

DSCdecoder 3.8a REVIEW

By Alan Gale, G4TMV

INTRODUCING “DSCdecoder”– THE NEW KID ON THE DGPS BLOCK: In December 2006 I was very pleased to hear from the creator of the popular COAA suite of decoding programmes that their well established “DSCdecoder”, which was originally designed to decode the DSC and NAVTEX signals on MF/HF and VHF, was now able to decode DGPS signals as well as of version 3.8. At the price this programme was being offered at, it looked like it could be the ‘missing link’ that the DGPS Dxing community had long been waiting for. Naturally I was only too keen to try this out and see what it had to offer, and how it compared with the other two established decoders on the market, and the following sections take a good look at how this programme operates, and what it has to offer for the already active, or budding DGPS Dxr:

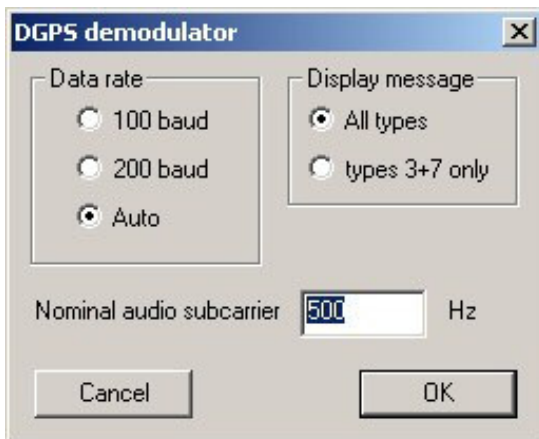
SO WHAT IS DIFFERENT ABOUT THIS DECODER THEN? One thing that is immediately noticeable is that the user can download a fully-working evaluation copy for a period of 21 days, which is excellent news for anyone who is thinking of trying out this mode for the first time, but doesn't want to spend a lot of money on a something which they might not like. This has always been one of the drawbacks with Skysweeper, which in demo mode will only decode pre-recorded .wav files, and can't decode signals in real-time in its unregistered form. A number of enthusiasts have told me this did put them off a bit, since you can't really get a feel for how sensitive a decoder is until you have used it under ‘battlefield conditions’ on weak or noisy signals, but with the high cost of the software, you have to be really keen to be prepared to take a gamble that you will like the DGPS mode, or require one of the other modes it offers before you shell out on a full copy.

DSCdecoder's 21 day evaluation period will allow you to get a good idea of just how well it will work for you, and you can also try out its other modes too, which is good news for those who also like to monitor the DSC and NAVTEX channels. I know that a number of MW enthusiasts already like listening for the DSC signals on 2187.5 kHz, but for the purposes of this review, I just wanted to concentrate on its DGPS decoder and its new DGPS decoding abilities.

One of the first thing that is noticed on opening the DSCdecoder interface is just how different it looks to the other two available DGPS decoders, and I first had to spend a little time familiarising myself with its controls and settings, and trying out all the different options. One thing that quickly caught my eye was the ‘chart’ option, which will take the information from certain types of decodes and translate them into a position on a map of the world, which comes as standard with the programme. This was quite a novel idea, and probably originally designed to show the positions of transmitting vessels using the DSC mode, but it was nice to see just where a DGPS beacon was located, rather than having to dig out an atlas (or Google Earth) and look it up on there every time. I assume that this function was mainly intended for the DSC and NAVTEX modes, but it was an interesting option to experiment with in the DGPS mode too.



In the image above we can see the DSCdecoder toolbar, and as you can see, the modes can quickly be selected by clicking on one of the toolbar buttons, or alternatively by clicking ‘options’ and selecting it from the drop-down menu that appears, which will also offer the user a number of other options too.



