

DRM-mobile reception

1. Equipment

For the first attempt to receive DRM mobile myself, after having seen an impressive demonstration in the Merlin car at the IBC in Amsterdam, I mounted a whip antenna (length 1.30m, originally designed for 27 MHz) using a magnetic base on the top of my VW van (Diesel).



Pic1:car outside

With this antenna the signals were usually strong enough, so I did not need an amplifier.

I used my modified FRG100 receiver which I connected to the additional battery which is installed in this car.

The PC is a notebook running on it's built-in battery for short drives up to 2 hours; for longer drives I connect it to the same battery as the receiver (and take out the built-in battery pack to prevent uncontrolled recharging) and I have no other devices or car electrics running on this battery. So I don't get

additional noise from power supply units, car electrics and even starting or shutting off the engine has nearly no impact on the power supply for the DRM equipment.

The receiver fits perfectly between the two seats in the front. I can change stations just by turning the one knob for the presets. The computer is fixed on the floor behind the receiver and has not to be touched at all.

I listen through the car audio using an adapter cassette as my car stereo does not have a line in (and I have not yet figured out the audio connectors at the back).



pic 2 : Car inside receiver
pic3:Car inside: notebook

Technical Data:

Antenna: Midland Funk 130

Magnetic base BM 150 DV

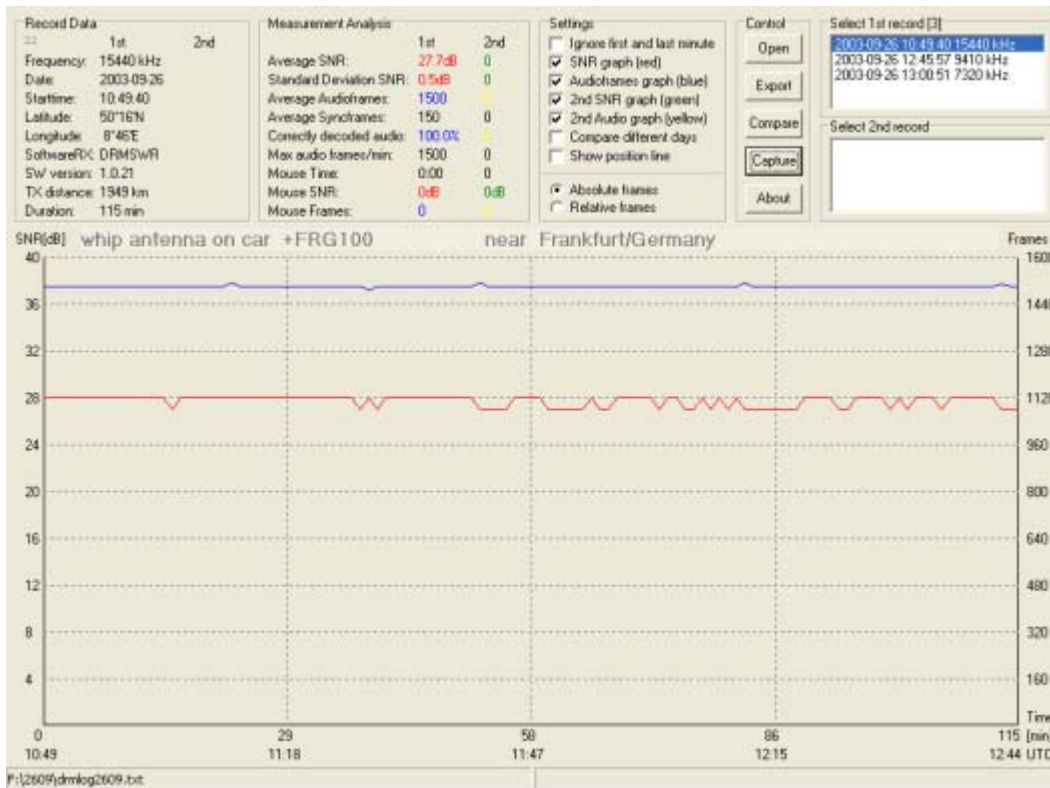
Receiver: Yaesu FRG100 (with SAT Schneider mixer)

