How Set up Low Cost Virtual Radar using DVB-T Dongle.

Please note that you don't need an Amateur Radio Licence to try this project, however you should check you local laws as they may prohibite listening to certain bands

1. Purchase an RTL-SDR dongle. The cheapest and best for most applications is the R820T dongle. For this Demo I am using a Terratec Dongle purchased from Ebay. However I find the best ones to be the Noolec http://www.nooelec.com/store/sdr/nesdr-mini-rtl2832-r820t.html
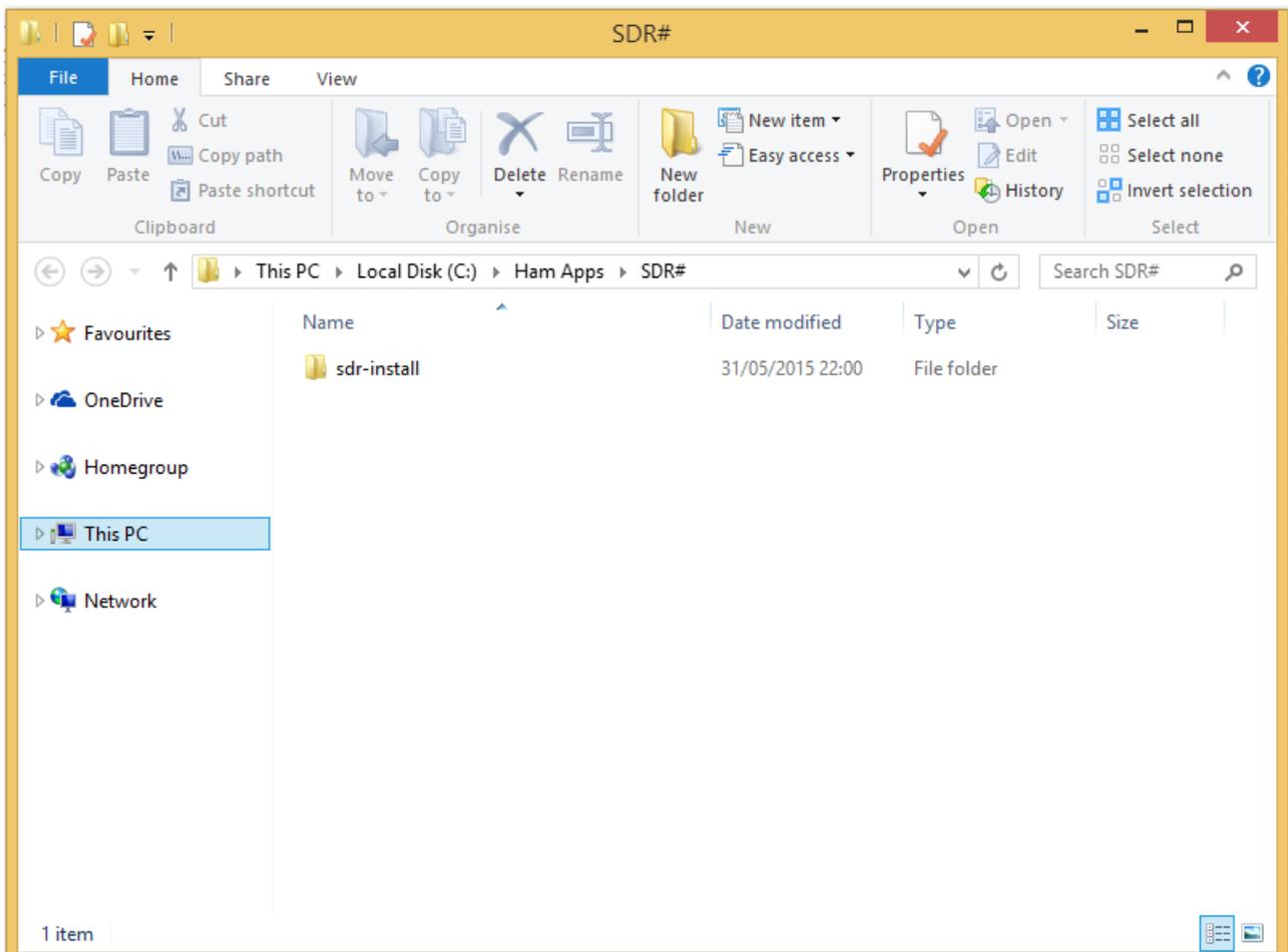
DVB or Digital Video Broadcasting Dongles can be purchased on line for around a £12.

