Flying with the new Airbox Clarity and Foresight

THE LATEST portable aviation GPS to arrive on the New Zealand market is the Airbox, with a range of touch-screen units that extend from a basic 'Aware' model with 4.3" display at $399 up to an advanced 'Foresight Superbright' model with 7" display at $2499. Airbox products take a step beyond traditional GPS operation by displaying Airways VNC charts and offering intelligent airspace warnings, as well as continuous position reporting details to the nearest airfield. Developed in the UK and originally designed to help GA pilots maintain positional awareness and avoid inadvertent entry into controlled airspace, in 2011 the product was awarded the prestigious Honeywell Bendix Trophy for Aviation Safety by the Flight Safety Foundation. KiwiFlyer recently acquired two Airbox products to test, the mid-priced Clarity (at $1124) and the top of the range Foresight Superbright ($2499). Both devices display 800x480 pixels and operate with the same features in the same way, the difference primarily being screen size (5 vs. 7") and the screen brightness, which on the Superbright, really is fully readable in bright sunlight.

The Clarity 2 screen shown full size. The warning is for the airspace highlighted in red. A line in front of the aircraft indicates 1 minute intervals. Note also the position report bottom right of screen. Menu buttons can be de-cluttered easily if required.

Getting started

The first page of the Airbox manual declares the company goal of satisfied customers and invites all users to call or email the Airbox office for help at any time. You probably won't have to though, because the manual is well written, and it is a good idea to read it through before 'playing' as there are several tips for use that are worthy of note and also several clever functions that you might not otherwise discover. If you do get stuck, the support via email is fast and friendly. A search of various internet forums that Airbox participates in also suggests the company is very sincere about caring for its customers, answering questions promptly, and developing products that are focused on being pilot friendly.

Out of the box you get the device itself and the normal range of power and adaptor cables. Basic mounting hardware is provided, though more sophisticated options are available as accessory purchases from Airbox's (very comprehensive) website. You also get a CD with Fastplan, Airbox's flight planning software for your PC. This is a very nice addition to the product that enables flight planning to be completed on your computer and then downloaded via a memory card to the GPS. More on that later. What isn't in the box though is a manual of any sort. You'll need to print your own from a pdf on the CD.

The device powers up and found a satellite fix quickly. The display which is standard across all models shows traditional (and configurable) track, speed and route information on a panel to the left. Map zoom, centre to aircraft and last or next waypoint (transparent) buttons are displayed in the lower part of the map as well as a button to clear all menus and maximise the map. Position information (coordinates and reporting) is displayed at the bottom of the screen.

The screen is a touch screen and it took a fair amount of practice at touching it to get consistent results. That was until I started using a retracted pen instead of my finger which worked perfectly. I then discovered that using a fingernail rather than a finger also did the trick perfectly too. There is in fact a note in the manual to this effect that I had initially skipped over.

The map can be moved either by dragging with your finger or by tapping a new centre location. The permanently displayed 'centre aircraft' button allows a quick return to wherever your present location is.

Using the device

It's quite intuitive but do read the manual first which will save the frustration of looking for a couple of features that you know should be there. You don't 'touch' airspace boundaries or airfields to bring up information about them, rather you 'press and hold' and wait for the "really useful further functions" (their words) menu to appear. This secondary menu contains buttons for Navigate Here, Waypoint controls, Airspace and Airfield info, as appropriate for wherever you have pressed.

Airbox maps are effectively scanned Airways VNC charts (1:250,000) supplied by Airways to Airbox. It's much more sophisticated than a moving VNC though. Airspace boundaries are digitised and highlighted so it makes more sense to view the VNC part as being the background to the device rather than the core of it, the advantage of course being that all the other reference information on VNC charts is available on the GPS screen. If there's a disadvantage to having this detail on screen, it is that button 'touches' to zoom or move the map incur a small delay which for impatient me was often just enough to cause me to press again in case it hadn't sensed my touch. Then of course I received a double zoom or move. That said, in flight the map scrolls very smoothly and the fact is the delay (which is no worse than other similar devices) just takes getting used to. A 'thinking' symbol on screen would be a nice thing to see added in a future update. Which raises a very useful feature in that updates to the software can be downloaded via your PC and onto the device very easily. On the subject of airspace updates; these are available free for the life of the product, which should sound attractive to many user s of other devices who have to pay for their updates.

