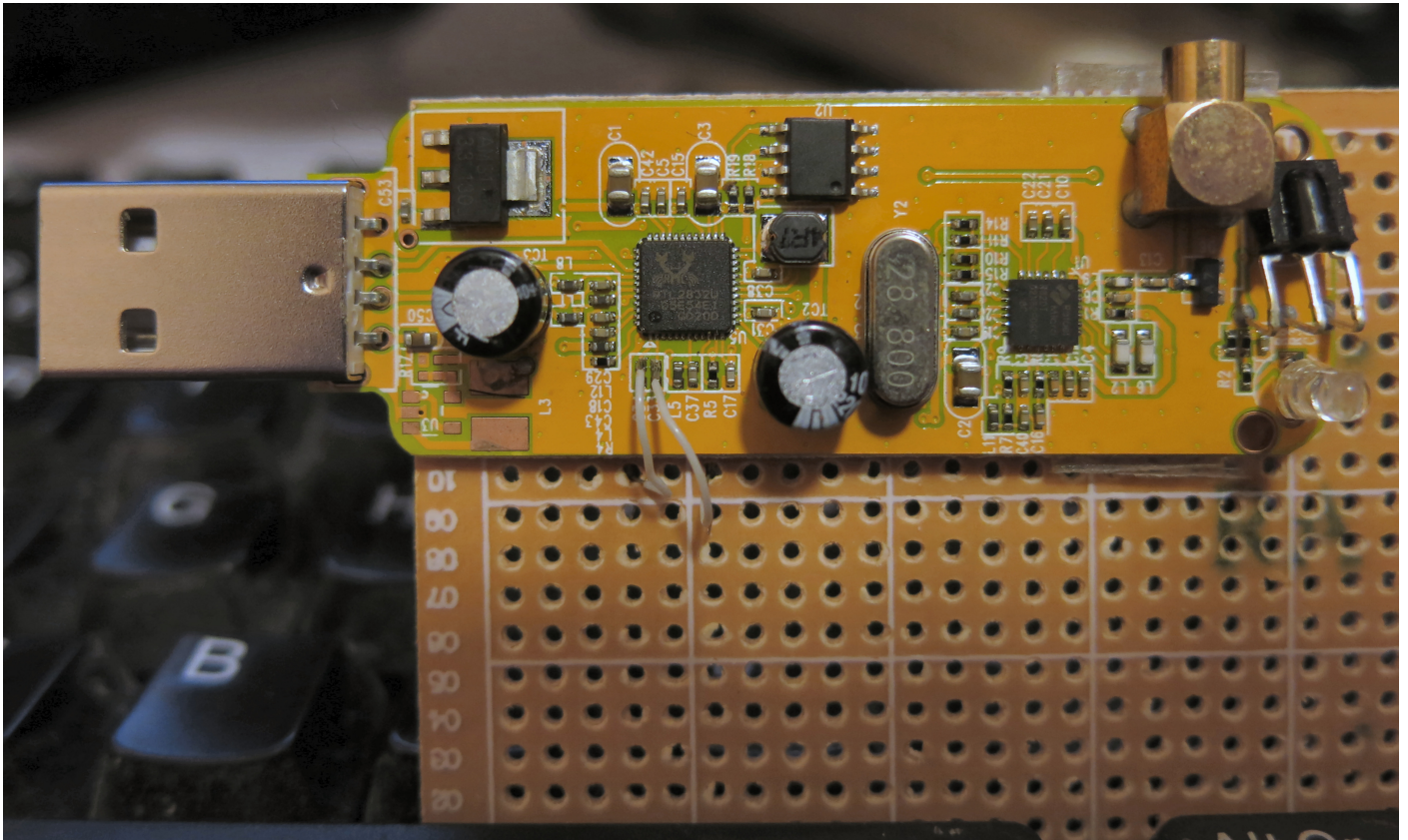


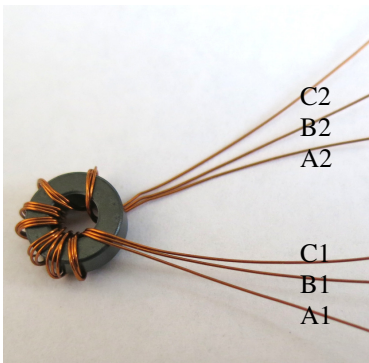
**Even more on using the RTL2832U R820T Dongle
Tony G4WIF**

In the Spring Sprat 2015 Ken G4IIB showed how to convert this popular TV dongle for use on the HF bands. The photo below shows how I mounted the dongle on some perfboard and connected (very carefully) the wires to the two surface mount capacitors.