Warning they are <u>NOT</u> all the same.

This is based on the R820T chipset, others may not work !

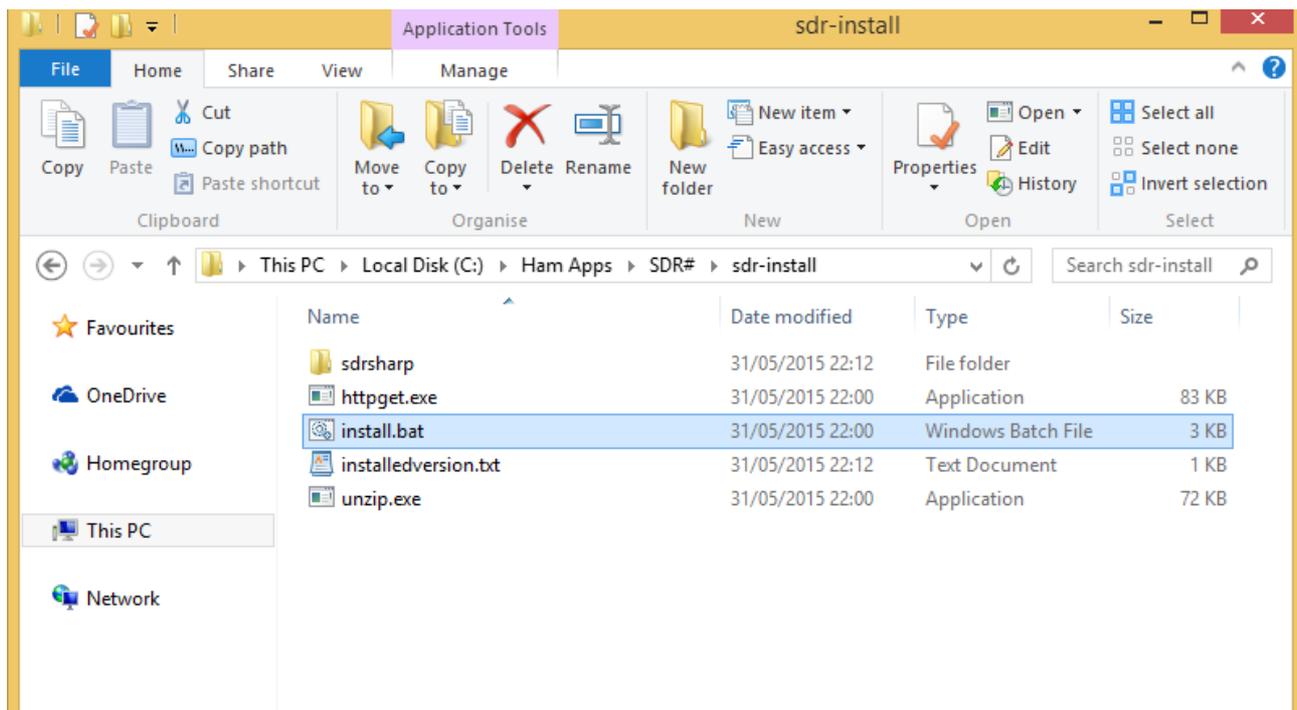2 Go to the SDR Sharp web site and down load SDR# Software
http://www.sdrsharp.com/#sdrsharp and extract the software to a folder of your choice.

Here I have downloaded it to C:\Ham Apps\ SDR#

3 Go to the folder where you installed SDRSharp and double click on install.bat . This will start a cmd prompt that will download SDRSharp (check to see it works) and all the files required to make SDRSharp work with RTL-SDR. Everything will be placed into a new folder(that you created above) within the sdr-install folder called "sdrsharp". The command prompt will ask you to Press any key to continue and then automatically close once you have done this.

My Directory now looks like this.

