

All-In-One A DATV Transceiver

using SDRangel software

HAMRADIO 2022

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SDRangel quesaco ?

TX & RX Software Defined Radio

Open Source Software developed by Edouard Griffiths F4EXB



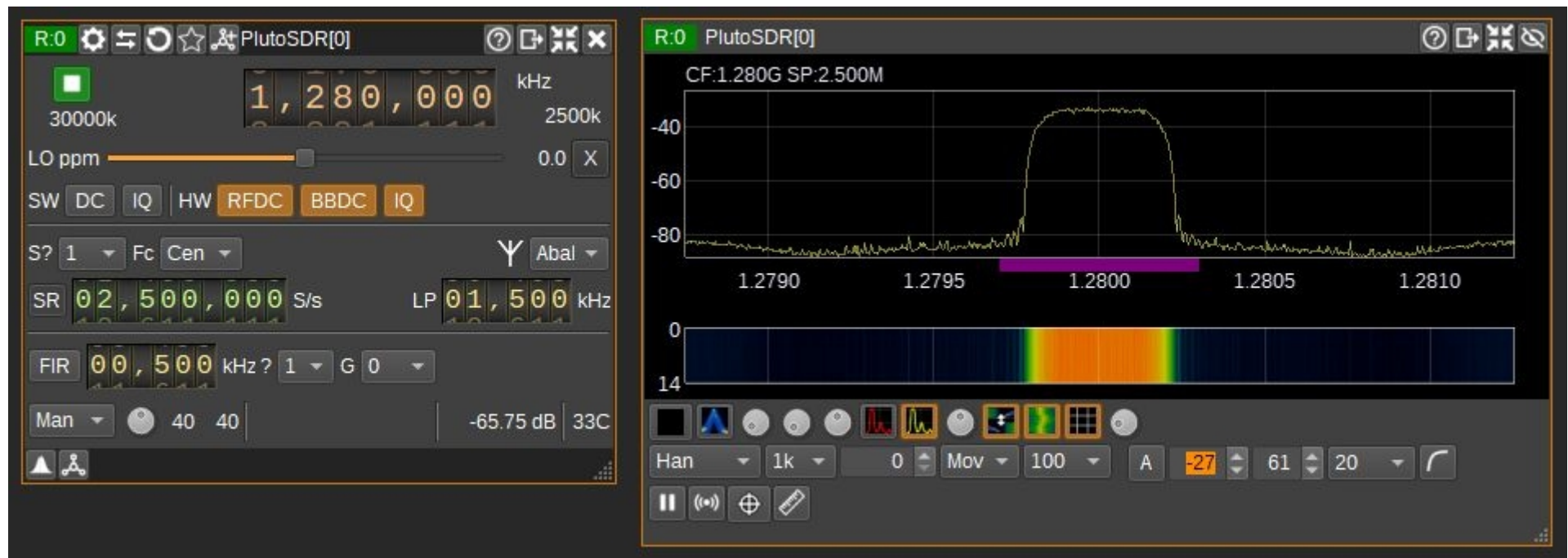
SDRangel

uses **sample source plugins** to collect I/Q samples from a hardware device. Then in the passband returned possibly decimated one or more **channel Rx plugins** can be used to demodulate, decode or analyze some part of this spectrum.

