# Maps
## on your
## monitor

Digital mapping can put the whole of the UK just a few mouse clicks away. **Anthony Cartmell** assesses the programs for your PC. Next issue: the on-the-bike options

Paper maps won't suddenly become obsolete like analogue TVs, yet there are advantages in going digital and having mapping information on your PC.

Digital mapping provides continuous maps with no breaks: seamless maps. You can zoom in to see the detail of a location, perhaps at 1:25,000 scale, and out to see an overview of a large area, perhaps the whole of the UK. All digital mapping software can display the maps superimposed on the landscape in a three-dimensional view. This shows where the hills and valleys are very clearly, a useful aid to planning cycle routes. Digital maps often have a searchable index of place names.

You can plot routes and then transfer them to a mobile phone or GPS device. As well as calculating the length of the route, mapping software can draw a height profile, so you can see where any hills are and how steep they are. The software can even estimate how long the route will take.

If you have a GPS, you can record where you've cycled and then transfer this information back to your PC to show where you've been. Even if you don't yet own a GPS device, you can still print out maps with any planned routes superimposed. You can type in instructions and then print out a route sheet with accurate distances.

Digital maps cost a similar amount to the equivalent paper maps, unless you buy large areas of mapping at the same time. You can obtain digital Ordnance Survey (OS) 1:50,000 Landranger mapping for the whole of Great Britain for £100, where the full set of paper maps would cost around £1,400. Moreover, you can define and buy custom maps. This means that you don't have to pay for unwanted map areas, such as chunks of sea.

The mapping software is either free to download (Anquet, Quo, MemoryMap), or included with the maps you buy (Tracklogs, Fugawi).

### Digital's disadvantages

This isn't car-style SatNav. You will need to print out your route maps to take them with you, unless you have a GPS receiver or a suitable mobile phone with mapping software on it. Even then, you can only follow routes that you or someone else has plotted. Some GPS units will only display

route information, and not the background maps.

Each program has its own way of drawing routes, and it can take a while to learn how to use them – just as there's a learning curve with, say, a spreadsheet or database program. But if you're proficient using Windows programs, they're not too complicated. And you can download tutorial videos from their websites.

Note that the maps you buy are tied to the program they were bought for – you can't use Quo maps in Tracklogs, etc.

### Digital basics

All mapping programs can transfer route information to and from most common GPS receivers. They can all save, and read information from universal GPX files. Some of the programs have mobile versions that can have the digital maps transferred to them.

The mapping software available runs under Microsoft Windows, either XP or Vista. The GB-only products should also run under Windows 2000. The 3D views require DirectX 9 or later, and you'll need 512M of memory (RAM) for the programs to run efficiently. You'll also need up to 5Gb of disk space to store the maps. Effectively, any Windows computer bought since 2003 should be okay.
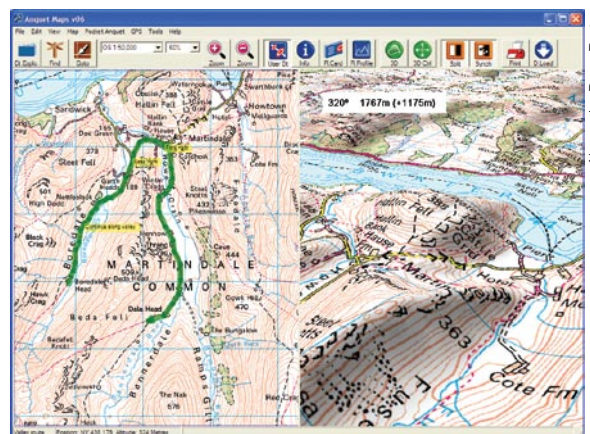
Apple Mac and Linux users are much less well catered for. There are a few programs available, but you will have to find maps to use with them and they won't display OS maps. Fugawi do produce mapping software for Mac and iPhone, but it only works with marine charts.

There are two categories of software: UK-specific ones (Anquet, Tracklogs, Quo) that specialise in providing Ordnance Survey maps, and more general programs (MemoryMap, Fugawi) that can display foreign maps.

Map prices are difficult to compare. As an indication, we've given prices for buying the whole of Britain as 1:50,000 Landranger maps, and for buying a single 10×10km square of 1:25,000 Explorer mapping.

