

1 Introduction

The program Version 2.02 is a result of continuous development of LX 7007. As this version includes significant improvements regarding to previous versions a higher leading number of version designator has been used. The most important is a new approach to AAT philosophy, a simplified and also much user friendly departure procedure was developed to meet the latest **departure procedure** requirements. Ground speed and altitude are monitored at the departure (line crossing) and the pilot gets consequently very clear information about his start. A new **Competition Mode** may be used by competition pilots and this new feature will help to optimize LX 7007 manipulation during a competition flight to a minimum. New functions of LX 7007 are listed below:

- **Off course** indicator in Task, TP and APT graphic page*
- **Steering** information also in all three graphic pages*
- New simplified **Task Start** philosophy*
- **Attitude gain** information during climbing period*
- **Total average** info about the last thermal, during straight flight *
- Setting of **AAT sector** radius up to 999,99 km*
- **Competition Mode***
- Significant **faster computing**
- New **AAT approach**
- **Distance** measuring equipment
- **Short cut** to Task edit
- **Short cut** to Setup in competition Mode
- Flights on SD card stored in **IGC format**
- **Direct** upload of .CUP files from SD card
- Stand alone NMEA data port suitable for **transponder extended** squinter
- **Excellent interaction** LX 7007 2.02 and new LX 7007 D 2.02

*partly implemented in LX 7007 version 1.2

For details see manual available on www.lxnavigation.si

2 Detailed information

2.1 Competition Mode

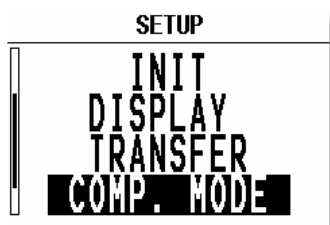
To relieve the pilot during competition flight some LX 7007 modes of operation are deactivated during Competition Mode active time. In this configuration, LX 7007 offers following modes of operation:

- **Turn point**
- **Task**
- **Statistics**

All other modes are **not active**, but are running in back ground. Of course the Competition Mode can be any time **disabled** and all LX 7007 modes of operation will be immediately ready. An **exception** is Setup which is accessible after a Long press on MC Button. After change of settings is done the unit will return back to Competition Mode.

2.1.1 Competition Mode Enable

To enable Competition Mode is necessary to use SETUP/ COMP. MODE menu and select Competition Mode enabled.



2.1.2 Competition Mode Disable

The same procedure as enable.

2.2 Short cut to Setup

If the pilot needs setup to make a new setting, the only way is to use short cut as follows:

-a **long press** on MC (apr.2 seconds) will make **Setup mode active** and any setting change will be possible

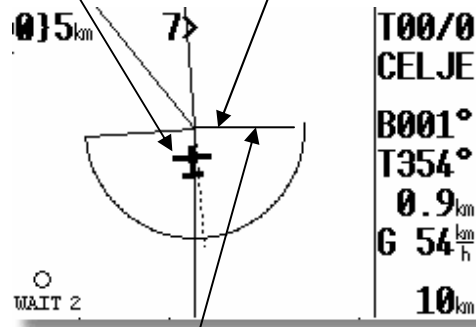


-to leave setup use **Esc** or **Mode** selector

2.3 New Task Start philosophy

2.3.1 Task Start

The procedure is extremely user friendly, as the pilot can announce his intention to start anywhere inside the sector, after a short press on **Start** button. The navigation will change to first turn point, but not the statistics. The statistics will start automatically after the glider will **cross the line**, so the pilot can stay unlimited time in the sector even after he has pressed the Start button.



2.3.2 Start information

The latest competition regulations include also **ground speed limitation and altitude limitation**. Exceeding of one of them means bad start and causes penalties as a minimum. LX 7007 2.0 monitors both parameters at the moment of the start line crossing. If one or both parameters are out of limit, a **warning** will be activated which clearly informs about bad start. Both parameters should be previously entered by pilot in TSK menu. Opposite a good start will be accompanied by info about speed and the altitude.



Good start



Bad start

2.4 Short cut to task edit

To save pilots time to access task edit a short cut is foreseen. A **Long press** on **BAL** button will open task edit and the **cursor** will be automatically placed to the point which is the glider approaching.