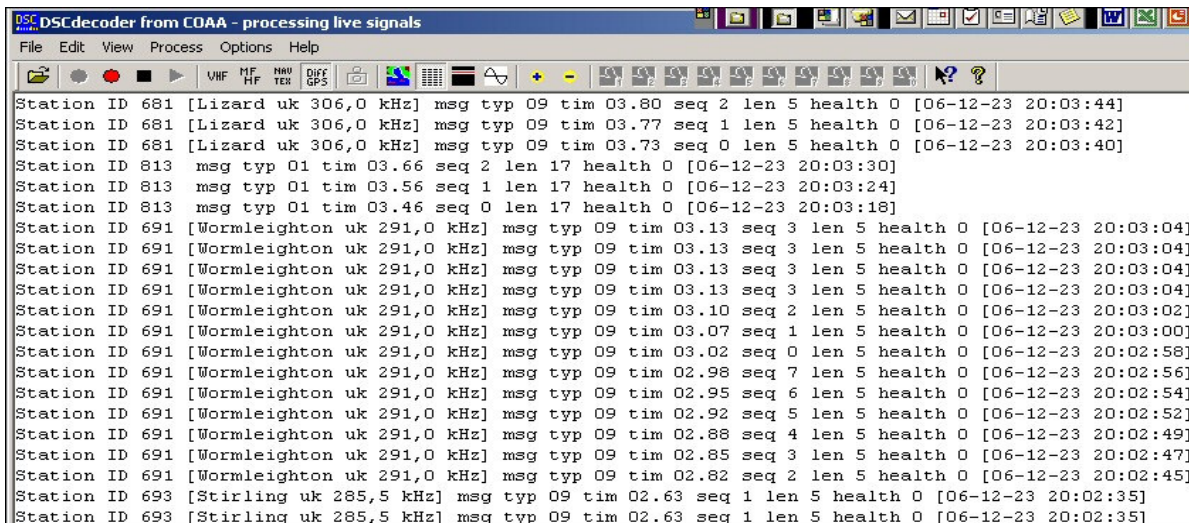
On clicking the DGPS button initially, you will see a box appear as in the example on the left, where you will be able to select the required baud rate, and match the audio to your receiver's BFO output or pitch (**NOTE#** the default setting is 1700 Hz, mine shows 500 Hz, since this is the pitch that I normally have my receiver's BFO set to, and is the pitch that I prefer!).

Once you have chosen your desired settings, be sure to ‘save’ your configuration by clicking on ‘file’ and then ‘save configuration’, this will gives you five choices A,B,C,D or E, you can choose one of these and then easily bring up all of your own personal favourite settings from here the next time you open the programme if you need to.

On the left-hand side of the toolbar you will see a green button, and clicking on this will start the processing of the audio signals. To the right of this is a red button, and clicking on this will allow you to easily record .wav files, and you will notice when you click on this that the button to the left of it shows a small black square, this is the button that you use to stop your recording. The button to the right of this displaying a small black triangle is your playback button. Next we see four buttons showing the legends 'VHF', 'MF/HF', NAVTEX' and 'Diff GPS', these are the shortcuts to the mode selection, so the latter one is the one we require to decode our DGPS signals.

To the right of the 'Diff GPS' button is a small icon showing a camera, this allows you to take a screen dump of the displayed chart, again a very useful function, since I normally have to open Paint Shop Pro and use the 'Screen Capture' facility to do this in other programmes. The next four buttons are 'Chart', 'Messages', 'Spectrum' and 'Signal', and selecting either of these will choose what you see on your screen, e.g. 'Chart' will show a map of the globe, which will indicate the location of the beacon or station if the necessary text is decoded, and 'Messages' will display the actual decodes. 'Spectrum' and 'Chart' display information about the incoming signal, so for DGPS you will generally want the 'Messages' button selected for your DGPS decoding. To the right of these are some + & - buttons, these are used for zooming in and out on the chart, and finally, there are a row of 10 'Quick Chart' buttons, which enable you to open a predefined chart with a single click. The programme also comes with a very useful 'Help' file too, which will answer most questions.

