

Colibri II

Flight recorder and navigation instrument



Manual version: 1.6

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Introduction

The unit's main function is flight data recording and the generation of files that meet IGC regulations. Due to its excellent HW configuration many supplemental navigation functions are also offered to the pilot. The most important feature is sunshine readable color display with a unique variometer function including both an audio and needle presentation.

Key features are:

- Extremely small outline: 40 x 62 x 22 mm
- Completely new design approach
- Sunshine readable color display as a central part of the system
- Simple manipulation via one multifunction switch
- Built in GPS receiver and GPS antenna
- NMEA output
- Internal battery ensures up to 10 hours of autonomy
- Built in battery charger (5V via USB cable)
- External power input
- micro SD card for data transfer
- Variometer with audio as a standard solution
- Basic navigation
- IGC Approved Flight recorder

GPS receiver

A highly sensitive GPS receiver with built in antenna is an integral part of the unit so there is no longer a requirement for an external antenna. The internal antenna allows for either a **vertical** or horizontal installation of the unit. For horizontal installations, the unit must be mounted with the display up for proper GPS reception.

Power supply

The unit contains an internal battery that is capable of powering the unit for up to 10 flying hours. External power may also be connected via a converter that converts the 12V glider battery power to 5V. An external power supply module can be ordered as an option.

The internal battery can be recharged via the included USB cable from a PC or the wall adapter (220V to 5V) that is included with the unit. Charging time is typically 3 hours. The internal battery is also recharged when external power is connected. When the battery is charging, a “**plug**” symbol appears in top right corner of main page as shown in the figure to the right. After battery is full, charging symbol disappears!



Controls



There is one multifunction switch, the **navigation switch**, on the front of the unit that is used to control the Colibri II. The **navigation switch** allows five motions:

- Move up or down
- Move left or right
- Push button (in) = Enter

Connectors

An USB Mini B type plug is located on the right bottom side of the unit and is used for external power supply of the unit and for communication via the Colibri II power and data interface.

Note!

There is no USB port carried out, this means no direct communication from the Colibri II to a PC via USB. It can only be used for external power in (5V max) and NMEA data out to external units.

SD card reader

The unit has an integral micro SD card reader positioned on the left side.

The SD card is used to:

- Upload TP (CUP format)
- Upload task (CUP format)
- Download flights from the internal memory (IGC format)
- Upload the flight declaration in LX format (.HDR)

Note!

Flight data is stored in the internal memory, so the SD card does not need to be inserted during flight.

Main page



The main page consists of basic flight parameters. In the left upper corner ground speed information is shown. To the right of the ground speed display, the GPS signal status is shown (green bars), where 1 bar represent 3 satellites and 5 bars for more than 6 satellites. The battery indicator is shown in the top right corner. When the internal charger is charging the battery, the battery indicator is replaced with the charging “plug” symbol. The central part of the main page is the vario indicator with yellow needle and numeric average indicator in middle. The vario needle deflection is $\pm 4\text{m/s}$ ($\pm 8\text{knots}$) but the numerical average is not limited.

A wind indicator in the central left part of the display shows the wind direction and speed. An arrow shows the wind direction with respect to your track. The first wind indication will appear after 2 full turns. The lower part of the page shows a QNH altitude and the vario volume.

Note!

Altitude reading doesn't correspond to IGC recorded altitude, if QNH setting is different than 1013.

Buttons:

Left -> setup page

Right -> TP navigation page

Up, down -> vario volume change

In = Enter -> thermal assistant

Thermal assistant

Pressing the enter button in the main page will activate the thermal assistant. An automatic switch from the main page is also possible by selecting the Thermal assistant item in the setup/vario menu. The Thermal assistant page shows the thermal profile in colors as percent of the maximum climb rate in the last circle. Red dots represent 70% or more, yellow 50-70% and blue less than 50% of the maximum. No dot means negative vario and the white dot shows the maximum. The top right corner of the screen shows the overall thermal average which is the average climb rate from the start of the thermal until the end of the thermal (total average). In the bottom right corner altitude gain for the thermal is shown. The numeric figures inside the circle show the current vario and the arrow shows wind direction.



