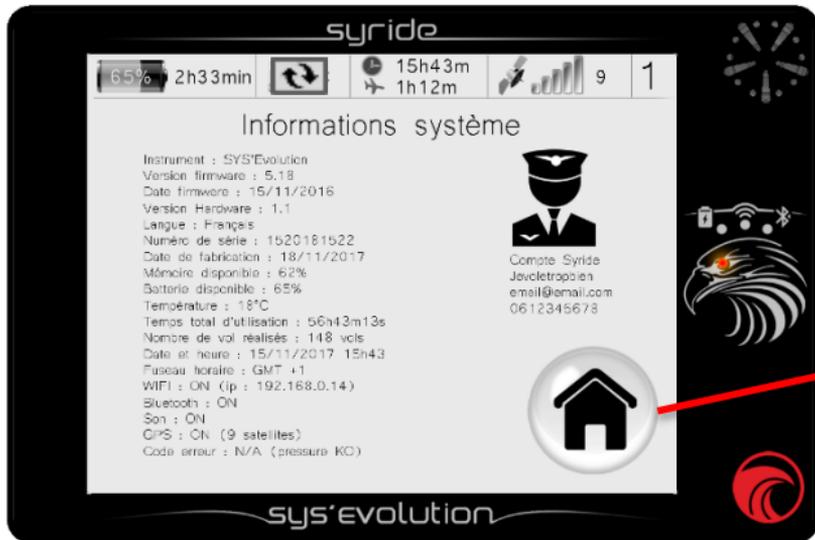


Navigation menu



VII. Parameters : System information

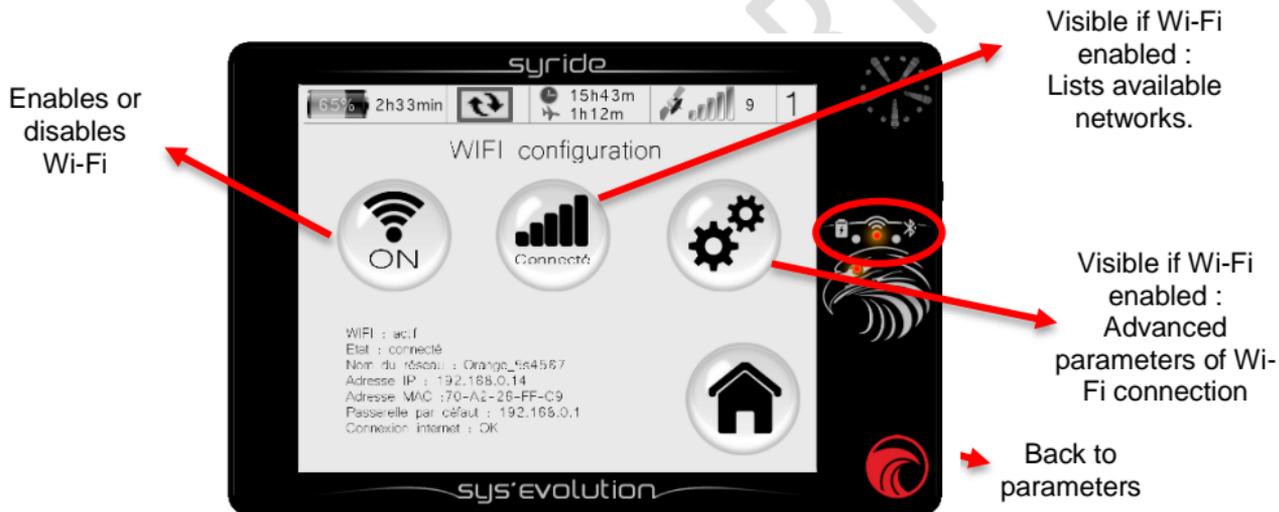
To reach this page, slide up from a flight screen to make the menus appear, then click the « Parameters menu » button, then click the « System information » button.



This pages displays all information about your SYS'Evolution. If a Syride account has been associated, these information also display.

