Locosys GT-31 Setup Guide

Author : Basil Cambanis Created : 15 September 2008 Updated : 2 April 2009

Locosys Website : http://www.locosystech.com/support.php?model=GT-31/BGT-31&DL=1&zln=en
GT-31 Setup : http://www.mtbest.net/setting-up-navi-GT31.htm
GT-11 Setup : http://mtbest.net/setting-up-navi-GT-11.htm

FRONT OF BOX

BACK OF BOX

GT-31/BGT-31 Quick Start Guide

Version No: QSG1.00

FRONT
- Built-in Antenna
- LED
- Thumb Stick
- Power/ESC Button
- LCD

BACK
- Strap Hole
- Internal Buzzer
- Mounting Screw Holes
- Built-in Rechargeable Battery
- Waterproof Compartment

BOTTOM
- USB Slot
- SD/MMC Card Slot

Status Indicators

SAT SIGNAL

- Scroll Bar
- Battery indicator

- **Positioning indicator**
  - 3D Positioning with 3D fixed
  - 2D Positioning with 2D fixed
- **Bluetooth Indicator** Bluetooth enabled (BGT31 only)
- **Buzzer function Indicator** abled / ibled
- **Memory Card Indicator**
  - Memory card is correctly inserted
  - Flicking when the system is writing on the memory card
  - Memory card is full and can be removed safely
  - Memory card is correctly inserted but write-protected.
- **Altitude Alert Indicator** appears when altitude reaches the preset altitude.

- External Power and Other indicators:
  - **External Power Indicator** appears when external power source is connected.
  - **Alert indicator** appears when approaching a waypoint which has been defined for alerting.
  - **Over-speed indicator** appears when the speed exceeds the preset speed.

CONTROLS

Power/ESC Button
- Press this button and hold to **Power ON**
- Press this button and hold to **Power OFF**
- When power is turned on, this button functions the same as **ESC**
- Press **in** to escape the current page

Thumb Stick (TS) Operation
- The Thumb Stick (TS) is a 5-way directional controller
- Move the TS **Up, Down, Left,** or **Right** to highlight the option
- Press the TS **In** to confirm, or execute the current option
- Press the **Power/ESC** button to escape the current page

Fast Mark
- At any stage, press **In** and **Hold** the TS, and the current location will be automatically saved as a waypoint.
- This feature is available **only when** the position has been fixed and [HOLD KEY] is set to [MARK].

Bluetooth[*1]
- The PIN code is 0000
- The communication baudrate is 38400, 8, n, 1.

Press In

BEFORE USE
- **Charge the battery:** It takes around 4 hours for the built-in battery to charge fully.
- **Initialize the unit:** Leave the unit outside with a clear view of sky until it has fixed its position. Subsequently, it needs only around 45 seconds to find its location. When the unit has not been used for long time, or if it's being used far from where you got the last fixed position, you will need to cold start the unit before use.
- **Configure the system:** Set up the parameters under the Settings page. The system will store your configuration in its built-in flash memory.
- **Now, you can mark and edit waypoints, and create a route.**

- Please refer to owner's manual on the Installation CD for further details.