Buttons:

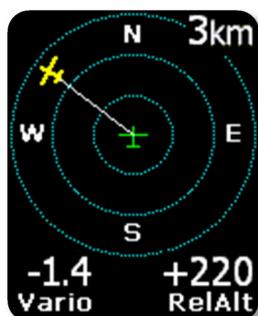
Left -> setup page

Right -> TP navigation page / Flarm radar page

Up, down -> no effect

Enter -> main page

Flarm radar page



The graphic display is divided into 3 circular zones that are separated by the selected zoom distance (1km, 2km, 3 km). The green glider symbol is always positioned in the **middle** of the screen and shows the current position of the Colibri II. Near gliders are displayed as **yellow**. **All gliders** located in radio range will be shown simultaneously on the display. On the top right corner the selected zoom is displayed. The left upper corner is reserved for custom name of the flarm object. If the custom name is not entered the field is empty. In the lower line vario and relative altitude of selected target are displayed.

The graphic display orientation is always **track up**. To improve orientation, N, E, W and S are added to the display.

Note!

Gliders presented as **a dot** on the screen, are gliders where pilots have intentionally activated the **PRIVACY** mode on their Flarm unit. Gliders in privacy mode send limited data strings and **can't be visualized** completely. However, all warnings will appear regardless of privacy mode.

To select a different flarm target, use the up and down button. A White line will point to the selected object.

Showing of extended data

After a specific flarm target has been selected, an additional page showing extended glider data, may be activated with a press on enter button.

ID: ID number of the selected Flarm unit or Glider ID if programmed by the owner

Dist: the distance to the glider

RelAlt: above or below in m or feet

BRG: bearing to the near glider

Var: vario of selected glider

Rx,Tx Status

GPS GPS status

Age: time from the last update

| FLARM INFO | |
|------------|---------|
| ID | 121111 |
| Dist | 2.500km |
| RelAlt | +220m |
| BRG | 307 |

| FLARM INFO | |
|------------|---------|
| Var | -1.4m/s |
| Rx | No RX |
| Gps | No GPS |
| Age | 7s |

Edit of original IDs

A unique Flarm ID that has been received can be converted to a more useable form (maximum 3 characters) any time on the ground or in flight, provided the glider of interest is showing on the display, Flarm data is currently being received. This makes it possible to identify known nearby gliders very easily.

Note!

This unique ID may only be created when Flarm data is being received from the other unit. There is space to store **up to 50** unique IDs. These ID's will be saved in the Colibri II for future flights.



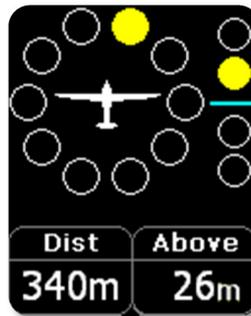
The procedure:

- **Select the** glider of interest using the up and down button in the main graphic screen
- Press enter and the extended glider data screen will appear
- Press enter again, and select the number under which the unique ID will be stored (0-49). Press enter to continue.
- Unique ID input field will become active, **enter the unique** ID using

the up and down buttons. The left and right buttons move the cursor. Unique ID's may consist of **up to 3 alphanumeric** characters.

Expression of collision warnings in graphic

After a warning is sent from the Flarm unit a new screen will appear on the display with **above/below** and the **distance** of the target. An audible beep will also be provided with the same volume as vario beep.



TP Navigation page



On this page the pilot will find basic information about navigation and also any TP stored in the internal TP database can be selected. In the top left corner the TP name is displayed, followed by the distance. The yellow arrow is a North indicator. In the central upper position steering information is shown. On the bottom of the display there are two navigation boxes that show track and bearing. Navigation is always track up.

Pressing the enter button, allows for the selection of any TP stored in the unit's internal memory. It is suggested to use the filter (replace stars in the selection with letters or numbers) to reduce the number of points in the selection list. To look for a point of interest, use the Up/Down buttons. After the TP of interest is found, press the enter button and the turn point will be selected. The unit will change over to the navigation page.

Note!

TP files can only be loaded into the internal memory via the SD card, use Setup menu, SD Card.

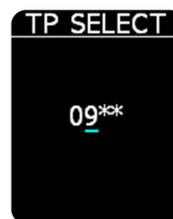
Buttons:

Left -> main page / Flarm radar page

Right -> TSK navigation page

Up, down -> changes TP

Enter -> TP select with filter



TSK Navigation page



The task page guides the pilot from the start point over turn points and then to the finish line. All points of a task should be included in the unit's internal TP file. The task page provides navigation information to the pilot towards the selected TP from a task. The screen shows the same layout and information as the TP Navigation page and navigation is always orientated track up.