VIII. Parameters : Wi-Fi setup

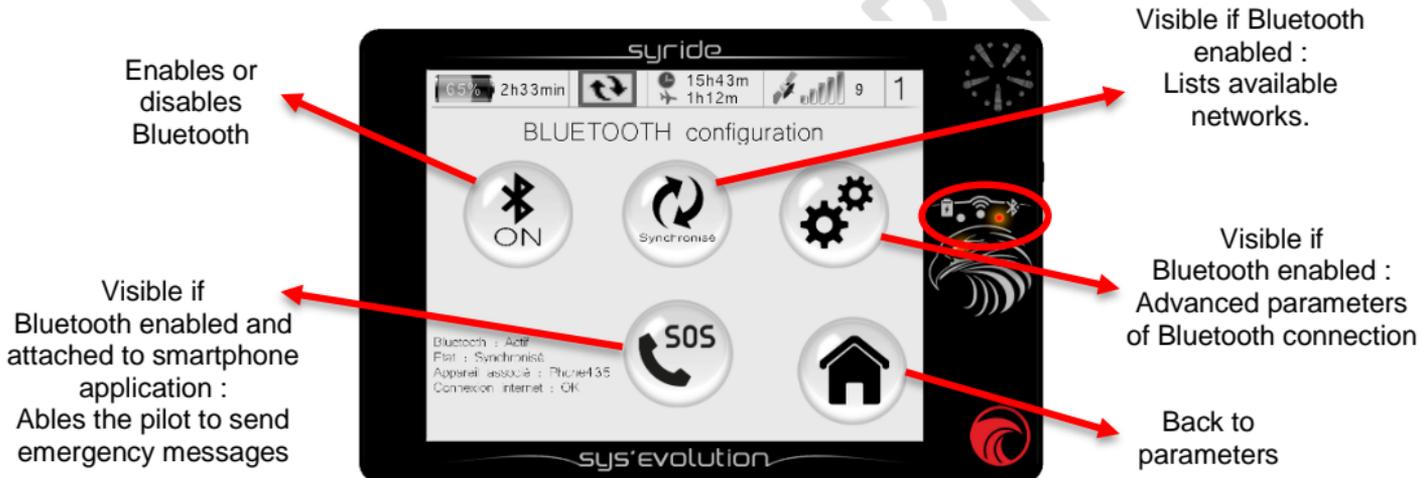
To reach this page, slide up from any flight screen to make menus appear, then click « Parameters menu » button, then click the « Wi-Fi setup » button.



When enabled, the Wi-Fi reduces battery life. A red light indicates whether Wi-Fi is enabled or not. Advanced parameters enables you to choose what data should be sent or received over Wi-Fi.(weather, flights, etc..).

IX. Parameters : Bluetooth setup

To reach this page, slide up from any flight screen to make menus appear, then click « Parameters menu » button, then click the « Bluetooth setup » button.



When enabled, the Wi-Fi reduces battery life. A red light indicates whether Wi-Fi is enabled or not. Advanced parameters ables you to choose what data should be sent or received over Wi-Fi.(weather, flights, etc..). In case Wi-Fi and Bluetooth are both enabled, any data will be sent or received through Wi-Fi.

About emergency messages :

The emergency icon only appears if :

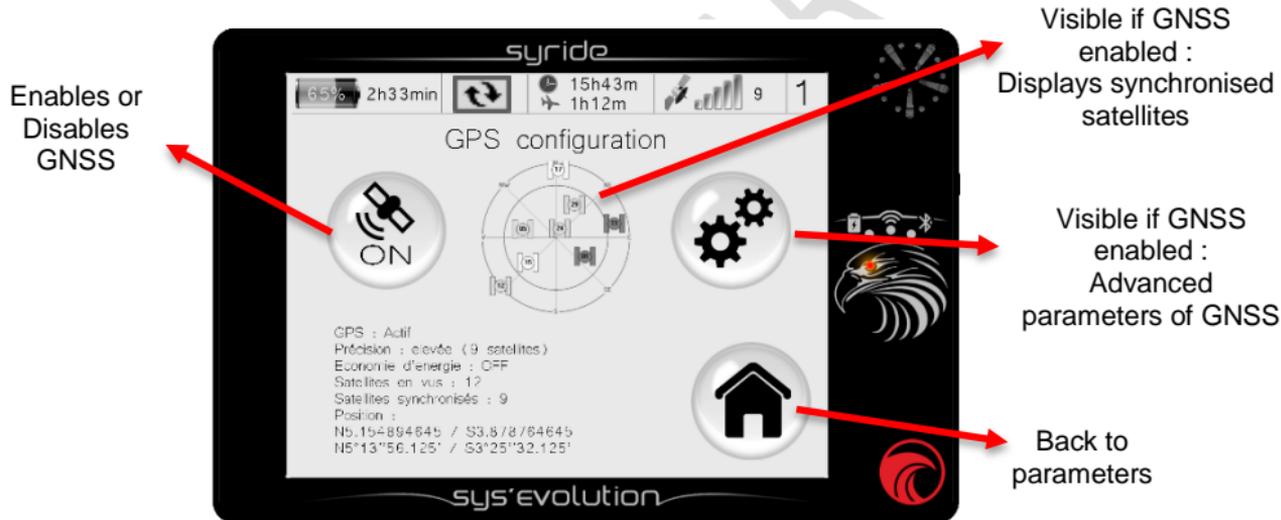
- Your instrument is synchronised with your smartphone.
- Syride application has been installed on your smartphon (Android and soon iOS).
- You have a Syride account on www.syride.com.
- You have setup the messages and a list of recipients from Syride application

An SMS will be sent (if your smartphone is connected to -at least- a 2G network) as soon as you press an emergency button. As soon a message has been sent, LiveTracking is automatically turned ON on the Smartphone application, and the pilot can be located on <https://www.syride.com/fr/live/pseudo>



X. Parameters : GNSS setup

To reach this page, slide up from any flight screen to make menus appear, then click « Parameters menu » button, then click the « GPS setup » button.



Enabling GNSS is mandatory for track recording and displaying a lot of items (like the Route, the drift, GPS altitude, etc...). In the advanced parameters, it is possible to force the log of your track; this inhibits the take-off and landing detectors.