The perfboard was from EBay. See the links section (you can't beat the price!)



The next step was to wind the transformer on a FT37-43 core (available from GQRP club sales).



C1 & B2 Join together and insulate.

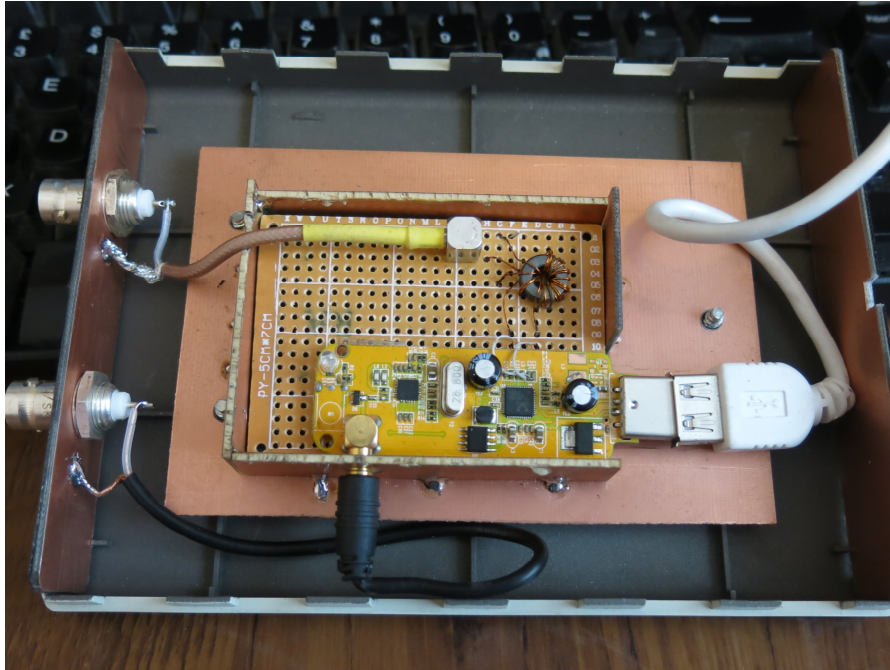
B1 connect to Pin 1 of RTL chip (see Ken's article)

C2 connect to Pin 2 RTL chip.

A1 connect to centre of antenna socket

A2 connect to earth of antenna socket.

Transformer connected and PCB case built and mounted in an old data-comms case.



You can see above that the original VHF/UHF connection to the dongle has been preserved and you simply need to switch the SDR software settings when you want to use the HF port. The dongle's USB connection was extended using a cable.