In addition to the information on the TP Navigation page, the TSK page shows the TP zone is yellow and a green line shows the required track towards the next TP of the task. When you enter inside TP zone, acoustic beep will be generated and "Inside" word will be displayed on screen above TRK navbox.

Pressing the up or down button changes the zoom. After pressing the Enter button the task edit function appears.

If auto next mode is selected for a task TP then the navigation will switch to next TP automatically upon zone entry. For AAT, auto mode should not be used and the switch to the next TP must be done manually (refer to Task TP navigation section below).

Buttons:

Left -> TSK navigation page

Right -> GPS info page

Up, down -> changes zoom

Enter -> Task edit menu

Task TP navigation selection

To navigate to a specific TP in the task, press Enter on the TSK page and the TASK EDIT menu will appear. Use the up/down button to move the white frame around the point to navigate towards and then **press right or left** and navigation will be to this TP.



Task TP edit



Pressing the Enter button while the white frame is around a TP name opens the TP edit menu. Use **select** to select a new turn point, and replace the existing point of the task. **Insert** will insert a new turn point one position higher. **Delete** will delete the existing point. **Zone** allows the creation of the sector geometry as specified by the task sheet. Every sector consists of two angles and two radii. Further inputs are zone orientation and Auto Next as discussed above.

Possible settings:

- A1 (angle 1)
- R1 (radius 1)
- A2 (angle 2)
- R2 (radius 2)
- A12 T (angle 12 type)
- A12 A (angle 12)
- Auto next option



Note!

Entering a task can be accomplished after the header transfer. Once the task has been prepared on the PC, it can be transferred via a new .hdr file on the SD card.

GPS information page



The GPS page shows basic GPS receiver information. The first line shows the status and number of received satellites. When a good signal with a good position fix is detected "3D" will appear followed by the number of received satellites. When no satellites are received, "LAST FIX/0" is shown and means that the coordinates, (latitude and longitude), are from the last known position. The second and third line shows latitude and longitude information. Below the coordinates the UTC time corrected by the local UTC offset as set in the setup/units menu is shown. The bottom line on this page shows the internal battery voltage.

Note!

Pressing Enter on this screen will activate the Pilot Event "PEV" marker. After the PEV has been activated more frequent recording will start for a limited period.

Buttons:

Left -> TSK navigation page

Right -> logbook/statistic page

Enter -> triggers event

Up, down -> no effect

Logbook/statistic page

While flying, this page provides flight statistic to the pilot such as flight time, maximum IGC altitude reached during the flight and the maximum climb and sink speeds.

Buttons:

Left -> GPS information page

Right -> Setup page

Up, down, enter -> no effect



After flight, the statistic information will be replaced with the logbook showing the date of flight, takeoff time, landing time and flight time.

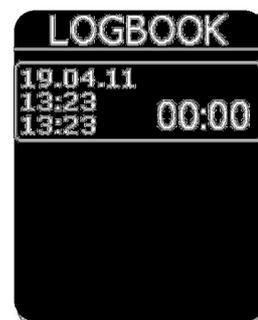
Buttons:

Left -> GPS information page

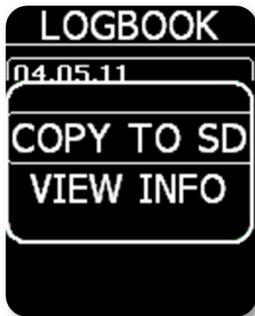
Right -> setup page

Up, down -> moving up and down over logbook

Enter -> flight options



Flight options



Pressing enter on any flight of the logbook will enable the **Copy to SD** and **View Info** function. Copy to SD will copy the selected flight to the SD card. View Info will show the pilot and glider data.

Setup page



The Setup page offers a wide range of system inputs. Select input of interest and press enter.

Yellow colored frame shows ready for edit status and you can change the data field with the Up/Down key. To close the edit mode, press enter and the frame will become inactive (white colored frame). To leave the menu, use the left or right arrow.

QNH/ALT

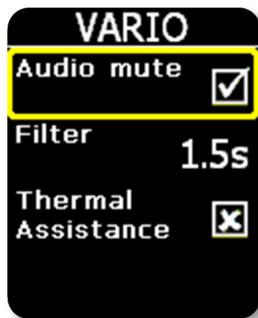
QNH and altitude setting will update both the QNH and altitude reading, regardless of which one is changed. This allows the pilot the choice to use actual QNH data or elevation data. In fact the pilot should enter airfield elevation before takeoff when known. In either case after correct input the Colibri II altimeter will show NN altitude (above sea level).