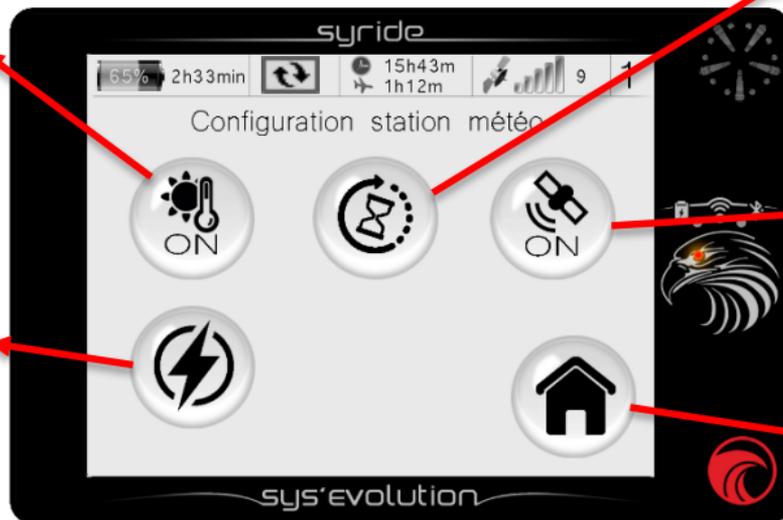
XI. Parameters : Weather station setup

To reach this page, slide up from any flight screen to make menus appear, then click « Parameters menu » button, then click « Weather station setup » button. The weather-station screen is active in standby mode. It is a customizable screen that can display weather forecast which is updated on a regular basis. Wi-Fi is required in order to download weather data. Decreasing the weather refresh rate increases battery life.

Enables or disables weather station

Visible if weather station enabled :
Adjusts the refresh rate of weather data

Visible if weather station enabled :
Enables GPS to locate the nearest weather information, or setup customized coordinates



Back to parameters

XII. Parameters : flightbook

To reach this page, slide up from any flight screen to make menus appear, then click « Parameters menu » button, then click « flightbook » button. On this page, you will find all information about your flights. In case you enabled the synchronisation with Syride online flightbook, removing a flight from the instrument will not remove it from the website.

The « cloud » icon indicates this flight has been synchronised with Syride Online Flightbook (through SYS PC Tool, Wi-Fi or Bluetooth).



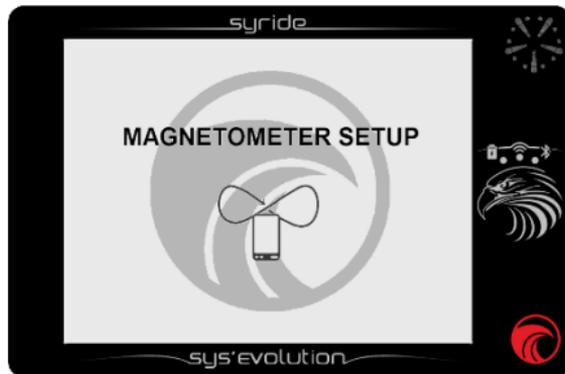
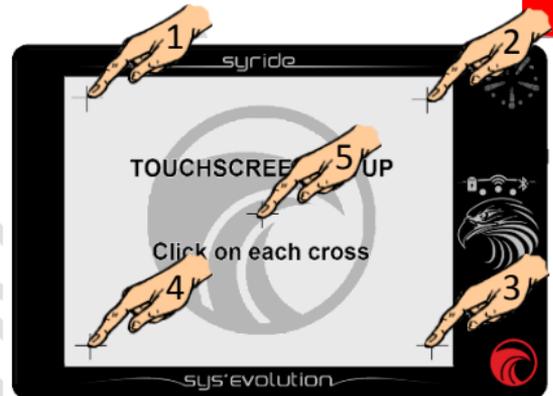
XIII. Parameters : advanced parameters (instrument)

To reach this page, slide up from any flight screen to make menus appear, then click « Parameters menu » button, then click « advanced parameters » button.



About the « reset to factory defaults » button :

The first step after a reset to factory defaults consists in calibrating the touchscreen. This is done by clicking on each of the 5 crosses.



Then comes the calibration of the magnetometer. This is done by turning the instrument in all possible directions. Click anywhere on the screen once done. This step is important because it will highly influence the precision of the magnetometer.