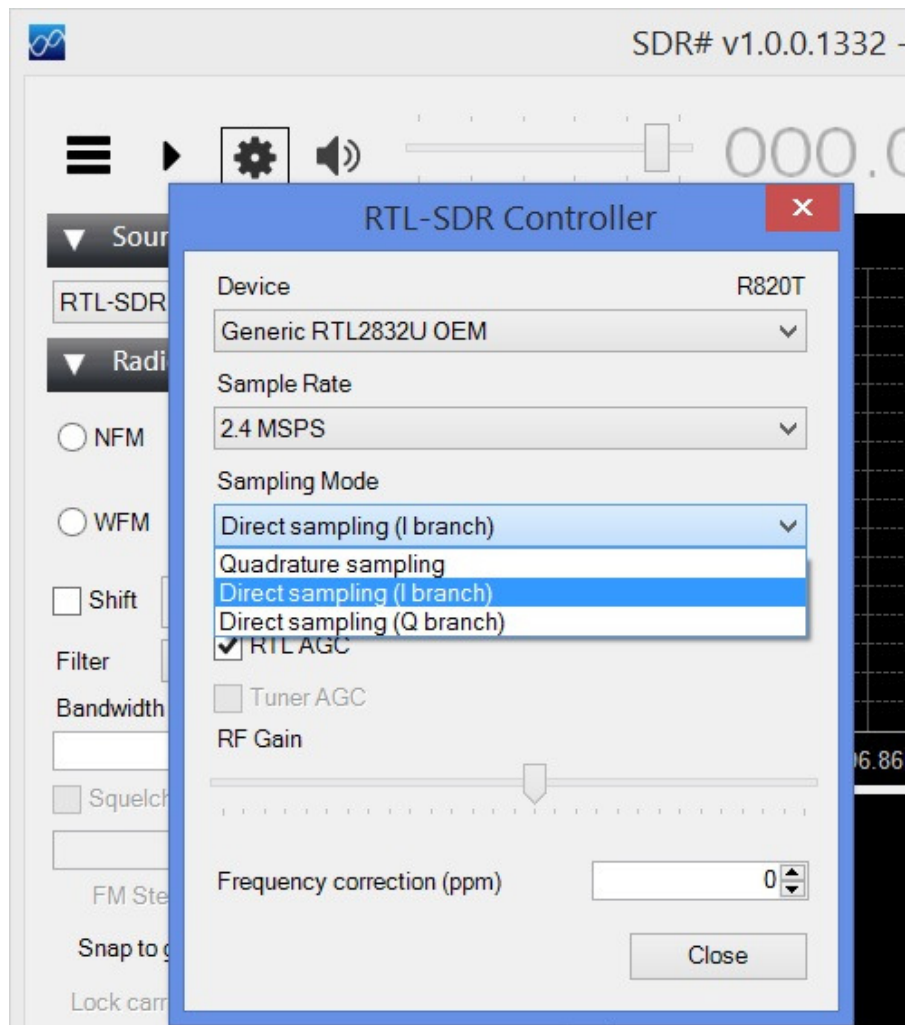
At the moment, I prefer to use the "SDR-Sharp" software from www.sdr-radio.com

The snapshot to the right shows the simple configuration change needed.

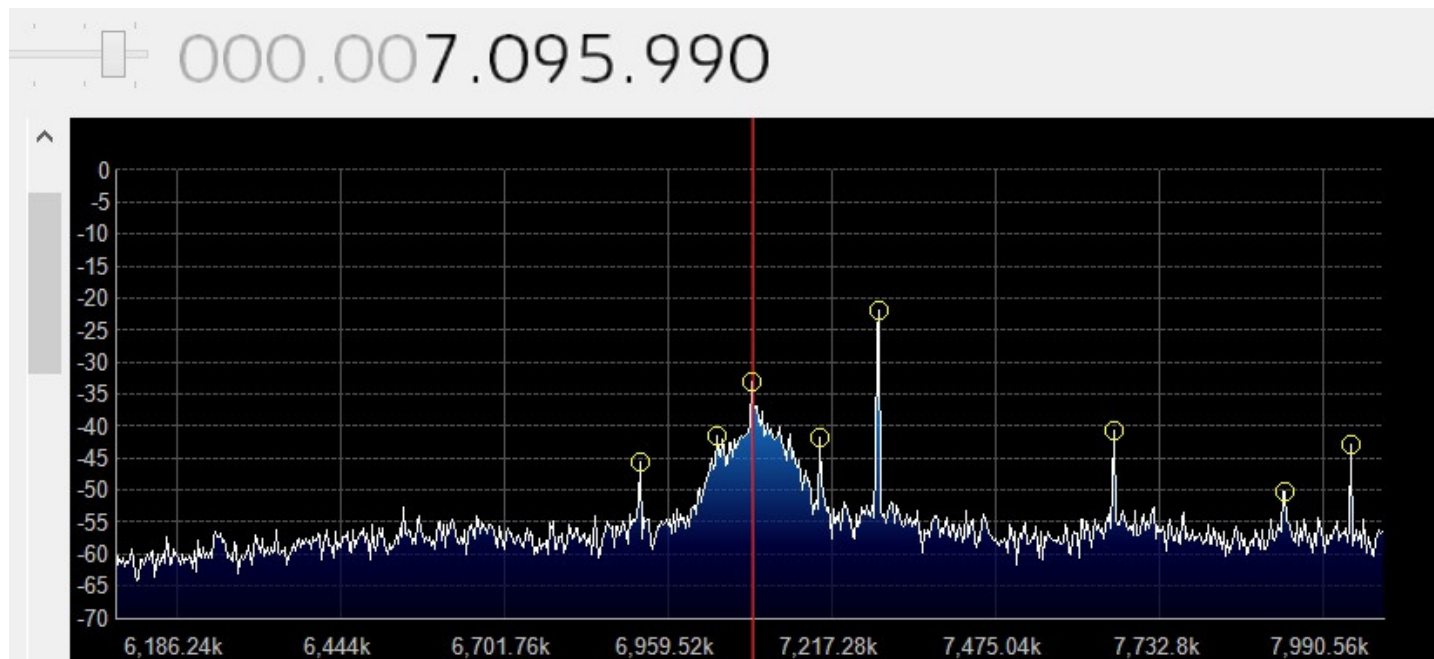
For the original VHF/UHF connection switch to Quadrature sampling

