Explorers Tracker 1.01
for Symbian S60 3rd

User Guide

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Introduction – What is Explorers Tracker?

Explorers Tracker (E.T) is an application that records your travel data and runs on devices with the Symbian S60 3rd OS. The application calculates the information about the trip such as speed, course, positions and statistics (speed history, altitude profile, distance and other data) based on data loaded from GPS. The current values are shown on display and, at the same time, saved on a memory card in your device. You can also enter notes for your current location directly in the application.You can have the nearest landmarks (cities, hills, important structures, etc.) displayed for better orientation. Unless your device has a GPS module integrated, you can use an external GPS module with bluetooth interface, which will provide you with required data.

Collected data can be later processed on your PC using applications such as E.T 2 Google Earth or the Mileage Book. Data are then assorted applying special algorithms to comply with the required type of output.

You can also attach photographs from selected folders to your travel records automatically using related applications, assort them and create a DVD presentation. Collected data can be used to generate either a formally appropriate ship log which meets all mandatory conditions, a perfectly arranged travel log for your private purposes or a mileage book. Your travel history can be also exported in formats supported by external applications (such as Google Earth) and shared with friends.

Hardware

Hardware requirements

- Smartphone with OS Symbian S60 3rd, S60 3rd FP1 or S60 3rd FP2

(The Application is optimized for Nokia devices; Devices with 176x208 px displays, such as Nokia 3250, and 208x208 px displays, such as Nokia 5500, are not supported.)

- Approximately 3MB of free space in the internal memory or on a memory card to install the application. (Memory card is required!)

- 210MB of free space on your memory card for the places database (optional – the size of 210 MB corresponds with a world-wide places database; much smaller databases of places for individual continents are available as well; see Configuration)

- Enough free space on your memory card to collect data – approximately 10MB/24H

- An integrated GPS module or the bluetooth interface for the communication with an external GPS module

- Unless your device has an integrated GPS module, a separate GPS module allowing the communication using the bluetooth interface and supporting the standard NMEA format (RMC, GGA, GSV, GSA) is required to use the application.

General Terms and Conditions of Use

The application collects data from GPS systems – for the application to work correctly, you need to make sure your GPS signal is of sufficient quality.

If possible, use the options of external charging (such as 12V in cars and on boats, or a solar panel) to secure long-term uninterrupted collection of data.

Note – The tested device Nokia E90 lasts about 11 hours if having the built-in GPS module activated and using the integrated battery. When using the external GPS module BT GPS V10, it is more than 15 hours.

When launched, the application (E.T) begins to store data received by your GPS module automatically. You don't need to take care of the data collection – just make sure that there is enough space on your memory card. You can easily find out how long the application will be able to record data in the application itself (see the Log section).

To optimize the battery capacity disconnect the GPS module temporarily if you are staying in places with bad or no GPS signal, such as some buildings,

tunnels, etc., for longer time. You can do this without switching off the application (see GPS and Start/Stop sections) or by using Power Saving mode (see Options - GPS Tab) .

If the device battery capacity drops below 25%, a warning notice `Battery Low!` shall be displayed and a warning signal shall be sounded (a long beep), which will be repeated until the user closes the notice dialog or has the device recharged.

Note – You can deactivate the warning signal to be sounded when the battery capacity drops (see Menu > Options section).

Note – If using an external GPS module, your device and the GPS module must be placed close enough (less than about 10 m) to ensure the smooth and uninterrupted data transfer using the bluetooth interface.

Notice
Please note that the GPS system is not very precise and the information obtained is influenced by many external factors; the weather, the terrain, in which you travel, and finally the quality of your GPS receiver. In spite of the fact that the E.T application uses advanced correction algorithms, it is impossible to guarantee the absolute correctness of displayed data under any circumstances. However, we revealed during the testing of the application that the preciseness is very good in vast majority of cases.

Software installation and configuration

System requirements and installation on Symbian

- Symbian 9.1 S60 3rd; S60 3rd FP1 or S60 3rd FP2
- POSIX library for Symbian P.I.P.S. 1.03 – (embedded)

Note! – Even if you install the application into the integrated mobile phone memory, an extra memory card has to be inserted as well – during the installation process support configuration files and icons are installed on the memory card and a folder structure for storing log files is created on the card.

The "Nokia PC Suite" has to be installed on your PC and your PC has to be connected with your mobile phone (normally using a USB cable or Bluetooth).

The installation of the application software is performed using the **Nokia PC**

suite utility (or appropriate utilities used in devices by other manufacturers). The installation begins after clicking on the file `ET_S60_3_X_v_1_0_0.sis` (you can also drag the file to the box depicting the device (`Drag-and-drop content here`), or to highlight it and install using the `Nokia Application Installer` application by selecting the `Install Applications` option.

The installation program shall display a series of dialog windows containing the information about the current installation and requesting you to specify the location.

Note – The application can be installed into the integrated memory of your device or on a memory card.

After the installation is completed, E.T becomes available in the `Installations` menu, or in the folder, to which new applications are installed – depending on the device.

When the application is launched for the first time, it will ask you whether it should be set as a system application. If you confirm this setting, the application will not close automatically when the memory is full (when, for example, too many applications are running at the same time) or when the memory card is replaced. We recommend to activate this setting – you can change it at any time (see Options).

Registration

After installed, the application will be fully active for the trial period of 30 days. After that, the application shall stop communicating with GPS and shall not record any data. To make the application functional continuously, you need to buy a license and enter the respective registration data into the form, which appears when you click on Register on the "About" screen (available from the System menu).

Note – In case you've purchased the application through the Ovi Store it is not necessary (and even possible) to enter the registration data.

X⋎ ▭ 10/09/09 13:55:08 ⏱	Name:	Registration OK	⏚ ▭ 09/10/09 16:05:22 ⏱
E.T version 0.92.0	David Thompson	Thank you for registering	E.T version 0.92.0
© 2009 CEALogs Ltd.	Serial number:	E.T	© 2009 CEALogs Ltd.
Your trial has expired.	7048-G9A5-7JMA-553M		Registered to:
Register	Please enter name and		David Thompson
	serial number.		
Website Galery Back	OK Cancel	OK	Website Galery Back

Configuration

Places Database

To be able to use the Places function (see Places) you need to have database files called `places.bt` and `places.sec` stored on the memory card of your device in the ET folder.

