

## VLF RDF ( RADIO DIRECTION FINDING ) EXPERIMENTS WITH THE ACTIVE LOOP CIAO RADIO L101

The basic idea started with the experiments seen at : [www.vlf.it](http://www.vlf.it) made from Renato Romero .

The basic theory and the use of the Spectrum Lab Software is at : <http://members.aol.com/DF6NM2/ColourDF/ColourDF.htm> .

The simple setup is shown in Figure 1 and Figure 2 :

Two active loops Ciao Radio L101 are placed at 90° one to the other .

The two RF outputs are feed to the two AF inputs of a sound card of a PC .

On the PC we installed two softwares :

- Ciao Radio
- Spectrum Lab

**Two Active Loops L101 at 90°**

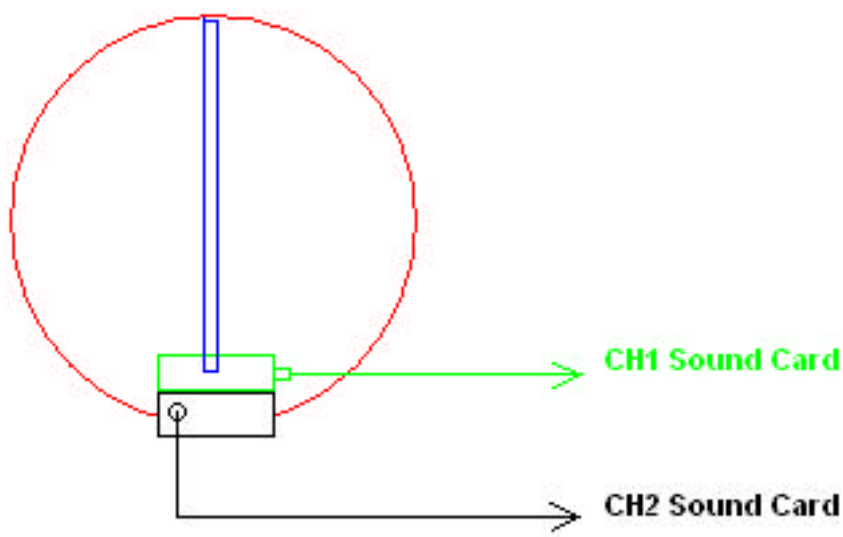


Fig 1 : Schematic of the setup



Fig.2 : Practical setup of the two Active Loops Ciao Radio L101

The first check was made with the outputs of one loop connected to the two channels of the sound card to evaluate the signals received in the band : 0-24 KHz with the Ciao Radio Software .

The results are shown in Figure 3 .

While the signals was typically that of a noisy man made environment , because the loops was placed inside my lab , there was a relatively strong BPSK modulated signal at around 21.8 KHz .

This is an encrypted signal coming from some Navy station .

The second step was to connect the signal from the two 90° loops to the Spectrum Lab software set in the RDF mode .

The results are shown in Figure 4 .

To check the system I manually rotated the system of the two loops to test if the colours of the traces changed accordingly to the rotation .

The assumption was verified not only for the signal coming form far , but also from the local man made signals .

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Fig 3 : Signals received in the Lab with the L101 Active loop in the 0-24 KHz band .

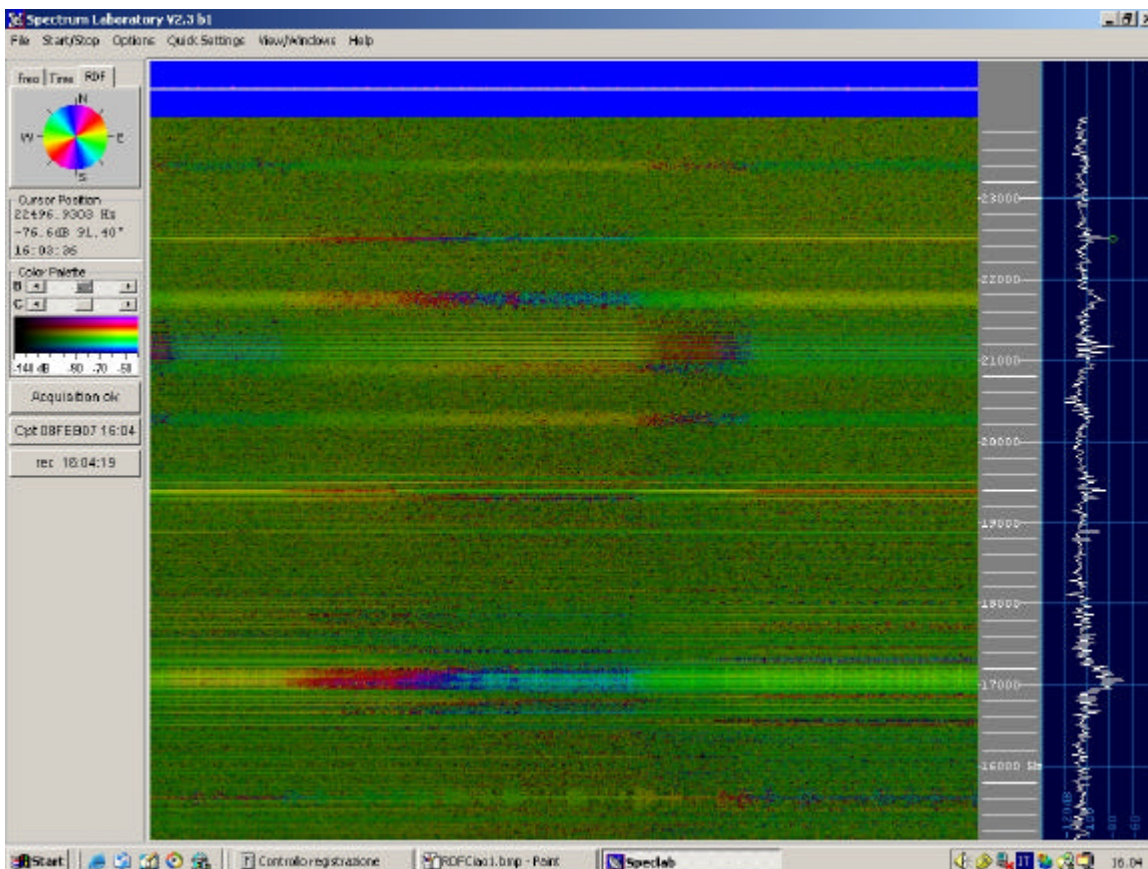


Fig.4 : Change of the colours of the RDF screen while rotating the system of the two loops

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