To use Ken's modification switch to Direct Sampling (I branch).

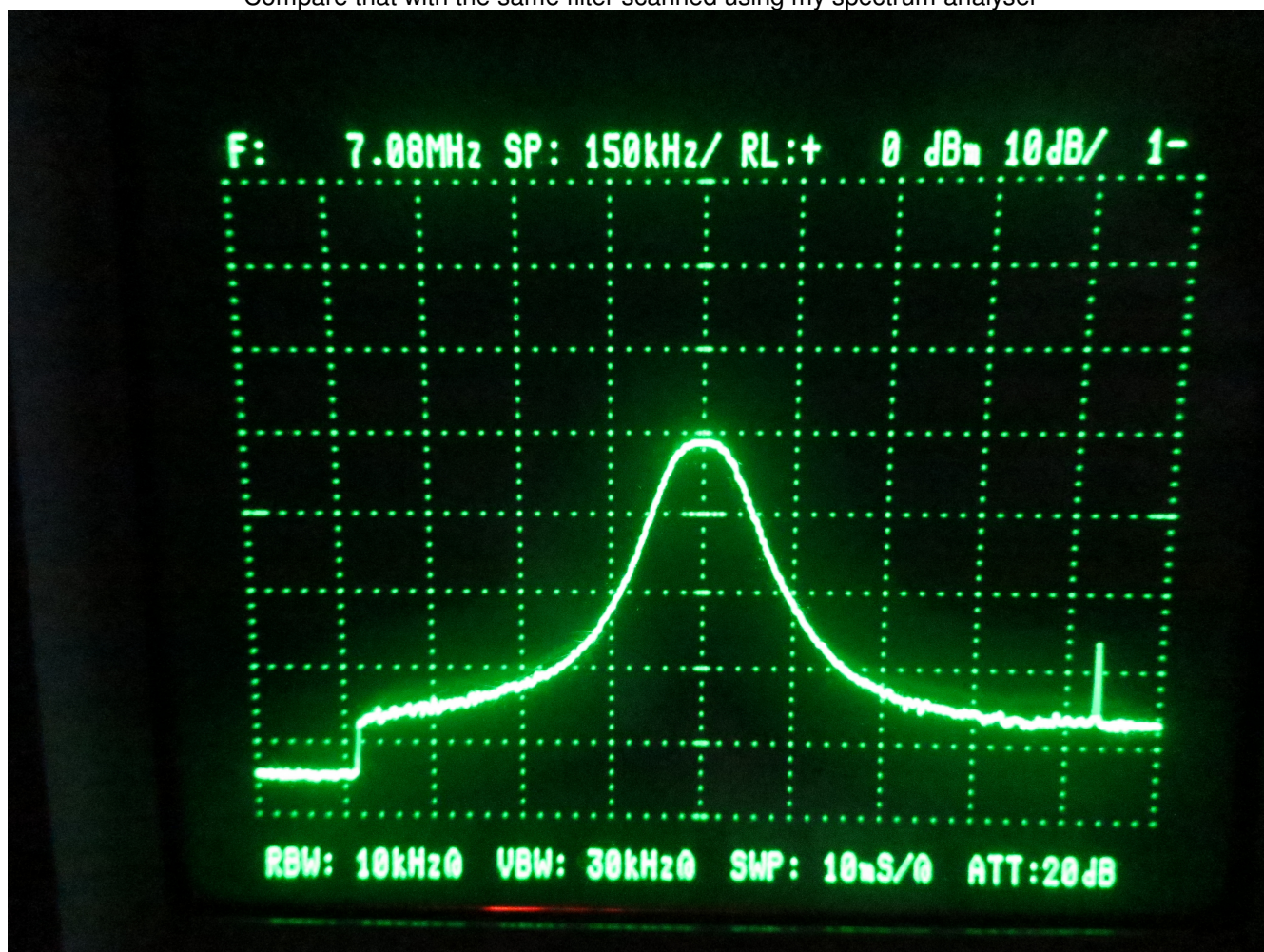
There are various tutorials on the web detailing the process for installing this software. I liked the Installation Video on Youtube by David AF5DN however, SDR Sharp have updated the interface since the recording so by all means watch David's video, but also read the AdaFruit tutorial. (see links section)