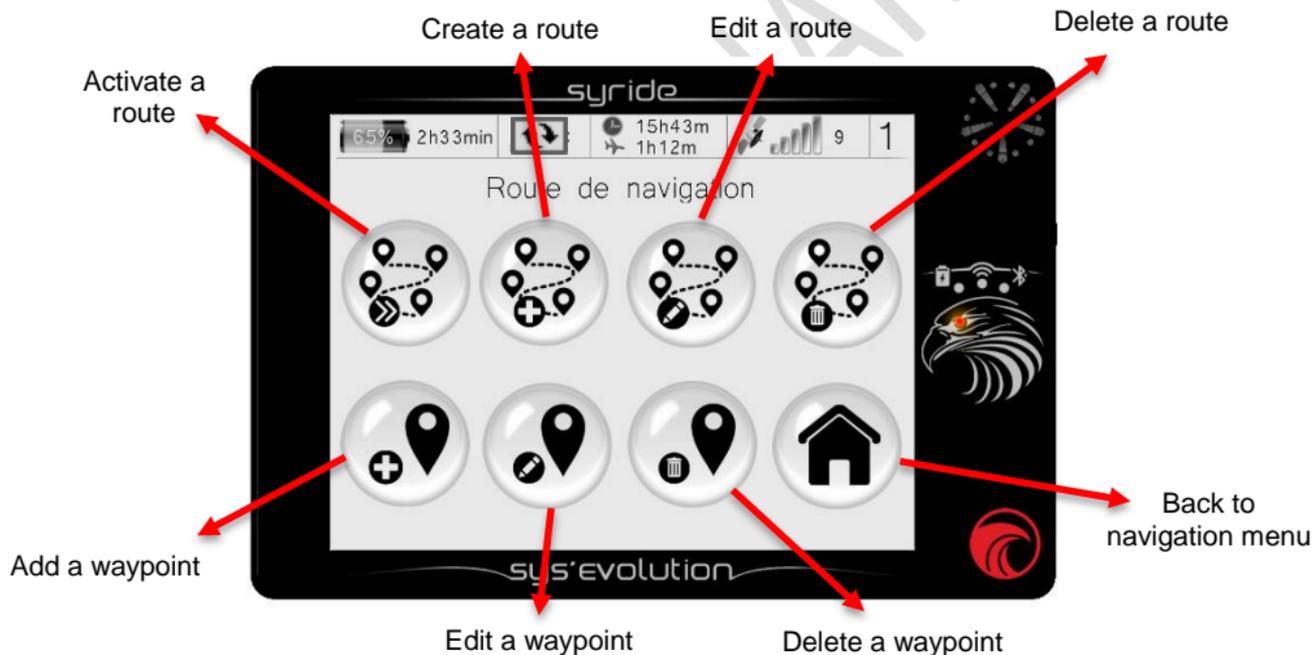
XIV. Navigation : GOTO feature

To reach this page, slide up from any flight screen to make menus appear, then click « Navigation menu » button, then click « GOTO » button. This feature enables the pilot to easily create a one-waypoint route to one of the 10 nearest waypoints. The 10 nearest waypoints are ordered by distance from the current position. Please note that activating a GOTO waypoint instantly stops the previous route, if ever one was activated.



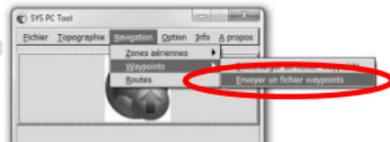
XV. Navigation : route menu

To reach this page, slide up from any flight screen to make menus appear, then click « Navigation menu » button, then click « Route » button.



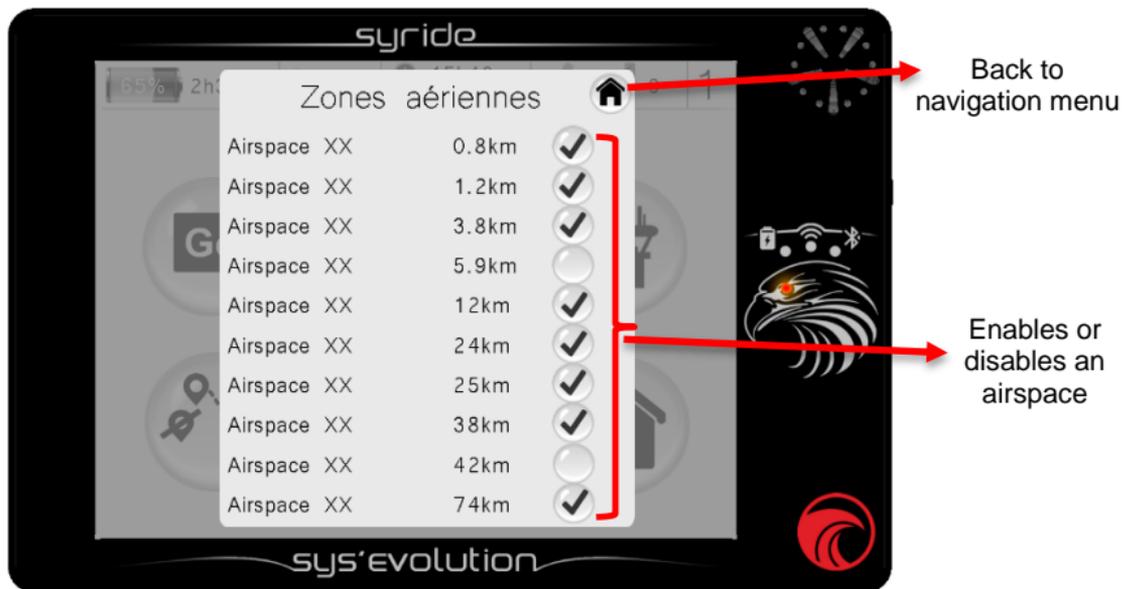
Notes :

- Creating a route is only possible if at least 1 waypoint is available in the instrument.
- Creating a waypoint requires a name, its GPS coordinates, and its altitude. The altitude is not mandatory, but is required to display the “glide ratio to waypoint” item.
- If you already have a waypoints file, it is possible to send this file with the SYS PC Tool by clicking menu “**Navigation**”, then “**Waypoints**”, then “**Send a waypoints file**”. Using GPSDump software is also an alternate solution. GPSDump supports more waypoints file formats, and handles waypoints more efficiently.



