



## Pilot

This article is featured in the February 2006 issue of Pilot magazine © 2006 by Archant Specialist

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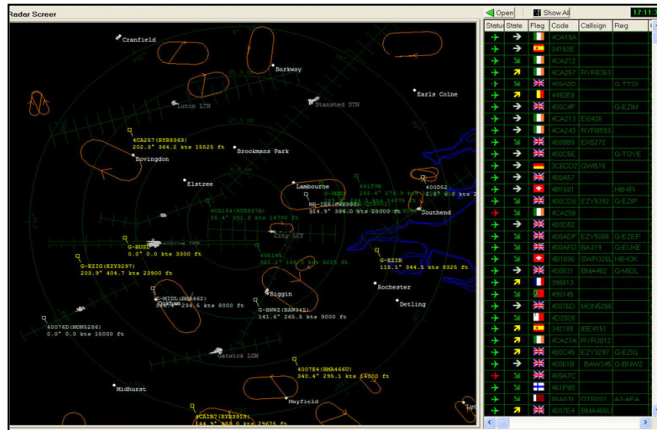
## Products >> SBS-1 Virtual Radar

Armchair air traffic controllers will soon be able to track aircraft on "personalised" radar at ranges up to 250 nautical miles, thanks to the recent of launch of UK-based Kinetic Avionic Products Limited of the SBS-1, a Mode-S/ADS-B receiver.

This magic box is a genuinely ground-breaking product. It is a computer peripheral which receives and displays Mode S transponder data.

Plug the black box into a computer, plug in an aerial, run the software and you have the equivalent of a radar screen showing all Mode S/ADS-B equipped aircraft within range of the receiver - around 200 miles for aircraft at height, but nowhere near as far for aircraft below 20,000 feet.

The screen can be configured for range, the centre point positioned anywhere you want, and the screen layout changed to show a number of different windows including a vertical profile of all aircraft on the main radar screen. You can measure bearing and distance, show recent track, display altitude trend data, and select additional information on individual aircraft such as aircraft registration, type and country of origin.



The system does what it promises to do without any glitches. It takes the data stream from the Mode S receiver, decodes the flight data, adds information from a database, then displays the result on the screen. In use from a location in Norfolk, I was able to pick up aircraft entering or leaving the airways systems at Clacton and track them down to around 15,000 ft, at which point their signal was lost. All very straightforward and trouble-free.

The SBS-1 is really an aircraft spotter's 'must have' which at this stage only hints at future potential for the GA market. Friends who spend much of their spare time listening to commercial air traffic transmission on their air band receivers were euphoric having seen this device. They could watch the progress of the aircraft they were listening to. Spotter heaven! In this context £400 is good value when compared to maybe £200 for a top-end receiver, Expect to see cars lined up at your nearest commercial airfield with laptop 'radar' displays alongside cameras and air band receivers.

Future GA value is easy to see. When all aircraft are suitably equipped, a non-radar airfield can have the benefits of a virtual radar system for an extremely low investment. Instructors can keep an eye on first-solo students. Potential traffic conflicts can be spotted. Visiting pilots who are temporarily unsure of position can be given assistance. For my rural airfield this certainly qualifies as a magic box.

Those of us who matched early GPS units with laptop computers to provide a moving map display might also see the potential in using the SBS-1 with a laptop in an aircraft to provide an in-cockpit 'radar' display. I sat at 5,000 feet over Norfolk and could pick up aircraft on final at Heathrow and right down to the ground at Stansted. It is a little clunky but it works. Clever but of limited use unless you regularly use airspace where Mode S/ADS-B is already commonplace.

One interesting feature which is promised is an on-line system which combines the data from other SBS-1 users, allowing connected systems to see aircraft from around the country or even the world. MapMode S appears to have become bogged down in security issues. Looking around the internet, early adopters of the SBS-1 have already started to build new databases to enhance the information display of the unit – one takes aircraft data from the G-INFO database, another overlays track data on Google Earth. If it doesn't already exist, someone will probably find a way to link live data to MS Flight Simulator to allow you to fly your simulated 767 with the real thing.

The potential for extending the device is almost endless. But this creates a problem for the manufacturer. If a modest network of users with high-gain aerials combines data through an independently operated host service, the same data set, and therefore functionality, could be provided to non SBS-1 users. Just log on to the server and get your 'radar' data from the Internet courtesy of some benevolent early adopters.

A number of commercial services already operate in the USA (see [www.flightexplorer.com](http://www.flightexplorer.com) and [www.passur.com](http://www.passur.com)). Extension to the UK and the self-help community can't be far away. It also seems likely that 'in aircraft' units will be capable of similar radar type displays from transmitted Mode S data.

SBS-1 is manufactured by Kinetic Avionic Products [www.kinetic-avionics.co.uk](http://www.kinetic-avionics.co.uk) and is available from Transair for £499.99. – Ian Davies