review

OVI40 SDR - how it started

In 2015, the DARC local Radioclub OV I40 launched an initiative in which the mcHF transceiver from Chris, M0NKA was built in Germany nationwide by radio amateurs and those interested in technology. The “networking” via our Forum resulted in a rapid increased of mcHF builders. In our mcHF project group, only about 20% of all bodybuilders have ever registered …

Radio amateurs are researchers and tinkerers. They love to improve circuits, build new technical capabilities and create software that meets their needs. The firmware of the mcHF - is now developed and maintained by dedicated radio amateurs from the community. The software was GPLv3 licensed with the consent of all involved parties as an independentproject, called UHSDR (Universal Ham Software Defined Radio). With time more ideas came to mind on how UHSDR should evolve and th hardware limitations of the mcHF became obvious. The mcHF hardware design is limited by a license clause (“non commercial use”). This means that hardware improvements can only be incorporated into the project by the author of the project, Chris M0NKA and no one else can make boards, circuit improvements etc., and no distribute of such is allowed to interested parties. It was a logical and inevitable next step that the urge for research and development found its way into the redesign of an open source (Cern OHLv1.2) licensed SDR transceiver: the OVI40 SDR .

The OVI40-SDR is a transceiver covering the frequency range from VLF to FM. The project target is to enable everybody to build his own OVI40-SDR. Finished boards will be available to those who can not or do not want to build themselves a OVI40-SDR from scratch. The OVI40-SDR can also be built as a pure receiver (for those who do not yet have an amateur radio license and thus are not yet allowed to send). It can then be easily extended with transmit components later to become a full-fledged transceiver.

The OVI40-SDR design and development includes ideas and concepts from existing commercial and self-builtn projects. The OVI40-SDR aims to combine the best device-parts and features from a variety of devices into the newly created OVI40 SDR. The project should not be “just” an amateur radio transceiver - it should be a philosophy. Technically interested people from all over the world, with expertise from different areas, with different mother tongues, religions and at home in different political systems meet to create and promote something together, for their own benefit but also for the benefit of all who will join the project later. Amateur radio has always connected people of all nations - if the Internet is added as support, we, the radio amateurs, can live,

The project / device contains the following items:

- Worldwide networking of all those interested in the project via our website with Forum , WIKI and also a chance to identify yourself as a “builder” of an OVI40 on a map, so that the local contact (joint troubleshooting, mutual help etc.) is facilitated
- “Standalone” (no PC required for operation)
- Low building cost
- Possibility of complete self-construction, partial self-construction, but also the purchase fully assembled, adjusted / programmed boards, individually or as a set
- Modular design to make future extensions and changes easier
- wide operating frequency range (DC …> 240 MHz)
- low power consumption in the RX (portable use with rechargeable battery …)
- Integration of as many useful and modern modes of operation and support as possible, such as FreeDV

- Possibility to connect keyboard / external storage media etc.

The OVI40-SDR should be a dynamic, living project. The inspiration, the reported mistakes, the input of all who follow and participate in the project should influence its evolution.

Also inspired by StarTrek:

“To go where no man has ever been before” …

DF8OE, 20.12.2017

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