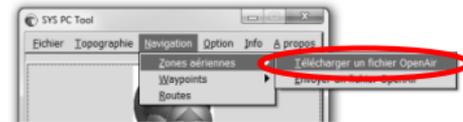
XVI. Navigation : airspaces menu

To reach this page, slide up from any flight screen to make menus appear, then click « Navigation menu » button, then click « Airspaces » button. When approaching an airspace, an audible and visual alarm appears : « **pre-violation + airspace name** » appears on the bottom of the. If you enter this airspace, a new alarm triggers and a message « **violation + airspace name** » displays. This menu ables the pilot to enable or disable an airspace alarm. A disabled airspace will be ignored in all airspace-related items, including the MAP item.



In order to upload airspaces to the SYS'Evolution :

- 1) Go to this page : <https://www.syride.com/en/airspace> or click menu **Navigation** then **Airspaces**, then click **Download an OpenAir file** from the SYS PC Tool software.
- 2) Select the countries you need from Syride online tool, then download the OpenAir file to your computer.
- 3) Turn-on and connect your SYS'Evolution to your computer.
- 4) On the SYS PC Tool, click the menu **Navigation**, then **Airspaces**, then **Send an OpenAir file**.
- 5) Select the previously downloaded OpenAir file.



A few tips about airspaces :

- 1) Regularly check the date of airspace file. Airspaces are often changing and need to be updated.
- 2) A knowledge of **aeronautical rules** and a **flight briefing** is mandatory to correctly read the information given by the instrument.
- 3) Some **temporary forbidden zones** may exist. They are signaled by NOTAM and cannot be handled by the instrument.

XVII. Advanced setup (software)

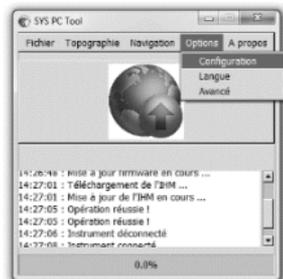
Connect your SYS'Evolution to the SYS PC Tool in order to get access to advanced options. From these advanced options, you can :

- 1) Change the moving average time of the vario.
- 2) Change the G-force alarm threshold value
- 3) Change airspace pre-violation vertical and horizontal distances.

Other parameters are explained here : <https://www.syride.com/en/support> ([SYS PC Tool] What is the use for setting the instrument parameters?)

To access these advanced parameters :

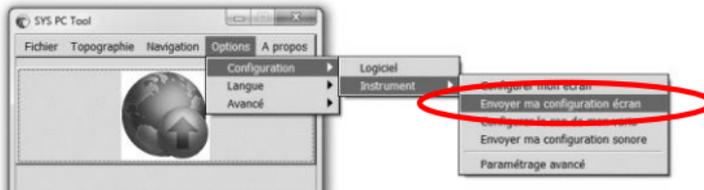
- 1) Turn-on and connect your SYS'Evolution to your computer.
- 2) On the SYS PC Tool software, go to menu **Option, Setup, Instrument, Advanced parameters.**
- 3) Modify any value.
- 4) Click on **Send parameters**



XVIII. Customize the flight screen and the vario

With the SYS'Evolution, you can customize each flight screen, and the sound of the vario.
To customize your flight screens :

- 1) Go to this webpage : <http://www.syride.com/fr/ssctool/Evo>
- 2) Customize the flight screens by selecting an item and its unit, then selecting a text font and size. Drag and drop to change the item's position.
- 3) Turn-on and connect your instrument to your computer.
- 4) Download the screen setup file.
- 5) On the SYS PC Tool, click menu **Option, Setup, Instrument, Send my screen setup file.**
- 6) Select the previously downloaded file.



Don't hesitate to share your flight screen to your friends, or create a folder with different setups.

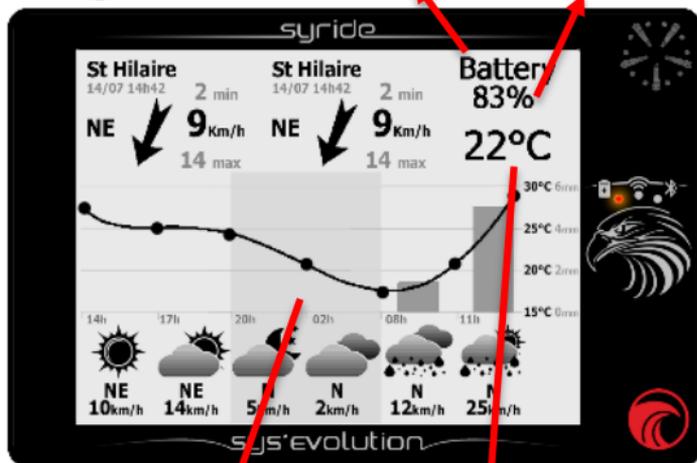
The vario setup works on the same basis.

