BARA Meeting
July, 2014

SDR, HDSDR & CW Skimmer

SoftRock Ensemble II Receiver

Niko AA2NI

SDR, HDSDR & CW

SDR - Software Defined Radio

Show of Hands

- How many have good to moderate experience with SDR (any type)?
- How many have some or light experience?
- How many have no experience?

- How many would like to learn more about SDR?

SDR, HDSDR & CW

What is it?

Software Defined Radio has RF circuitry and together with a VFO separates the IF and the Audio components, of the signal, and present them to a PC through a “stereo” sound card for processing.

SDR, HDSDR & CW

What are the advantages?

Simple design generates a good inexpensive receiver

Uses the PC processing power instead of an expensive Transceiver

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How Does It Work?

- **The SDR decodes the RF and generates two streams**

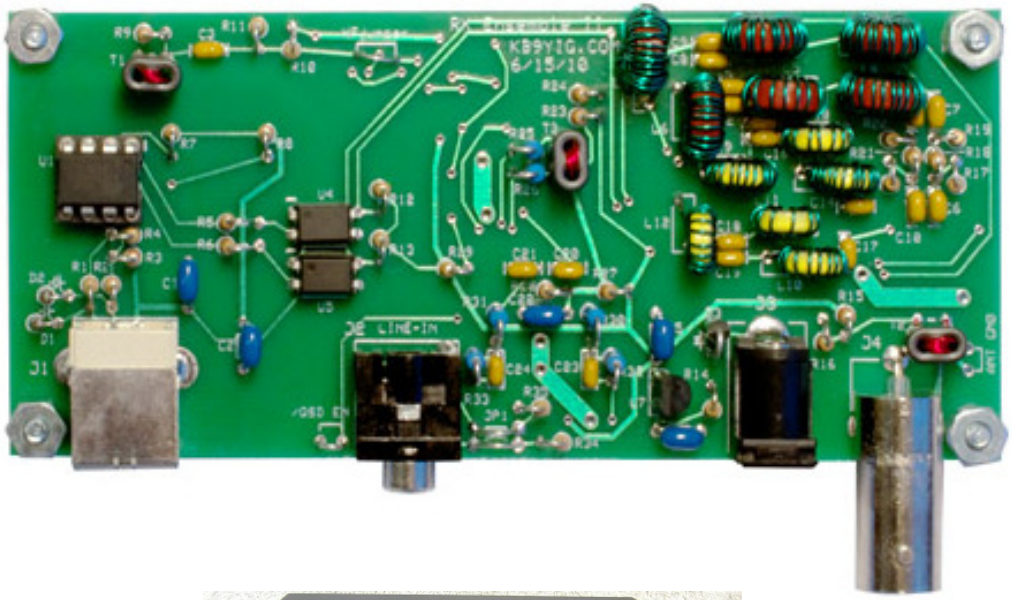
  IF – I

  Sound – Q

- **The SDR Software manipulates these two streams to generate the received signal being voice, CW or digital**

SDR, HDSDR & CW

- **I purchased the Ensemble II Receiver which is available as a kit and as a built board**
- **$100 plus $20 for a case**