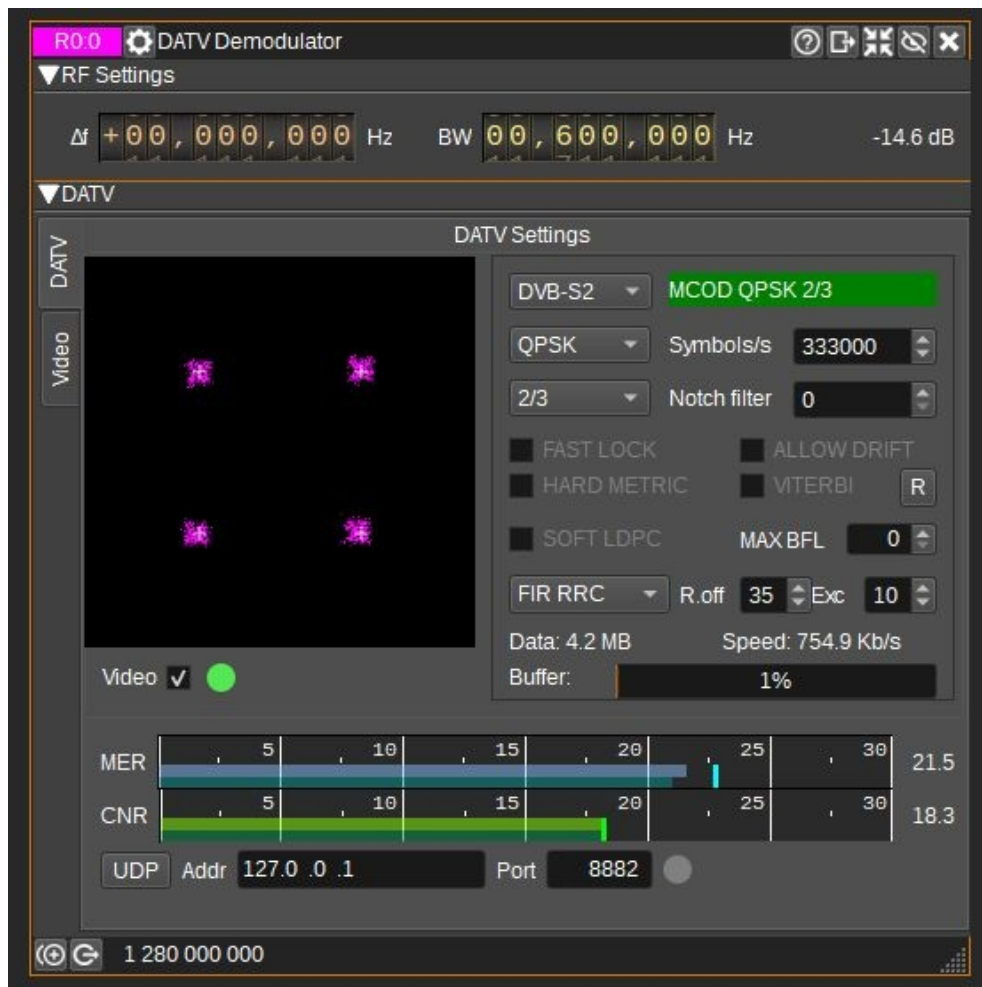
uses **sample sink plugins** to send I/Q samples to a hardware device. One or more **channel Tx plugins** can be used to produce modulated samples that are mixed into a transmission passband with possible subsequent interpolation before being sent to the device.

The UI is organized in workspaces inside which you place the different components: device, main spectrum, channels, features.

