Version 1.8

Table of Contents

1 Introduction

1.1 What is LXe?

Welcome to LXe. LXe runs under **MS Windows 95/98/Me, Windows 2000** and **XP**. It's a program for editing and transferring DA4 (Turn points and task) files, reading loggers, writing airspace and airport databases, browsing on airports databases, viewing airspace and flights.The Program supports high-speed transfer on 115200bps.

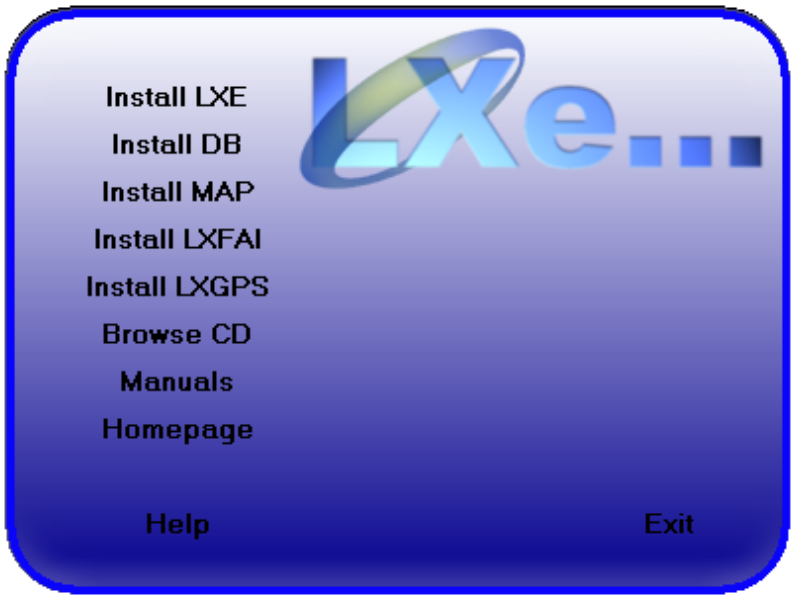
Features:

- easier browsing of turn points
- user friendly editing of turn points
- easier editing of tasks
- user friendly viewing of turn points
- easy installation of new databases (monthly updated - JEPPESEN)
- high speed transfer rate 115200bps
- viewing airspace on the map background
- easy reading of logbook
- simple IGC viewer on the map background

Instrument name	Reading logger	R/W TP&TASK	R/W Flight inf.	Logger setup	Write Airports	Write Airspace
LX400 <V4.0						
LX400 >V4.0	✓	✓			✓	
LX4000 <V5.3						
LX4000 >V8.0	✓	✓			✓	
LX500 <V6.0	✓	✓			✓	✓
LX500 >V6.0	✓	✓	✓	✓	✓	✓
LX5000 <V6.0	✓	✓			✓	✓
LX5000 >V6.0	✓	✓	✓	✓	✓	✓
DX50	✓	✓	✓		✓	✓
LX600	✓	✓			✓	✓
LX6000	✓	✓	✓		✓	✓
LX20	✓	✓	✓	✓	✓	✓
LX21	✓	✓	✓	✓		
Colibri	✓	✓	✓	✓	✓	
Posigraph	✓	✓	✓	✓	✓	

1.2 How to install LXe

Insert the LXe CD into your CD ROM drive. On most systems the setup program will automatically start shortly after the CD drive tray is closed.



If the installation program window does not appear automatically, run the **Setup.exe** in the **Root** directory of the installation CD.

Once the setup program initialises, a Wizard will guide you through the installation process.

After pressing the **Install** button, installation of the program will be started (Please follow the instructions). After the installation procedure is finished, repeat the same procedure with **database, map** and **LXFAI**.

This procedure will install actual database (Airports and airspace) and map.

1.3 System Requirements

Minimum requirements:
Pentium 75 – class PC running Windows 95/98/ Me/2000/XP
16MB RAM
Display 800 x 600 resolution, 256 colours
4MB of free hard disk space (without map)

Recommended system:
Pentium 166MMX or better PC running Windows 95/98/ Me/2000/XP
32MB RAM
Display 1024 x 768 resolution, 16 bit colour
20MB free hard disk space (without map)

1.4 How to run LXe?

To start LXe, select the **LXe** icon in the **Programs** ⇨ **LXE** folder of your Windows Start menu.

2 How to access LXe on-line

2.1 LXe Program

We recognise the importance of immediate access to resources and information. From catching up on the latest news, to downloading the latest databases, it's all at your fingertips at
http://www.lxnavigation.si or **http://www.filser.de**

2.2 Monthly database updates

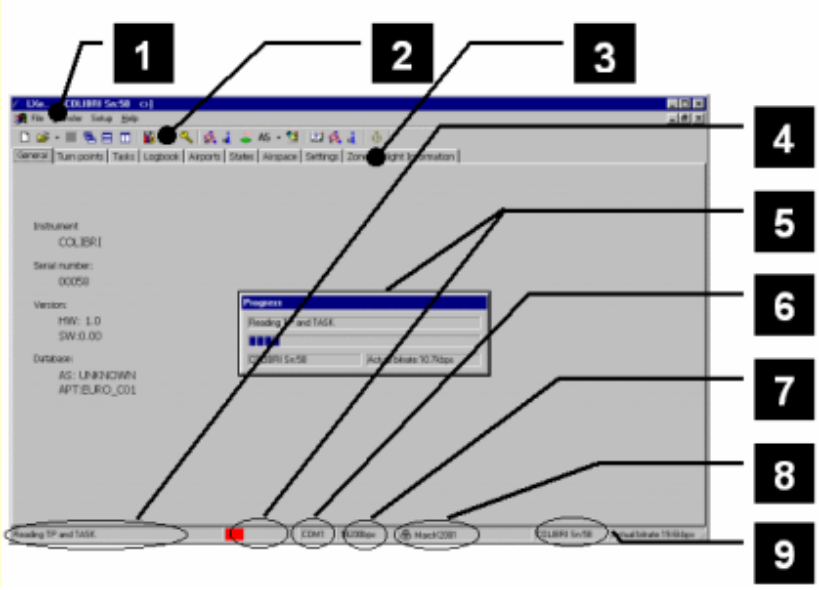
Visit **http:// www.lxnavigation.si** or **http://www.filser.de**
and download the latest update of airports and airspace database. For update codes contact Filser Electronic info@filser-electronic.de (tel.: + 49 8246 9699 0). **This update is not free!**

Important!

If you order a new code,please give us the following information:
Type of instrument,software version, serial number and desired database version.

3 LXe Program

3.1 Getting to know LXe



1 Main menu consists of File, Transfer, Setup Window and Help.

IMPORTANT! Transfer menu is disabled until connection with an LX instrument is established (Connect message on LX instrument display)

2 Main buttons with standard windows function. Additional LXe buttons.

3 Working pages (General, Turn points, Tasks, Logbook, Airports, States, Airspace, Settings, Zones, Flight Info)

4 Transfer status (Connect, Reading TP, Writing TP … - when instrument is connected)

5 Transfer progress (progress bar)

6 Selected communication port

7 Detected baud rate (baud rate of LX instrument is detected automatically and adapted)

8 Actual airports and airspace database (Selected airports and airspace database)

9 Data about connected instrument (Instrument name and serial number)

3.2 File management with LXe

3.2.1 File menu

Open - DA4 and IGC files can be opened from any location in your computer (use standard windows browsing methods).

