

Custom Maps for your Garmin Mapping GPS.

Garmin have told us that the new range of OS Discoverer maps will only be compatible with the Oregon and perhaps the soon to be released Dakota range of GPS units, leaving eTrex & GPS 60 users with either the choice of Topo GB or no maps.

At this point I have to say I've used Topo happily for several years, and goes a long way towards the need to have a full OS map on the screen of a handheld GPS. It does include Navteq auto routing and POI data as part of the package, which is great if you want to navigate both on and off road; but for me and I'm sure most Topo users main issue or drawback is that the rights of way information is not based on OS data - in other words you can't be sure that the footpath you wish to use is on the map.

I'm sure I can't be the only eTrex user that hoped that the new OS discoverer mapping would be compatible with existing Garmin handsets like my trusty Legend HCx. Alas we're told by Garmin that this isn't possible for a variety of reasons - mostly technical. This leaves owners of Garmin existing products who wish to have a full OS map on screen with the only option to upgrade to an Oregon or perhaps the new Dakota. One possible solution is to join the growing number of GPS users who use custom maps.

Custom maps have been around for years; mainly the preserve of Internet based individuals or companies who would either convert your map segment or provide you with a MapSource compatible digital map for a fee. Custom maps have been used by organisations like [Maps4Africa](#) to developed digital maps for off the beaten track places where previously there had been no paper maps let alone digital maps.

Until now we were unaware of anything that allowed us as individuals to easily create our own MapSource compatible maps. We've come across an inexpensive software package ([Mapwel](#)) that will calibrate and vectorise a map image and then transfer the map to any MapSource compatible GPS in the Garmin range.

MapSource is a Garmin product that is used to deliver Garmin mapping products to compatible Garmin GPS units; for instance if you purchase MapSource Topo GB on DVD the maps are uploaded to your PC then once you have unlocked the maps with Garmin you can transfer either the whole map or selected map segments to your GPS.



It is standard practice in software houses to protect the copyright of any purchased maps; Garmin's MapSource is locked to the unit ID of your GPS, which effectively means you can view the maps on your PC, transfer data like waypoints to your GPS, but you will only be able to transfer maps to your GPS after you have completed the unlock procedure with Garmin.

Interestingly MapSource will allow you to import any of the free compatible maps widely available on the Internet and thence to your GPS, these free or custom maps are not blocked by the unlock procedure. [Mapwel](#) is the first software we've seen that will allow you to convert either hand drawn or copied map images into file format that is compatible with MapSource. Prior to this we have been dependent on free maps posted on the Internet or websites that will convert your maps for a fee.

The software we used [Mapwel](#) is inexpensive, relatively easy to use. It protects its integrity by only allowing the transfer of maps to authorised GPS units, it mimics the MapSource process of recognising the unit ID of the licensed GPS and erasing any pre-loaded maps on the GPS units SD card.

Our experience was that the creation and transfer of a map to a GPS was a five step process:

1. Scan paper map or capture image of the map from Digital Mapping software like Memory-Map or Quo on your PC (we used [Snagit](#)) and save the scan or image to your PC
2. Import image to Mapwel

3. Calibrate map – you need to be able to give an exact grid reference to three positions on your map portion, [Mapwel](#) supports most grid formats like British Grid, Lat/Long, and UTM/UPS.
4. Vectorise map – turns your Raster image into a Vector format acceptable to MapSource
5. Transfer to GPS using Mapwel (unlock code required)

So how easy was it to use and where do I find it?

Well I'm used to this sort of thing and have used MapSource over many years so was ready for the procedure of map transfer, so once I'd got my head around how Mapwel did things found the process pretty straight forward. It's worth pointing out that part of the whole procedure, normal with MapSource, is the erasing of any previous maps, before any new maps can be loaded. This is to allow the transfer of smaller map segments to GPS units with only internal memory.

If you know your way round a PC with all its frustrations, then this is worth a try. Be prepared to download the software direct from the Internet and to really simplify the procedure to add additional software like [Snagit](#). A key requirement would be would understand how to create grid references essential in the map calibration process. [Mapwel](#) offer a free Demo Version so you can try before you buy – if you wish to go on and download a full version it's available in two options: basic or advanced:

- Basic – 1 GPS only cost \$45
- Advanced – any number of GPS units cost \$90

Summary

Creating your own custom maps opens up the possibility of worldwide digital maps the only limitation to the creation of a custom map is that you must be able a precise grid reference to three locations on your prospective map for the calibration process to work.

If you do decide to have a go then I recommend you dedicate a SD card to Mapwel maps, as the map segments are going to be limited to the size of map you can scan or copy from your PC, but even relatively small map segments at 25k scale are going to be quite large in size.

It's worth pointing out that the copying of maps is probably outside your copyright agreement with the mapmaker even for your personal use. However once you have a map in digital form then it can be moved into Mapwel. We spoke to the guys at Mapwel on this subject and received these comments

“Mapwel does not copy maps from or to MapSource or other copyrighted sources. All Mapwel does is compile custom maps created by the user into a file format accepted by a compatible Garmin GPS.

The user must select data sources for map creation responsibly with respect to limitations defined by respective copyright owners. In general GPS manufacturers do not provide software for custom maps creation, partly as a business strategy and partially because many people do not want to spend a lot of time creating their own maps. Custom maps have been available for 8 or 10 years and can be used even in the most recent GPS models. However Garmin could change the GPS firmware anytime in the future so that it will not render custom maps. Please note that use of the custom maps can void warranty for your GPS unit.”

One of our customers who has tried and used Mapwel recently sent us this note (Dec 2010) “it was reading these notes that persuaded me to buy both Mapwel and my Garmin 60CSx - with more experience with both, I realise that the laborious method of calibrating OS maps manually is unnecessary. There's a much easier more cost effective way and it doesn't involve any extra expense. The Open Source program Mobile Atlas Creator: <http://mobac.dnsalias.org/>



It allows you to select 'Multimap OS Map' which downloads the 1:25k OS Explorer map at zoom level 15 (1:50k at level 14) and exports it in the Ozi Explorer format which (crucially) is already geo-referenced. That is to say, the large raster image is accompanied by a small text file that provided the calibration automatically. Mapwel then allows you to import the Ozi Explorer format, then go on to vectorize the map.

In conclusion you will have to decide if it's worth the trouble to produce your own OS maps for you Garmin GPS but at least you now know it's possible and as you will see from the recent addition to these notes new ways of map creation are constantly being made possible.

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