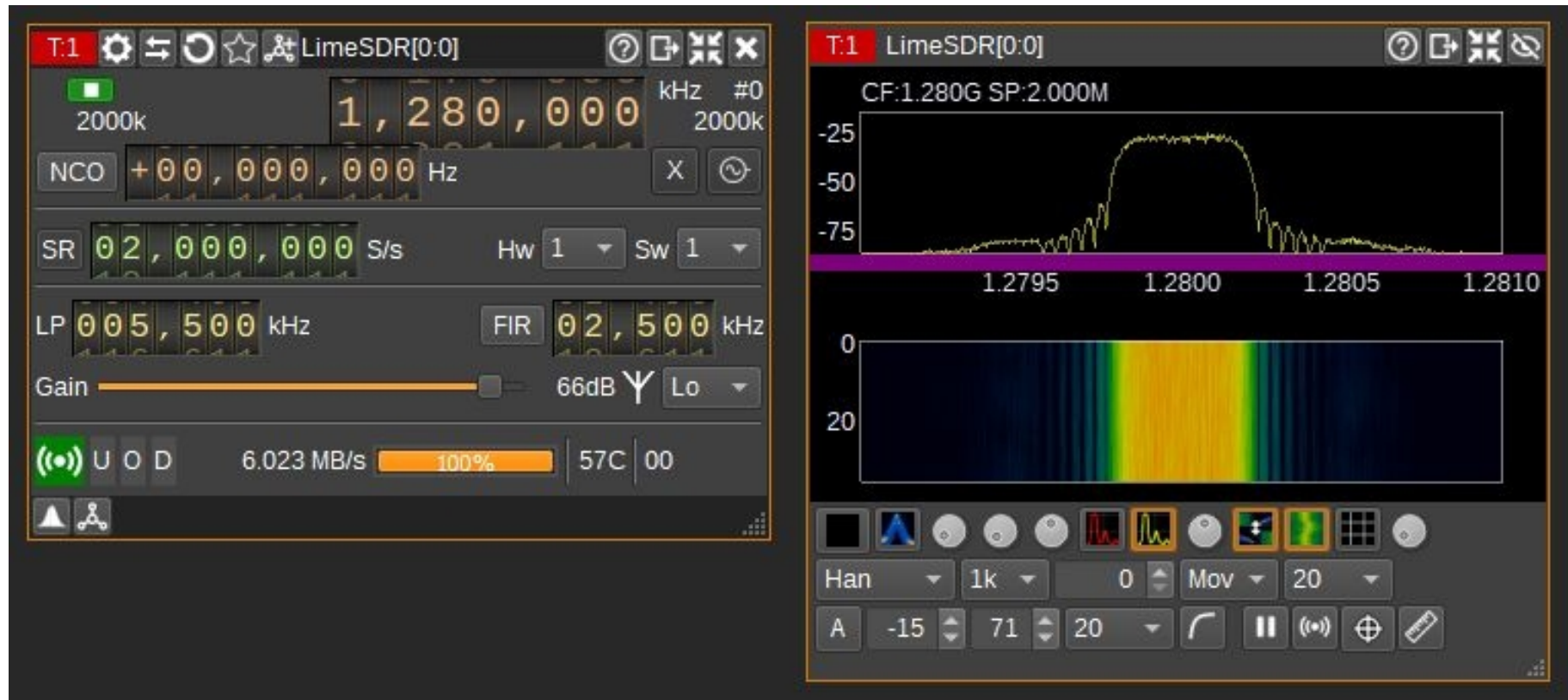
Sample source plugin: PlutoSDR



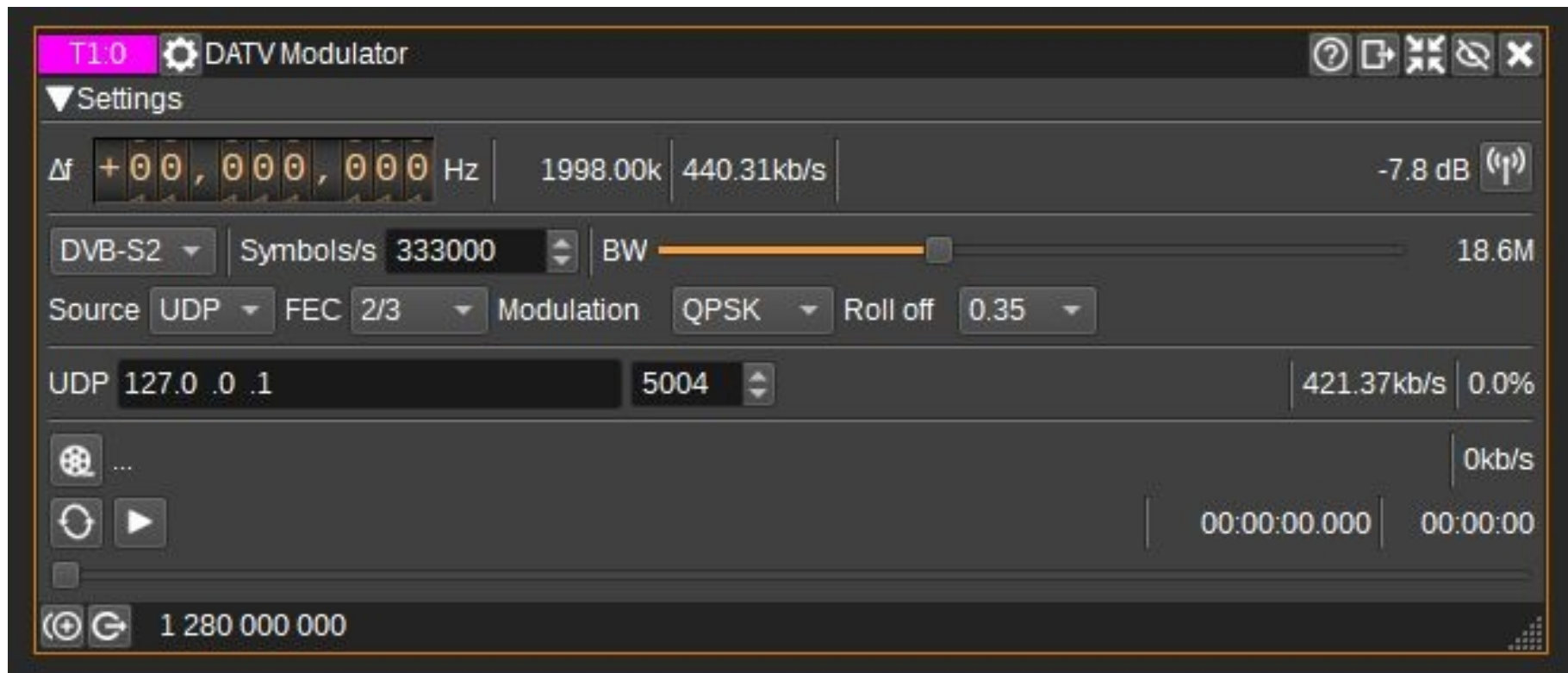
Channel Rx plugin: DATV Demodulator



Sample sink plugin: LimeSDR



Channel Tx plugin: DATV Modulator



User interface – Rx PlutoSDR / TX LimeSDR



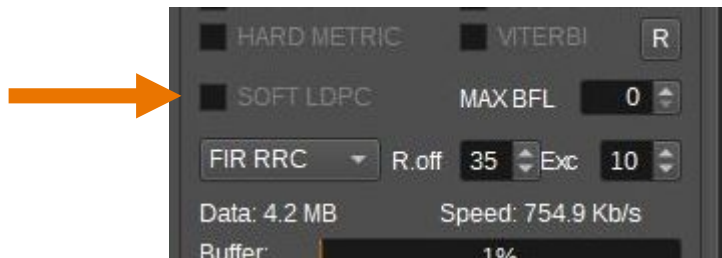
User interface – Rx LimeSDR / Tx LimeSDR



SDRangel – DATV Demodulator

DVB-S2 specific - Soft LDPC decoder

It can be used to decode signals lower than ~10 db MER which is the limit of Low Density Parity Check (LDPC) hard decoding.