Out of curiosity, I injected wideband noise into a 40m band pass filter and looked to see how the output appeared on the TV dongle SDR display. Below you can see the results.

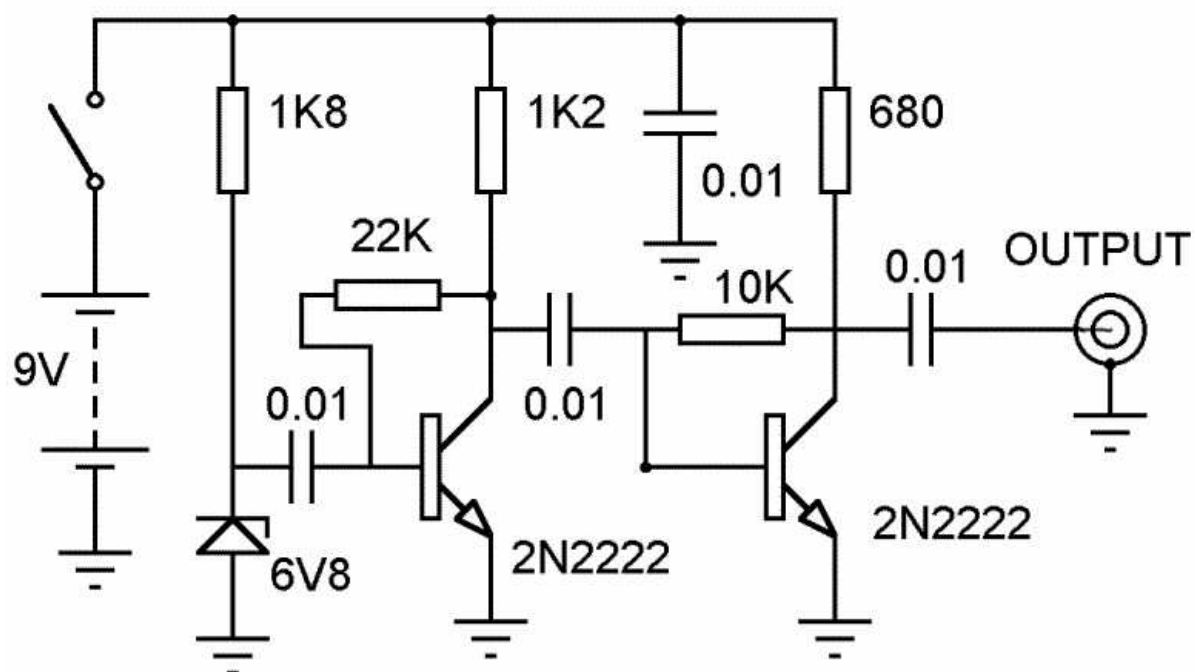


Compare that with the same filter scanned using my spectrum analyser



Clearly, the SDR software dB markings shouldn't be taken as anything more than guidance. This is what you could call "indicating equipment" and for sure, simple test gear is a lot better than none at all.

My noise generator is from a design by Tom N0SS. It has served me well over the years.



Some observations about the TV dongle. It is fairly hungry for power and I found it had to be directly connected to the computer rather than via a USB hub – even a powered one. It works without issue on both Windows 7 and Windows 8 (both 64 bit).

Links:

Perfboard.

http://www.ebay.co.uk/itm/20Pcs-DIY-Rectangle-PCB-Board-Prototyping-Bakelite-7cm-x-5cm-/291193688105?pt=LH_DefaultDomain_3&hash=item43cc7f1029

SDR-Sharp

www.sdr-radio.com

Installation Video by David AF5DN

<http://youtu.be/MFqBj8gV0k4>

Installation Tutorial

<https://learn.adafruit.com/getting-started-with-rtl-sdr-and-sdr-sharp/overview>