Notebook computer: Type: smartbook A 8375M with an AMD Mobile 1800 processor

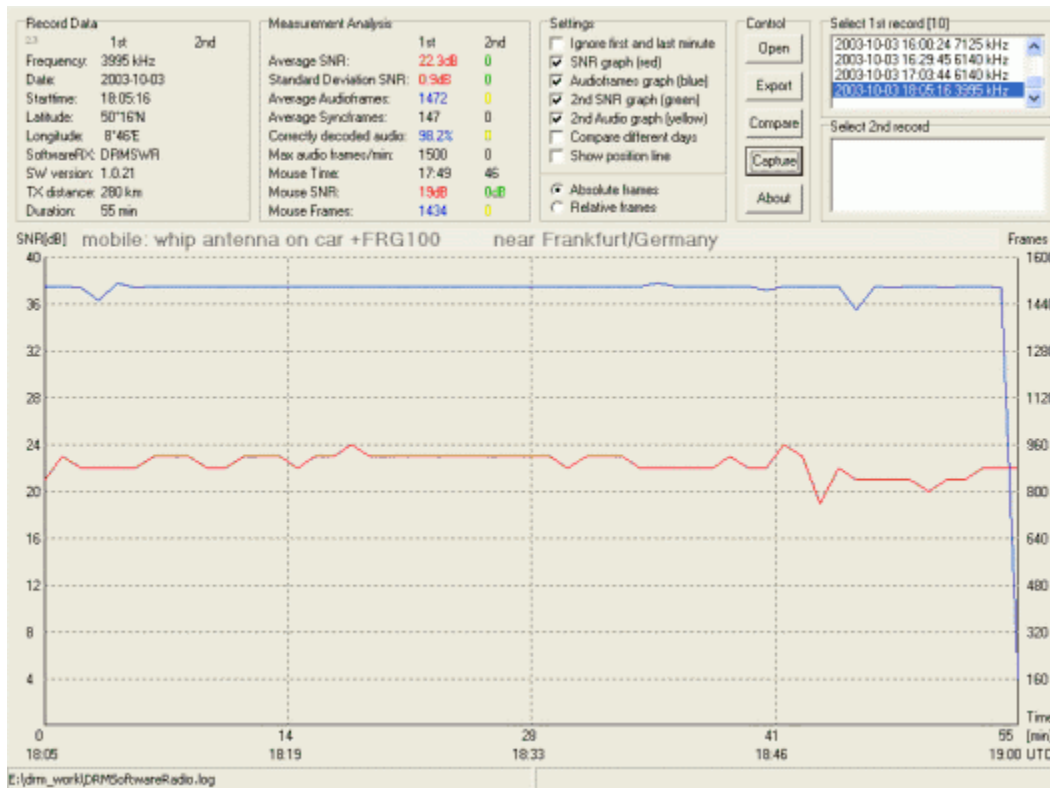
2. ReceptionResults

During 3 weeks of receiving DRM in the car, I tuned in to many of the transmissions that are on the air now and it has been working great at all frequencies from 1-16 MHz. Here are some examples of my reception results so far:

The best results are usually on the DW transmissions from Sines on 15440 kHz, and from Wertachtal on 3995 kHz and on 6180 kHz.