Important!

Adjusting the QNH or entering field elevation will not affect the flight recorder altitude reading. The altitude stored in the flight log will remain based on QNH 1013

Vario



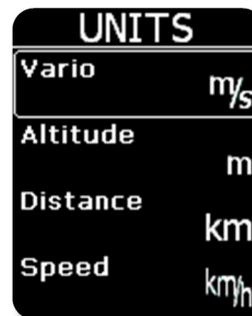
Audio mute: if checked, vario audio will be mute and no volume control will be possible.

Filter: set the vario filter here. Lower numbers mean faster vario response.

Thermal Assistance: if checked, an automatic switch to thermal assistant from the main page will occur while circling and vice versa.

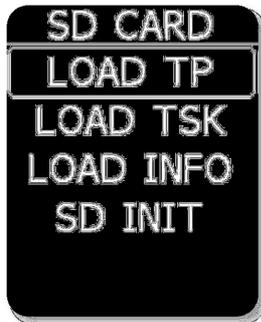
Units

Under this sub setup page you can set units for **vario** (m/s, knots), **altitude** (m, ft), **distance** (km, nm, mi), **speed** (km/h, mph, kts), **pressure** (mbar, inHg), **UTC** offset to local time and format for **GPS** coordinates.



SD Card

The SD card is a data transfer medium that allows for the input of data (turn points, tasks, flight info) and the export flight logs that are stored in the flight recorder. The flights are written to the card in .IGC format allowing immediate flight evaluation and validation.



LOAD TP: Transfers turn point data from SD to device. Pressing the enter button will show a list of **first 20 *.cup** formatted files in the LX/TP directory on the card. Select the file of interest and start the transfer with enter.



TP can be imported from CUP file by NAME or CODE.



LOAD TSK: Transfers task from SD to device. Pressing enter button will show a list of **first 20 *.cup** formatted files in the LX/TP directory on the card. Selecting file of interest will then give you list of **first 5** listed tasks in selected cup file. Select task which you wish to upload and transfer of task is completed.

LOAD INFO: Transfers header files from SD to device. Pressing the enter button will show a list of all *.hdr formatted files in LX/FLINFO directory. Select the file from which you wish to transfer the declaration header.

SD INIT: Creates all needed directories on the SD card. (LX/TP, LX/FLINFO, LX/FLIGHTS)

Important!

If the TP file has more than 500 points only the first 500 will be transferred, the rest will be cut off.

Logger

This sub-setting page allows the user to set the recording interval for the logger and some basic information about the pilot and glider (the pilot and copilot name and surname, reg. number, competition ID, glider name, class and 2nd pilot name and surname). This basic information will be recorded as part of the flight record.



To change the text string, press the enter button and a cursor will appear. Using the up and down button change the letters. The left and right buttons move the cursor position in the text string. **The entered string will end behind the cursor when enter button is pressed.**

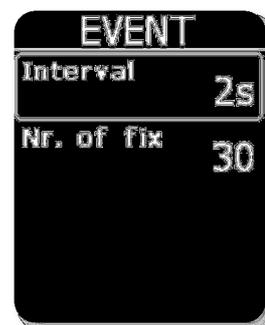
I-record



The pilot can select which additional data will be recorded in the IGC log. ENL and FXA cannot be unselected and are always recorded (IGC regulation).

Event

When the pilot activates the event button, additional records are logged in the IGC file (PEV marked records in the flight recorder). The interval parameter defines how often fixes will be recorded and the number of fixes defines for how long the additional fixes will be recorded after the PEV has been activated.



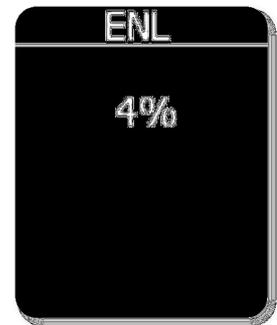
Warnings



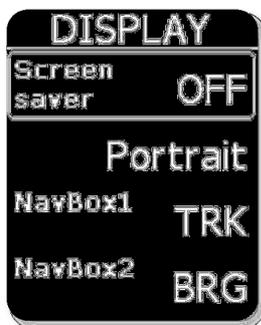
The Colibri II will alert with an audible alarm when a preset altitude, based on QNH settings, is reached. A warning message will also be shown on the screen and the pilot is obliged to acknowledge the warning with the enter button. To turn altitude warning OFF, set altitude to minimum value and next value will be OFF.