© LOCOSYS Technology Inc. www.locosystech.com

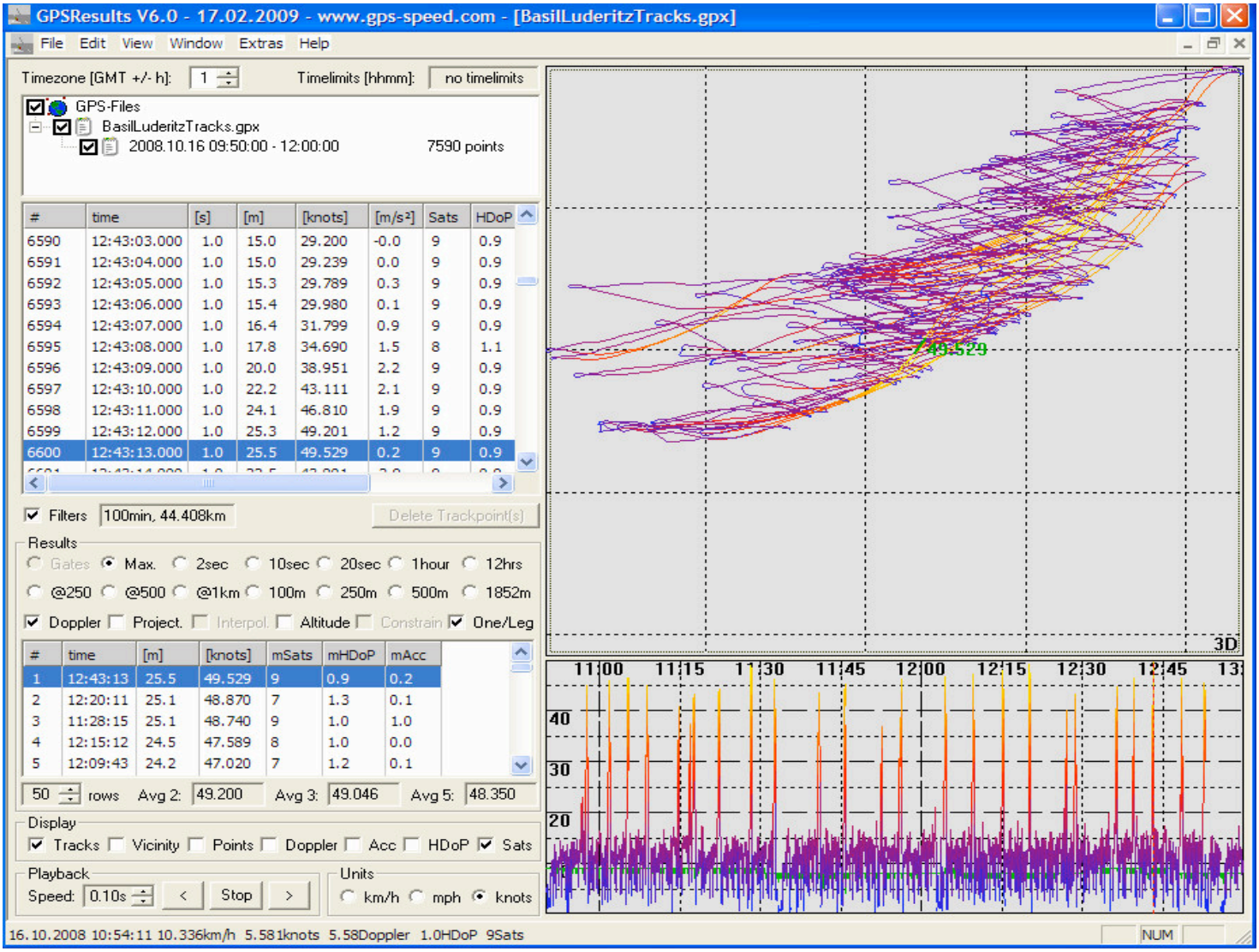
GT-31 QUICK START QUIDE

Introduction

The handheld GPS (Global Positioning Satellite) has revolutionising speed sailing as we know it, and is the main reason there's a renewed interest in it.
In the past you had no way of knowing how fast you were going unless you entered an official speed event, which can be expensive and time consuming.
Now with the advent of the handheld GPS, you can measure your speeds, analyse your tracks, store waypoints and more, each time you sail.
The cost and size of these units has decreased, while their accuracy, battery life and functions have increased making them simple to carry and operate.

By using GPS software, you can analyse your tracks, average and maximum speeds, angle of attack, acceleration and much more after each session.
You can learn a lot by having an in-depth look at each session.

