

Coaching Corner...

David Cockburn, PCS Head of Training and member of the LAA Safety Committee, takes a look at that *useful* Christmas present!

Well, it may not have been received this Christmas, and you may have even given it to yourself, but many of us are the proud owners of a spanking new (or not so new) software-driven device which can indicate our position over the ground on a cockpit display. This may be an instrument which is permanently fitted or, more usually, a handheld device such as a tablet.

The CAA and NATS tell us that the majority of airspace infringements are caused by pilots who do not have a moving map display available to them. So, they're a good thing, and perhaps if you haven't got one yourself you might want to consider getting one for this year's flying season or perhaps send a letter to Santa for next Christmas!

Unfortunately, the statistics also show that a large number of pilots who infringed notified airspace did have a moving map display – but they didn't know how, or weren't able, to use it properly. Instances are noted of pilots who miss-set routes and/or waypoints. Some had out-of-date information on the display, either because they didn't know how to find or load the updates, or because they just

Below Navigation devices, whether from Santa or not, require learning if you are to get the best from them. **Photo: Richard Dawe**

hadn't done it. Some were flying so close to controlled airspace that a tiny deviation sent them into it, and others were unable to see the information they needed because the sun or another bright light source was reflecting off the screen. There were also some who couldn't follow the correct sequence of operations to show the necessary information, and some who discovered that if you don't change or recharge batteries, they go flat.

And yes, a few actually had the device in the cockpit but hadn't switched it on!

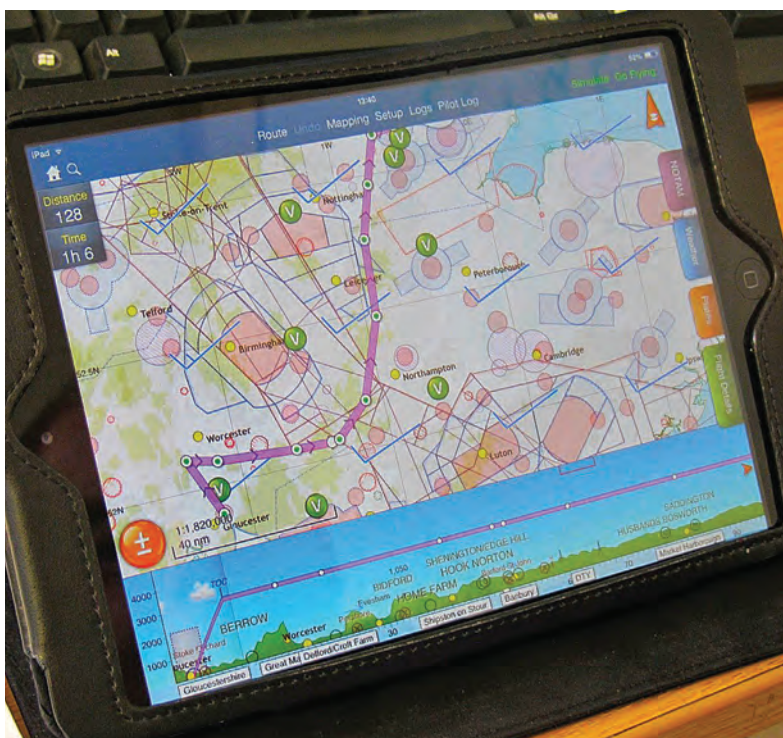
Take time to learn

Now we all know that looking at devices in the cockpit, especially if it involves our head being down for any length of time, is very dangerous. Even if we have electronic conspicuity devices in our aircraft, our primary defence against hitting another aircraft (whose pilot may very well be trying to work out how to use their own new moving map device) is 'lookout'. GASCo recommends a maximum of 20% of our time looking inside the cockpit. However, these modern devices take a bit of time to get used to, and that 20% isn't going to provide us with a lot of training time. So, it's a lot better if we can learn how to use our Christmas present properly without having to worry about managing the flight at the same time.

We can start by reading the instructions before we get anywhere near the aircraft. If it's possible to apply power to the device at home, go through the manual there while making the appropriate selections. This will minimise the time you'll otherwise have to spend in an unheated hangar!

Some hardware or software suppliers, such as SkyDemon, offer online training videos, which are often easier to comprehend than the written word. Of course, in many cases these devices rely on batteries, and an essential part of the learning process is power management and battery charging (and changing if possible). The duration of the battery life on most modern tablets and phones is likely to be adequate for most requirements, provided you start with a fully charged unit; better still if you have a USB power point fitted in your aircraft.

Hopefully, having learned and practised the basics, then uploaded an up-to-date aviation database (they don't all cost money), we can try the device out. When it is first switched on it may take a while to sort out where it is, the display should eventually indicate a sensible position; or it should if its aerial is in line of sight with the satellites. And yes, the receiver works a lot better if connected to an





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antenna which isn't obstructed by the airframe! Once it's on, we can check that the position indicated on the device moves correctly with the device itself. Walk around with a handheld device, or maybe taxi or push the aircraft if the kit is permanently fitted.

However, to learn how to use the device properly you really need to be travelling, preferably in an aircraft. I say 'preferably' because a lot of useful learning and practice can be done in a road vehicle.

In any case, whether in a vehicle or an aircraft, we should not be trying to fly or drive while training ourselves how to use the device. Find a friend who can fly and navigate the car or aircraft (even if only in the cruise in the case of the aircraft), while you practice the appropriate selections and, if necessary, refer to the manual. Of course, if they are familiar with your device then they can help you learn, but remember someone has to be looking out.

Expect the learning process to take a lot longer than a single flight – you need to learn not only how to operate the device, but also how to integrate it into a sensible flight planning system and navigation technique that minimises effort but maintains situational awareness.

Above If you can mount the device high up the panel, it will minimise the need to move your head inside the cockpit, and also alleviate GPS receiver issues.

Photo: John Dean

There are several guidance leaflets published by the Royal Institute of Navigation (see below), and others, which can guide you through that learning process. Some useful documents are listed below, especially for those using a standalone sat nav.

Ideally, you will be assisted by an LAA Coach, or other instructor, who is familiar with your device. However, for practical reasons, most of us will probably rely on our friends. Please note though, that if your present was a new glass cockpit, you do require formal differences training from an instructor.

And just in case you're wondering, I prefer to navigate using the visual skills and techniques I used when I was teaching visual navigation to RAF pilots and navigators.

However, I also carry a device in my pocket to which I can refer every now and again to check I haven't become too complacent – and always if I'm getting near notified airspace, it's worth staying well away from that!

- Useful documents from the Royal Institute of Navigation (<https://rin.org.uk/page/GANG>).

These include: Infringement Avoidance; Syllabus for GPS Training: Instructor's guide and Syllabus for GPS Training: Student's guide. ■