ENL

Every unit has a built in Engine Noise Level sensor that detects engine noise when the engine is running. The value varies from 0 to 100%, and should typically show values around 90% when the engine is running. This page does not allow any input, but serves only as an ENL indicator. The ENL value is also stored in IGC file.



Display



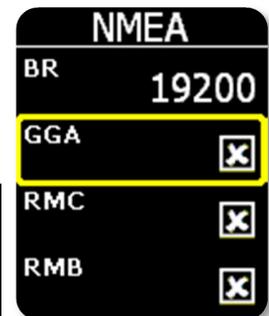
If you activate the screensaver mode, then after the screensaver timeout period, the LCD backlight turns off. Every 10s a message "Screensaver is active!" will appear for one second to show that the unit is functioning. Pressing any key will deactivate screensaver and will also reset its timeout. If you intend to use the unit only as a flight recorder, then using the screensaver mode can extend battery endurance by 3 hours to a total of 10 hours.

Orientation of display can be toggled between landscape or portrait.

Customize your navbox here. You can select between track, bearing or ground speed options.

NMEA

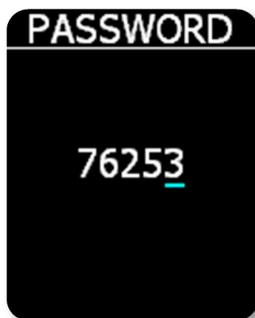
The Colibri II can be used as a GPS signal source for other navigation devices. This menu allows the selection of the NMEA data strings that will be sent out at selected Baud Rate. The NMEA data is available through the USB connector on the unit.



Note!

NMEA data sent out of the Colibri II doesn't match the RS 232 standard. So a level converter should be used. It is suggested to use the original LX Navigation power and data adapter.

Password



To access some special functions of the Colibri II unit you must enter different passwords.

- 99999: Will erase all stored flights!
- 46486: All settings will have factory default values.
- 76253: Snake game will be activated.
- 66666: Erase task from memory.

Flarm

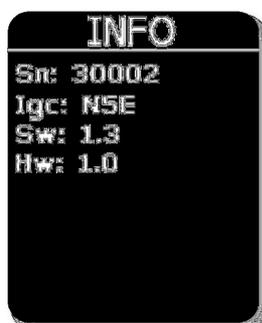
Settings for the flarm can be edited here. Zoom of the flarm radar screen and a "mute" all audible flarm beeps.



Note:

Volume for flarm warning beep is the same as volume for vario!

Info



This page shows information about the software version, serial number, hardware version, etc ...

Battery information and power management

The Colibri II is powered by a rechargeable battery. The battery can be charged and discharged hundreds of cycles. Only use the approved wall charger included with the unit or a PC USB port to recharge the battery.

Do not leave a fully charged battery connected to a charger for long durations, as overcharging may shorten the battery life. If left unused a fully charged battery will lose its charge over time.

The battery endurance when using the display is typically 7 hours. If the screensaver mode is used, duration can be extended for 3 hours.

The unit will automatically switch off, if it is not connected to external power and it is not in flight, after 30min of last press on any key. Before automatic switch off, message will be shown on display with elapsed time until power off. Acoustic beeps will alert user last 5min every 1 minute. To abort automatic power down press any key.

If the Colibri II power and data interface is used, the internal battery will recharge itself and then use the glider battery for Colibri II operation.

Note!

Always charge the device when you will not use it for a long time. Do not store the device with a low battery level. During the off-season, periodically check the battery status to see if a charge is needed. The battery provides power for the internal memory. If the battery becomes completely discharged, the security seal will be broken and the unit must be re-sealed by an authorized LX Navigation repair facility.

Flight Recorder Management

The flight recorder doesn't need any special care as it works nearly automatically without pilot assistance. All the pilot should do is to adapt the logger settings, see the Setup page / Logger menu item.

Start and Stop of flight recording

The unit will start recording immediately after start conditions are met. Start conditions are based on ground speed and altitude change, so even if the GPS status is bad during takeoff, the unit will start recording.

It is recommended to switch the unit on a **few minutes** before takeoff. This will ensure a straight base line of baro trace (IGC regulation). Running time before takeoff will not reduce memory space of the flight recorder, due to circular recording before takeoff.