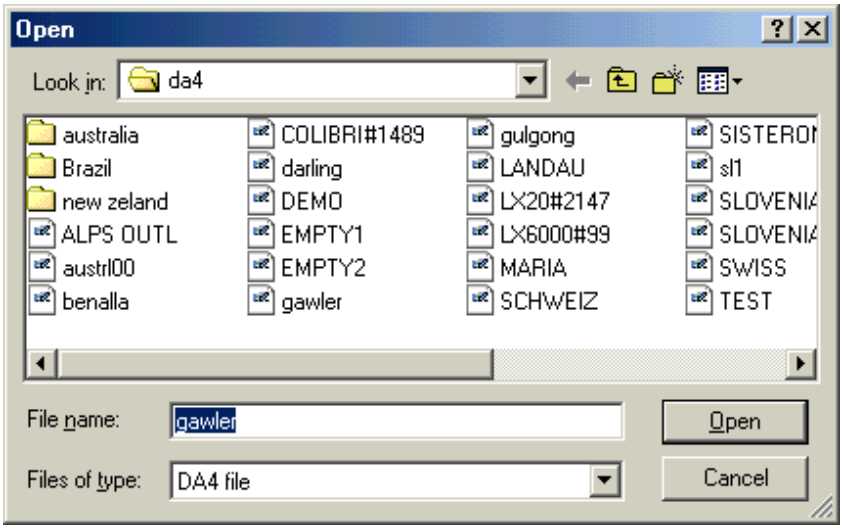
Close – is used for closing selected form. Same function as ×

Save and Save As... - saves actual file.

Lower menus are links to the five last used files (IGC,DA4)

How do I open a turning point and task file?

If you open a folder , a window with its contents will appear.
You can browse through computer folders and the network neighbourhood if computer is on LAN. Importing of DA4, SCV (comma separated value), and Cambridge DAT file formats is possible.



A file will be opened by double click on the file or by a click on the button **Open.**

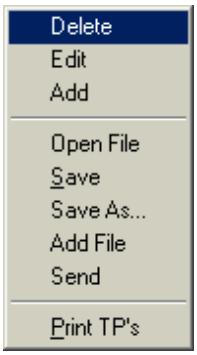
How do I create a new TP and TASK file?

After pressing the button NEW , an empty DA4 will appear (it`s not possible to open two or more documents at the same time).

3.2.2 Managing turn points

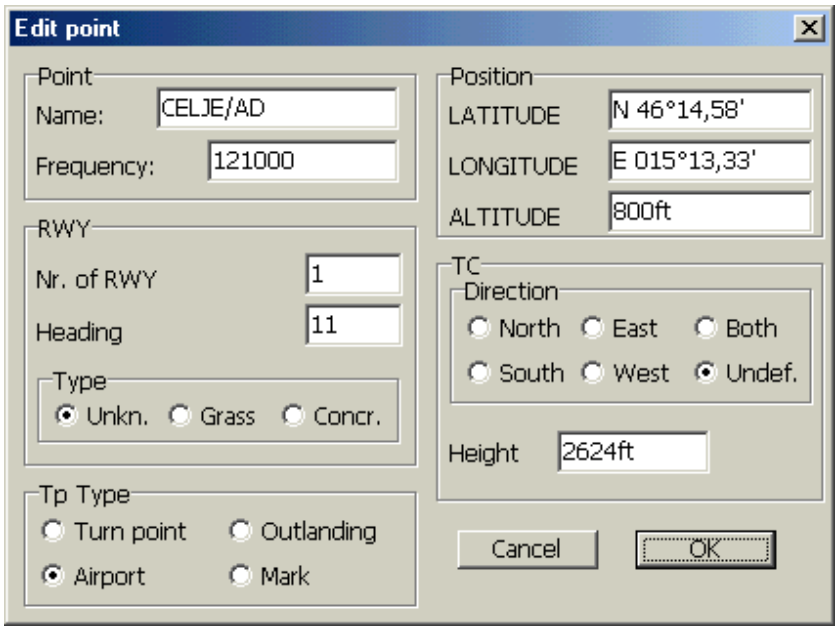
Delete, Edit and Add

With a right mouseclick on the selected turn point the following pop up menu will be opened:



Delete	delete selected turn point
Edit	edit selected turn point
Add	add new turn point

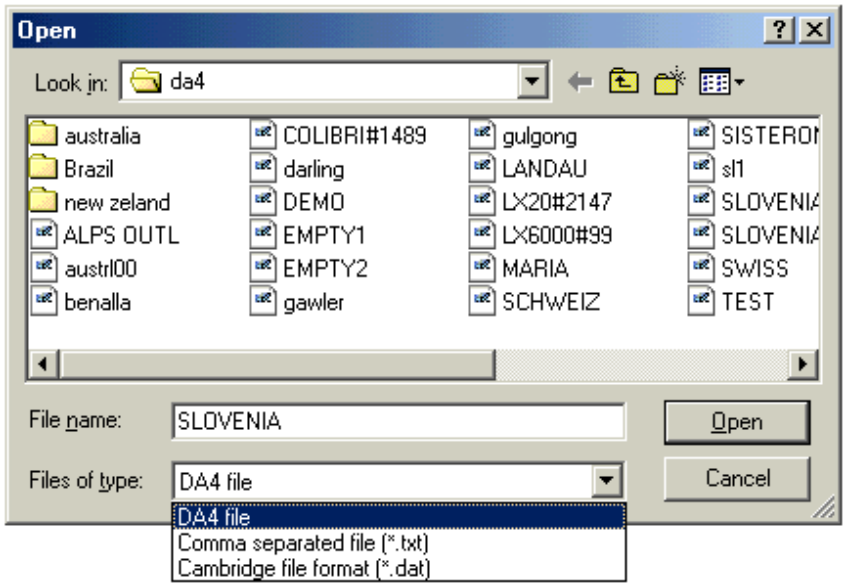
After using the Edit or Add instruction the window **Edit point** will open:



All parameters in **Edit point** can be edited. By pressing the **OK** button all changes to the data will be confirmed. If you choose **Cancel,** all changes will be ignored.

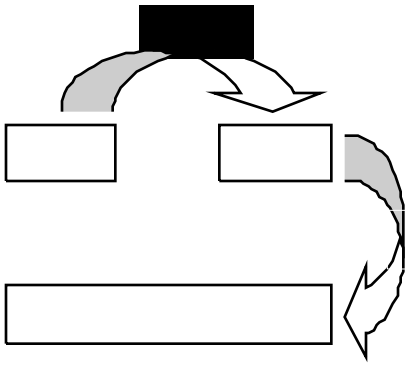
How can I import a TP file (join two files)?

Choose type of file (DA4,CSV and DAT-Cambridge)



FILE 2

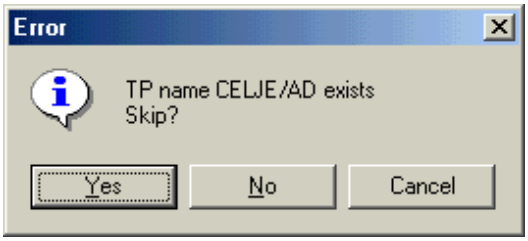
FILE 2



Example:

First we must prepare **file 1** which will be imported into another file (**file 2**).
Open TP file
Edit it (Edit, Delete turn points)
Save it under new name (**file 1**)
Open **file 2**
Use Add function (Right mouse click)
Select **file 1**.
Now we have two files joined together
Save new file as **file 3**

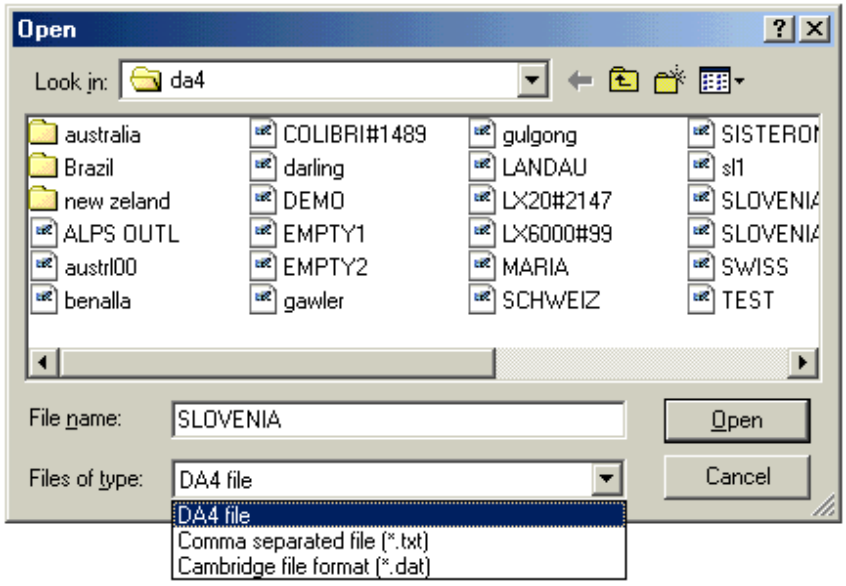
If both files are matching in one or more points, an alarm will appear.