Note – Data for the database are taken from the GeoNames database www.geonames.org

You can download and install database files with data covering the world or individual continents directly through the application (see Downloads), or you can use **www.cealogs.co.uk/downloads**. The application always works with one database at a time – it means that if the Europe places database is installed and you add the North America places database, the application shall use the North America database (the Europe database has been overwritten). Based on our experience, we recommend installing the world places database, which takes about 250 MB on your memory card, but will be useful anywhere you go and you will not have to keep in mind to install the right database into your mobile phone in addition to all the other things you need to arrange before your travels.

After the E.T application is launched, the memory card is checked for the presence of the required folder structure of `x:\ET\logs`. If not found the folder structure is created automatically. The `logs` folder contains files with collected data. A single file in the format `et_YYYYMMDD.log` (for example, `et_20090827.log`) is created for every recorded day. If the data collection process is interrupted and resumed at any time during the day, data are recorded into the same file. If data are collected continuously, a new file is created automatically always at 0:00:01 UTC (see GPS Date and Time).

Assisted GPS

Most mobile phones with integrated GPS support the A-GPS technology. It is a service which significantly speeds up the determination of your location upon the activation of GPS using satellite data obtained from a specialized server. The connection with the server is made through the GPS system or another

mobile data technology and its duration is very short. The volume of data transmitted amounts to several kB. Permitting this service shall significantly speed up the determination of your current location and, therefore, we recommend using it. However, keep in mind that you will be charged for a short connection to the Internet every time you activate your GPS, depending on your tariff, which can be costly, especially if you travel abroad.

Note – For Nokia mobile devices, we recommend setting the value `supl.nokia.com` *as your* `Positioning server address`*. If necessary, please consult your operator for the correct settings.*

Configuration of External GPS

If your device has no GPS module integrated or if you decide using an external GPS device (for example, to get a better signal or to make your batteries last longer), you can set your mobile device for communication with the external GPS device using the bluetooth interface.

Before you launch the application, you need to allow Bluetooth GPS in the settings of `positioning methods`, activate the Bluetooth interface (`Bluetooth: On`) and match your device with GPS, which means finding devices available for bluetooth connection in the Paired Devices menu and select the required GPS device.

Then, a dialog window shall appear asking you to enter the respective GPS security key (unless it was changed by a user, you can find it in the manufacturer's documentation).

It is also good to allow (Yes) the option: `Authorize device to make connections automatically?` This will include the selected GPS device among `Paired devices` and you will be connected to it immediately next time the GPS device is in the required range and activated. The GPS module must be set for the output of data in the NMEA format (default settings).

Note – If an external GPS device has been already paired with your mobile device and the Bluetooth GPS method is permitted as the positioning method in your device settings, your device shall ask automatically whether it should activate the bluetooth interface upon each restart of the application (unless the bluetooth interface is already active).

When the application is launched it will connect with GPS and begin storing obtained information into the respective log.

Note! – If you intend to use a GPS module different from an older one already paired with your mobile device, you need to remove the older module from the list of trustworthy devices – otherwise, the system will try to connect with the original module and the connection will fail!

Application Controls

Within the application you can use left and right selection keys to pick required functions directly. Functions, assigned in accordance with the current screen, correspond with the text of keys displayed.

You can use the Navi™ scroll key to switch between individual controls (including keys). The function picked is highlighted in the color based on your current skin.

Tabs

Screens containing a lot of different information are divided into tabs, which associate appropriate information into logical units. Left and right cursor keys are used to switch among them. To be able to switch among the tabs, one of the tabs has to be selected (highlighted).

Main Screen

The main screen, which appears after the application is launched, shows basic information about your current direction and speed and a graph depicting the development of speed and the altitude history of your travels.

COG

(Course Over Ground) Displaying information about the current movement direction (in degrees).

SOG

(Speed Over Ground) Displaying information about the current speed in pre-set units. The maximum speed achieved so far is set automatically as the maximum speed shown on the indicator.

Altitude history

Displaying a graph of the history of achieved altitude, the resolution of which can be changed using the middle navigation key if the graph is selected (highlighted in a color based on your selected skin). The options are 8 hours, 4 hours, 2 hours and 1 hour. The value displayed in the top left corner of the graph is the maximum altitude reached so far.

To determine the altitude using the GPS system, data from at least 4 satellites have to be available (to determine your position, data from 3 satellites suffice). So, even if your position is determined correctly, the information about your current altitude may not be available continuously. In such cases, the Explorer Tracker displays the altitude determined previously (if the data are unavailable for a long period of time, a straight line shall be displayed in the graph).

Note – The preciseness of determination of your altitude using the GPS system is approximately 1.5 times lower than the preciseness of the determination of your position. Further deviations from altitude values specified in most maps may be caused by the manner of metering. Values in maps are usually related to sea levels and, as levels of seas and oceans are not the same, the altitude data vary depending on which sea level they had been related to. This means that the information about your altitude displayed by E.T is just approximate if using common GPS modules. To determine your altitude precisely you need to use a classic barometric altimeter, or a GPS device with such altimeter integrated.

Speed history

Displaying a graph of your speed history over a selected period. The period (8 hours, 4 hours, 2 hours and 1 hour) can be changed using the middle navigation key if the graph is selected (highlighted in a color based on your selected skin). The value displayed in the top left corner of the graph is the maximum speed achieved so far.

GPS Date and Time

Depicting the current date and time taken from the GPS. The time is received in the GPS format, which is similar to the UTC* format; however, as it ignores leap seconds, the GPS time can differ from the UTC time by seconds when you switch on your device (usually it is only fractions). The GPS time is always corrected after approximately 20 minutes of high quality signal (satellites send corrected data).

*)**UTC** (Universal Time Coordinated) – is a successor to **GMT** as a basic time measuring system. Unlike the GMT system, which gives time valid in the time zone of the basic meridian based on the Earth rotation, UTC is based on atomic clock, i.e. does not depend on the Earth rotation. (UTC = CET – 1hour, or CEST – 2hours etc.)

The time displayed on your device's screen is based on your local system settings.

No change in the local time will affect the data stored in the log. When processing the log on your PC you can choose the time zone (or, respectively, any time offset +- GMT) to be applied to the output data. This means your log data can be processed in the time zone of a given area, or in your local time, or in the ship time, which is not related to time zones.