After landing the unit will close the flight after **approximately 10 minutes at standstill**, so it is recommended to keep the unit under power and GPS OK until the **Calculating Security** message appears on the display. To determine that the flight recorder has closed the flight, move the button to the left or right. If the **Logbook** appears, the recording has finished, if the statistic page appears, the recorder is still active.

Flight evaluation

To check the flight data integrity use the IGC shell program. IGC shell is an IGC freeware program specially designed to verify the flight record integrity. Use the latest LXN.dll file to validate Colibri II flights.

IGC file structure

IGC flight record file is text file, that means the data are simple readable by any text editor.

Example of an IGC flight is printed below:

```
ALXNG88FLIGHT:1
HFDTE110509
HFFXA015
HFPLTPILOT:CRT.ROJNIK
HFGTYGLIDERTYPE:LAK19-15
HFDTM100GPSDATUM:WGS-1984
HFRFWFIRMWAREVERSION:1.0
HFRHWHARDWAREVERSION:1.0
HFFTYFRTYPE:LXNAVIGATION,COLIBRI II
HFGPS:uBLOXf_TIM-LP,16,max9000m
HFPRSPRESSALTSENSOR:INTERSEMA,MS5534A,max8000m
I023638FXA3941ENL
C110509143109110509000100
C4619767N02003217ESZATYMAZ
C4622930N02015629ETSKSTART
C4619767N02003217ESZATYMAZ
C4619767N02003217ESZATYMAZ
F0931560231110413071732232025
LLXNORIGIN0926594619153N02003303E
B0926594619153N02003303EA0006900091007000
B0927054619153N02003303EA0006800091007000
B0927114619153N02003303EA0006800091007000
B0927174619153N02003303EA0006900093007000
B0927234619153N02003303EA0006800093007000
B0927294619153N02003304EA0006900093007000
B0927354619153N02003304EA0007000093007000
B0927414619153N02003304EA0007000093007000
B0927474619152N02003304EA0007000091007000
B0927534619153N02003304EA0006900091007000
B0927594619152N02003304EA0006800091007000
B0928054619152N02003304EA0006800091007000
B0928114619152N02003304EA0006800093007000
B0928174619153N02003304EA0006800091007000
G33069178E3C800E8CE815DD7F0D6968983E2BC0F44C3DC20645F06CC9F78E84
GAF5B28F33E76C8DC5C105CB2B168472106BA50860B3DC93F72D9439C9B371975
G43221B
```

Recorder Sn. and flight number

Date of the flight

ENL enabled

Flight declaration data as C record

B records as position records

G record is a digital signature, ensures data integrity and is always the last record of the flight.

Baro trace check (calibration)

Each flight recorder should be periodically checked to verify that the built-in pressure sensor is still in limits. The procedure is extremely simple and takes only minutes to finish. The most important action is setting the Rec. interval in Logger Setup to 1 second, otherwise the trace will not be uniform. The procedure is as follows:

- Turn the unit on and put it into the pressure chamber
- Set QNH 1013 conditions in the chamber.
- Apply a pressure jump to start recording.
- Climb apr. 4m/s and make a stop for apr. 30 seconds every 1000 m.
- After reaching 8000m sink apr. 4 m/s and make stops after every 1000m.
- After reaching zero open the chamber and wait for 1 min. After 1 min switch off the unit and confirm that you wish to end flight.
- Switch on the unit and download the "flight" from the logbook.
- Return Rec. Interval setting to previous value.
- Print baro trace using your preferred PC program, for instance LXe.

Cooperation with other units

The unit can be used as a GPS and pressure/altitude source for many navigation systems. The selected NMEA data is sent at **19200** bps. The same rate is used for additional data in the LXWP format.

Data exchange with 3rd party units

Colibri II is able to communicate with the units (programs) that are listed below. It is necessary to arrange suitable cable connections.

| Unit | Declaration | TP data | Flight download | Remarks |
|--------------|-------------|---------|-----------------|---------|
| LX 7007 | √ | | | |
| SeeYou Mob. | √ | | | |
| Oudie | √ | | | |
| ConnectMe | √ | | | |
| LX 166* | √ | | | |
| LX 1606* | √ | | | |
| LX Mini Map* | √ | | | |

*depends on program which is running on PDA

Installation

The installation configurations are extensive due to the Colibri II HW configuration. If the unit will be used as a standalone flight recorder (using the internal battery only) no installation work will be necessary. In fact, the unit may be kept in a pocket or put anywhere in the cockpit. Due to its low weight some temporary installation methods such as adhesive tapes or velcro can be used.