STARTING YOUR DECODE: We have now opened the programme, selected 'Diff GPS' from the button on the toolbar, and chosen our required baud rate of either 100 or 200 baud (this will be set automatically if 'Auto' is selected), and then opened the 'Messages' window, and now, if your soundcard settings are correct (you can check this by clicking 'Options', 'Audio' and 'Soundcard' from the drop down menu), we should now be ready to go, and we can now set our receiver to one of the DGPS channels between 283.5 kHz and 325 kHz and see what appears.



As you can see in the data above, the message window displays the Station ID, which is one of the main items that DGPS Dxers are interested in, and to the right-hand side of that we can also see that some of the stations names are displayed too, this is because from version 3.8a, the user can edit the DGPSSSTN.txt file, and add the additional data from some source such as my own World DGPSMasterDatabase, and this will then be displayed on the screen as the signal is being decoded. Message Type, and the Date and Time that the message was received are displayed next (in this case this is in yy/mm/dd format, or the 23rd of December 2006).

Once you are happy that all is working okay and that your message types look okay (the more common types are the Type 1, Type 3, Type 7 and Type 9 messages), then you are ready to try it out on the weaker signals (please note that 'phantom' decodes are possible from time to time with most decoders, so any message types other than the ones listed above should be treated with caution. There is some information about this subject later in this document, but I would also recommend that readers should refer to the article called "DGPS Formats" by Brian Keyte, which is available from <http://www.beaconworld.org.uk/dgps.htm> for a lot more information about the various message types and how to spot any 'phantom' decodes.

Some DGPS stations will also broadcast a "Type 7" Beacon Almanac message at regular intervals (often 15 or 30 minutes) as well as the more usual 'Type 1' and 'Type 9' formats, and, according to the information in the Help File, when this happens the DSCdecoder displays this information in the 'View - Messages' screen and also plots the position of each beacon with a conventional radio beacon symbol on the View - Chart screen. The label gives the numeric ID of the station in square brackets.

CONCLUSIONS: One thing that really impressed me about this programme was just how simple it was to use once the user had become used to the interface and had set it up to their satisfaction, and also just how well and how quickly it locked onto a signal, which isn't always the case with the more expensive Skysweeper programme. I would also like to say that Bev, the programme's creator, is very amenable to any suggestions for improvements, and version 3.8a was quickly produced to add a few extra features at the request of a number of users. Registration of the programme after the 21 day trial period ends is a very reasonable 25 Euros (about \$33 US, or £17 GBP), and, with the additional bonus of also being able to decode DSC and NAVTEX signals as well, is a real bargain at that price in my opinion, and really fills the need for a reasonably priced and effective programme for those who can't afford the more expensive Skysweeper software, or who are no longer able to run their RadioRaft programme due to having upgraded their operating systems to Windows XP.

I certainly like it, and the more I use it, the more impressed I am with it, and I would definitely recommend that anyone reading this guide and wondering if DGPS Dxing is for them, gives it a good try out first. I am sure that many Dxers who have often thought about this mode, but been put off in the past will now have no excuse for not giving it a try. DSCdecoder 3.8 arrived as the perfect early Christmas present for all DGPS enthusiasts, and will be a most welcome addition to members of the DGPS Dxing fraternity in my humble opinion, especially if the following versions (registered users are able to get new versions automatically for no extra cost) continue to develop the DGPS decoder's abilities. A very welcome Windows alternative to the DOS only RadioRaft!

SYSTEM REQUIREMENTS & DOWNLOAD DETAILS:

C.O.A.A. also produce a number of other useful programmes, such as 'Ship & Planeplotter' and more information on these can be found on their website. You will require at last a Pentium level PC running Win95/98/Me/2k/XP, and also a compatible sound card. Registration can be made securely on-line from the above page, and it costs only Euro €25 (plus VAT for EU residents) for personal use. A higher fee applies for professional or commercial use of the programme, which can be downloaded from the following site:<http://www.coaa.co.uk/dscdecoder.htm>

My thanks to Bev at C.O.A.A. for the review copy of the programme, which is now a firm favourite at this QTH.