3b . You should make sure your PC is not set to auto install or search windows update an install drivers automatically (allowing windows to do anything its self is bad in my view). - if you are not sure how to do this – just have a quick google – there are plenty of sites that explain how to do this.
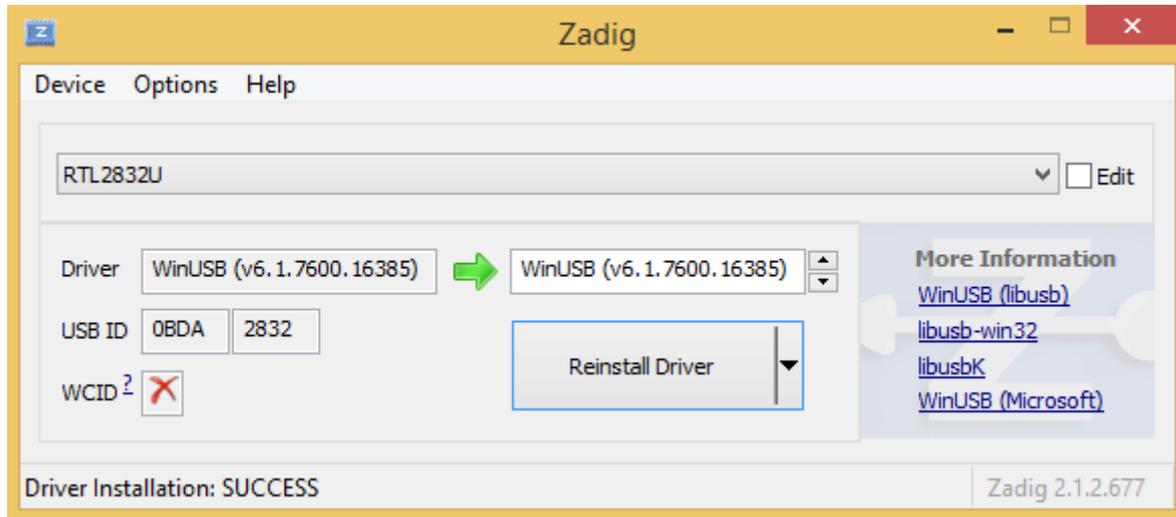
4 Insert your dongle and **do not** install any of the software that it came with (if any), but ensure you let plug and play finish attempting to install it. If you've already installed the software drivers that came on the CD bundled with some dongles, you must uninstall them first.

5. Change Directory into the newly created sdrsharp folder. Find the file zadig.exe. Right click this file and select "Run as administrator" if using Windows Vista/7/8.

6 Once In Zadig, go to "Options->List All Devices" and make sure this option is checked.

7. In the drop down list select "**Bulk-In, Interface (Interface 0)**" . Ensure that WinUSB is selected in the box next to where it says Driver. (Note on some PCs / Laptops you may see something like RTL2832UHIDIR or RTL2832U instead of the bulk in interface. This is also a valid/good selection). (Please do not select "USB Receiver (Interface 0)" this is important).

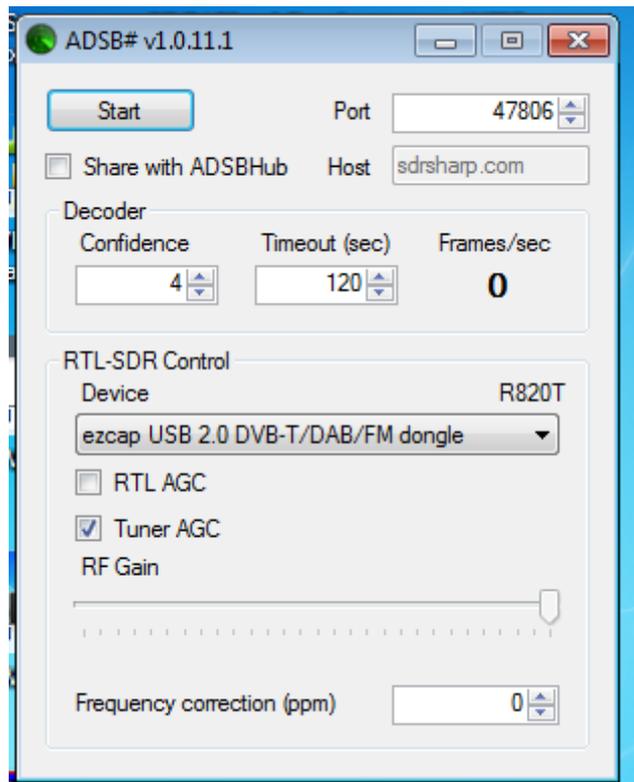Once Installed it should look something like this.