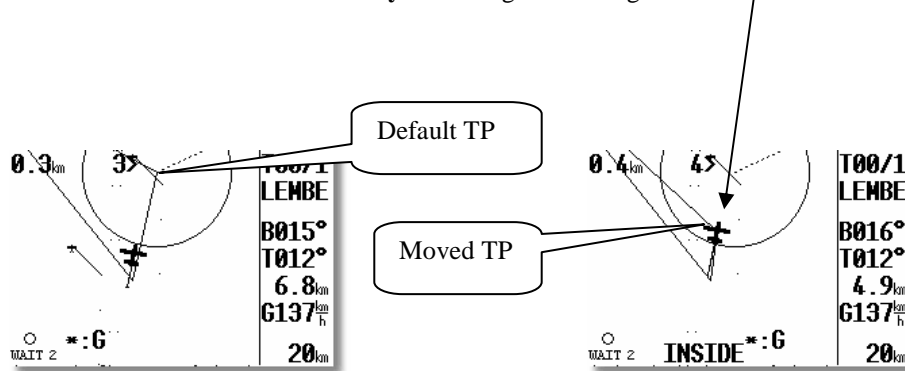


2.5 New AAT approach

Immediately after sector radius is set **bigger than 6 kilometers** the unit will recognize this as an **assigned area task**. In fact this means that no **automatic change over** will happen after the glider position will become inside.

2.5.1 Automatic Move function

After the glider will **enter the sector** an **automatic move command** will shift the turn point to the actual glider position. The TP will now **move continuously** with the glider through the sector.

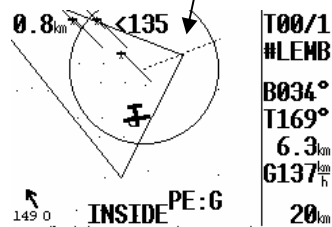


It is important to point out that all works completely automatically, without any pilot assistance.

The ETA, ETE and remained distance will be also continuously updated. After the pilot decided to switch to next TP a short press on Start will do this.

2.5.2 Manual Move function

The pilot is at any time able to perform **manual move** function. After using of this procedure the pilot is able to move the TP to whichever position inside the sector. ETA, ETE and remained distance to fly will correspond to this point.

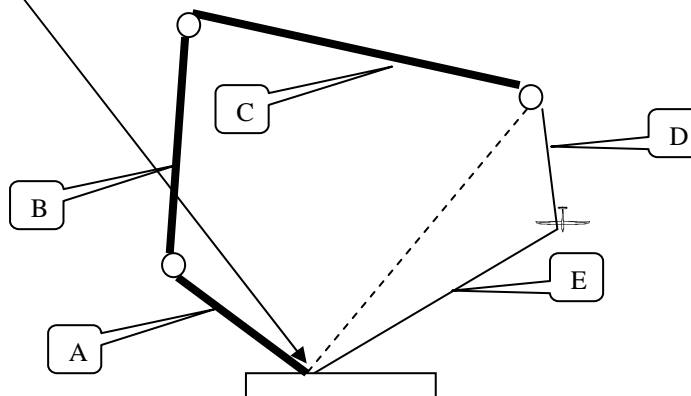


2.6 Distance Measuring Equipment

This function is specially developed for those pilots who don't use task mode flying cross country flights. All LX 7007 previous versions supported so called "Simple Task". This function remained by program version 2.0 unchanged, but in the third navigation page of TP or APT are inserted two additionally info lines. The data shown in these two lines informs the pilot about **distance done** and the **total flown distance to home**. Total distance to home means the distance over all legs plus distance to home from momentary position.

| AJDNA | TP | |
|-------------------|--------------------|-------|
| ACT T. | ETE | ETA |
| 08:26 | 02:31 | 10:57 |
| Distance done: | 31.6 _{km} | |
| Tot.dis. to home: | 63.3 _{km} | |
| Wind | WAIT 2 | |
| OAT +26 C | BAT 13.6V | |

Start position is takeoff and also "Home" is the same position. Both points are set automatically. What actually the pilot has to do is to become **near** to the TP or APT. In case of no near APT or TP a manual **Marker** setting will substitute a real TP. Marker can be easily set after short press on Start button in TP mode.