An excellent demo mode is available which enables you to fully explore the device operations while reading the manual at home.

Airspace warnings

Airbox made its name by their excellent 'airspace aware' interface and the lowest model in the range is exactly this – the Airspace Aware priced at $399 which offers VNC mapping, airspace warnings and position reporting without any of the navigation functions. This system which is common to all Airbox models warns intelligently of airspace restricted at current height +/- 500'.

Airspace which is restricted at your current height will show with a green outline on the map. As you approach the airspace (within either 5 or 10 minutes depending on options selected), the outline changes from green to red and an information box appears indicating the class, restriction, name and countdown distance to the airspace. If available, a radio frequency is also displayed or this can be read from the map in the normal way. Once inside airspace, the warning notification moves to the lower part of the screen and the device warns of the next level of controlled airspace in your flight path, if any exists.

This functionality is great. The airspace you are approaching is very clear and easy to identify, as is your distance from it and time before entry.

The device can be set to offer warnings for selected airspace types including danger areas and parachute drop zones.

Position reporting

Another fine feature from Airbox is position reporting. At the bottom of the screen is a continuous report of your location relative to the nearest airfield, for example 5NM SW Thames. Which eliminates those difficult decisions (and resulting corrections) regarding am I 3 miles away or is it closer to 5?, and more commonly, which side is West - am I East or West of the field?

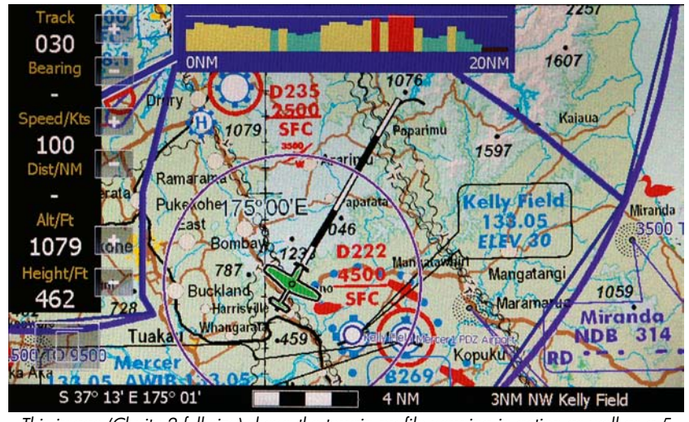
There is an option to have position reports displayed relative to either airfields or towns but when set to towns, I struggled to see the logic behind which towns had been digitised and which hadn't. It is probably population dependent, but that isn't how we report positions in New Zealand. A question to Tom Hedges, one of the Airbox founders and owners as to why designated reporting points couldn't be loaded instead of towns was met with enthusiasm for the proposal and a declaration that they really want to make the devices work well for each of their markets according to the preferences of pilots in each market. That improvement is going on the list for a future version.

Navigation and Other Functions

Standard navigation options of 'from current' and 'between two places' are easily accessed as are all the usual functions for waypoint setting and control. If you detour around a waypoint the 'waypoint + or –' buttons on the main screen allow for easy adjustment of the route being followed. Normal functions for plotting routes (and reversing them) are all provided. Charts can be displayed in Track Up or North Up modes, with North Up obviously keeping all the text on the charts reading across the screen. The devices can also display in portrait rather than landscape mode if desired. A de-clutter button is permanently displayed and will turn off either part of all of the on screen menus and displays leaving just the map.

A Terrain bar in four colours graduated between 100 and 1000 feet above terrain can either be permanently displayed or set to appear automatically when terrain is within 1000 feet.

A very nice function is the 5/10 Minute Line which can be turned on to project a line in front of the aircraft extending either 5 or 10 minutes ahead. The line is graduated at one minute intervals and is great for supporting forward planning in flight.



This image (Clarity 2 full size) shows the terrain profile warning in action as well as a 5 mile circle around the aircraft, useful for interpreting distances and map scale. The blue airspace lines show that warnings for this airspace will be activated if appropriate.