Note if you had not already done so *Click Install Driver*. You may get a warning that the publisher cannot be verified, but please just accept it by clicking on Install this driver software anyway. This will install the drivers necessary to run the dongle as a software defined radio.

Note – I always recommend using the same usb port each time, this will save you some time and trouble,
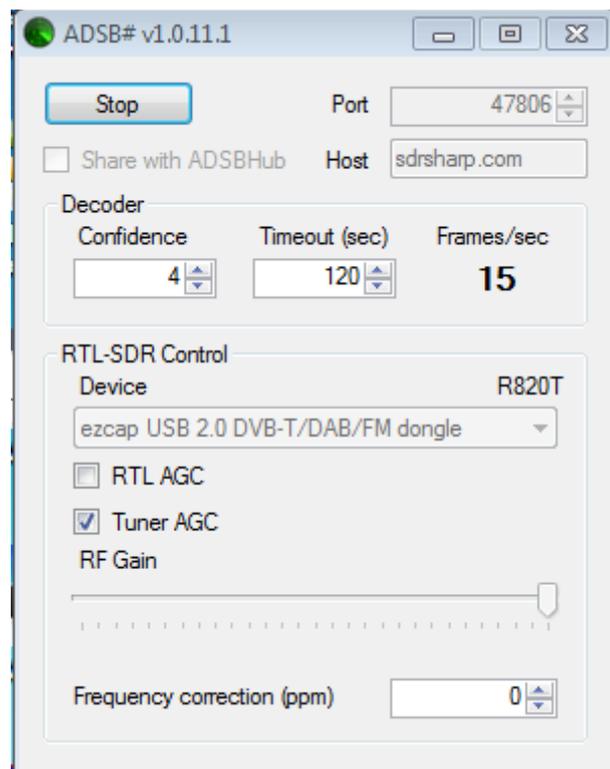

8. Download the ADSBScope Software from http://www.sprut.de/electronic/pic/projekte/adsb/adsb_en.html and follow the instructions to install.

Once you have both sets of software installed you are ready to go

Click on the ADSB# icon to start it up you should see something like ;
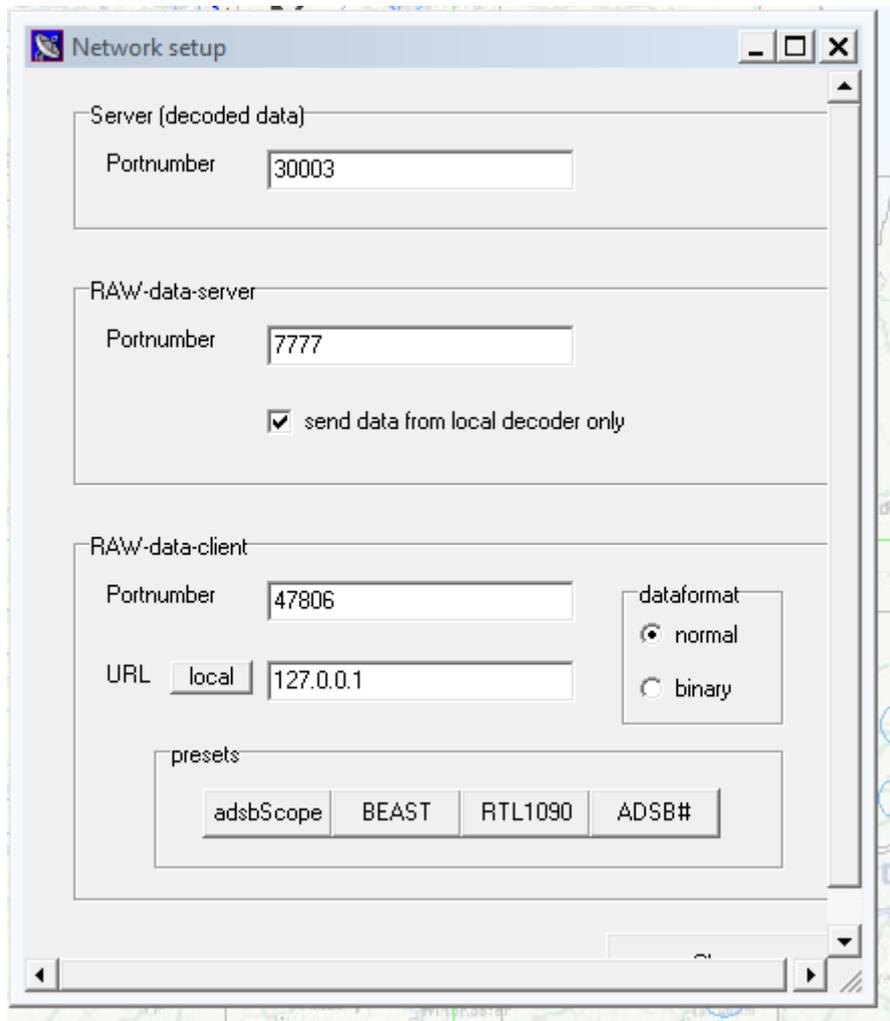

