# RECEIVING DRM with an AOR AR5000 with auxiliary hardware but no modification of the receiver

*The experiments in the first part were done with softwares DREAM version 0.9.1 and DRM version 1.0.21.*
*Since December 15 the audio coding of the signal is changed, at this moment only DRM version 2.0.34 can decode the audio of DRM signal, probably a new version of Dream will be available soon*

In this second part, I used the 10.7 MHz  IF output of the AR5000 with an external converter with Xtal purchased from
http://home.t-online.de/home/sat-service/sat/DRM/DRM.htm
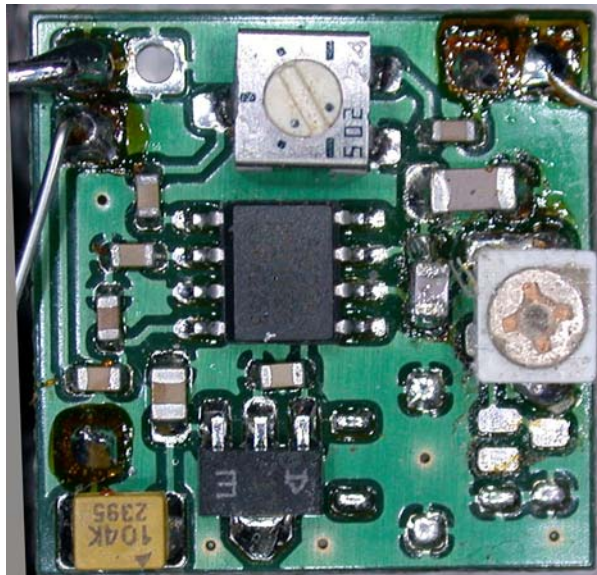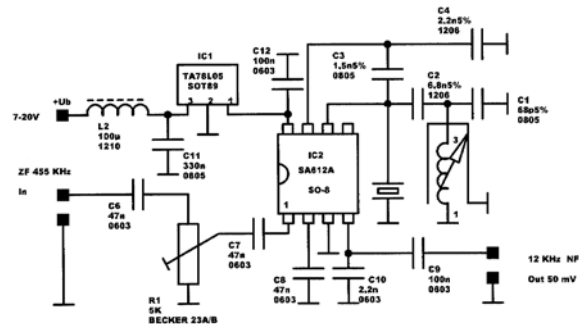
The AR5000 must be set to **IF2** to have the signal at the output of the 10.7 MHz filters, **IF-bandwidth** must be set to **30kHz**, mode is not important as we collect the signal before demodulation, the **AGC** must be set to **slow**

The IF signal level available on the rear BNC connector is directly related to the level of the input signal see: http://www.aoruk.com/5000bull.htm#if_out_level

If your received signal is too low you can insert a 20dB amplifier between the 10.7MHz output of the AR5000 and the input of the converter, I use a simple one transistor antenna amplifier that I normally use to boost antenna signal on some shortwaves signals

The converter is mounted in a shielded box and the output drive a 1:1 isolation transformer 600 Ohms Hammond 560G (the big black box in picture below) to avoid hum problems, in my shack all the receiving equipment has different power supply (DC 12 volts) and ground than the computer equipment powered by the AC .



When I did the first tests without hardware I had a Signal to Noise ratio of 16 to 17 dB, with the new setup and software DRM version 2.0.34 I have a S/N of 20 to 21 dB
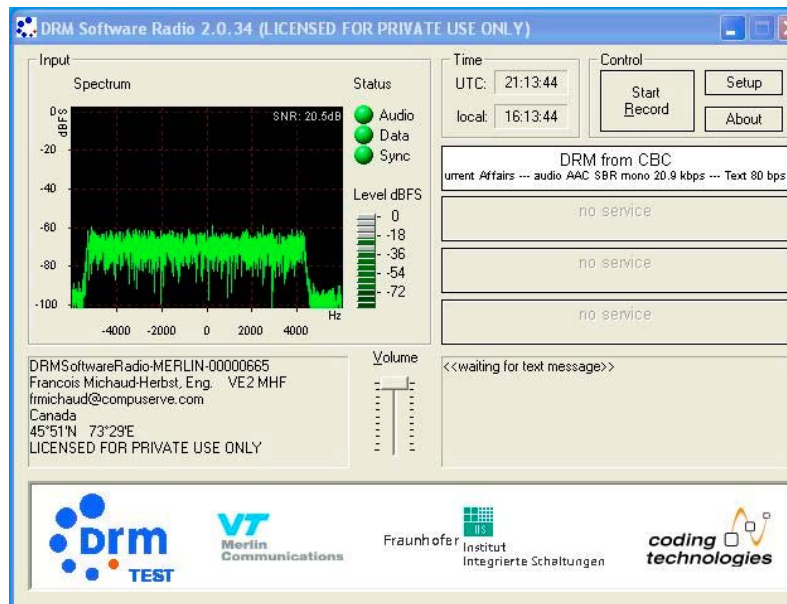


## Conclusion

The use of an external converter improves seriously the quality of the signal sent to the computer for decoding and does not need any modification to the AR5000. In a third part I will install a 455 kHz converter at the output of the 455 kHz IF stages inside the AR 5000 to have all the advantages of the 10.7 MHz and 455 kHz filters
Francois Michaud-Herbst
Frmichaud@compuserve.com