However, if incorrect date or year is set on your device, log files will be created with wrong names – file names include the current year, month and day (see Configuration). To make sure that the system time and the time in your device are set correctly, you can synchronize the device time with the GPS time (see Options – GPS Tab).

Note – If the application is unable to connect to the GPS system after being launched, the notice `no data...` is displayed (until the connection is made) in place of the date and time.

Battery Indicator

The icon indicates the battery status. If a flash icon is displayed over the battery icon, the device is charged from the power line (charging).

GPS Signal

The icon indicates the current status of the GPS signal reception (corresponding with conditions indicated on GPS screen):

 – Good GPS signal, providing data (status `OK`)

 – Poor GPS signal, not providing data on the position and direction (status `no fix`)

 – No communication between the application and GPS (status `no data`). This can be caused by the user temporarily interrupting the logging (see Start/Stop), or by the GPS communication not being permitted in the Symbian OS, or – if using an external GPS module and the bluetooth system – by the communication being restricted due to long distance between the devices or obstacles on the way, by the fact that the devices have not been paired or because the module is switched off.

Menu

The application contains two menus – the system menu, in which individual items are set firmly and cannot be changed, and the user menu, the contents of which can be set by the user based on their requirements.

For the system menu press `Menu` on the main screen (left selection key) – it can also be allocated as a separate item in the user menu.

User menu can be displayed in any screen by pressing the Call key.

Individual items in each menu can also be activated directly (you do not need the cursor) by pressing the keys assigned to them. Assigned keys are indicated by numbers, letters or characters displayed in the upper left corner with each item.

Note – On devices with a full keyboard (QWERTY), keys can be assigned upon your requirements (see Options).

Assigning functions to items in the User Menu

Unless there is a function already assigned to a specific item in the user menu, three dots (…) are displayed as the contents of such item. When activating the

item, a list of functions available to be assigned is displayed. After picking the selected function, the list closes and the function is assigned to the respective item.

Note – If a template is assigned, the procedure takes more steps: first, you need to pick the category, and then the specific template (see Template).

The list of functions that can be allocated with the User Menu:

About E.T, Back, Browse stats, Day/Night, Download, Exit E.T, GPS info, Logging info, Main menu, Main screen, Memory slot, Mute, New trip, Note, Note history, Options, Places, Start/Stop, Stats, Template, User menu.

Each allocated function can be removed by moving the cursor above the required item (becomes highlighted) and pressing the Backspace key (C). The `Reset button` dialogue window appears and, upon confirmation, the function will be removed – the item will be empty again.

Menu Items

GPS

The GPS screen shows detailed information about satellites, which are available for GPS at that moment, about the number of satellites, from which the information is received, and – mainly – about the quality of the signal received from individual satellites and about the quality of the signal generally.

Note – To indicate a potential problem, the screen pops up automatically every time the application fails to receive data from the GPS ("no data" or "no fix" for a period longer than 1 minute).

GPS

A summary of the current quality of the signal – the options are as follows:

`OK`   – Good quality connection

`no fix`   – GPS has no connection with some of the required satellites and cannot determine the current position or course

`no data`   – The application receives no data from GPS (the user interrupted logging, see Start/Stop; using the GPS is not permitted in the Symbian OS settings; or – in the case of an external GPS module – there is no connection with the device)

Accuracy

Values specify the accuracy or, respectively, any potential deviation in relation to the displaying of information about the current position (`Horizontal` and `Vertical`). Deviations are calculated based in the information about the GPS signal quality. Values are informative only and are displayed in meters.

Tracking

The graphics of the strength of the signal received from individual satellites. The number before each indicator represents the identification number of the respective satellite corresponding with numbers in the graphical depiction of the satellites' positions. The signal from satellites, the numbers of which are displayed using a dark color (depending on the skin), that are of poor quality are not taken into account (such satellites are displayed as empty circles in the graphics).

By pressing `Connect/Disconnect` you can create or interrupt the connection with GPS manually. By interrupting the connection temporarily, you can save the battery capacity significantly if you are in a location with poor signal for a longer period of time (status `no fix`), such as some buildings, the underground, etc. You can also disconnect from GPS directly by pressing `Stop/Start` in the menu (see Stop/Start).

Note! – If the connection with GPS is interrupted, no data on the current position and movement are saved!

External GPS
If the connection with an external GPS module is interrupted while data are collected (status `no data`), the application will display the GPS Status screen automatically. At the same time, it attempts to reconnect to GPS (repeatedly, until it succeeds). The process of recording data into the log is suspended while the connection is interrupted.

Note – When using an external GPS module, the GPS Status function is available only when the GPS is receiving and sending GSV and GSA records.

Stop/Start
Connecting to and disconnecting from GPS manually. By interrupting the connection temporarily, you can save the battery capacity significantly if you are in a location with no GPS signal, such as some buildings, the underground, etc. (status `no fix`). The option to change the current connection status remains available – `Stop` if the device is communicating with GPS, or `Start` if it is interrupted.

Note! – If the connection with GPS is interrupted, no data on the current position and movement are saved!

Options

The application configuration page. It is divided into several tabs. Any change in the settings must be confirmed by pressing the OK key.

Display Tab

The `Skin` function allows changing the application appearance. The basic skins are a part of the installation, but you can download more skins using the application's interface (see Download) or at www.cealogs.co.uk/downloads. The `none` option means no skin (solid gray design). Folders with skins have to be stored on a memory card in the `ET\skins` folder. To make a skin available after it is stored on your memory card, you need to restart the application (if it was on when you saved your skin; when installing from the Download screen, you don't need to restart the application).

Skins can be created and adjusted manually. Every skin has to have their own folder containing the `skin.cfg` file, which includes the name of the skin to be displayed by the application if selected, the `colors.txt` file, which defines colors of individual elements of the application (RGB + alpha channel are entered) and wallpaper images (jpg) in versions for supported display resolution (240x320; 320x240; 800x352 and 352x416px). Images must be in the following format bg<*resolution*>.jpg (for example, `bg240x320.jpg`).

By picking the `Night mode` option, the color scheme switches to red and black mode, which does not create too much light at night or in the dark.

The `Backlight` settings allow you to modify the display backlight when E.T is on – the options are:

`default` – The backlight follows the system settings of the device.

`if charging` – The backlight is on when the device is charging (connected to a power network)

`always` – The backlight is always on.