Make sure you turn the gain up and press start – you should see the frames/sec increase
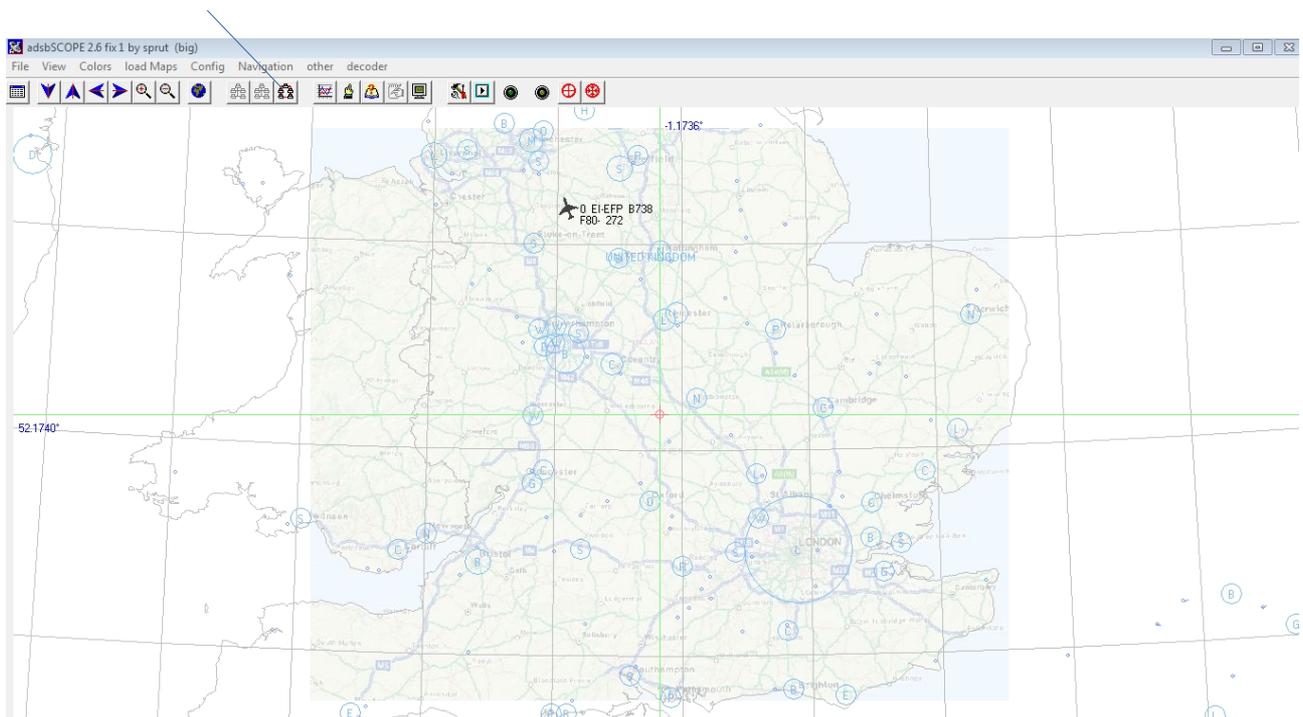
Now Start ADSBScope

setup the network options as follows

Other > Network > Network setup

Also in Other > Network > tick Raw Data Client Active.

Click on the Raw Client Icon and you should start to see aircraft on the screen

Acknowledgement to Tim G4VXE and other for first publishing this information