HAM RADIO FRIEDRICHSHAFEN 2014

We are glad to announce and invite to the

HPSDR workshop – highlights and perspectives in advanced SDR-Technology

Saturday, June 28 th, 2014 at room 'LIECHTENSTEIN', Conference Center West, starting 12:00 CET

Hall overview

AGENDA:

*1. **WDSP – a new DSP - core for SDRs*** by Dr. Warren C. Pratt, NR0V

As digital hardware advances in speed and density, new opportunities arise to use these advancements in SDRs. Doing so mandates new software architectures with the parallelism and flexibility to achieve the possible benefits. The overall architecture, application, and some functional features of the new WDSP library will be discussed. WDSP is being deployed this year in our HPSDR radios. (WDSP mit neuer Software-Architektur bietet zusammen mit leistungsfähigerer Hardware bemerkenswerte Vorteile).

*2. **Android HPSDR*** by John Melton, G0ORX/N6LYT

Development of an Android application to work with HPSDR and the porting of WDSP and FFTW to run in the Android environment.(John portierte WDSP und FFTW auf die Linux-Platform zur Verwendung von HPSDR mit smartphones und tablets)

*3. **Chirp – an advanced beacon project using weak signal detection** by Phil Harman, VK6PH*

There are still a number of long distance paths that have not been worked on the VHF and UHF bands. An example of this is the path between Western Australia (VK6) and South Africa (ZS). A new beacon modulation mode has been developed that provides Effective System Powers in the order of 100MW. Phil will explain how this new mode works and the design of the equipment that is being installed in VK6 and ZS. (Eine radarähnliche, digitale Übertragungstechnik ermöglicht das Detektieren von Signal bis 50 dB unter dem Rauschen. Für eine 2 m Bake soll dies auf der Strecke VK – ZS beschrieben werden)

*4. **Digital Predistortion linearizes RF amplifiers** by Dr. Warren C. Pratt, NR0V*

Receiver technology has advanced to the point that the limiting factor in reception is now very often the "dirty" signals from transmitters on nearby frequencies. Digital Predistortion provides a means to dramatically reduce the "splatter" from transmitters by automatically linearizing their analog amplifiers. Topics to be discussed are: (1) Why is predistortion important? (2) What is adaptive baseband digital predistortion? and (3) How is it accomplished in HPSDR. (Intermodulationsarme AFU-Sender sind längst überfällig. Predistortion ist die höchst effiziente Lösung für moderne DDC/DUC-SDR Konzepte)

*5. **CuSDR– Synopsis and new Developments** by Dr. Hermann von Hasseln, DL3HVH*

A short resume on the cuSDR-Console will be given: what has been achieved so far, what are the latest developments, like the Tx path, WDSP integration, and more. An overview over the short-term goals, as well as on mid-term goals are given. (Ein Überblick über die neuesten Entwicklungen der CuSDR-Konsole)

*6. **ORION – a new DDC/DUC board** by Abhi Abhiarunoday*

Independent physical frontends and a coherent sampling source are necessary for advanced diversity-, beam-forming and noise cancelling methods. Abhi presents a new board with further applications. (Intelligente software - unterstützte Maßnahmen zur Vergrößerung des SNR werden immer wichtiger, setzen aber auch eine fähige Hardware voraus).

*7. **Future prospectives of HPSDR** by Phil Harman, VK6PH*

The Atlas based SDR Transceiver has given many experimenters their first experience of this exciting technology. Since its first introduction in 2006 the performance and the features of the system has been continually improved. These improvements will continue into the future and Phil will explain some of the planned developments.

Between and after the presentations – mostly as Power Point – will be plenty of time to discuss the topics and answer questions. Also other well known people like Kjell, LA2NI or Leif, SM5BSZ, intend to participate. We German hams try to assist in translating if necessary with 'low latency' (hi).