The `Unit type` option allows you to switch between units, in which the metered values are displayed. The options are:

Value	Units	Displayed units
nautical	Marine mile	Kn, Nm, m
metric	Metric mode	Km/h, Km, m
statute miles	English mile	mph, mi, m

Units can be switched while the application is on. The selected units do not affect the stored data in any way.

The Lat/Lon settings determine the manner, in which the application will display the geographic coordinates (for example, in Stats or when creating notes). The options are as follows:

DMS – grades, minutes, seconds and decimals   51°30'27.18" N
                                                                   0°04'40.12" W

DM decimal – grades, minutes, seconds and decimals   51°30.4530' N
                                                                   0°4.6687' W

decimal – grades and decimals   51.5076°
                                                                   -0.0778°

Just like in the case of units, the way, in which geographic coordinates are displayed, can be changed while the application is on, and the setting has no effect on the stored data.

If the System application option is activated the application shall not close automatically when the memory is full (when, for example, too many applications are running at the same time) or when the memory card is replaced (if the application is installed on the memory card).

*Note – The option to set the application as a system application is also offered when the application is launched for the first time. To make sure that data are recorded continuously during your travels even when OS Symbian operates at low memory condition **we strongly recommend** activating this setting.*

GPS Tab

On the GPS tab, you can synchronize the system time in your mobile phone with the accurate time received with the GPS signal using the option `Synchronize phone time` (see GPS – Date and Time). The synchronization is performed always upon launching the application when the communication with GPS is initiated.

By `Power saving mode` option, you can activate a mode, which saves the battery life in your device in situations when it is not possible to get the GPS fix for a longer period of time. Two separate modes are available – `assisted`, appropriate when the assisted GPS is functional (i.e. in cities and in places where you can connect to the Internet), and `Max`, which is intended for travels in the "wild" in places where it is not possible or convenient to use the assisted GPS. The two modes differ in the frequency and the periods of attempting to make the GPS fix connection. When using the assisted GPS the connection is usually made very quickly – if the "assisted" mode is active, the application tries to connect more frequently and for shorter periods of time than in the "max" mode, in which much longer time is reserved to connect to GPS fix without the assisted GPS. When this mode is activated, the application does the following:

max
If GPS fix is lost for a period longer than 30 minutes, GPS is disconnected and will attempt to reconnect after 15 minutes; if it does not succeed within another 10 minutes (or 15 minutes is the application is re-launched), the application will disconnect from GPS again and will attempt to reconnect another 15 minutes later. If the fix is found for a period shorter than 1 minute, the attempt is considered failed.

assisted
If the GPS fix connection is lost for a period of more than 15 minutes, GPS is disconnected and the application tries to reconnected 10 minutes later – if the attempt fails after two minutes, GPS is disconnected again and tries to reconnected another 10 minutes later. If the fix is found for a period shorter than 1 minute, the attempt is considered failed.

Note – If you disconnect your device from GPS temporarily in places, where it is impossible to get the GPS fix for a longer period of time (buildings, tunnels, etc.), you can save your battery capacity significantly, but there can be a side effect: activating this mode may result in the failure to record the beginning of the trip after you leave the location with no signal (till 15-20 min).

In the `Speed/Course` menu you can define the way, in which the application determines the currently displayed course of movement (COG) and speed. The following options are available:

`GPS` – The course and speed are displayed only based on GPS data. This setting is suitable mainly for high quality GPS receivers with accelerometers.

`E.T + GPS` – If the speed is higher than 5 knots (i.e. approximately 9 km/h or 6 mph, the course and speed is displayed based on GPS data; when you move more slowly, it is calculated as the average speed/course for the last 11s. This eliminates extreme deviations of values caused by the common inaccuracy of GPS when moving slowly.

`E.T` – The course and speed are calculated as the average of values obtained over the last 11s. This setting is suitable mainly when you move slowly (such as walking) and when data received from GPS are the least accurate.

Note – The settings apply only to the currently displayed course of movement on the main screen (or, respectively, on the Stats screen). The log file contains all data on the course of movement regardless the application settings.

Alarms Tab

By selecting the `Anchor alarm` option, an alarm mechanism is put on stand-by which will be activated and will sound a signal if the distance entered in the `radius` field (the distance is entered in meters after pressing the middle navigation key when the `radius` field is selected) is exceeded in any direction from the respective moment (position). The alarm is also sounded every time the GPS signal is lost (no fix). The function is primarily intended to keep a stable position while at anchor on the sea, but it can be also used to notify you of reaching a limit distance in another situations. If the anchor alarm is set, the anchor icon (⚓) is displayed on the status bar of the application.

Note – The current distance from the pre-set position is displayed on the Stats screen and the "Other" tab.

If the pre-set radius is crossed, loud repeated beeps are sounded and, at the same time, a screen saying `ANCHOR ALARM!` is displayed with the following options:

`Clear` – Interrupting the alarm but the settings remain active (the alarm will be sounded again next time the limit values are exceeded)

`Disable`   – Interrupting and deactivating the alarm

By pressing `test alarm` you can test the intensity and functioning of the alarm. The pre-set alarm can be deactivated by canceling the `Anchor alarm` option.

Note – When setting the Anchor alarm, you also need to take into account the current quality of your GPS signal (see Menu>GPS). For example, if the accuracy of the determination of the position is shown with the possible deviation of +-50m, and the pres-set alarm radius is set on 30m, you will probably experience false warnings.

If you pick the `Beep on alert` option (default), the application will sound a warning signal when warning screens are on. These situations include, for example, low battery capacity, full or no memory card, etc. This function can be included in the User menu as the Mute item (See Mute). When the `Beep on alert` function is active, the bell icon (▽) is displayed on the status bar of the application. The icon shall be displayed unless the Beep volume is set on Mute.
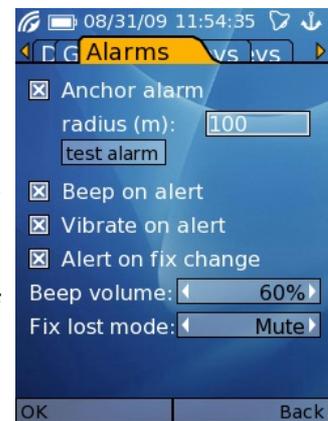
The `Vibrate on alert` function will make the application activate vibrating when warning. Both functions (`Beep on alert` and `Vibrate on alert`) can be active at the same time or independently.