Here are links to the well known GPS software sites :
GPS Results : http://www.gpsresults.com/download_e.html
Real Speed : http://www.intellimass.com/RealSpeed/Index.htm
GPS Action Replay : http://gpsactionreplay.free.fr/



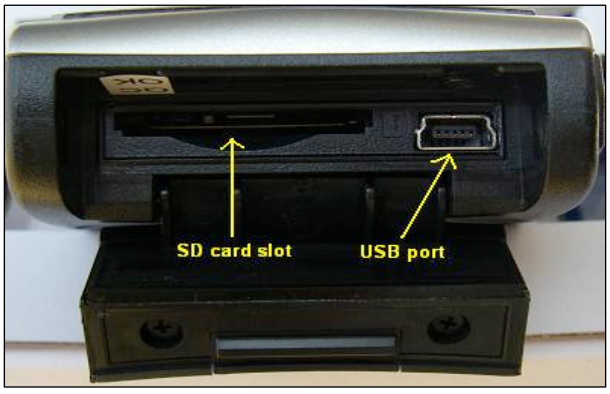
The data can be download by either using the USB cable and "NaviLink II" software provided with the unit, or SD card. The SD card is the preferred method as the files contain more data. Writing to the SD card can be setup via the "MEMORY" menu (covered below).
The "NaviLink II" software can used to read and write data such as waypoints and settings. You can backup the settings and waypoints from one device and then clone them to several others.

It's also advisable to enable DATA LOGGING as a precautionary measure, so that you don't inadvertently lose your tracks. This data is stored on the unit and therefore cannot store as much as the SD card.
It stores data in a cyclical fashion and overwrites the older data as needed.
Clear this data before each session if you want the logger data to contain only that day's runs.
The amount of data that the SD card can hold is only limited by its size (up to 2GB), and since each log file is very small (typically 1MB per day), you'll be able to store several years worth of data on it. But it's advisable that you copy the data off the SD card on a regular basis, just in case. Once you're sure the tracks are safely stored on your computer, then you may clear them.

GT-31

There are 2 buttons on the unit (top-left), the larger one is the Toggle button (above) which can be moved in 4 directions (up/down/left/right) to navigate through the menus, and pressed to select a menu or value/option.
The smaller button (below) is used to power the unit on and off (hold for a few seconds), and to escape out of a menu (go back).

Pressing them together for 4 seconds either saves a waypoint or enables/disables keylock depending on settings.

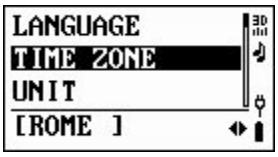


BOTTOM OF GT-31

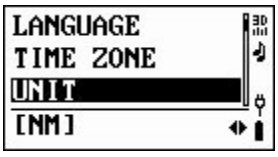
The SD card slot (left) and mini-USB port (right) are at the bottom of the unit, and are concealed by a waterproof gate/cover.
Squeeze the catch down firmly to open.
Make sure cover is closed properly before entering the water else the unit will get damaged.
I strongly recommend you use a waterproof pouch such as Aquapac to keep the unit dry.
http://www.aquapac.net/ukstore/erol.html

Settings Menu

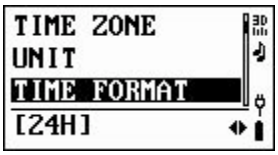
This is the most important menu is the 2nd last menu item; you should go through it first to make sure your settings are the same as below to avoid problems.



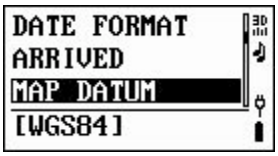
Set to "+Others" then select +2, which means GMT +2 hours for South Africa.
Here are the other time zones available :
GMT=0, ALASKA DAY=-8, ALASKA STD=-9, ATL. STD=-4, ATL. DAY=-3, AZORES=-1, BAKU=+4, BANGKOK=+7, BRAZILIA=-3, DHAKAR=+6, ENIWETOK=-12, EUROPA=+1, MADRID-WNT=+1, **MADRID-SMR=+2,** HAWAII=-10, HONG KONG=+8, ISRAEL=+2, MOSCOW=+3, NEW DELHI=+5, ROME=+1, SYDNEY=+10, TAIPEI=+8, TOKYO=+9, US CTZ=-6, US ETZ=-5, US MTZ=-7, US PTZ=-8, WELLINGTON=+12, **+Others=ANY**



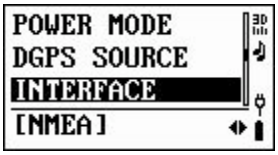
Set the Unit of Measure to "NM" (Nautical Miles) to see your speeds in knots. This means that altitude will be feet instead of meters, but that's not our main interest.
The device is not intended to measure the height of your jumps.