How to power on and off

A long press (**approximately 2 second**) on the push button of the navigation switch will power on the unit, the first indication that the power has been applied is the presence of the LX Navigation logo. After the logo appears, release the push button. If the button is held too long, the unit will switch off to filter out any undesired power on.

To switch off simply apply a longer press on the push button and you will be asked if you wish to turn off device. If there is no confirmation for 5s, unit will continue with its operation. If the flight mode is still detected, you will be asked if you wish to finish flight or not.

External power supply

If external power supply is needed, use a special **Colibri II power and data interface**, which converts glider 12V to the required 5V for the Colibri II unit.

Important!
Never apply 12 V to the unit. The unit will be **seriously damaged** if 12V will be applied directly!

Pin out of USB mini B connector

The Colibri II uses USB mini B connector for charging and data exchange.

Pin out of this connector is:

| Pin number | Description |
|------------|--------------------------------|
| 1 | +5V input |
| 2 | Data in – input (TTL) BR19200 |
| 3 | Data out –output (TTL) BR19200 |
| 4 | Not used |
| 5 | GND |



Pin number: 1 2 3 4 5

Flying with Colibri II

To get the best out of the Colibri II, it is important that some preparation is done prior to the flight – trying to configure the instrument or set up a task while flying the glider may spoil your whole day! Pre-flight preparation will ensure that the flight will be both successful and enjoyable.

After turning on the unit you the main page with vario indicator appears. Check if the units and vario filter are set correctly in the setup menu. Also check if the automatic mode for the thermal assistant is on or off (according to your preference) so you will not be disturbed in flight when thermaling.

Check the internal battery voltage and if needed recharge it.

Under setup/logger double check, that the pilot and glider information is correct. Check the logging interval (typically in the 6 -10 sec range). Any new or corrected data under this settings, will automatically apply to the flight declaration.

On the TP navigation screen = check if TPs of interest are preloaded. If not, upload them using the SD card under setup/SD card/load TP.

Check the task in the TSK navigation page to ensure the correct task has been loaded. If you change or edit any point in task setup, it will automatically declare the new task in the flight header. You can set the task manually or transfer it with the *.hdr file from setup/SD card/load info.

Check if the screensaver mode is on or off. If you wish to use the Colibri II as a logger only then the screen saver will extend battery duration for 3 hours.

List of standard parts and options

- Colibri II unit with built in battery
- USB Mini B to USB A cable
- Wall charger (220V to 5V)
- Manual



Options

Colibri II power and data interface

Colibri II power and data interface is a special unit that converts 12V to 5V power supply for the Colibri II. It also converts TTL levels of serial communication to RS232 levels. Maximum input voltage is 24V.



The unit has two plugs. On one side there is a standard USB A connector. Use the included USB cable to connect the Colibri II on this side. On the other side is an RJ45 plug. This plug is a standard IGC 6-pin connector.

Pin out of RJ45 6-pin connector:

| Pin number | Description |
|------------|---------------------------|
| 1 | +12V (red external wire) |
| 2,3 | Not used |
| 4 | Data out – output (RS232) |
| 5 | Data in – input (RS 232) |
| 6 | GND (blue external wire) |