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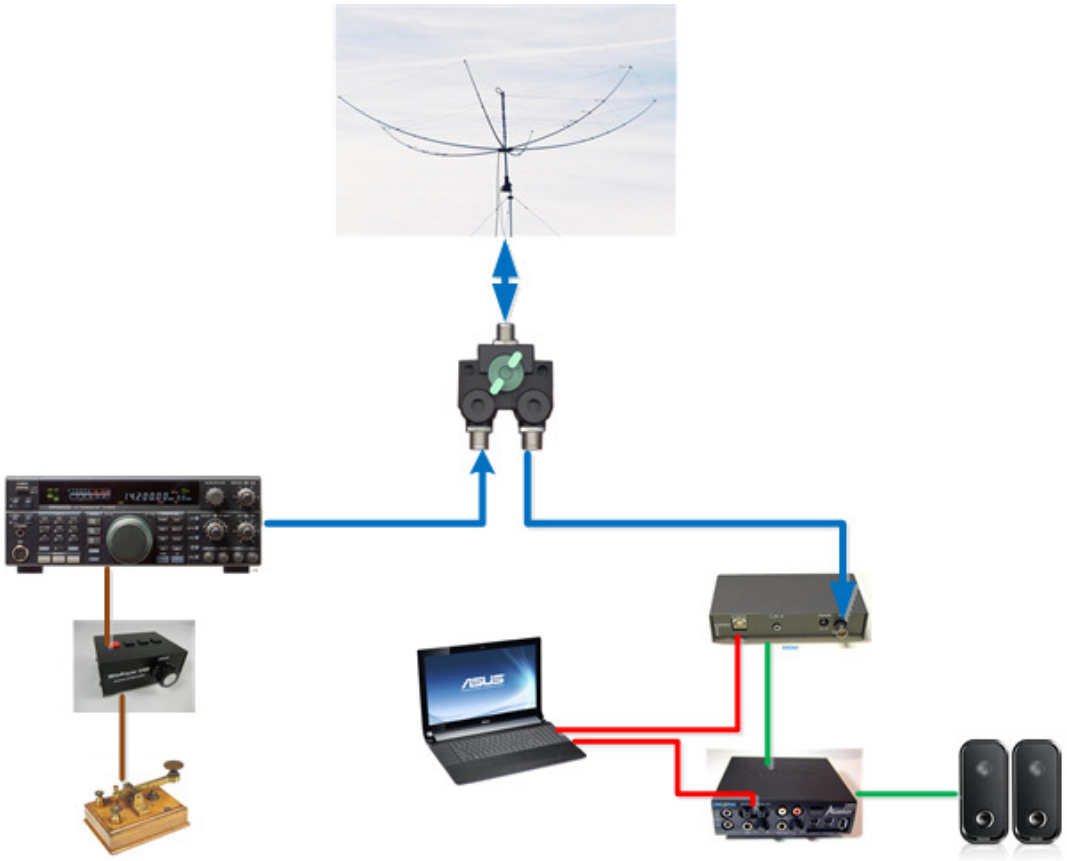
Signal Flow Diagram



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Requirements
Hardware

- **Decent PC – I run on a Core I5 Asus Notebook**
- **Soundcard with high sampling rate**
  24 KBPS, 48 KBPS or 96 KBPS
- **Mine is a stand alone $30 at 24 KBPS**
- **12 VDC**
- **Speaker cable (stereo) x 2**
- **Antenna**
- **Antenna Switch**

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Requirements

Software

- **GFGSR SoftRock Configuration Tool**

- **HDSDR – SDR Control Program and Soundcard Interface**

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What Do I Plan To Do With It?

- **Decode CW with SDR using CW Skimmer**
- **Send CW using a CW Keyer using my Kenwood TS450**

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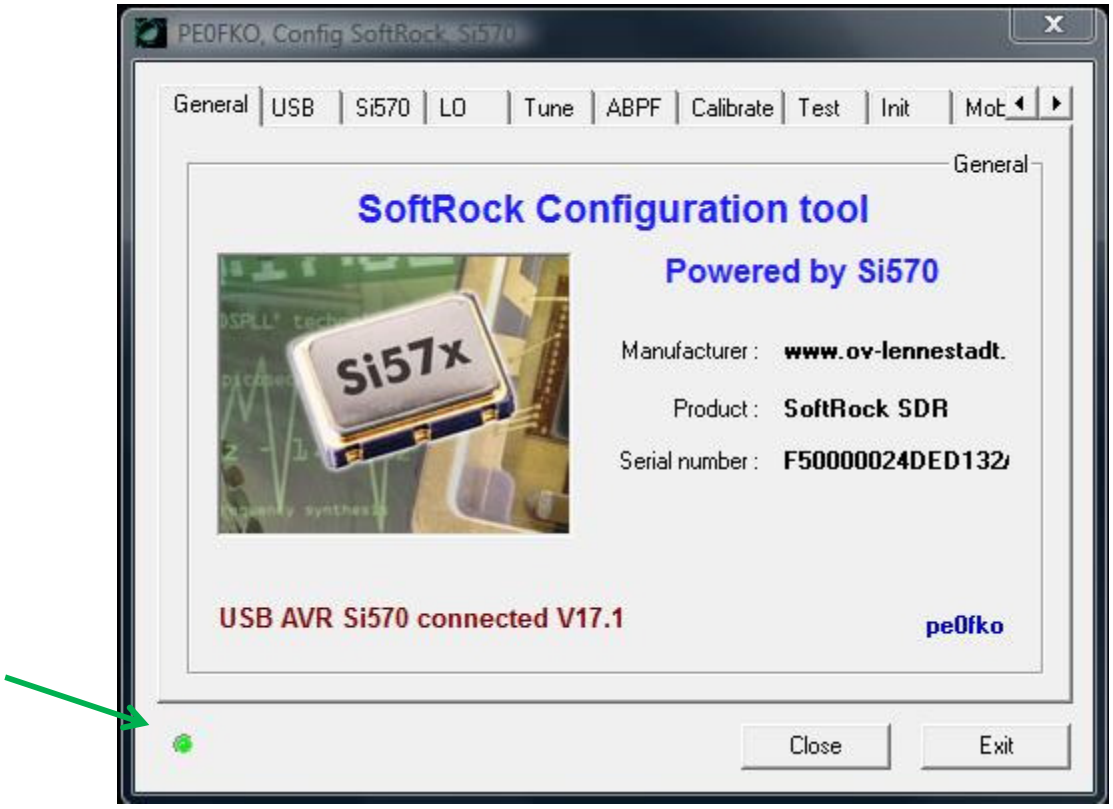
CFGSR SoftRock Configuration Tool