Distance rings can also be turned on to appear around the aircraft at a set distance. These can be useful for positional reporting and indicating the current chart scale.

Another useful function is Extended Runway Centrelines. If activated, these extension lines on the chart can assist with easy and accurate lining up for runways.

A flight log is also retained by the device which records place of take-off and landing, date and time, duration and distance flown.

Fastplan

Fastplan is Airbox's desktop PC planning software and is provided free to all purchasers of Clarity and Foresight devices. It's an extra $86 for Aware Plus purchasers. On Fastplan you can drag the map around much as you might on Google Earth. Data can be searched and maps with routes printed out for later use.

A route can be drawn in and then airspace for the route at your planned altitude can be checked at the click of a button. A height profile of the route complete with airspace and terrain profiles can easily be displayed.

If you want to avoid controlled airspace on your route then simply drag it out of the way (the route, not the airspace). Then once you have created the route you can save it , view it on Google Earth, and/or transfer it to your Airbox device via the supplied memory card. Being able to view routes and the arrival at your destination in Google Earth is a great tool to familiarise yourself

Left and centre: Foresight Superbright and Clarity 2 side by side. The photo was taken outdoors on a bright day in slightly shaded conditions. At right is part of a screen capture of the Airbox Fastplan software for PC based flight planning (downloadable to the device) that is free with the Clarity and Foresight.

with what to expect before you get there.

Fastplan will also construct route briefings, all the normal heading, time and fuel information, plus calculate weight and balance data for you.

Weather and Notams

An extra dimension can be added to Fastplan with an annual subscription to weather and NOTAM information ($121). Weather is sourced directly from the United States National Oceanic & Atmospheric Administration and includes TAFF and METARs, wind speed and direction (overlaid on the map), cloudbase, visibility and weather conditions. NOTAMS come direct from Eurocontrol, appearing as the data is made available. It's a novel function to have integrated into flight planning and mapping software and does save the effort of looking this all up elsewhere, though most Kiwi pilots are probably just as happy with the free Airways service. That said, NOTAM information can be downloaded to the device which will offer warnings 'on the fly', potentially a very useful service to have.

Models in the range

There are a variety of Airbox models available in New Zealand with prices (at the time of writing) as follows. The Aware (airspace warnings and VNC moving map only) comes in a 4.3" display for $399 and a 5" display for $499. Basic flight planning can be added to these models for about another $180. The Clarity and Foresight models offer full flight planning functionality as described in this article. The Clarity 2 with 5" screen is $1124, and the Foresight with 7" screen is $1574. The premium Airbox model is the Foresight Superbright offering the same 7" size but with a 'super bright' screen that is fully readable in bright sunlight, for $2499. All of the other screens are readable outdoors in moderate light, but do much better in partially or fully shaded conditions.

Also available is a large range of accessories including panel, yoke and knee mounts, remote antennae and importantly for some, remote accessory power packs. Note that you can expect less than two hours of battery life from the Clarity and none at all from the Foresight (as it doesn't have an internal battery). All models come with 'cigarette lighter' adaptors but where this isn't an option for the aircraft, a remote battery pack will be required.

The Airbox website is excellent and has very comprehensive information about all of their products, all of which can be ordered from the website online.

Conclusion

Airbox offers all you expect from a modern portable touch screen GPS and then quite a bit more as well. There are lots of "oh that's good" moments of discovery. The screen layouts and menu control are very nice, to the extent that they feel like they were designed by people who fly (they were). The Fastplan software is a great add on tool for flight planning and it is nice to be able to plan longer cross country flights on a PC and then download them to the GPS.

The basic Airbox devices are very keenly priced and it's good that airspace updates are delivered for free which will encourage owners to keep their devices up to date. And it's also good that the company aims to succeed by delivering customer satisfaction and continuous product improvement based on customer feedback.

The Airbox website is at **www.airboxaero.com/nz** or go to www.airboxaero.com and select the NZ flag at the top of the page. Everything you need to know is on the website including purchase and ordering options.