A video shows the process here : <https://www.youtube.com/watch?v=5Mom0qx6bgE>

Details about the default flight screens :

Standby (weather) screen :

Weather of St Hilaire Free text « Battery » % Battery level

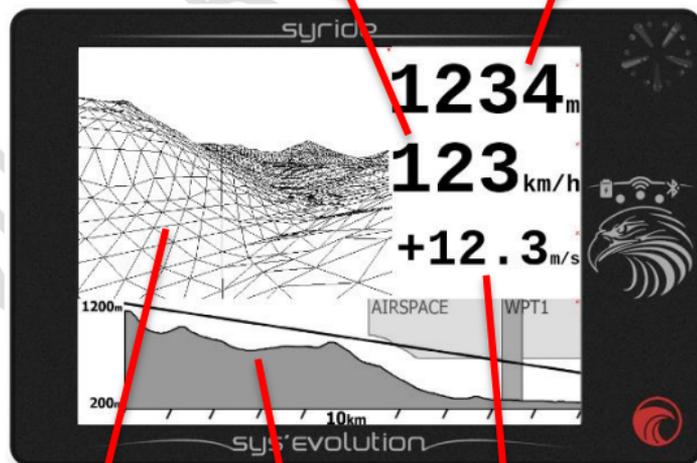


48h weather forecast

Instrument temperature

Flight screen N°1 :

Ground speed GPS Altitude

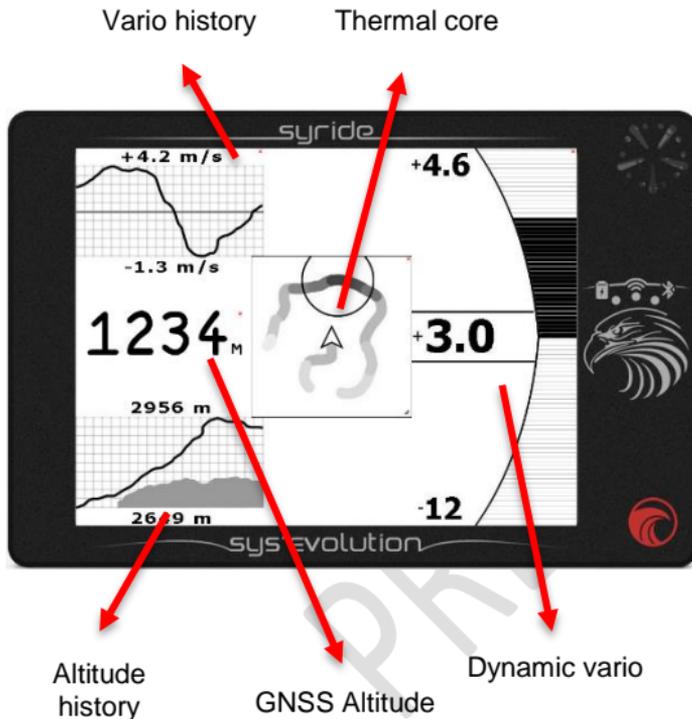


Augmented reality

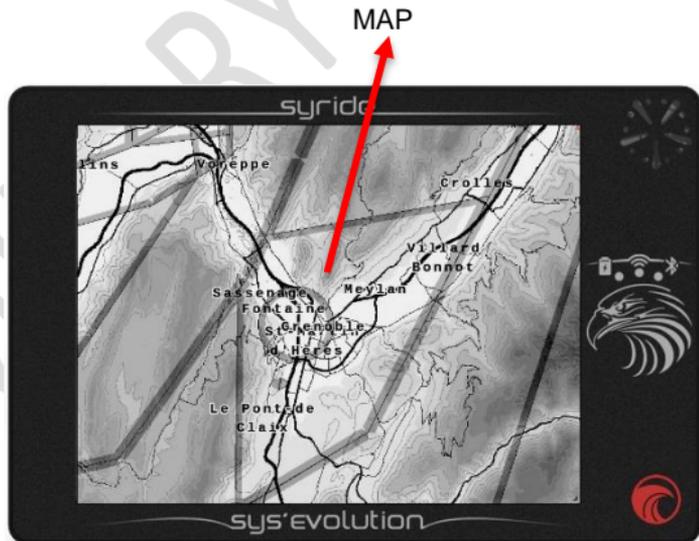
Transition assistant

Vario

Flight screen N°2 :



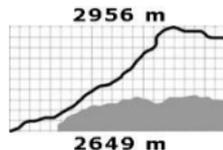
Flight screen N°3 :



Details about items of the SSCTool (Syride Screen Configuration Tool) :

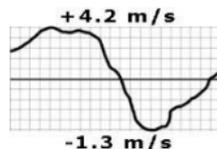
GNSS Altitude : is given by the GNSS. It is the vertical distance between you and the mean sea level, also called « QNH altitude ». Syride increases the precision and smoothness of this information by using the pressure sensor combined with the GNSS information.