Yes Imported point will not be added
No Imported point name will be modified (XXXXXXXX -> XXXXXX_0)
Cancel All next points with the same name will be skipped.

How can I export a TP file (Save As..)?

Use the **Save As** command and select the type of the exported file. The data will be automatically converted to the selected file type.



How to copy airports into TP's (DA4)?

To copy airport data into a TP file, click on the airports tab sheet. All airports are available now. Use the command **copy to TP** (right mouse click -> pop up menu) and the selected airport will be copied to the actual TP list.

Sending actual data to instrument

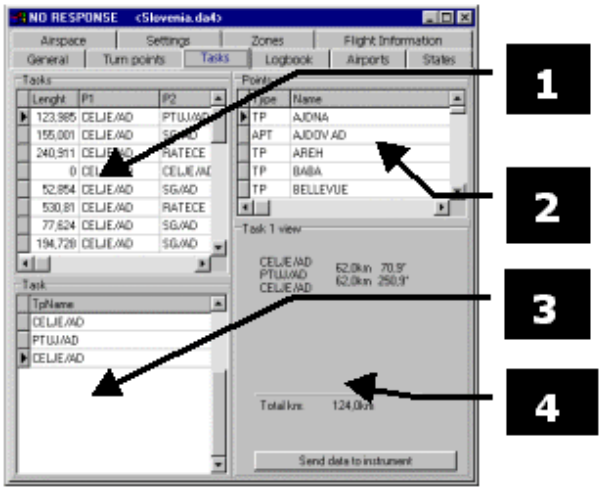
If a connection with an instrument is established, actual data (DA4) can be sent to instrument.

Printing TP's

Choose **Print TP's** and the actual TP data (DA4 file) will be printed.

3.2.3 Managing tasks

A DA4 file consists of maximum 600 TP's and 100 tasks. A Task contains max. 10 points from the same DA4 file.

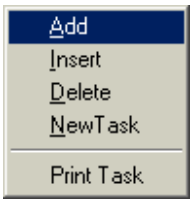


1 List of tasks
2 List of turn points
3 Selected task (task editor)
4 Task information (viewer)

List of task shows all the tasks included in the selected DA4 file. You can delete a task with a right mouse click.

List of turn points shows all the turn points in the selected DA4 file. A left mouse click will select a turn point, a double click will automatically add this TP to the selected task (to the last position).

A task can be edited in the task window. A right mose click activates the following pop-up menu:

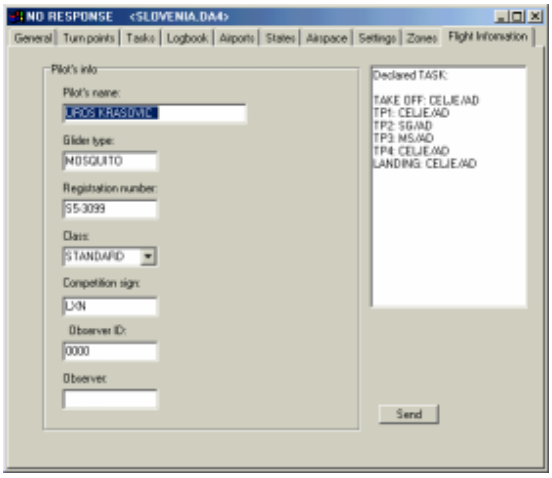


Add	will add the selected TP to the last position (same as double click on TP)
Insert	will insert the selected TP above the cursor in the task window.
Delete	will delete the TP at the cursor position in the task window
New Task	creates a new task

3.2.4 Flight Info

How do I open a header file (Flight Info)?

Open a header file by pressing the button **open** and select the desired file type(*.HDR).
To edit a Flight Info file simply overwrite the necessary data.

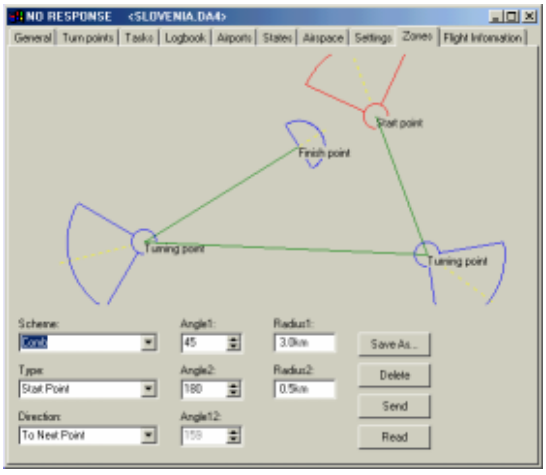


The chanced Flight Info can be saved with a new name using the **Save as** function. You can transmit a Flight Info file using the **Send** command.

How do I create a new header file (flight information)?

Press the button NEW  and an empty Flight Info will appear if the document window wasn`t opened yet.

3.3 Managing observation zones



The settings of the zones are adjusted just as on the LX instruments (if the instrument supports this function). By using **Save as**... the zones will be added in the Schemes pull down menu.

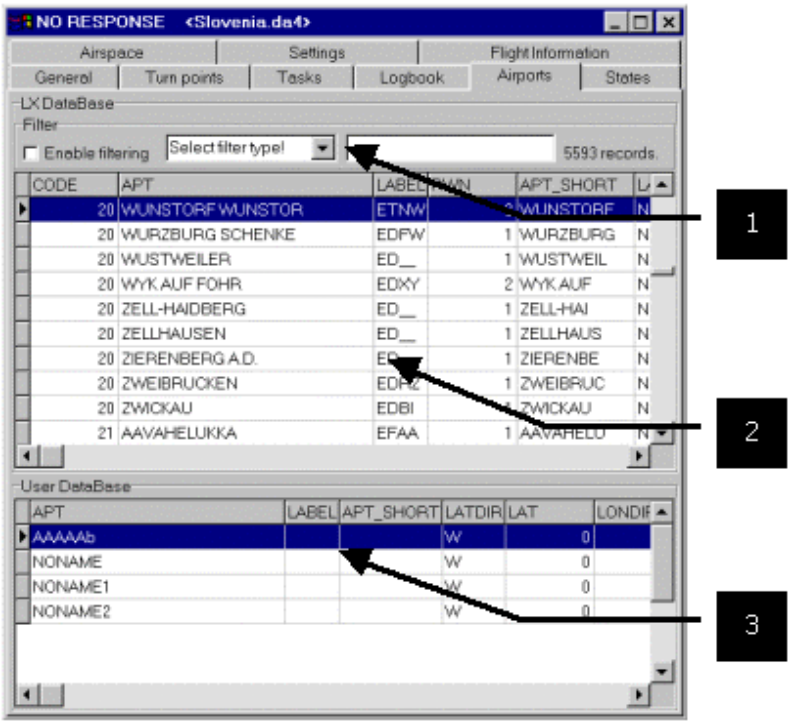
3.4 Data base management with LXe (airports and airspace)

3.4.1 How do I choose a database?

Goto **Setup** ➢ **Options** ➢ **Databases**

3.4.2 Airports

A click on the Airports tab sheet opens the following window:



1 Filter box
2 Airports in Jeppesen-Database (LX database)
3 User APT

Filser Electronic owns the copyright for **LX database (2)**, which means the user has no access to this database. With a right mouse click on an airport the user can check the airport`s data. The number represents the state in which the airport is located.

The APT database contains airports and NAV aids. All of them are always present.

The settings in the tab sheet States and **Incl. NAV's** have no influence on the Airports tab sheet. Both are used only for data transfer!

Use the filter functions to make browsing through the Airports database easier.