Book Review

Precious Metal: Classic Fighters in New Zealand

This magnificent book by Gavin Conroy showcases his photography of WWII era fighters that have flown in New Zealand during the last 6 years while Gavin has been pursuing air-to-air photography and quietly becoming famous for it in the process. It is hard-bound and 160 pages in length, covering 15 different aircraft which are each given a chapter of their own. Precious Metal has been superbly produced by Craig Potton Publishing.

The book is much more than just photographs, and aside from the expected text summarising the specifications and achievements of each type, there is a history of the actual aircraft pictured, and most interestingly, a commentary from a pilot of the aircraft in New Zealand today. In this way, the book captures not just the grandness of the machinery through Gavin's photography but also the essence of what it is like to fly each of these treasured and valuable historic aircraft.

Detailed and powerful images (often full page) of engines and cockpits are included, to the degree that you can sense the presence of the aircraft on the pages and also try to imagine what it is like to fly one. All pilots (licenced and armchair) will enjoy the book immensely. Equal credit is due to the photographs and to the publisher for conveying a real sense of emotion with the book. It's much more than a collection of pictures which unfortunately is all that many similar books provide. Available nationwide and from **www.craigpotton.co.nz** We think it's a bargain at RRP of $59.99

News Briefs

30% off CorrosionX Application

Aircraft Detailing NZ are offering KiwiFlyer readers a 30% discount off the normal price of a CorrosionX treatment of their aircraft before March 31st 2012. This product is used by the US and other militaries around the world. Treatment involves accessing airframe cavities via inspection panels and spraying the product which spreads everywhere that moisture goes, leaving a high dielectric film that prevents corrosion.

Contact Chris on 021 262 2272 to invest in the future of your aircraft.

30,000 KiwiFlyer Website Downloads in the last 12 months.

Once the following issue of KiwiFlyer is in the market, we upload the back issue and articles from it to our website for free download. In 2011, more than 30,000 articles and issues were downloaded (excluding traffic from search engine bots). The top 8 (out of more than 150 different) countries were NZ, USA, France, China, Australia, Japan, Germany and the UK.

We welcome our international readers and hope you enjoy what you are finding.

Warbirds Over Wanaka Free Tickets from KiwiFlyer

We have four free General Admission Day Passes for Sunday 8th April to give away. To enter the draw, send us a note telling us a) the thing you like most about KiwiFlyer, and b) one thing we could do better or that you would like to see added to the magazine. We'll draw the winners on 12th March and let you know if you are successful. Email: editor@kiwiflyer.co.nz or post to PO Box 72841, Papakura 2244. We look forward to hearing from you.

Recently opened at Wanaka is a new Warbirds and Wheels attraction showcasing an impressive collection of Warbirds including a RNZAF Skyhawk fighter jet, Strikemaster, Vampire, Hurricane, and a WW1 SE5A, 26 rare Classic Cars, Sir Tim Wallis display, and original New Zealand art works.

More Wings Graduates at Massey

Eight Bachelor of Aviation students from the Massey University School of Aviation were presented with their professional pilot licences at a ceremony on the Manawatu campus late in 2011. These were the first pilots to complete their training on Massey University's fleet of Diamond aircraft and also the first to complete scenario based training.

Receiving their Wings insignia were: Calum Burn (Auckland), Louis Chia (Singapore), Matthias Guzy (Christchurch), Jagdeep Kang (Singapore), Elisha Lim (Singapore), Kiran Parbhu (Wellington), Mitchell Watson (Auckland) and Saga Witjaksono (Indonesia).

Frank Sharp paid tribute to the students' hard work to complete the training and said he was pleased that they were continuing on to complete the degrees majoring in flight instruction or aviation management.

New Tecnams

Two new variations of the Tecnam P92 are now available.

The P92 Sea-Sky Hydroplane requires a take-off run of less than 200 metres, and affords ease of operation, both on the water and in the air. The design also incorporates Tecnam's 4 wheels retractable landing gear.

The P92 Tail Dragger results from research saying that the GA community preferred tail wheel configurations, side by side seating and metal construction. The P92 Tail Dragger can be powered by Rotax or Lycoming (O-233) engines.