Altitude history : is a graphic that shows the 2'30 last minutes of your altitude. The black curve is the recorded altitude, the gray area is the recorded topography at the recorded position.



QNE altitude : is your current pressure altitude, supposing the current pressure at mean sea level is 1013.25 hPa. This information is required for airspaces that are described in “flight level”.

Vario history : is a graphic that shows the 2'30 last minutes of your vario.



Graphical dynamic vario : is a graphic that shows your current vario. The termed “dynamic” refers to the fact that the MAX and MIN vario displayed is not fixed, and depends on the MAX and MIN vario of the last minutes.

Gmeter : displays the current force applied to your body. Without any movement, the G force is 1.0g.

Gain since takeoff : is the vertical distance between your current altitude and your takeoff altitude. A positive value means you are above takeoff, while a negative value indicates you are below takeoff.

Pressure : is the current pressure, in hPa.

Distance since takeoff : is the horizontal distance from your takeoff to your current position.

Instant glide ratio : is noted « GRI » for « Glide Ratio Instant ». This item shows your current glide ratio. $GRI = \text{Ground speed} / \text{Vario}$.

Smoothering the glide ratio value is possible through the advanced parameters from the SYS PC Tool (menu « Option / Setup / Instrument / Advanced parameters »).

Heading : is your current instrument's magnetic orientation. Note that this indicator is corrected by the magnetic declination, which depends on your current position. As a consequence, this item displays the true heading instead of magnetic heading.

Course : is your current course. Without wind, the course equals the heading.

Drift angle : is the difference between your course and your heading. $\text{Drift angle} = \text{Course} - \text{Heading}$.

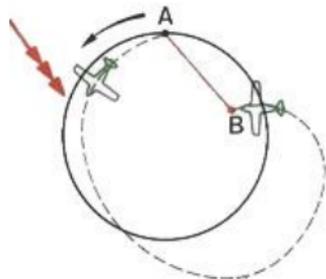
Temperature : gives the internal temperature of the instrument.



Back to previous thermal : the SYS'Evolution always keep track of the previous thermal. Fly in the direction the arrow is pointing to go back to the previous thermal.



Wind - graphical : in order to get the speed and direction of the wind, fly a 360° turn at constant speed and glide ratio, within 10 to 30 seconds. The instrument will compute the drift and will be able to display the wind direction and speed. The wind direction represented by the arrow is dependent on your current course.



Wind direction : indicates where does the wind comes from. It is displayed in letters, as N for North, NE for North-East, E for East, SE for South-East, S for South, SW for South-West, W for West and NW for North-West.

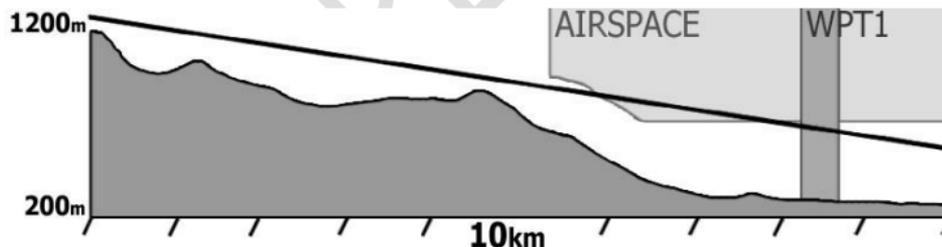
Vertical airspace name and distance : these items show the name and distance to the nearest vertical airspace **at your current position**.

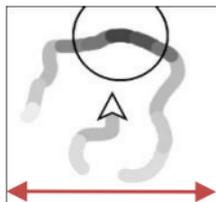
Horizontal airspace name and distance : these items show the name and distance to the nearest horizontal airspace **at your current altitude**.

Augmented reality : represents the forward world in 3D, waypoints, airspaces, etc..



Transition assistant : is a side view of the topography (which is dependent of your current course), plus your current glide ratio. Click on the item to change its range.

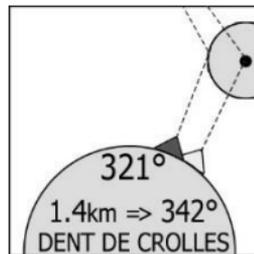




200,400 or 600m

Thermal core : shows your path and its vario. The higher the vario, the darker the track. The circle indicates the position of the highest vario. Click on the item to change its scale.