Filter options:

FILTER TYPE	FILTER KEY	Comment
State name	GERMANY	*All airports of GERMANY will be shown.*
CODE	21	*All airports of FINLAND (CODE=21) will be shown.*
Name	CELJE	*Airport CELJE will be shown, if it exist.*
Name	CEL*	*All airports, which begin with CEL, will be shown.*
ICAO	EDBI	*Airport with ICAO EDBI will be shown, if it exist.*
ICAO	ED__	*All airports with ICAO ED__ will be shown, if they exist.*

3.4.3 User APT

You will find the User APT database in the Airports tab sheet. It is empty when LXe is installed.The user has full access to this database (delete, edit, add, import, export). Using the User APT it's possible to extend the Jeppesen database with special airports (e.g. outlanding fields) and nav aids. Managing the User APT is similar to managing a turn point file.

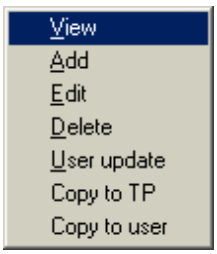
If a new update of the Jeppesen database was installed, this shouldn't affect the User APT. Still we recommend to create a backup copy of the User APT before the update. This can be done easily by using the export function in the pop up menu activated by a right mouse click on the User APT.

3.4.4 How can I edit an airport or NAV from the Jeppesen database?

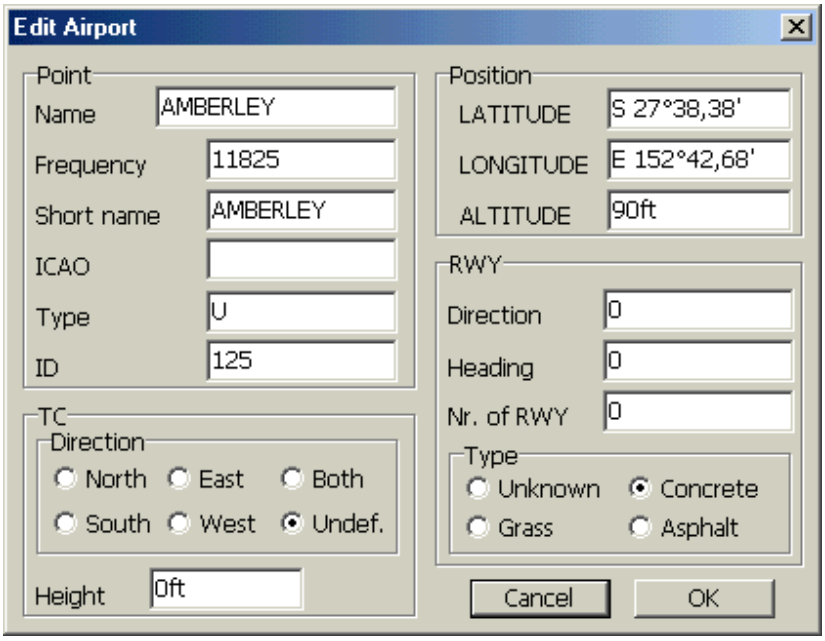
Editing the Jeppesen database is not possible.

3.4.5 How do I view an airport or NAV from LX database?

A right mouse click on the Airports tab sheet (section Jeppesen database) activates the following pop up menu:

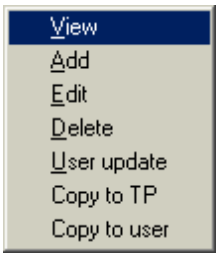


Choose **View** and the window **Edit Airport** will be opened:



3.4.6 How can I add a new airport or NAV into LX database ?

A right mouse click on the Airports tab sheet (section Jeppesen database) activates the following pop up menu:



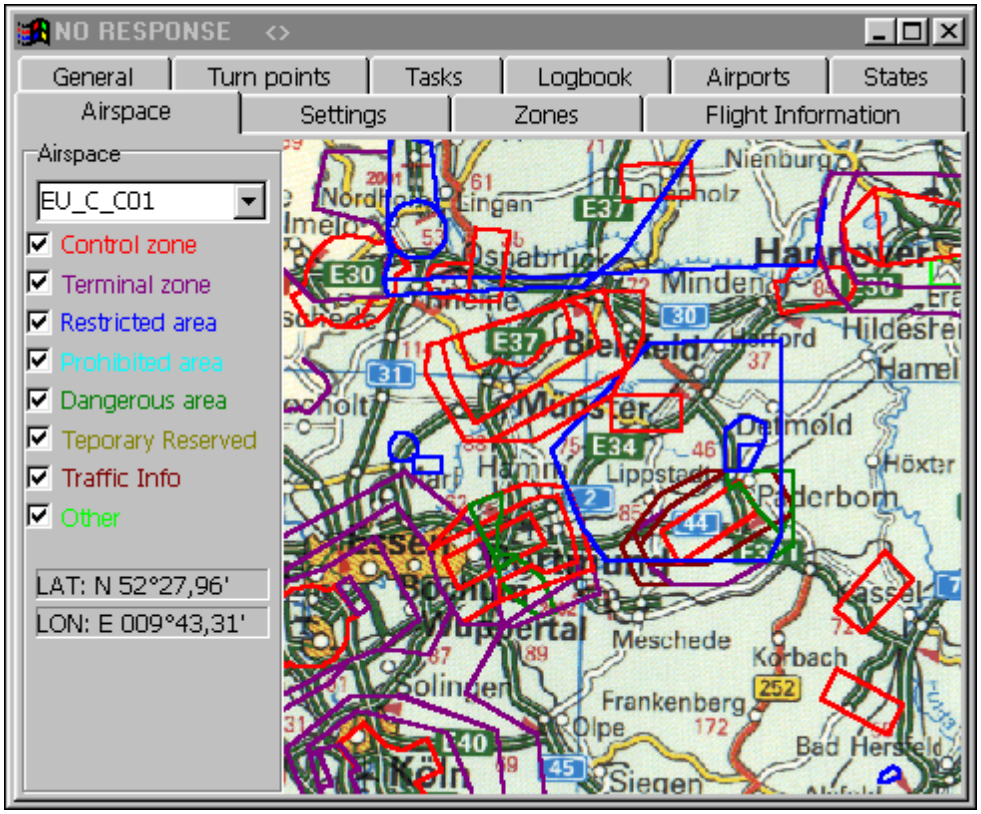
Choose **User update** and the complete User APT will be copied into the Jeppesen database. If you want to transfer the User APT to the instrument, don't forget to select the "state" **USER** containing the Airports from the User APT database, in the States **tab sheet** .

3.5 Exploring airspace with LXe

3.5.1 How can I see the selected airspace ?

How can I see selected airspace ?

Choose the Airspace tab sheet and select an airspace area. (EU_C means central Europe, D00 represents the database version – April 2000). You can activate/deactivate particular zones.



3.5.2 How do I change the map background?

Goto **Setup** ➢ **Options** ➢ **Maps**

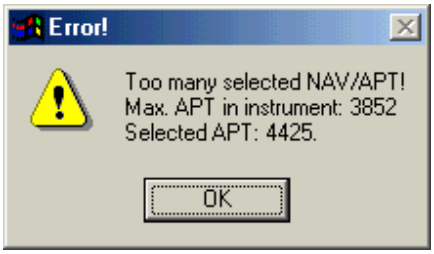
3.6 LXe settings (Setup menu)