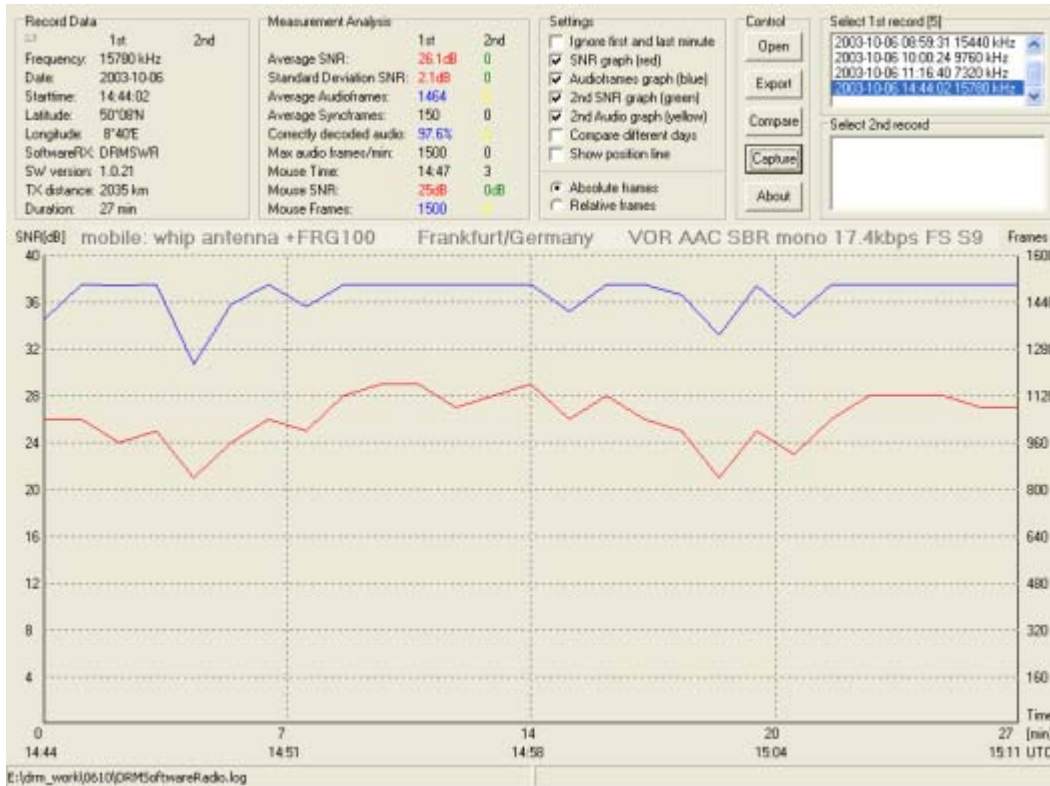
pic4:15440kHz



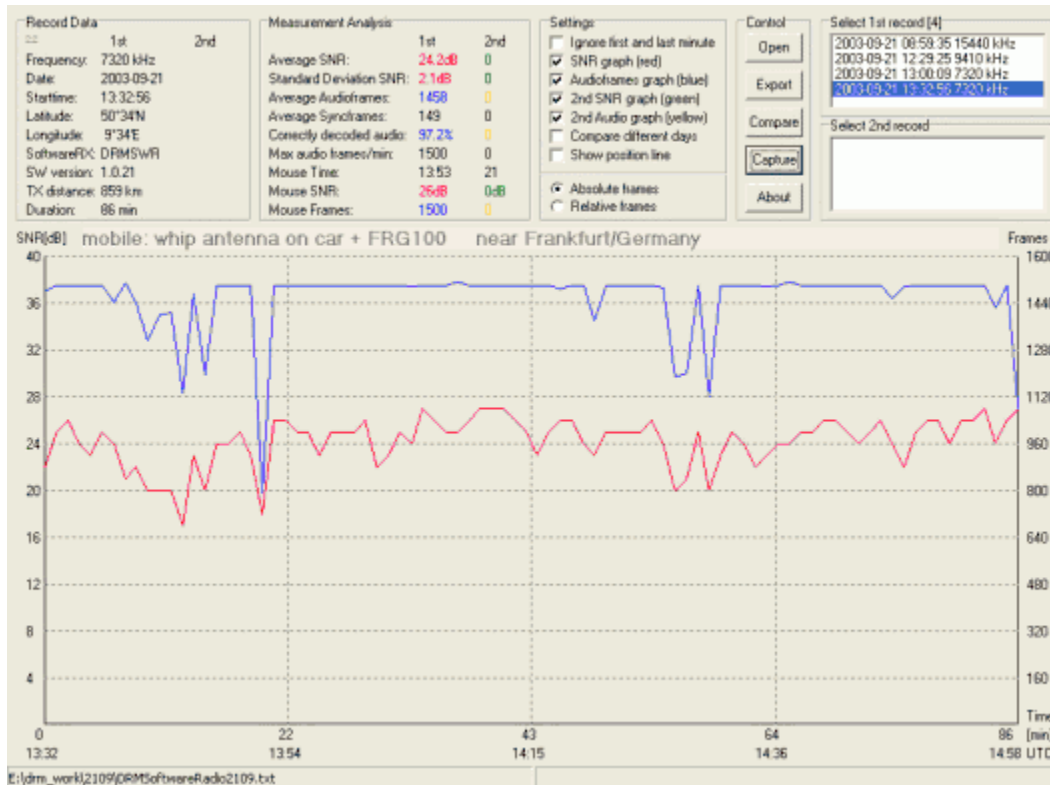
pic5:3995kHz

More challenging were the transmissions that are not so stable, like: VOR 15780 kHz,

DW 6140 kHz with interferences
 sometimes BBCWS on 7320 kHz from Rampisham
 RCI's transmission from Sackville, targeted at NE US



pic6:15780kHz



pic7:7320kHz

My routes included all kinds of roads and terrains, cities and rural areas, hilly regions, max. speed was 120 km/h not causing any problems as did tunnels, railroad bridges etc.

What I realized what had an impact on reception were some interferences when waiting at traffic lights, trams passing and driving in deep forests, especially in rainy weather.

And finally I did a comparison between the mobile configuration (blue+red graphs) and my home equipment (yellow+green graphs, using FRG8800 & tunable loop antenna).



pic10:3995 kHz comparison home and mobile reception

So mobile reception is working great and a big improvement compared to the audio quality on AM in the car. On some transmissions I even got a higher S/N than at home. I hope that in the future there also will be car audios available for digital radio including the SW- bands.

For further questions please contact stoeppler@yahoo.com

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