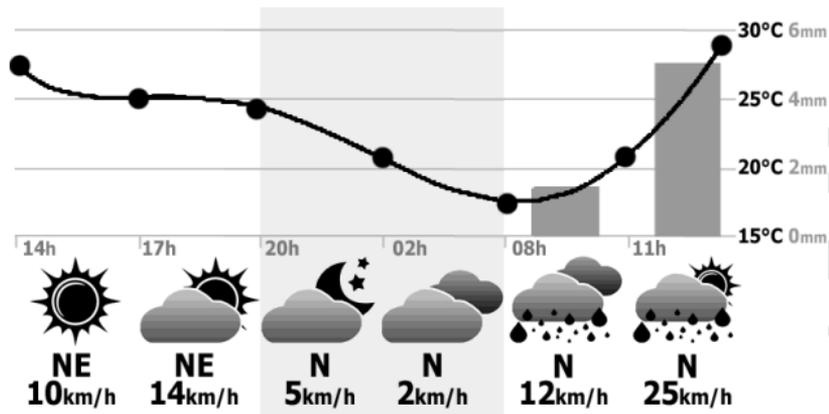
Waypoint information : is the most useful item to follow fly a path in a minimum time. As soon as a route is started, this item will display next waypoint's name, distance and optimum course. The optimum course takes the 2nd next waypoint into account.



Glide ratio to waypoint : is noted « GRW » for « Glide Ratio to Waypoint ». This item indicates the required glide ratio to reach next waypoint.

Glide Ratio to Goal : is noted « GRG » for « Glide Ratio to Goal ». This item indicates the required glide ratio to reach the goal (i.e the last waypoint) of the current route.

Graphical options : ables you to draw boxes, add text, etc..



Weather station : shows the next 24h, 48h or 72h weather forecast.

Ideal for the standby mode.

NO DATA :(

Check Wifi or Bluetooth connection

Weather data : ables you to get real-time weather. To get these informations, a network is required through your Smartphone and Syride application.

St Hilaire

14/07 14h42

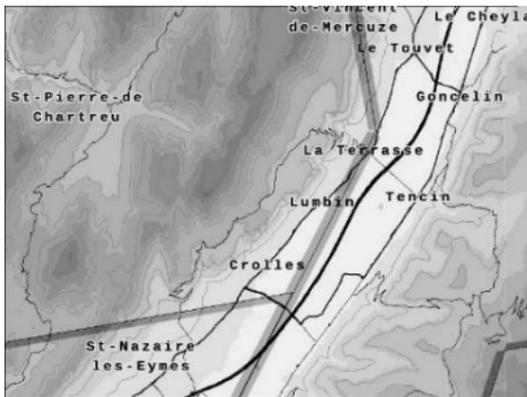
2 min

NE ↙

9 Km/h

14 max

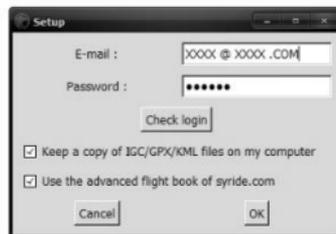
As soon as the data are available, you will have all the current weather information, like station name, date of data, wind speed and direction. When adding this item, you will have the choice between a list of weather stations, or "the nearest station".



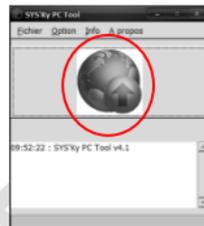
MAP : displays a top view of the map. This includes cities name, roads, topography, airspaces, waypoints, routes, Syride takeoff sites. The instrument embeds worldwide data. A click on the MAP item changes the zoom level. Zoom level values are : 40 km / 20km / 10km / 5km wide.

XIX. Transfer your flights

1. Be sure you previously installed the SYS PC Tool on your computer.
2. Turn on and connect your instrument with the USB cable.
3. Click on **Options, Setup** and **Software**
4. The IGC/GPX and KML files are systematically duplicated on your computer.
To use the advanced flight analyzer on syride.com, you must enter your email and password of your Syride account (<http://www.syride.com>)
Otherwise check "Keep a copy of IGC files on my computer" and click "OK".



5. Press the “Download recorded flights” button, and your flights will be sent from the instrument, to the online flight book. You can have access to the files on your computer by clicking on File/open local directory.



6. 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.



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

8. 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.



Details about the online flightbook :

- The online flightbook is optional.
- Published flights can be automatically set to “private” (see « My account » webpage).
- Flights can be automatically sent to your online flightbook through Wi-Fi or Bluetooth if your login information has been set correctly.
- It is not possible to send a flight from Syride website to your instrument. As a consequence, a deleted flight on your instrument cannot be retrieved.

XX. Suggestion of use

- **We suggest you to turn-on your instrument while preparing your flight in order to be sure you get the GPS fix before starting your flight.**
- Polarized glasses and sun-glasses helps reducing the sun **reflection** on the display
- Use the lanyard in order to **secure** your SYS'Evolution while flying.
- Electromagnetic perturbations from antennas can disturb GPS signal
- If the SYS'Evolution is very hot and you fly in very cold air, **fog** can appear on the screen. It will dissipate within a few minutes.
- Never turn ON the Wi-Fi or Bluetooth if your don't use it, as it reduces battery life.
- A **Factory Reset** from SYS PC Tool (menu Option → Advanced) ables you to get your instrument back to default state (every recorded flight will be deleted).
- When you connect your instrument to a USB charger, the battery will start charging, even if the instrument is turned-off.

Notes

Important : Safety Notices and Warnings Precautions of use for the SYS'Evolution

Never leave your SYS'Evolution 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 lithium-ion 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.

LITHIUM-ION 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 document.



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