3.6.1 NAV's setting

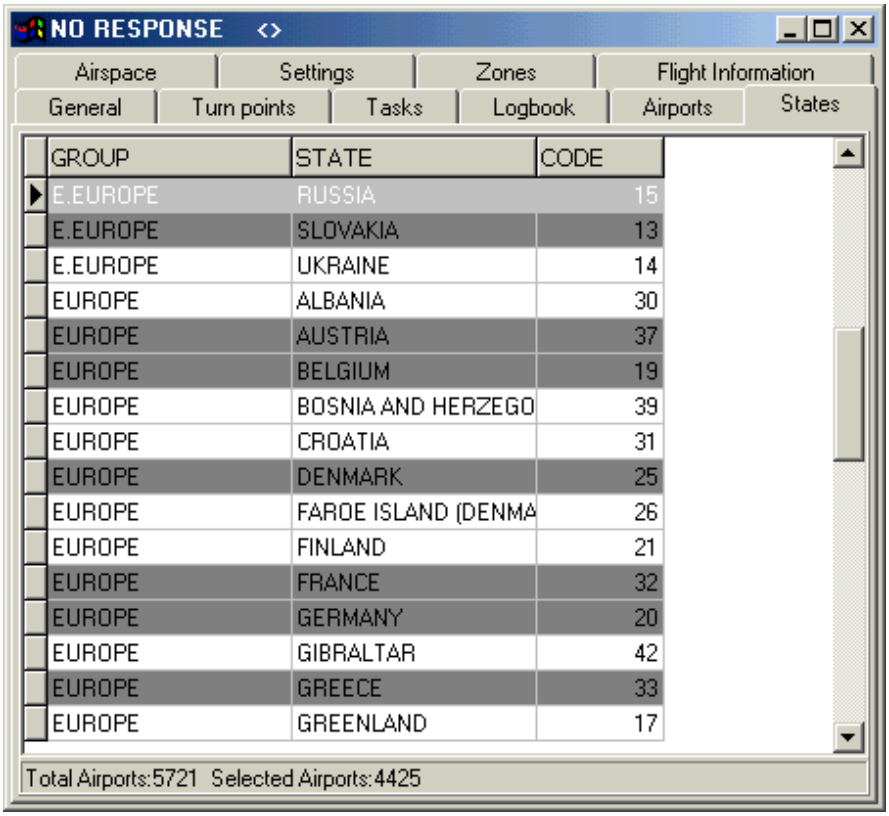
The airport database contains airports and nav aids (NDB, VOR). In the default settings of LXe all nav aids are disabled. To enable them just check ☑ Include NAV aids in the **Setup** ➢ **Options** ➢ **Advanced** menu.

3.6.2 States

The user can freely select the states which are important for him and deselect all those where he never flies. The near airport function on an instrument will run faster using less airports.The LX instruments have only a limited capacity of memory for the airport database. If you have selected too many airports, the program will inform you about this after the command **Write Airports** .



To solve the problem, deselect some states.



The active states are coloured. To deselect a state, click on it and the colour will change.

3.6.3 Communication port

Select a communication port on your computer.

3.6.4 Update code

The Jeppesen database isn't free. This means each CD corresponds to one instrument only. For uploading airports and airspace to an instrument an update code is necessary. The can be found on the CD cover. It's possible to update more instruments with one CD, if you know the special update code of each instrument. For a new update code contact Filser Electronic: info@filser-electronic.de

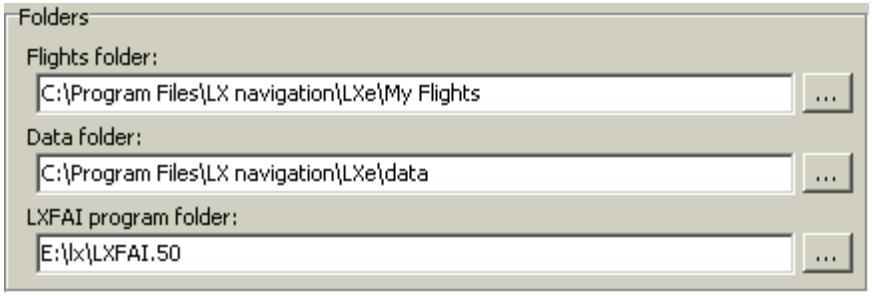
Important!

If you order a new Code, please give us the following information:
Type of instrument, software version, serial number and desired database version.

3.6.5 Folders

Go to: **Setup** ➢ **Options** ➢ **General**

In this window some paths can be defined:



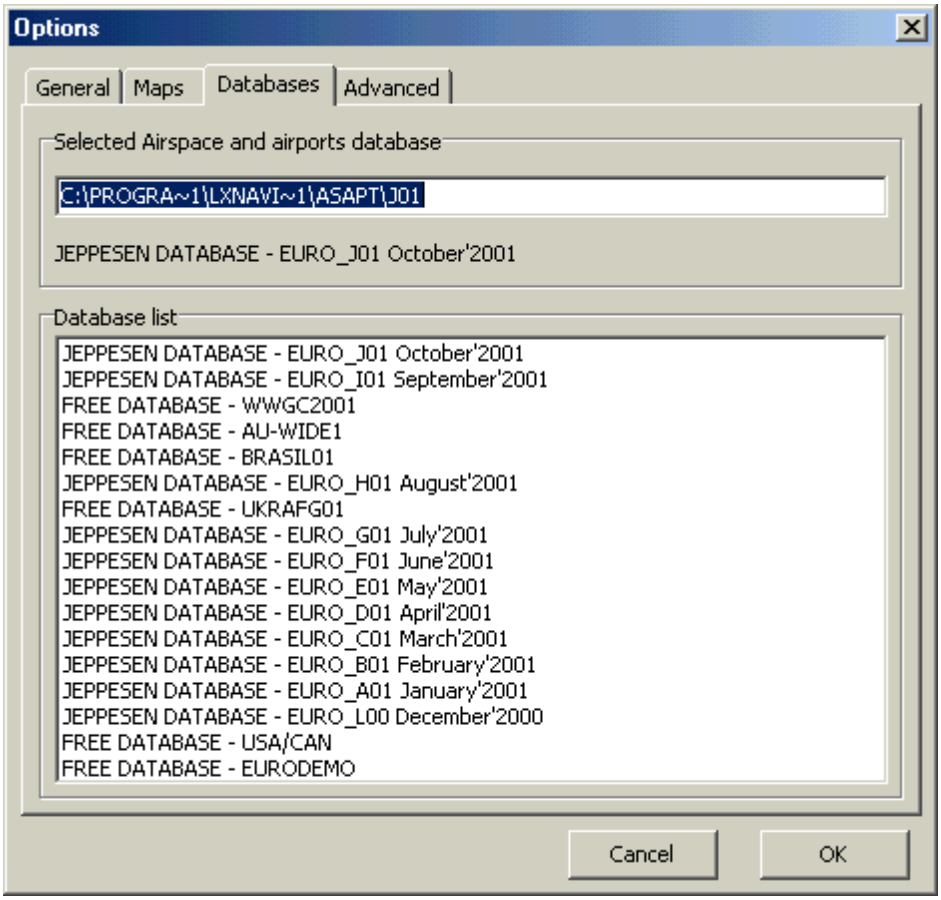
IMPORTANT! Program, Airports and airspace path can't be changed.

Flights folder:
When you download a flight from an instrument it is saved in a specified directory.The default path is: ..\LXe\My Flights. One can change the path and move the logger directory to another location.
We recommend to define the logger path to the LXFAI sub directory LOGGER. In this case all flights will be directly accessible running the LXFAI program. LXe doesn't have an integrity check, so you should use LXFAI for integrity checks.

LXFAI folder:
In LXe you find a shortcut to the LXFAI program . It's **only** important to define the path to the LXFAI program.

EXAMPLE:
After downloading a flight, just press the LXFAI button . LXFAI will be started and your flight can be evaluated immediately.