All digital mapping programs include some aerial photography, so you can see what the landscape looks like. However, the free Google Earth program does this better.

Above: by Dave Barter

### Anquet (anquet.co.uk)

Anquet has provided OS, Harvey and Philips maps since 2001. A-Z maps are available for the main urban areas, and you can purchase A-Z cycle maps of London, unique to Anquet. Harvey Superwalker 1:25,000 maps, available for the most popular walking areas, are significantly cheaper than the equivalent OS ones.

OS mapping is reasonably priced, particularly if you're defining custom areas, and you can define areas to the nearest 1km square for efficiency.

Anquet has the capability to split routes into sections, add new sections and join them up in different ways to make new routes. In almost all other programs, routes are modified by laboriously deleting and adding waypoints. Anquet's way of working is much more flexible, especially when you come to plan several routes in the same area.

The program provides basic height profiles and 3D views. You can print route maps on multiple pages and at different scales, and multiple-page map sections are automatically chosen to closely fit the route shape. It can be difficult to preview what will be printed before it appears on paper.
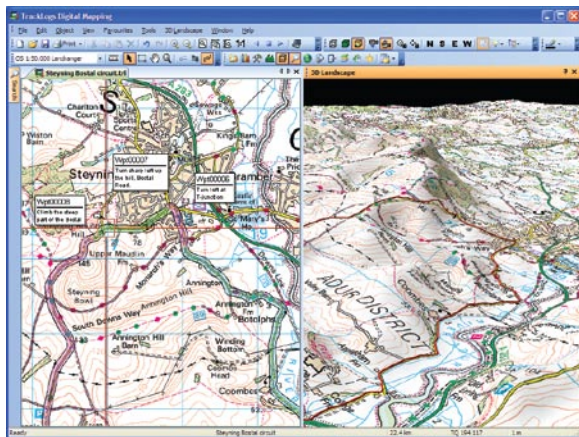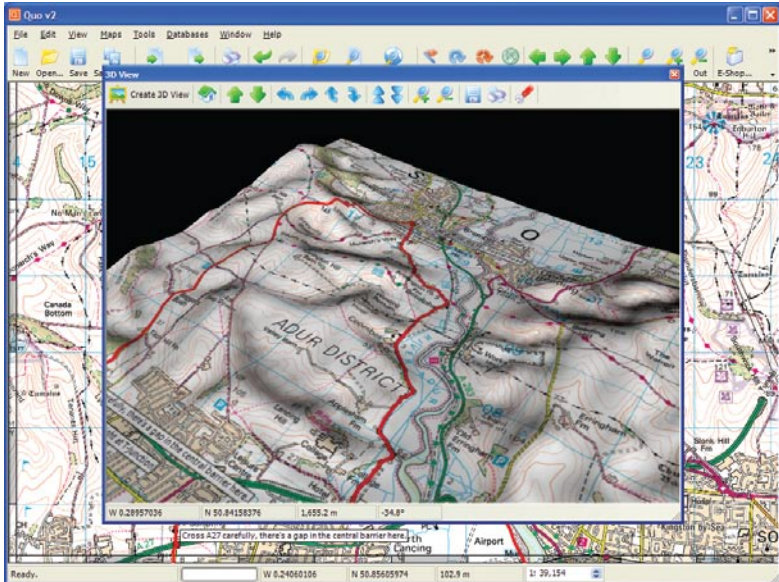
The software includes Pocket Anquet to take maps with you, running on Windows Mobile devices.

Landranger maps for the whole of GB cost £144.50. Custom area 1:25,000 maps cost between £2 and £4.80 per 10×10km square.

*Summary:* Anquet is especially worthwhile if you are looking for A-Z mapping of urban areas, or the Harvey walking maps, and you aren't interested in planning routes abroad.

### Tracklogs (tracklogs.co.uk)

Tracklogs displays OS mapping for Britain. Pre-defined map packages

(Top) Quo is the most recent program and its mapping is the best value

(Right) Tracklogs is arguably the most sophisticated program

> "Any Windows computer bought in the last six years should be okay for digital mapping"

for Tracklogs are similarly priced to Anquet, but buying custom areas for Tracklogs is at least three times dearer for the same area. The Tracklogs custom maps are also limited to plain rectangular areas on a 10km grid. Tracklogs maps aren't downloadable – you get them by post on CD or DVD.

