

Using the club EtrexH GPS units to collect data during field survey work

Note: this document assumes the user has a PC running windows OS version 7 or newer.

Mac users may need to use a windows emulator.

The club owns four of these units- generally obtainable from Andy Rimes, andyr.go@gmail.com mobile: 07866686435. They are battery operated (2 x AA size cells- rechargeable NiCad or Ni metal hydride would be best but standard alkaline also work well). The units are fully water resistant.

A user manual for the units is attached at the end of this document. A simplified summary of the functions of interest to us is detailed below:

When surveying, along with the GPS unit, wear suitable clothing/footwear for the day, take spare batteries, drinks/snacks and waterproof pens/pencils and paper/notepad to make notes on- Obviously the job is a lot easier on a dry windless day!

- 1) Insert good batteries and switch on (press and hold pwr btn until screen display comes on) – to switch off, press and hold pwr btn again.
- 2) Once on, unit will automatically lock onto as many satellites as it can (the more it can lock onto, the greater the accuracy- actual current accuracy is displayed on the home screen once the unit is locked onto the satellites (accuracy is reduced under tree cover, in poor weather etc.- generally for accurate results the minimum accuracy needs to be 5m or better)
- 3) As soon as the unit is switched on and locked on, it will start to track and log its current position (I generally set to once every 5 or 10 seconds) In this way, once plotted a ‘tracklog’ of all the logged tracked positions is generated reflecting the route taken by the unit during the session in use- this info can be used to log the profiles of linear features on the ground such as paths, tracks, rides, vegetation boundaries etc. for transfer to Ocad for mapping these features.
- 4) In addition to the automatic tracklog, it is also possible to log individual spot locations called ‘waypoints’ manually. These individual waypoints are designated unique numbers/letters by the unit and again can be later downloaded from the unit and exported into Ocad as point feature locations- used for locating point features like depressions, hides, boulders etc.
- 5) Because the unit begins logging tracked positions as soon as it is switched on, it is important not to switch it on until at the venue ready to begin a surveying session- not at home before the drive/walk to the survey area- otherwise it will log the trip to the venue itself and use valuable memory space in the process. Therefore:
- 6) At the location start, switch on, wait for unit to lock onto satellites available then press page btn until ‘menu’ page is displayed. Press down btn until ‘tracks’ is highlighted then press enter btn.
- 7) Use arrow button(s) to select ‘clear’ then enter btn, and ‘yes’ to confirm- tracklog should then show 0% used. Press page btn to return to menu page
- 8) Use arrow btn(s) to highlight ‘waypoints’ then enter btn
- 9) Use arrow btn(s) to highlight ‘delete all’ and yes to confirm (note: only do this if you definitely do not want to keep any existing old waypoints from a previous session!) New waypoints are added to existing ones with sequential numbers rather than overwriting them unless the maximum number is exceeded (>500 points)
- 10) Begin your surveying session- the tracklog will start logging automatically every few seconds with no intervention from you. Walk slowly for accuracy with the unit held in the hand in the open with the display face up. Walking along a line feature back and forth two or three times will produce a more accurate tracklog of that feature.
- 11) To log point features, from the menu page use the arrow key(s) to highlight ‘mark’ once on the required feature and press enter btn. (It is a good idea to linger for a minute or so at the feature before marking it as a waypoint to allow the signal and display to stabilise and thus to ensure accuracy). A confirmation screen will be displayed with an assigned new number for the waypoint- press enter to confirm. Make a note of the waypoint number and its description on your notepad/paper (you will NOT remember every one when you get home!)

- 12) Carry on around your survey area taking waypoints and making notes- the more the merrier.
- 13) When you have finished the session and back at your start point, from menu highlight 'tracks' again, press enter btn then arrow btn(s) to navigate to 'save' and enter btn again. Navigate to 'entire log' and enter again- the tracklog of your session is saved.
- 14) SWITCH THE UNIT OFF- or it will log your trip back home.
- 15) If you have to change the batteries during your session, do not worry about your existing data- it will have been saved. Just change the batteries when needed and carry on.

There are many more features available in the unit, but the above details the data of interest to us as surveyors/mappers- see the manual for full details if of interest, but please do not amend any of the unit's default settings.

To use EasyGPS software to export data from the GPS unit ready for use by the mapper

- 1) Download and install the EasyGPS software- use the following link:

<https://easygps.en.uptodown.com/windows/download/54519>

Do not try to install the latest versions of the software as it does not support the EtrexH models we use (these are older serial connected units- the latest versions of EasyGPS only supports newer USB connected GPS hardware)

Download and install the following driver for the USB to serial converter lead supplied (unless your PC is old enough to still have a 9 pin serial port- highly unlikely now!)

http://www.prolific.com.tw/US/ShowProduct.aspx?p_id=225&pcid=41

(Select the standard one for all versions of windows XP to 10)

- 2) Connect the unit to your computer- use the supplied cable and (USB to serial) adaptor lead into a spare USB port.
- 3) From device manager locate ports(com&LPT) and click – you will see a port assigned to the adaptor cable (prolific USB to serial comm port (com'X') where 'X' is an assigned number- note this number and close device manager
- 4) Open EasyGPS software.
- 5) Select 'edit' then 'preferences' from the main top menu
- 6) Select 'my GPS receivers' then 'add GPS'. Drill down into manufacturers to select 'Garmin' then models to select 'etrexH (serial port) then 'ok'
- 7) Select port and speed for the GPS as follows: Connect via : com'x' where x is the number you noted in 3) above, speed 9600- press ok then close
- 8) Select 'GPS' from the top menu, then 'receive from GPS'
- 9) Select 'waypoints' and/or 'tracks' as required (usually both) and your GPS unit and com port/settings from the GPS settings tab- press ok
- 10) Data will transfer from the unit. Press ok when completed.
- 11) In the top menu select 'file' then 'save as' and save the data to a known location. Save as type = 'GPS exchange file (*.gpx) Give it a relevant name and date (or version number).
- 12) The saved file can be attached to an email to the mapper for importing into Ocad (you will obviously also need to send your waypoints numbers descriptions in clear easy to interpret detail along with any notes relating to the track.