Note! – To make sure that the `Vibrate on alert` function works correctly you need to have vibration activated in you current mobile phone profile. Otherwise, the device will not vibrate regardless the settings in the E.T application!

If the `Alert on fix change` is activated together with `Beep on alert` or `Vibrate on alert`, the application will sound a signal or vibrate (or both) to notify you every time the GPS connection is lost or renewed. To prevent frequent warnings during short-term fluctuations on GPS fix, the "loss of connection" means that the `no fix` status lasts for a period longer than one minute for the purpose of warnings. The notification of reconnection (after the previous loss of connection) is activated immediately.

Sound warnings of lost or renewed GPS connection are subject to the existence of files `fixacquired.mp3` and `fixlost.mp3` in the ET folder on the memory card in your device.

The `Beep volume` option can be used to set the volume of the sound – this applies only to the `Beep on alert` function.

The `Fix lost mode` option sets the way in which alarms are activated when the connection with GPS is insufficient (status no fix):

`Normal` – In default, the application does not distinguish between poor or good quality connections and follows the application settings.

`Alarm only` – If the application has no GPS fix, the anchor alarm will only be sounded – there won't be any other warnings.

`Mute` – If the application has no GPS fix, no alarms and warnings will be sounded, regardless of the other settings.

Note! – The volume of sound alarms is not related to the volume settings of the system or the selected profile. It can be modified in the application settings only. The volume of the alarm cannot be turned down – if the alarm is activated, it will be sounded at very loud even if the system sound settings are set on minimum or if, for example, the Discrete mode is activated. All alarms and warnings will be also sounded even if E.T is running hidden.

Menu Keys Tab

On the `Menu Keys` tab you can set an alternative set of control keys for the system and user menus (see Menu) for mobile phones with the full keyboard (QWERTY), on which the quick selection of menu items using numeric keys is problematic. Usually, numbers can be entered only if using a function key or upon switching to the number mode, and it is not always clear which mode is active.

The arrangement of fields corresponds with the arrangement of menu items. The default control key is specified in the upper left corner and the appropriate letter of an alternative key is shown in the center of the field. If no alternative key is assigned, the "-" character is displayed. It is very easy to change the alternative control key – just move the cursor over the respective field and press the required key. If the key is already assigned to another item, it will be removed from the original item and assigned to the new one.

Note – Alphabetic keys can be assigned only; it is not possible to assign special, system or numeric keys.

The default set of control keys (0-9,*,#) remains preserved for devices with two keyboards, such as Nokia E90; however, it will be functional only if using the numeric keyboard. Therefore, the menu can be controlled by the numeric keyboard if closed, or by the alphabetic keyboard if opened – and the arrangement of the alphabetic keyboard controls can be modified.

Places Keys Tab

On the `Places Keys` tab you can set an alternative set of control keys for the Places screen (see Places), which will be used on mobile phones with the full keyboard (qwerty), on which using the standard control keys is uncomfortable due to a different characters layout.

Note – Alphabetic keys can be assigned only; it is not possible to assign special, system or numeric keys.

The default set of control keys (0-9,*,#) remains preserved for devices with two keyboards, such as Nokia E90; however, it will be functional only if using the numeric keyboard. Therefore, the Places screen can be controlled by numeric keyboard if closed, or by alphabetic keyboard if opened – and the arrangement of the alphabetic keyboard controls can be modified.

Stats

The `Stats` page provides more detailed statistical information in text form. The information displayed is divided by tabs into several sections. Values displayed on any tab can be saved, and statistics saved can be viewed or loaded into the `Memory` tab. You can, for example, collect statistics on walking, bike or car or a specific trip, etc.

Values can be set to zero on each tab separately. Values can be reset on each respective tab by selecting the `Reset` option in the menu, which appears when you press the Options button or the `Backspace` (C) key, and by confirming the respective dialog.

Statistics on Current and Trip tabs can be reset at the same time by selecting the `New Trip` option in the menu (see New Trip). The `New Trip` function can be also launched automatically when the application is started – if started after more than eight hours.
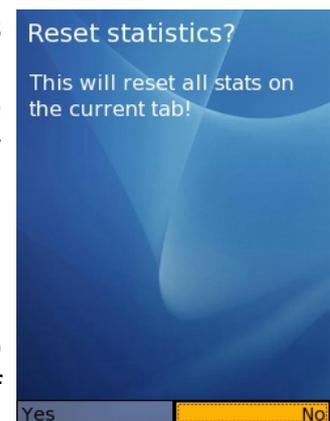
The menu, which is displayed after clicking on the `Options` button on individual tabs, also contains the option `Save` applying to the current values on each respective tab. Saved values, which are then fixed and not updated, can be viewed using the `Browse` option.

You can view all the saved statistics on three tabs – `Saved`, which contains an overview of statistics saved by the user; `Daily`, which contains an overview of daily statistics saved automatically (see Day Tab); and `Internal`, which

contains tabs statistics (Current, Trip...), including all taken slots on the Memory tab.

Note – You can also switch from the main screen to the `Stats` page by pressing to right selection key.

Current Tab

COG
The current course of movement in grades

SOG
The current speed in selected units (see Options). It also shows a small version of the speed history graph featuring the last 15 minutes (see Speed history).

Avg
Average speed in selected units

Max
Maximum achieved speed in selected units

Dist
Distance covered from change to the traveling state – see State (displayed in pre-set units).

State
Based on data received from GPS, the application automatically detects whether you are moving (`traveling`) or standing on the spot (`stopped`). This information serves to detect anchoring (or stops) places when data are exported to PC. If the application does not receive the required data from GPS (either because of a poor signal or because it is disconnected – status GPS no fix or no data), the value `no data` is displayed as the current state.

Total time
State duration period. It shows the time from the beginning of the current state (`traveling` / `stopped`), i.e. the period of the traveling or the stop.

Pos.: (Position)
The current position in pre-set units (see Options)
(for example: 51°30'27.18" N   0°04'40.12" W).

Altitude
Showing the current altitude

Trip Tab

Some data from the `Current` tab are also available on the Trip tab but, in this case, the values shown are values collected over the whole trip, or since the last reset of values.