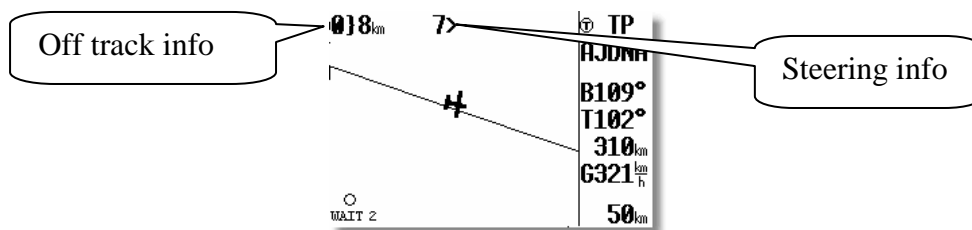
Bold lines (A,B,and C) illustrate already done legs which distances are fix. Legs D and C are flexible, as the pilot didn't set any marker.

Distance done: $A+B+C+D$

Total distance to home: $A+B+C+D+E$

2.7 Extended graphic page

Off track information is for competition pilot very usable and important information. This information is now available in every graphic page, mode of operation doesn't matter.



Steering info consists of an **arrow symbol** and a **numerical figure**. The arrow may be oriented left or right and the orientation depends on direction to which the pilot should steer to come back to the course. The number informs about off course in degrees, it shows difference of actual track and bearing.

2.8 Altitude gain indicator

As the glider will **start circling** the altitude gain indicator will become active and will show continuously **altitude gain** of the actual thermal.

| | | | |
|--------|----------------|------|--------------------|
| SG/AD | TSK04/1 ■ 3D/6 | | |
| BRG | 348° | DIS | 25.5 km |
| TRK | 089° | AVG | +5.6 $\frac{m}{s}$ |
| | | | -3498m |
| WAIT 1 | 0.0 | 221m | 332m |

Altitude gain

As the glider will leave the thermal and will continue straight away a total average of the last thermal will be shown until next circling.

2.9 Total averager

This information is also available in the first navigation page of APT, TP or TSK, exclusively during straight flight. VAR/SC status doesn't matter. A T accompanied with figure and appropriate units shows division of altitude gain and time spent in the last thermal.

| | | | |
|-------------|------|-------|--------------------|
| AIGEN AIGEN | LOXA | APT | ■ |
| BRG | 085° | DIS | 292 km |
| TRK | 360° | AVG | +0.0 $\frac{m}{s}$ |
| | | | -5243m |
| WAIT 2 | 0.0 | 10.0% | 854m |

Total average

Total averager may be also inquired during climbing period, it is necessary to switch into SC for a short time.

2.10 Flights stored in IGC format

After downloading of any flight stored in LX 7007, both .LXN and also .IGC files will be stored to the SD card. This means conversion procedure on PC is not any more necessary.

2.11 Direct transfer of .CUP files via SD card

After a .CUP file is copied to the SD card this can be transferred directly to LX 7007, without previous conversion into .da4 format. To big files are automatically shorted. This makes possible to prepare tasks on PDA (See You Mobile) and to upload them directly to LX 7007 via SD card.

2.12 NMEA port for Transponder ext. squinter

LX 7007 has an autonomous serial com port which baud rate can be adjusted to transponder requirements.

3 Compatibility

3.1 LX 7007 main units

All LX 7007 units can be updated to version 2.02

3.2 LX 7007 D (repeaters)

LX 7007D units having versions 1.00 and 1.01 are not any more compatible with version 2.0/2.02. A simple firmware update isn't possible, due to HW incompatibility. LX Navigation offers HW upgrade of LX 7007 D 1.00 and 1.01.

| | | |
|---------------------------|----------------------------|----------------------------|
| LX 7007 max. 1.2 ▶ | LX 7007 D 1.00.1.01 | |
| LX 7007 2.0/2.02 ▶ | LX 7007 D 2.0/2.02 | HW upgrade possible |