Pin number: 1 2 3 4 5 6

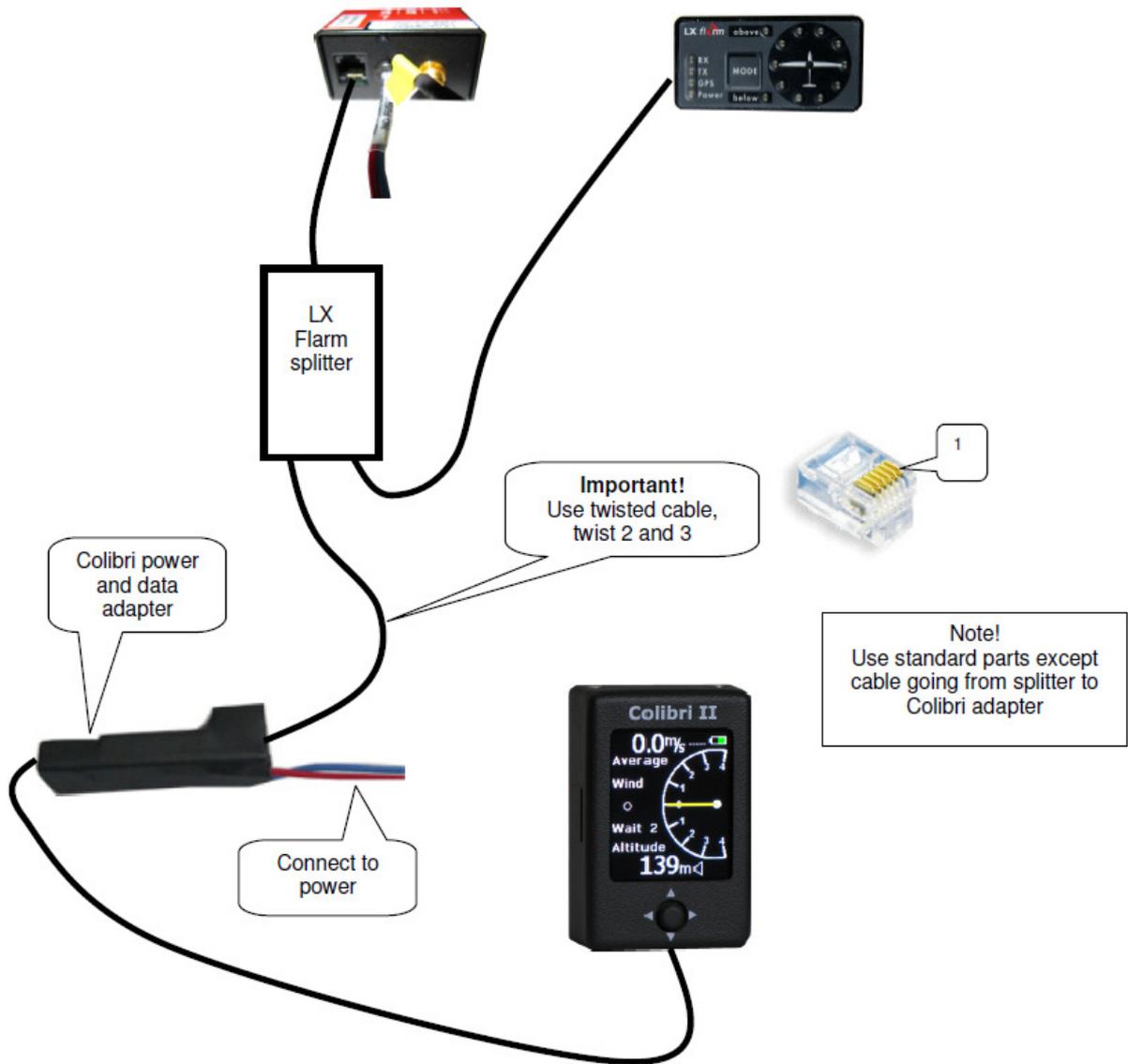
Optional mounting frame

A suitable mounting frame with snap in effect can be delivered as an option; use of this option makes installation of the Colibri II easy.



Appendix

Connection Flarm to Colibri II



Revision history

| | |
|---------------|--|
| January 2012 | Initial release of owner manual |
| February 2012 | Added description: NMEA output at baud rate 19200. |
| April 2012 | Changes based in FW v1.2 - Tp navigation on task is always to start point after takeoff. - Added Flarm display / radar as option when Colibri II is used together with Flarm system. - Pressure units can be changed under "SETUP->UNITS" from inHg to mbar. |
| April 2012 | Changes based in FW v1.3 - Automatic switch off. |
| May 2012 | - Added description about broken seal if battery is discharged on chapter Battery information and power management. |
| August 2012 | Changes based in FW 1.6 -When entering in TP zone, word "Inside" is visible on TASK page and acoustic beep will follow. -Warning altitude is based on IGC altitude (1013mBar). -Warning for altitude can be switch off. -Baud Rate of NMEA output can be selected between BR4800, BR9600 and BR19200 Changes based in FW 1.7 -Task can be uploaded from *.CUB files -Total memory (in hours) is shown in Logger setup menu. |
| December 2012 | Changes based in FW 1.8 -Load TP from CUP file by NAME or CODE. -Added password: 66666 It will erase task from memory. -Landscape/Portrait option under DISPLAY setup. -Navbox customize added under DISPLAY setup. -Before turn off you will be asked if you wish to do it to prevent any unexpected turn offs. |