`Avg`
Average speed in selected units

`Avg Moving`
Net average speed calculated only when traveling (the traveling state)

`Max`
The maximum achieved speed since the last reset of values on the tab (in selected units).
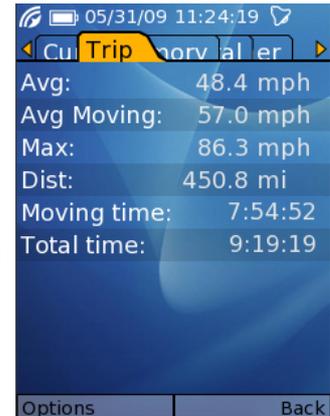
`Dist`
Total distance covered since the last reset of values on the tab (in selected units).

`Moving time`
Duration of the trip since the last reset of values on the tab. This period does not include stops (`State: stopped`).

`Total time`
The total duration of the trip since the last reset of values on the tab. This period also includes the duration of stops (`State: stopped`).

Memory Tab

You can create up to twelve user memory slots on the `Memory*` tab. The current slot includes data from the current trip. This allows you to create separate memory slots for walking, driving or biking and to collect statistical data in the respective slots when traveling, and monitor summary statistics, for example, from all trekking, cycling and other trips.

Note – The displayed name of the tab correspond with the name of the slot currently active.

As default, the first slot is taken only after the installation (`Memory`). You can create and then select another slot by using the menu `Options > Select memory`, or by pressing the middle key when the respective name of the

tab is selected (highlighted). Just select any free position and press the middle navigation key on the screen with slot positions (similar to adding items to the user menu) – the slot will be ready for use after the required name is entered. You can also select a slot, which is already taken, (like with menu items) by highlighting it and pressing the middle navigation key, or by pressing the respective number key directly (or, respectively, the assigned letter on the QWERTY keyboard) based on the required slot position.

You can release a taken position by pressing the `Delete` key and confirming the following dialog. A slot that is being used at the moment cannot be released.

Day Tab

The `Day` tab contains statistics of the given day. Values on this tab get reset automatically and saved every day. You can view Daily statistics for the last 100 days when selecting the `Options > Browse` on the `Daily` tab.

Total Tab

Displays the same data as on the Trip tab but, in this case, it shows total values for the entire period of using the application, or since the last reset of values or deletion of the `et.prefs` file from the memory card of your device.

Other Tab

`Anchor dist.`
The distance covered from the point, in which the `stopped` state was detected. It can be used as more closely specified information for the setting of the optimum radius for the Anchor alarm (see Options - Anchor alarm).

Note – Values on the Trip, Memory, Day and Total tabs, as well as one-time and daily statistics, are saved on your memory card in the `stats.txt` *and* `stats_dyn.txt` *files. If these files are deleted or if the memory card is replaced with a new memory card, on which these files are not stored, values shall be reset.*

Download

On the Download screen you can download and install any places database and skins directly through the application (see Places; see Options-Skins). When entering the Download screen, first you need to pick your Access point to be used for download. When the Access point is selected, a list of available skins and places database options is downloaded. For convenience,

the screen containing the list is divided into Skins a Places tabs. The size of each respective item is provided next to it in kB.

The application will not allow you downloading any file unless there is enough space on your memory card to unzip it (approximately two to three times more than the zipped file).

When downloading the list of available files, the current version of your application is checked as well. If any later version is available, a screen appears containing the information about the new version and offering to launch the browser and display the screen with a question whether a page, from which the new version can be downloaded, should be displayed.
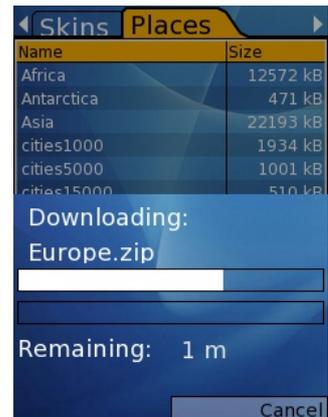
Note

Activates a text editor allowing you to enter notes into your log (max 500 characters). During your travels, you can add notes on places you would like to remember, mark the means of transport you used (if you used different ones), or put down a note on a byroad you missed the first time. You note can include the position of an anchoring place discovered accidentally, a place with a wonderful view, a restaurant, or the information about traveling by train from now (and not on a bike any more) or switching to sails or engine, etc.

The information about the current position and time at the moment of opening the text editor is saved together with each note (this information is provided in the upper section of the window).

The environment does not allow writing directly into the field and, therefore, a native editor is displayed after pressing the middle navigation key or any alphanumeric key. Any note created in this editor will be entered into the `note` window after you press OK.
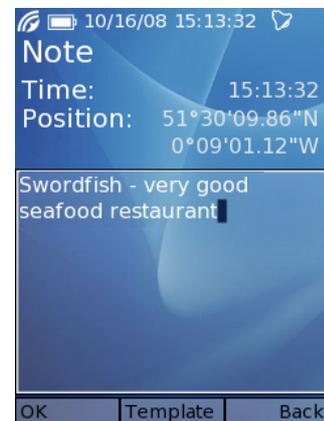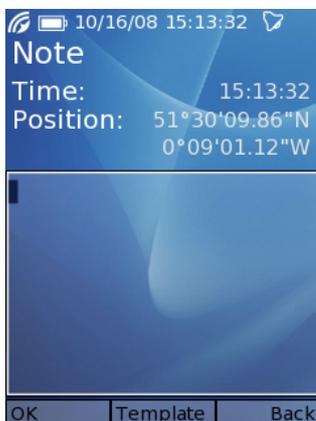
A new note will be entered into the log upon the next pressing of `OK`. If `Cancel` is pressed the window will close without saving the note.

In the log, the inserted text is saved automatically to the position, which was current at the moment when the editor was launched; you can begin writing a note, to perform the required action, course adjustments or to overcome an obstacle, and then to finish writing the note. Unfinished notes don't get lost when you switch to another part of the application, for example, when the alarm is sounded – the editor remains opened and will be displayed again after you quit the screen that interrupted the writing.

You can view the last one hundred notes or modify them in the `Note History` window (see Note History).

Templates

To speed up the noting process, you can select the text of your note from the list of predefined templates, which you can change or to which you can add new ones as needed before your trip begins. When pressing `Template`, a list of Categories is displayed containing the respective templates. Categories are also taken into account during the subsequent processing of data on your PC. After selecting the required Category, a list of templates is shown. The content of the template is entered into the editor field and, if necessary, you can return to the editor and modify or add more data manually.