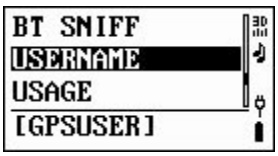
I prefer 24-hour format as then there's no doubt about the time of the readings, not that you'll be sailing by night.



Use WGS84 map datum. This defines a set of parameters (dx,dy,dz,a,f) to describe the shape of the Earth. Leave the default as is.
Refer to : http://en.wikipedia.org/wiki/WGS84
Different areas/countries may use different parameters, like EUR50 for European (under [LIST] options), or you can define your own datum in the [USER] option.



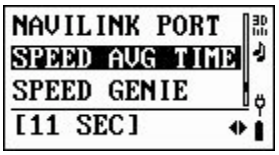
This determines the format in which the data logger data is recorded.
Select **BINARY** instead of NMEA, as it's more compact and more points can be recorded.



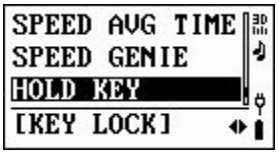
This is the name that each track file is prefixed with, along with the date/time stamp.
Press the toggle button to change the name, press it up/down to scroll through the alphabet, press down to select a character; spaces in the suffix are ignored. Press the power button to exit and optionally save the name.

If you're getting unexpected results and want to revert to the factory defaults, then select this option.

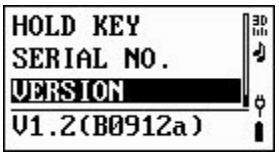
Settings Continued …



The standard time used to measure the average speed is 10 seconds; this is what will be displayed by Speed Genie.
Set the Speed Genie to around 23 knots. It will only work out the speed average above this, and cycle through the last and best max/ave speeds.
Kitesurfing GPS site : http://www.gps-kitesurfing.com/
Windsurfing GPS site : http://www.gps-speedsurfing.com/



This setting determines whether the toggle and power button pressed together invoke keylock or mark a waybill point.
Pressing the toggle key and power button for at least 4 seconds from any other menu will invoke the keylock or mark functions.
Key lock will prevent accidentally reset/zero of your readings. They'll still be stored on the SD card if you've enabled logging under the MEMORY menu.



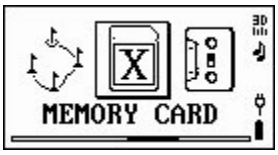
It's useful to know which firmware version you're running in case a bug is found with your release, or there's enhancements available.
Update your firmware by downloading the firmware update, extract the *.S file, link your GPS to your PC using USB cable provided, run the program, select the COM port, browse for the firmware file, and click "Execute".
Download the firmware update software from here :
http://www.locosystech.com/download/handheld/GT-31/GT31Updater_Installer.zip

Speed Genie Menu

Speed Genie allows you to see your current speed, last run's average and max., your best average and max. speed. You can see your best 10 averages and max. speeds under history. This menu is invoked automatically once a lock on enough satellites is obtained in the newer firmware versions.

Once in the menu, it automatically cycles through the above categories so that you no longer need to use the toggle button while sailing, as it's difficult to press the buttons once the unit's in the Aquapac.
Pressing the toggle button while it's cycling will give the options to [RESET], [SAVE] or [RESTORE] the speed information. This allows you to clear the speeds or save your speeds to review them later.

Memory Menu



The memory settings determine what information is written to the SD card.
The SD is what distinguishes the Locosys from other units, and this is my preferred method of getting data from the unit as it's simple and quick. Locosys have tested SanDisk, Trascend, Kingstone, PNY and Apacer SD cards with their unit.
It support up to a 2GB SD card, and the unit provides 2.8VDC of power.

This must be set to [ON] or [ON-FIX], else no data will be written to the SD card.
[ON] writes data at every interval, irrespective of the number of satellites.
[ON-FIX] only writes data if there's a high degree of certainty about the current position.
[OFF] means NO data will be written to the SD card !!!

This is the speed above which points are logged.
Since space on the SD card is unlikely to be an issue, I set this to [1 KTS].
Don't set this to a high value else it will not record most of your session.