Tracklogs' strength is in its wide range of functionality, and it can produce sophisticated maps. You can highlight a route on one or both sides, leaving a gap for so you can still clearly see what sort of road or path you're following (as opposed to obscuring the route with your highlighting). You can also add map inserts at a different scale to the main map. Like the rest of the program, the 3D display is attractive.
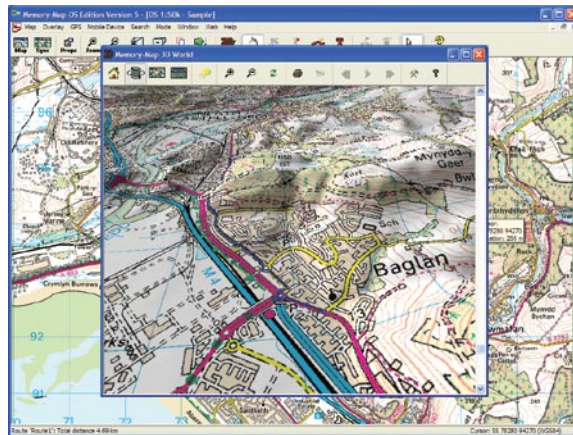
Printing route maps is made easy with a preview of the printed result that updates as you change settings.

Tracklogs will only print multi-page maps on a regular grid, which might mean printing surplus pages. Height profiles are very sophisticated. You can plot the profile against time, rather than distance, overlay recorded or estimated speed profiles, colour-code the profile line by route surface type, and more.

Tracklogs doesn't have a mobile version. You'll need to export routes to a GPS receiver or in GPX format to use with other mobile software.

Landranger maps for the whole of GB cost £149.95. Custom area 1:25,000 maps are relatively expensive at more than £6 per 10×10km square.
*Summary:* Tracklogs is worth considering if you are only interested in OS mapping for Great Britain, don't need to transfer maps to a mobile device, and if you are looking for a sophisticated program.

## Online Route Libraries

**If you buy mapping software, you may be interested in downloading other peoples' routes, or adding your own routes to online route libraries.**

**www.ctc-maps.org.uk** – A mixture of GPS recorded routes and the CTC's original paper-based routes library. Can show all routes on one map.

**www.bikemap.net** - Shows all routes on one map to help you find routes.

**www.bikely.com** – Very popular, but can be difficult to find routes as it doesn't have an overview map.

**www.mapmyride.com** – Cycling-specific with an emphasis on training. Can be difficult to find routes as it doesn't have an overview map.

### Quo (mapyx.com)

Quo provides OS maps covering Great Britain, and it's free to download. Quo has some unique features, such as being able to directly compare the height profiles of several routes and – a bit like Anquet – being able to join routes together to make combined ones. Other aspects, such as its recently-added 3D view, can feel very limited: if you want to move the 3D view across the map you have to keep pressing a button to update it. Unlike every other mapping program, Quo uses the right mouse button to drag the map around, and this may take a little time to get used to.

To print route maps, Quo displays a regular grid of pages to cover the route at the chosen scale, and you can easily add, delete and move the page outlines to print the route onto the optimum number of pages.

Quo's main strength is in its map pricing, OS map packs being significantly cheaper to buy than from the other companies. If you require large custom areas then Anquet's prices are comparable, but for smaller areas, or if you want to buy the complete GB 1:50,000 Landranger map package, Quo is cheaper. Landranger maps for the whole of GB cost £99.99, the cheapest available. Furthermore, Mapyx is offering a 15% discount to readers of Cycle if they quote the code 'QCTC', and they offer a 25% discount if you decide to switch to Quo from another product.

Quo comes with a mobile version, which runs on Windows Mobile devices. Quo can import and export around 100 different file types, covering just about every format for storing routes and locations. Quo will also import and export KML, a recent map-industry standard.
*Summary:* Quo may be a good choice if you are only interested in OS mapping for Great Britain and if map pricing is important to you.

### MemoryMap (memory-map.co.uk)

MemoryMap is a well known and common digital mapping package. It caters for air and nautical charts as well as road maps, and isn't limited to GB maps. Both OS and A-Z street maps are available for Great Britain, and maps for many other countries around the world. Landranger maps for the whole of GB cost £195.74.

MemoryMap are soon to provide all the Sustrans National Cycle Network routes on a 1:250,000 base map.