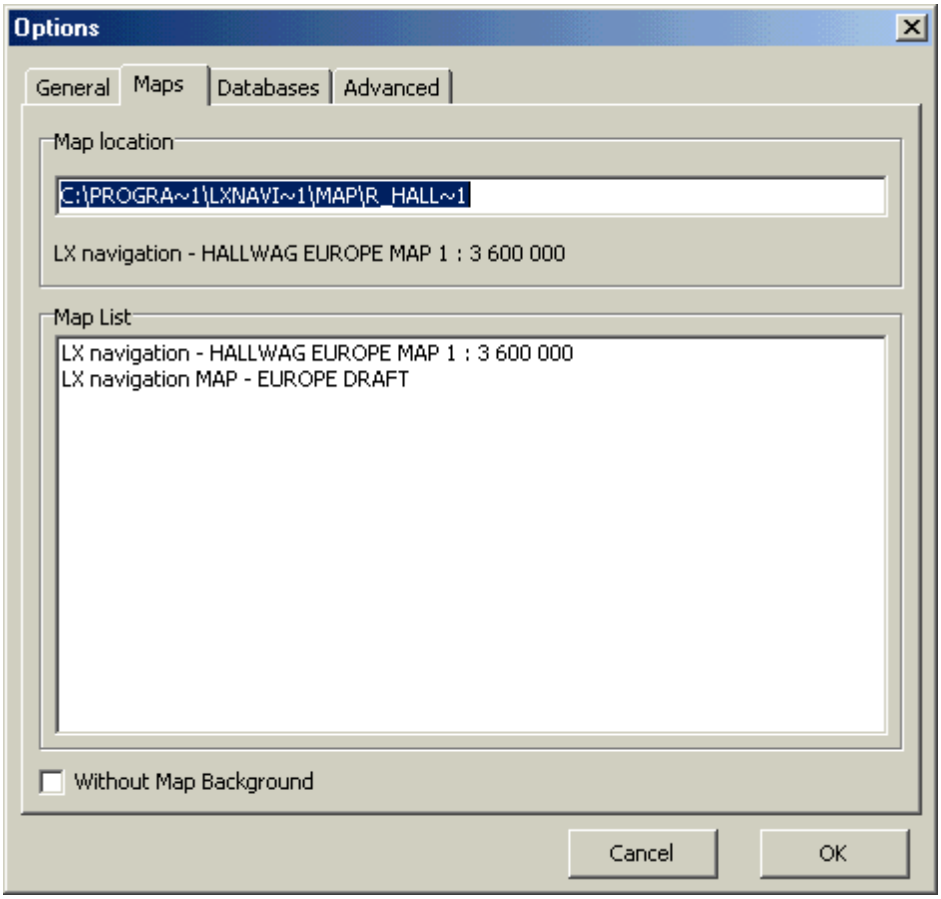
3.6.6 Database version



Choose **Setup** ➢ **Options** ➢ **DB version** to select a Database. A Window containing a list of all installed database versions will open. Simply select the desired database with a double click and confirm with **OK**.

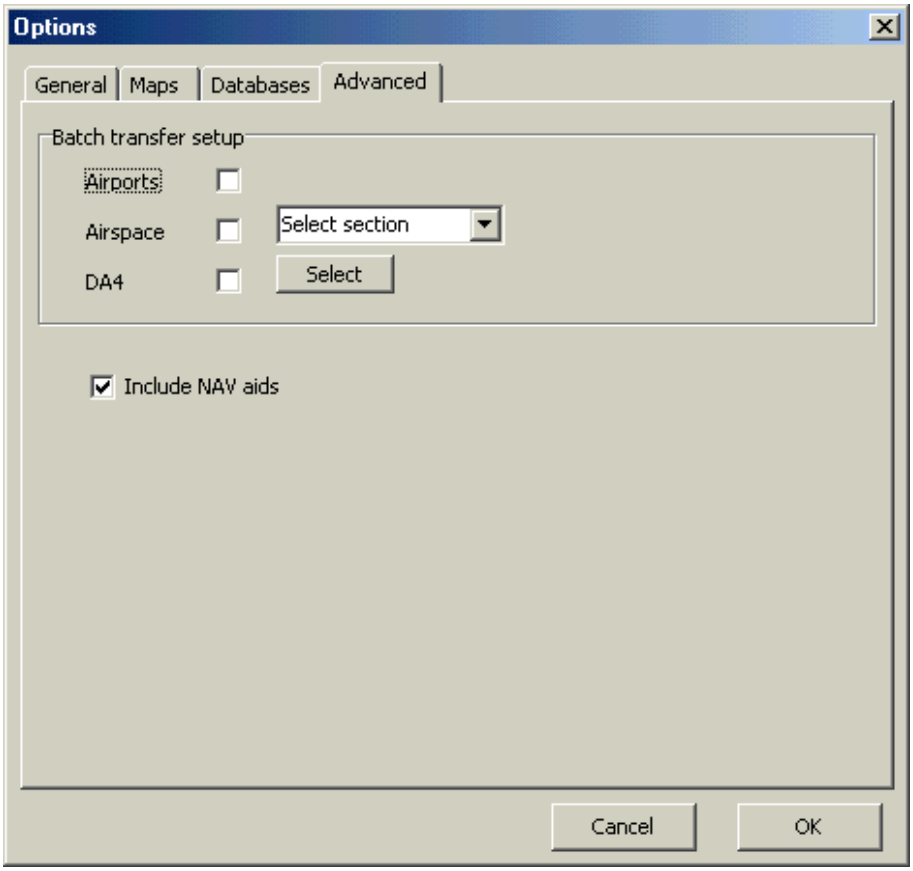
3.6.7 Map

Choose **Setup** ➢ **Options** ➢ **Maps** and a window containing a list of all maps installed on your PC will open. Select a map from this list with a **double click** and confirm with **OK**.



3.6.8 Batch transfer

Choose **Setup** ➢ **Options** ➢ **Advanced**

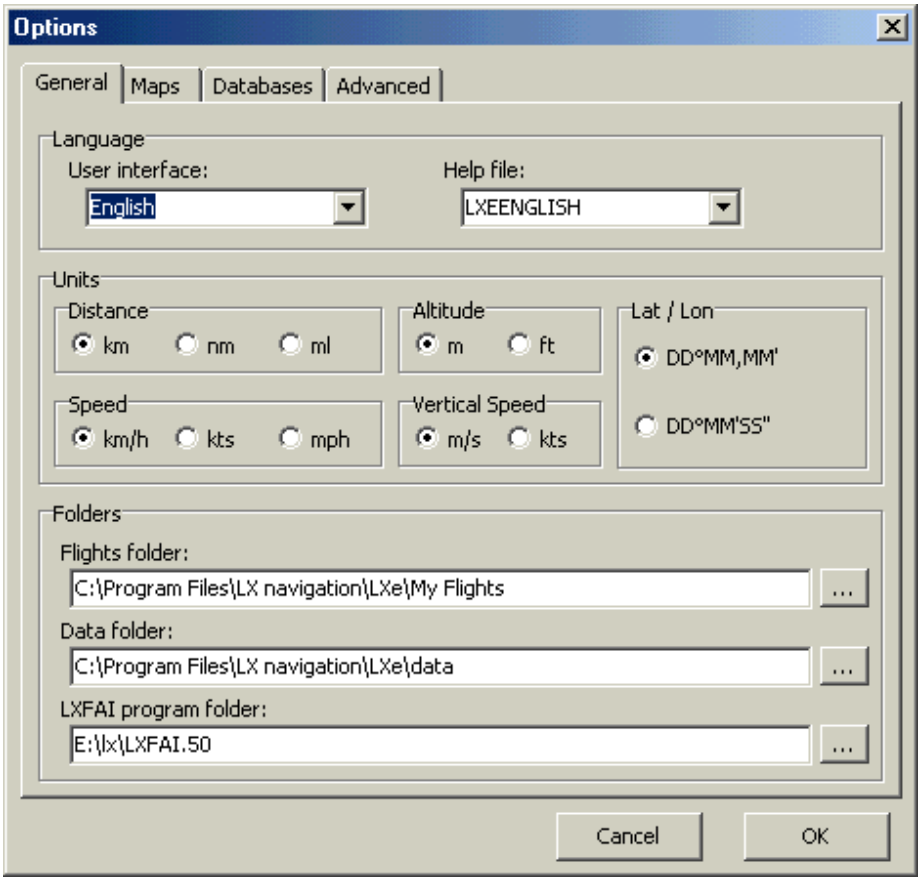


Using the batch transfer function the user can transfer Airports, Airspace and TP&TASK to an instrument in a single step.