The templates contents can be also inserted from the User menu by assigning specific templates to specific keys (see Template).

To have templates available, the files `noteCat.csv` (containing the list of categories) and `noteTmpl.csv` containing templates must be saved on your memory card in the ET folder.

When selecting a template, you can display the Type column on the full screen

by pressing the `navi` key on the right. By pressing the key on the left the original layout with two columns (Template, Type) will be restored.

Note! – Files with templates must be available on the memory card already at the time the application gets launched; otherwise, templates will not be available.

Template file formats
In the `noteCat.csv` file, template categories are saved in the "IDcategory template name" format (separated by comma), for example: **VEHI,Vehicles**, where `VEHI` is a clear identifier of a category (capitals are mandatory) and `Vehicles` is the name which will be displayed on the list of categories when selecting templates.

In the `noteTmpl.csv` file, templates are saved in the IDcategory type of IDtemplate text (separated by commas), for example:
VEHI,vehicle,Bus,"Transfer to Bus (at %TIME%)", where `VEHI` is a clear identifier of a category, `vehicle` is the type within the respective category (serving as a specification for processing in related applications), `Bus` is the ID of the template, which must be unique and which will be used also as the name of the button if the template is assigned into the User menu (see Menu), and `"Transfer to Bus (at %TIME%)"` is the text of the template to be inserted into the note. Use quotation marks for the text of the note.

Macros

You can also use macros in notes (mainly when using templates), which insert currently effective values obtained from data provided by the application to the text of the note (such as time, course, etc.). The options are as follows:

%COG% - Enters the current course

%SOG% - Enters the current speed in pre-set units

%TIME% - Enters the current system time of the mobile phone

%LAT% - Enters the current latitude

%LON% - Enters the current longitude

 Note History
Displays the list of the last 100 notes by date and time of insertion (the latest notes are on top of the list). The table provides the date and time of each respective note in the `Time` column; the `Text` column contains a preview of the contents (the first 30 characters). To have the Text column on full screen, press the right Navi key (the table will be restored after pressing the left Navi key). After selecting the required note using the middle key,

a screen with the information related to the place where the note was made will appear:

Dist   – The distance between the current position and the place where the note was made.

Bearing   – The course to the position where the note was made.

Relative   – A deviation of the current course from the course towards the position, where the note was made. If the Relative course equals 0 you are moving towards the place of the note.

Altitude   – The altitude of the place where the note was made.

Relative   – The difference between the altitude of your current position and the altitude of the place where the note was made. The value determines the altitude to which you need to ascend or descend to reach the altitude of the place where the note was made. For example: if you have ascended by 50 meters since you made the note, the application will show the value -50 m.

Text   – Text of the note. If the note fails to shows completely because it is too long, you can view it (and modify it, if necessary) by pressing Edit.

Note – Values mentioned above (with the exception of Altitude) are displayed only of the application has the information about your current position available (status OK), or if the signal has been lost (status no fix) less than 30 minutes ago. Otherwise, a question mark will be displayed in place of the values.

After pressing Edit the text of the note shall be displayed in a standard editor, where you can change it and save again.

Places

The `Places` screen shows the graphics or the description (depending on the selected mode) of ten nearest nearest important landmarks (cities, structures, hills, etc.), which help you to see your position more easily. For example, it can help you find out the name of the hill, island or a village that you are looking at or it will make it easier for you to find a place on your map or guide. It can also make communication with local citizens easier when determining your position when you need help.

You can switch between the graphic and text modes using the `Gfx/Text` button. The application remembers the selected mode, which means that when you go to Places again, the mode selected last time will be activated again.

You can control the display options in both modes either from the Options menu, which appears when you press the `Options` button, or using your keyboard. Keys assigned to individual functions are specified in brackets next to each item.

Note – You can assign different keys on devices with QWERTY keyboards (such as E71 etc.) as controls (see Options > Places Keys).

The information displayed is not updated automatically, but shows the situation at the time when the Places screen was switched on. If the Places screen is on for a longer period of time while you are moving, the data displayed will not be appropriate any more. You can reload and display updated information by selecting the option `Refresh` in the menu (or by pressing the **5** key), upon which you will see the current data again. If the application does not receive appropriate data from GPS (status `no fix` or `no data`), the Places function displays the information from the last known position.

The graphic mode

The arrow in the center of the graphic screen shows your position in relation to the nearest important landmarks on the map and indicates the current course of your movement. The information about the radius is displayed in the bottom right corner.

You can change the orientation of the graphic display by turning the compass rose:

When pressing the **#** key (`Rotate Right`) the rose turns clockwise; when pressing the ***** key (`Rotate Left`) the rose turns counterclockwise. This way you can adjust the position of the compass rose so that the lubber line aligns, for example, with a device positioned in accordance with the landscape, etc. When pressing the **3** key (`Toggle North/COG`) you can switch between the lubber line aligning with the North (N) or with the current course (COG).

The other option (COG) can be used, for example, for an easier identification of a specific landmark. After switching to the COG mode, just align the course of the arrow with the current course of movement (either by changing the orientation, or by turning the device), and then you can easily identify which landmark is located, for example, in front of you on the right. You can also use the compass rose to determine the cardinal points. Rest the compass rose rotation by pressing **0** (Reset Rotation).

By pressing the **1** key (Toggle Track) you can show or hide the graphic depiction of the trip so far; by pressing the **2** key (Toggle Labels), you can show or hide names of locations on display.
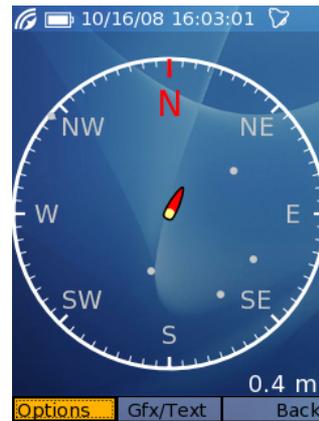
The text mode

In the text mode, the list of nearest important landmarks is provided in a table. Landmarks are listed from the nearest to the most distant ones. The information about the distance and the course in relation to your current position is provided with each landmark.