While that map scale isn't detailed enough to follow the routes, the DVD includes detailed route data, so you can export them to your GPS unit, or look at them on other map scales.

MemoryMap allows several routes to share a route point, perhaps useful for a common starting point. It has all the usual features, including basic height profiles and a 3D view. MemoryMap has flexible printing options. It will calculate suitable page areas that closely fit the route, and you can then re-size and move the page outlines to fine-tune the fit and minimise the printing of unneeded map areas.

Memory map includes Pocket Navigator to display your maps on Windows Mobile devices.
*Summary:* MemoryMap is worth trying if you need to map routes both in Great Britain and abroad, and if you are interested in A-Z mapping for road names in urban areas.

## Fugawi (fugawi.com)

Like MemoryMap, Fugawi is not limited to GB maps, and caters for flying and sea-going users. A potentially useful Fugawi feature is its ability to overlay streets with road names on top of other maps. This makes the road names visible, like in A-Z maps, while still showing the other detail from the underlying map.

Pre-defined map packages are currently expensive, possibly because they include the road name overlay information, but custom map areas are reasonably priced. Landranger maps for all of the UK are £275.78.

Fugawi's 3D view works much like a basic flight simulator, and has a small aeroplane symbol to mark your location on a small 2D map.

Fugawi's map printing features are very limited, as it won't print maps onto multiple pages. Fugawi are developing an integrated 3D view using Google Earth, and Fugawi will import and export KML files so it already works well with Google Earth installed as a separate program.

Fugawi has a mobile version that will run on Palm OS machines, as well as on Windows Mobile.
*Summary:* Fugawi may be a good choice for mapping routes both in the UK and abroad, especially if you are interested in road name overlays.

## Conclusions

Before you make your final decision to buy a digital mapping package, download the free trial versions and try them out.

For UK-only use and where map price is most important, nothing beats Quo. If you also do a lot of walking, or want to buy custom map areas, Anquet is handy for its flexible custom areas and Harvey 1:25,000 maps. If you want a more fully-featured program to produce sophisticated maps, Tracklogs will have all the features you'll need.

If you like knowing the names of roads, Anquet and MemoryMap both have the option to buy A-Z mapping of urban areas. If you want to view maps beyond the UK, you are limited to MemoryMap and Fugawi. Of the two, MemoryMap is the cheaper for OS maps.

## Free Alternatives

**OPENSTREETMAP** (http://openstreetmap.org) displays maps generated from a global database of geographical information that is being built by volunteers, currently more than a hundred thousand people around the world, with the aim of producing an alternative to commercial digital maps.

**OPENCYCLEMAP** (http://opencyclemap.org) is a cycling-specific project based on the OpenStreetMap database, and includes shaded contour maps. Anyone can contribute to the project, and make use of the data to build their own custom maps. Worth a look if you are interested in maps.

**GOOGLE EARTH** (http://earth.google.com) is a free download. It displays aerial and satellite photos covering the entire globe as a three-dimensional world. Roads are included, and the program can be used to plan cycle routes using the display of hills and mountains as a useful guide. Earth runs on Apple Mac and Linux computers as well as Microsoft Windows.

**GOOGLE MAPS** (http://maps.google.co.uk) is an alternative to Google Earth that runs in web pages. It can be used to plan routes too, and includes road names which can be useful for routes through towns and cities.

**MICROSOFT VIRTUAL EARTH** (http://maps.live.com) is very much like a combination of Google Maps and Google Earth, although it always runs within a web page. It will run on both Microsoft Windows and Apple Mac, but requires you to use Internet Explorer or Firefox as your web browser.

### THE BEST PROGRAM FOR…

| Map pricing | GB map options | Printouts | Route planning | Height profiling |
|---|---|---|---|---|
| 1 Quo | 1 Anquet | 1 Tracklogs | 1 Anquet | 1 Tracklogs |
| 2 Anquet | 2 MemoryMap* | 2 MemoryMap | 2 MemoryMap | 2 Quo |
| 3 Tracklogs | 3 Fugawi* | 3 Quo | 3 Tracklogs | 3 Fugawi |
| 4 MemoryMap | 4= Tracklogs | 4 Anquet | 4 Quo | 4 Anquet |
| 5 Fugawi | 4= Quo | 5 Fugawi | 5 Fugawi | 5 MemoryMap |

*\* Foreign maps available*