3.6.9 Units

Choose **Setup** ➢ **Options** ➢ **General**

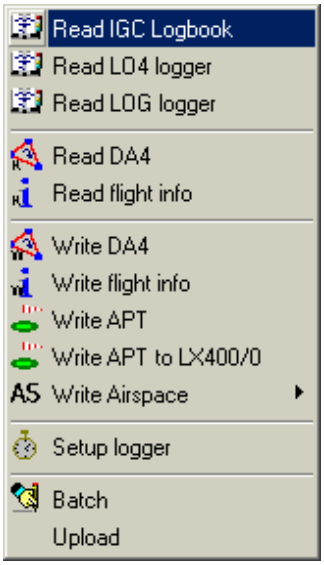
Allows the pilot to define units for distance, speed, altitude, vertical speed and coordinates:



3.7 Data transfer

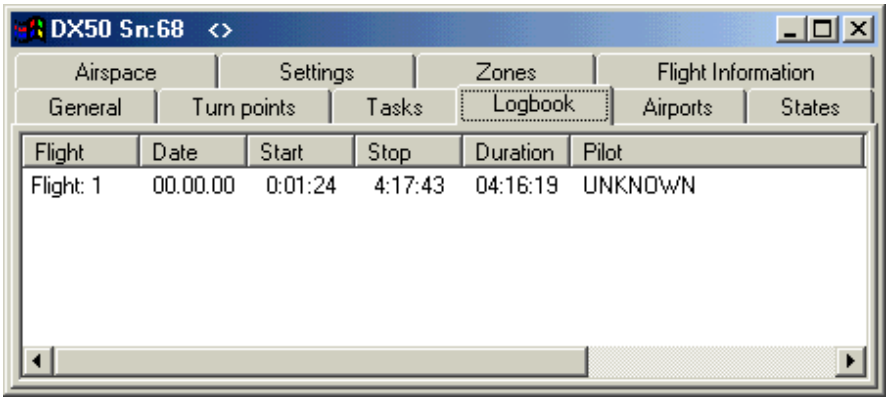
3.7.1 Establishing a connection between PC and LX device

- Connect the instrument to the PC with the data transfer cable
- Run LXe
- Start the transfer procedure on the instrument (Colibri establishes connection automatically)
- The transfer menu will be enabled, the message CONNECT appears on the instrument's display. Now it's possible to communicate with the instrument.

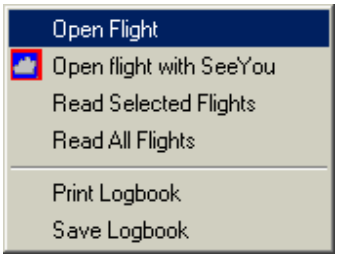


3.7.2 Reading the IGC logbook

Click on **Read logbook** in the transfer menu and LXe will download the IGC logbook from the connected instrument.



For downloading a specific flight double click on this flight. To select more flights hold the control key and click on them. To download these selected flights press the right mouse key and choose **Read Selected Flights.**



For downloading all flights from the logbook press the right mouse key and choose **Read All Flights.**

To evaluate a flight directly from the logbook choose **Open Flight**.

3.7.3 Transferring turning points and tasks to an instrument

Choose **Write TP and TASK** in the transfer menu, select a TP and TASK (DA4) file and the procedure will start.

3.7.4 Downloading TP and TASK files from an instrument

For reading TP and TASK files from an instrument click on **Read TP and TASK** and choose a folder and filename.

3.7.5 Transferring a Flight Info file to an instrument

Choose **Write Flight Info,** select a flight info file and the procedure will start.

3.7.6 Downloading the Flight Info from an instrument

To read the Flight Info from an instrument click on **Read Flight Info** and choose a folder and filename.

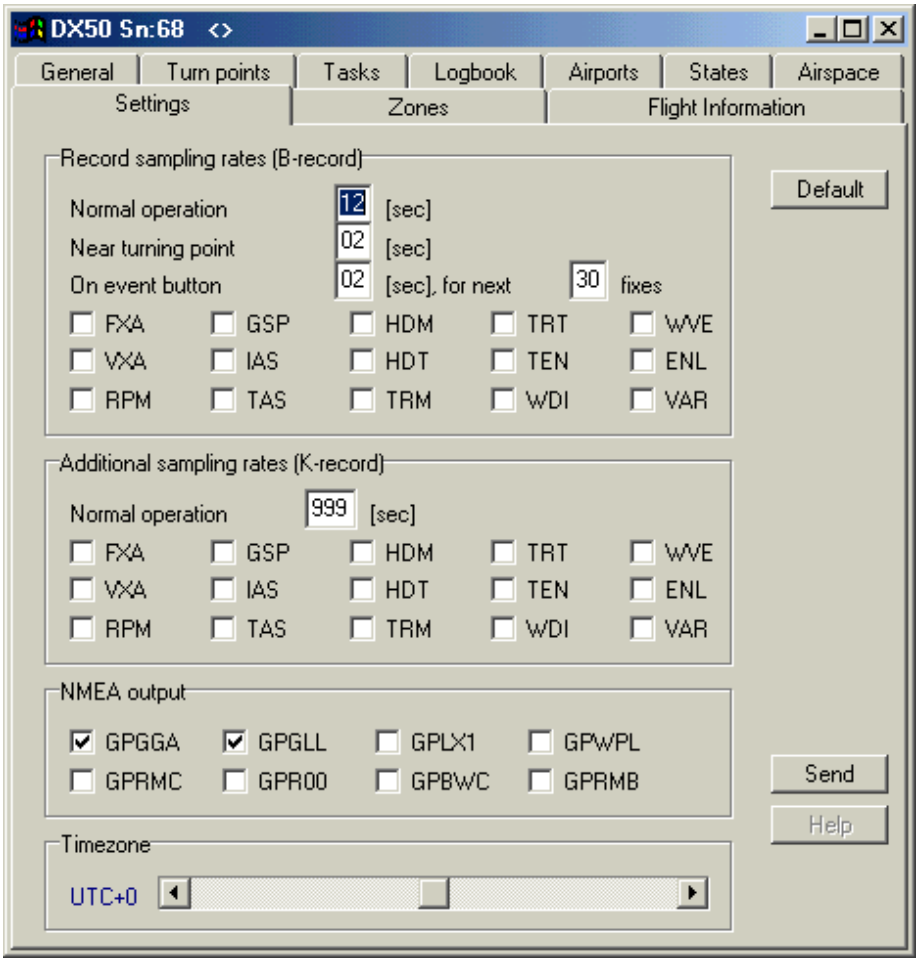
3.7.7 Transferring an airports database to an instrument

Choose **Write Airports** and the airports database will be transferred to the instrument.

3.7.8 Transferring an airspace database to an instrument

Choose **Write Airspace** , select an airspace region and airspace data will be transferred to the instrument.

3.7.9 Setting of logger parameters.



You can find all logger parameters in the tab sheet settings. One can change the desired parameters and transfer the settings to a connected LX device using the button **Send**. For details see your instrument manuals.
Using **Default** all parameters can be set to default settings.

3.7.10 Batch transfer

You can use a batch function to transfer TP and TASKS, airports and airspace data at the same time. First select the data you want to transfer in **Setup** ➢ **Options** ➢ **Advanced** .