Set to **SBN** (last in the list) [1SEC] (1 second intervals) as this will record the more parameters and be in a compact format. Data is also written faster in this format which means there's less chance of incomplete data.
The reference for the NMEA sentences can be found here :
http://home.mira.net/~gnb/gps/nmea.html

This sets the maximum log file size.
Set this to [CARD SIZE] which means the file can grow up to what ever the SD card size is.
A new file will be created each time the unit is switch off and on.

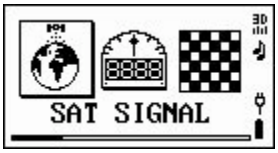
When you switch the unit on, it should say "CARD FOUND" (and beep), and once it gets a lock on enough satellites, it'll say "NEW FILE" which means it's created a new log file and will begin writing based on your settings above.
Switch your unit on with enough lead time so that it gets a lock on enough satellites before you hit the water. Make sure it's working before heading out.
The GT-31's receiver is more sensitive and will detect and track satellites much faster than the GT-11.

VERY IMPORTANT

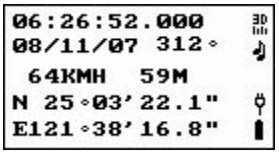
If you're using a SD card for the first time, you must format it before any data can be written. It's the last entry on the [MEMORY CARD] menu.
If it's not a supported make of SD card, the format operation will fail, and you'll see a message saying "BAD FORMAT". Avoid using those not tested by Locosys.

Never eject the SD card while the unit is on; first switch it off or selected the [REMOVE CARD] option.

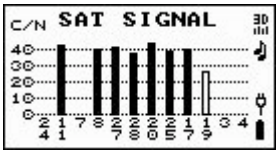
Satellite Signal Menu



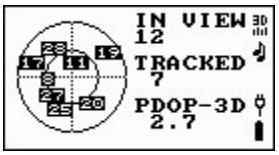
This menu can be used to see your current position, speed, heading, and height.
It can also be used to see how many satellites are in view, their position, those being used at present, and the strength of their signal.
This menu is automatically invoked when the GPS is powered when using the newer firmware versions.



The first page shows the following from top left to bottom right :
Time, date, heading, speed, height, latitude and longitude.



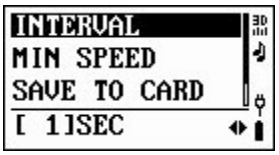
The next screen shows the number of satellites; those being used and their signal strength.



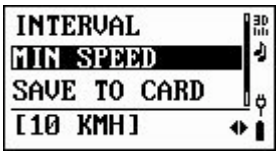
The last screen shows the number of satellites in view, those being used for tracking and their position.

Data Logger Menu

I recommend you make use of this facility to act as a backup of your data, even if you're writing to a SD card.
It automatically overwrites the older data when the memory is full.



Set it to record at its highest frequency (every second), as this ensures the best accuracy.



If you want to save space/entries, then you can set a minimum speed below which readings are not logged. [5 KTS] should ensure you don't waste space while on shore.
20480 points can be logged.
You can save the data to the SD card or clear the entries at any stage.

Useful Links

Locosys links

Locosys software download page : http://www.locosystech.com/support.php?model=GT-31/BGT-31&DL=1&zln=en

NaviLink II Software : http://www.locosystech.com/download/handheld/GT-31/NAVILINK_II_Installer.zip
GT-31 Specifications : http://www.locosystech.com/download/handheld/GT-31/GT-31_Spec_v1.pdf
GT-31 Owners Manual : http://www.locosystech.com/download/handheld/GT-31/GT-31%20Owner's%20Manual.pdf

USB Driver for XP : http://www.locosystech.com/download/handheld/GT-31/GT31_USB_Driver_XP.zip
USB Driver for Vista : http://www.locosystech.com/download/handheld/GT-31/GT31_USB_Driver_Vista.zip
Update Installer : http://www.locosystech.com/download/handheld/GT-31/GT31Updater_Installer.zip

My Weather and Speed Site

http://www.ellada.co.za or http://www.speedkiting.co.za or http://www.speedkiting.org

There are many other useful links down the left side.