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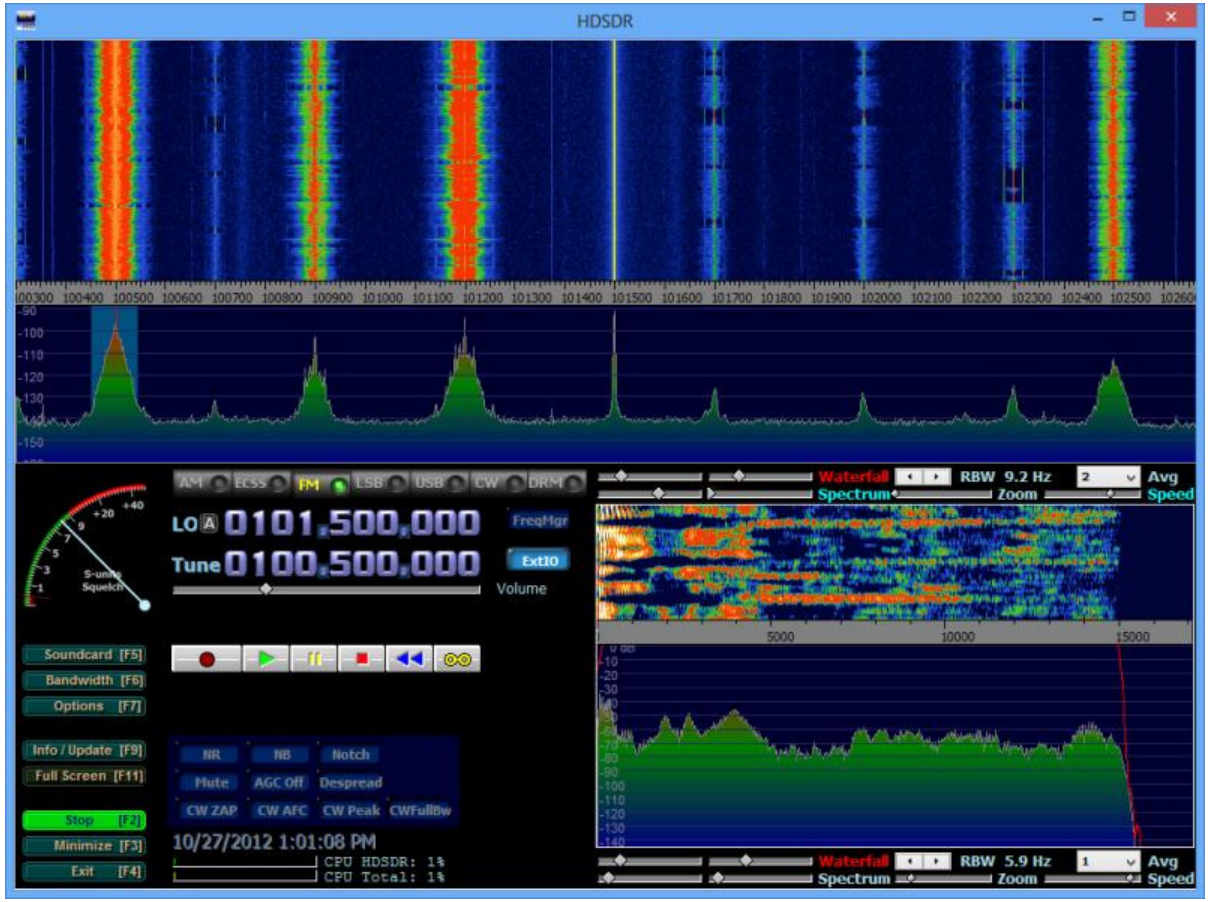
HDSDR Screen



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CW Skimmer Screen