When you decide working with the list using the middle navigation key, you can use arrows to pick any line and insert it (using the middle navigation key) into the note screen, which will open automatically. You can then change the inserted text as required. In relation to the location, the note will also contain

the reading of direction in degrees **from** the landmark to the viewer (the table contains the value from the viewer to the landmark). You can use this function, for example, to provide required information to any person who might be looking for you ("we are 2km 184° from A"). After the note is saved (or canceled) the `Places` screen reappears.

Note – To allow the function of displaying the nearest landmarks, the Places database (the files `places.bt` and `places.sec`) must be saved on the memory card in the ET folder.

Log

Status Tab

The `Status` screen shows the information about the currently used data storage for log entries, the estimated remaining period, for which it will be possible to record data into the log before the storage is full, and the number of stored records.

`Log: file / memory`
(on the memory card / into the integrated memory of the device)

`Free space`
`File` – the amount of free space on the memory card
`Memory` – free integrated memory that can be used for log entries
`Remaining` – the time remaining before the storage currently used is full *

The `Records` value specifies the number of records in the current log.

*) The time remaining until the storage capacity is fully used is calculated

based on the free space on the card and the average amount of data stored when the GPS signal is of good quality. It means that, for example, when the GPS signal is unavailable (no fix) and, therefore, only very few data are recorded, there will be very little change in the estimated remaining time.

When the memory card is full or if it is removed from the device while the application is running, the free integrated memory will be automatically used to make further log entries (Log: `memory`). Usually, there will be enough space for several hours of records. The maximum usable capacity for log entries is limited to 4MB (approximately 10 hours).However, the actual available capacity of free integrated memory also depends on the number of applications and data (such as images, music, etc.) installed in the device.

If you remove the memory card while the application is running, a warning signal is sounded (a single long beep) and a warning message `Card Removed` is displayed.

Note! – If the available integrated memory of the device is full as well, the logging is interrupted until a memory card with enough available space is inserted.
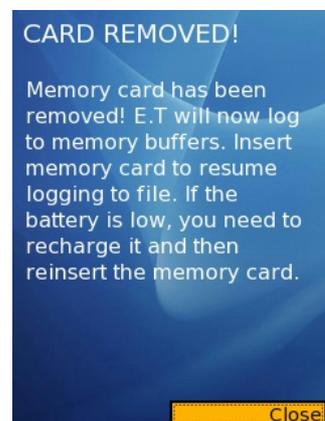
When a memory card with enough available space is inserted into the device, the record temporarily stored in the integrated memory of the devices is recorded onto it, and further entries are made on the memory card. This means you can replace memory cards without any interruption in the data collection.

Note! – If the application is off during logging into the integrated memory of the device (`Log: memory`), either by the user or because batteries are discharged completely, all data collected in the integrated memory will be lost!

Note! – The ET folder of your memory card contains the places database (the files `places.bt` and `places.sec`). If the memory card is removed from your device or if it is replaced with another memory card, on which the database is not saved, the `Places` function will not show any data!

E.T / GPS Tabs

On E.T and GPS tabs you can view events related to the Explorers Tracker application (`E.T` tab) and the information received from GPS (`GPS` tab). The application Log shows system events stating the respective time of occurrence. This information includes the time of launching the application, making the connection with GPS, any loss and/or renewal of GPS connection, removal and insertion of the memory card, changes in the current traveling/stopped state, connection to external charging device, alarm initiation, etc.

Note – the E.T and GPS tabs are divided only for convenience (data from GPS

are recorded continuously and system events would be lost in the extensive amounts of data) – the memory cards contains both data received from GPS and application events in a single file.

Day/Night

This function allows switching between day and night graphic modes (see Options) directly in the menu.

User menu

Displaying the application's user menu

Main menu

Displaying the application's system menu

Main screen

Displaying the application's main screen

Mute/Unmute

Allowing to activate or deactivate the `Beep on alert` setting (see Options) in the menu. You can always change the current settings - `Mute` if sound warnings are enabled, `Unmute` if they are disabled.

Note – This setting does not apply to the Anchor alarm. If it is set, it will be sounded even if warning sounds are deactivated.

Template

This function allows assigning a specific note template to a menu item (see Note), the content of which is then quickly and directly inserted without having to choose the respective template from the `Note` screen. This is convenient when you plan adding a specific type of note regularly (such as the current means of transport – whether you move on sails or using engine, places where things that interest you are located, etc.). A unique template ID will be used as the name of the respective button (see Note).

Note – In contrast to entering templates from the Note screen, you cannot modify the content of the template manually before you insert it into the note, because it is inserted directly as a note after it has been selected without being displayed in the text editor.

You can also use this feature to insert an "empty" note if you are in a place or at a time where or when it is impossible or inconvenient to record details so you can complete the note later (see Note history).

When assigning a template to a menu item, first you need to select the

`Template` option, then pick the category of the respective template and then the template itself.

New trip

When selecting this option, Statistics provided on `Current` and `Trip` will be reset (see Stats). A note will be also added to the log file.

Note – The dialog window asking whether you wish to `Start new trip?` will appear automatically every time the application is started after a break of more than 8 hours.

Browse stats

Shows a screen with a review of statistics stored by the user, daily statistics and statistics of individual Memory slots. The screen can be also displayed in Stats by selecting the `Options>Browse` option (see Stats). Statistics on User and Daily tabs can be deleted by pressing Backspace (C) key.

Memory slot

Allows the assigning of shortcuts to memory slots stored in Stats to User menu items (see Stats – Memory tab). The currently used slot can be easily changed as needed by picking the respective menu item.

Back

Opens the `Menu` screen and returns back to the screen, from which the menu was displayed.

About

Displays the information about the current version of the application. If the application runs in the 30-day trial mode, the screen shows the number of days remaining until the expiry of the trial period; the About tab also allows you registering the application by entering data into the registration form, which appears when you click on `Register` (see Registration). When the application is registered, the name of the license owner is displayed.

When clicking on Website, the home page of CEALogs ltd. appears (www.cealogs.co.uk).
Gallery contains the gallery of images displayed when the application is launched. You can switch between images using the left/right navigation keys. You can leave the Gallery by pressing any selection key.

Exit

Closes the application after you confirm your request. The collection of data received from GPS shall be terminated.

www.cealogs.co.uk   33

Third Party Licenses

The Anti-Grain Geometry Project
A high quality rendering engine for C++
http://antigrain.com

Anti-Grain Geometry - Version 2.3
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Vera Font

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Database Places

Data for the database are taken from the GeoNames database: www.geonames.org

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