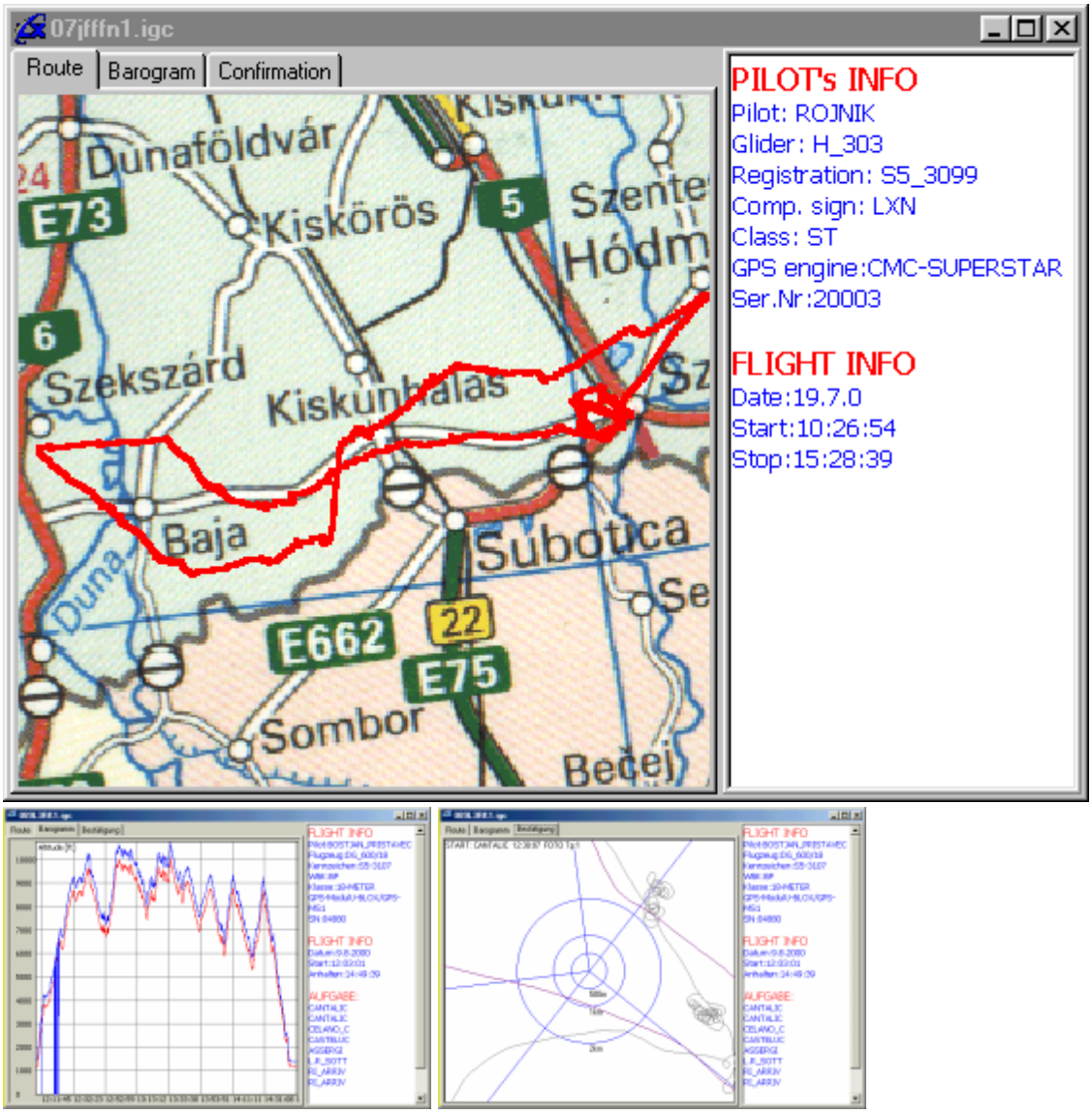
3.8 Database updates

There are two ways to get a new update of the Jeppesen database:
- Download from our websites: **www.lxnavigation.si** or **www.filser.de**
- Installation disks or CD can be ordered from Filser Electronic

For update codes please contact Filser Electronic.

3.9 Managing flights

After opening IGC flight it`s possible to view the flight route, the barogram, ENL or observation zones.



4 How to ...

4.1 How to ...

How to establish a connection with an instrument

Check the communication ports, select a free communication port and connect the instrument to the selected port. Choose **transfer** in the setup menu on the instrument (Colibri establishes the connection automatically).

How to work with LXE without a connection to an instrument

Simply open a TP file to work with turn points and databases or open an IGC file to view a flight.

How to work with LXE while an instrument is connected
Connect the instrument to your PC and **establish a connection.** Now the transfer menu becomes enabled and you can transfer data like DA4 files to the instrument or download flights.

How to open a TP file
Go to **File** ➢ **Open** and choose a DA4, TXT or DAT file.

How to add a TP
Go into TP tab sheet, press the right mouse key and chose **Add**.

How to edit a TP
Go into TP tab sheet and **double click** on a turn point.

How to copy an Airport to a TP file
Go into AIRPORTS tab sheet, press the right mouse key and choose **Copy APT to TP**.

How to join two TP files
Open a TP file in the TP tab sheet, then click on the **Add Tp file** button and choose the file you like to add.

How to create a task
Go into TASKS tab sheet. A double click on a turn point will add it to the current task (in the last positon).

How to edit the user APT database
This database can be edited like a turn point file.

How to copy the user database into the Jeppesen database
Open the AIRPORTS tab sheet and choose **User Update** in the pop up menu (right mouse click).

How to select states
Open the STATES tab sheet and select states with a mose click. Observe the status line with the number of selected airports.

How to transfer a TP file to an instrument
Go to **Transfer** ➢ **Write DA4** and choose a DA4, TXT or DAT file.

How to transfer AIRPORTS to an instrument
Go to **Transfer** ➢ **Write APT.**

How to transfer AIRSPACE to an instrument
Go to **Transfer** ➢ **Airspace** ➢ **???AREA???** (e.g. Central Europe, Southern Europe...)

How to transfer a Flight Info file to an instrument
Go to **Transfer** ➢ **Write flight info.**

How to read the IGC logbook from an instrument
Go to **Transfer** ➢ **Read logbook.** Double click on the flight you want to download from the instrument.

How to open an IGC file (flight)
Go to **File** ➢ **Open** and choose the file type **IGC**

How to zoom the flight route
Use the right mouse key on the map.

How to view a barogram
Click on the barogram tab sheet while a flight is open.

How to view an ENL record
Click on the barogram tab sheet while a flight is open. You will find the ENL section on the bottom of window.
If not, the ENL function is disabled on your Logger or the device doesn't support this function.

How to view observation zones
Click on the confirmation tab sheet while a flight is open. Use the right mouse key to switch between turn points.

4.2 How to establish a connection with an instrument

Check the communication ports, select a free communication port and connect the instrument to the selected port. Choose **transfer** in the setup menu on the instrument (Colibri establishes the connection automatically).

4.3 How to work with LXE without a connection to an instrument

Simply open a TP file to work with turn points and databases or open an IGC file to view a flight.

4.4 How to work with LXE while an instrument is connected

Connect the instrument to your PC and **establish a connection.** Now the transfer menu becomes enabled and you can transfer data like DA4 files to the instrument or download flights.

4.5 How to open a TP file

Go to **File** ➢ **Open** and choose a DA4, TXT or DAT file.

4.6 How to add a TP

Go into TP tab sheet, press the right mouse key and chose **Add**.

4.7 How to edit a TP

Go into TP tab sheet and **double click** on a turn point.

4.8 How to copy an Airport to a TP file

Go into AIRPORTS tab sheet, press the right mouse key and choose **Copy APT to TP**.

4.9 How to join two TP files

Open a TP file in the TP tab sheet, then click on the **Add Tp file** button and choose the file you like to add.

4.10 How to create a task

Go into TASKS tab sheet. A double click on a turn point will add it to the current task (in the last positon).

4.11 How to edit the user APT database

This database can be edited like a turn point file.

4.12 How to copy the user database into the Jeppesen database

Open the AIRPORTS tab sheet and choose **User Update** in the pop up menu (right mouse click).

4.13 How to select states

Open the STATES tab sheet and select states with a mose click. Observe the status line with the number of selected airports.

4.14 How to transfer a TP file to an instrument

Go to **Transfer** ➢ **Write DA4** and choose a DA4, TXT or DAT file.

4.15 How to transfer AIRPORTS to an instrument

Go to **Transfer** ➢ **Write APT.**

4.16 How to transfer AIRSPACE to an instrument

Go to **Transfer** ➢ **Airspace** ➢ **???AREA???** (e.g. Central Europe, Southern Europe...)

4.17 How to transfer a Flight Info file to an instrument

Go to **Transfer** ➢ **Write flight info.**

4.18 How to read the IGC logbook from an instrument

Go to **Transfer** ➢ **Read logbook.** Double click on the flight you want to download from the instrument.

4.19 How to open an IGC file (flight)

Go to **File** ➢ **Open** and choose the file type **IGC**

4.20 How to zoom the flight route

Use the right mouse key on the map.

4.21 How to view a barogram

Click on the barogram tab sheet while a flight is open.

4.22 How to view an ENL record

Click on the barogram tab sheet while a flight is open. You will find the ENL section on the bottom of window.
If not, the ENL function is disabled on your Logger or the device doesn't support this function.

4.23 How to view observation zones

Click on the confirmation tab sheet while a flight is open. Use the right mouse key to switch between turn points.

Endnotes 2... (after index)

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