# Using Elecraft KX3 with HDSDR

#### Hardware requirements:

- Elecraft KX3
- KXUSB cable (or KXSER)
- 2.5mm stereo male to 3.5mm stereo male cable
- PC with 1GHz CPU, WindowsXP or newer, Stereo Soundcard with "Line-In Jack"

## Software requirements:

- FTDI VCP driver for KXUSB cable: <u>http://www.ftdichip.com/Drivers/VCP.htm</u>
- HDSDR 2.63 or newer: <u>http://hdsdr.de</u>
- Omni-Rig <u>http://dxatlas.com/Download.asp</u>
- (free software created by Alex Shovkoplyas (VE3NEA) for transceiver/receiver CAT control)

## **KX3 Menu settings:**

- RS232: 38600 b (you can user any other value, but use the same in Omni-Rig)
- RX I/Q: On

#### Installation:

- 1. Plug in the KXUSB cable and install the FTDI driver
- 2. Plug in the audio cable from KX3 I/Q output to the PC soundcard (line in)
- 3. Install HDSDR v2.63 or later
- 4. Install Omni-Rig
- 5. Start HDSDR and select your soundcard, which is connected to the KX3's I/Q output

6. Click on <Options> → "Cat to Radio (Omni-Rig)" → "Omni-Rig Setup"
 See picture below for setup and adjust for your COM Port (see Windows Device Manager)

E Device Mana	Device Manager 🛛 🗕 🗖 🗡		
File Action View Help			
<ul> <li>Win8x64</li> <li>Audio inputs and outputs</li> <li>Computer</li> <li>Disk drives</li> <li>Display adapters</li> <li>DVD/CD-ROM drives</li> <li>Human Interface Devices</li> <li>Human Interface Devices</li> <li>IDE ATA/ATAPI controllers</li> <li>Mice and other pointing devices</li> <li>Monitors</li> <li>Monitors</li> <li>Metwork adapters</li> <li>Other devices</li> <li>Ports (COM &amp; LPT)</li> <li>Communications Port (COM1)</li> <li>Printer Port (LPT1)</li> <li>USB Serial Port (COM3)</li> <li>Print queues</li> <li>Software devices</li> <li>Software devices</li> <li>Storage controllers</li> <li>With Storage controllers</li> <li>With Storage Serial Bus controllers</li> </ul>	Omni-Rig Settings   RIG 1 RIG 2   About     Rig type   Elecraft K3   Port   COM 3   Port   Com 4   Port   Port   Com 5		
·			

7. Click on <Options>  $\rightarrow$  "Cat to Radio (Omni-Rig)" and enable "sync Rig1"

www.www.water.	Whats this? Omni-Rig Setup
Select Input	✓ sync Rig1 (Elecraft K3 => On-line)
Visualization	sync Rig2 (NONE => Rig is not configured)
Input Channel Mode for RX Output Channel Mode for RX	<ul> <li>✓ sync to Omni-Rig</li> <li>✓ sync from Omni-Rig</li> </ul>
Input Channel Calibration for RX Swap I and Q Channel for RX Input	<ul> <li>sync Tune frequency</li> <li>sync LO frequency</li> </ul>
Misc Options Mouse Wheel RF Front-End + Calibration	<ul> <li>✓ sync Modulation</li> <li>set Converter Offset</li> <li>✓ Swap CW and CW-R</li> </ul>
DDE to HDSDR	Enable TX Button for Rig1
CAT to Radio (Omni-Rig)	Enable TX Button for Rig2
CAT to HDSDR Recording Settings/Scheduler SDR TX Support	-50

8. Click on <Options> → "RF-Front-End + Calibration". Copy the settings from the picture below. Ignore the 10.7 MHz IF-frequency, which is not used for Soundcard input as with KX3

RF front-end frequency options & Calibration		
SDR hardware coupling	LO frequency calibration	
O SDR hardware connected to antenna (default)	Current Tune Correct Tune Frequency [Hz] Frequency [Hz]	
Svnc Mode	7152000.00 <b>7152000</b>	
<ul> <li>Full sync in both directions</li> <li>Independent Tune in HDSDR</li> </ul>	Reset Calculate	
Independent Tune, but sync on external change	Frequency correction: +0.00 ppm	
IF-frequency:       Global Offset:         10700000       [Hz]       0       [Hz]         Additional Offset per Mode in Hz	Hint: Tune to a station with known frequency as reference, e.g. a WWV or RWM time signal. Use ECSS mode to automatically tune the reference carrier exactly. Use highest possible frequency for best calibration results.	
<ul> <li>✓ operate CW in lower sideband (LSB)</li> <li>✓ Swap CW and CWR for Omni-Rig</li> </ul>		
O SDR hardware on Down/Up-Converter LO Frequency of Down/Up-Converter in Hz: 120000000 +0°		
<ul> <li>SDR hardware in undersampling mode</li> <li>Samplerate of Analog-Digital Converter in Hz: 8000000</li> </ul>		
Apply		

9. You are ready to run! (press Start)



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