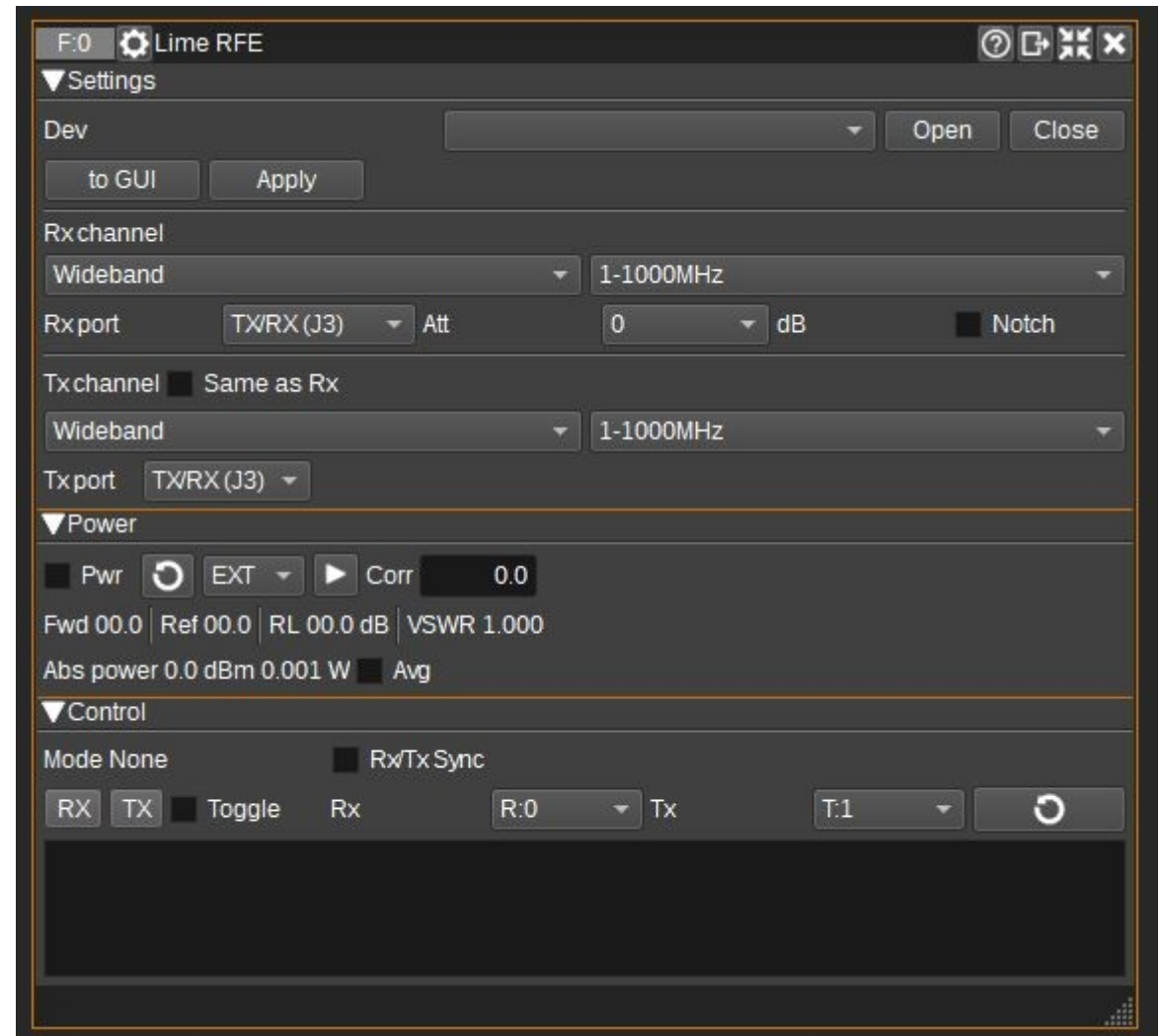


Only available on linux !

Details here:

<https://github.com/f4exb/sdrangel/blob/master/plugins/channelrx/demoddatv/readme.md>

SDRangel Features – Lime RFE USB Controller



SDRangel support

SDRangel is available for download here:

<https://github.com/f4exb/sdrangel/releases>

for:

- Windows 10
- MAC os
- Linux (ubuntu 20.04)
- from source

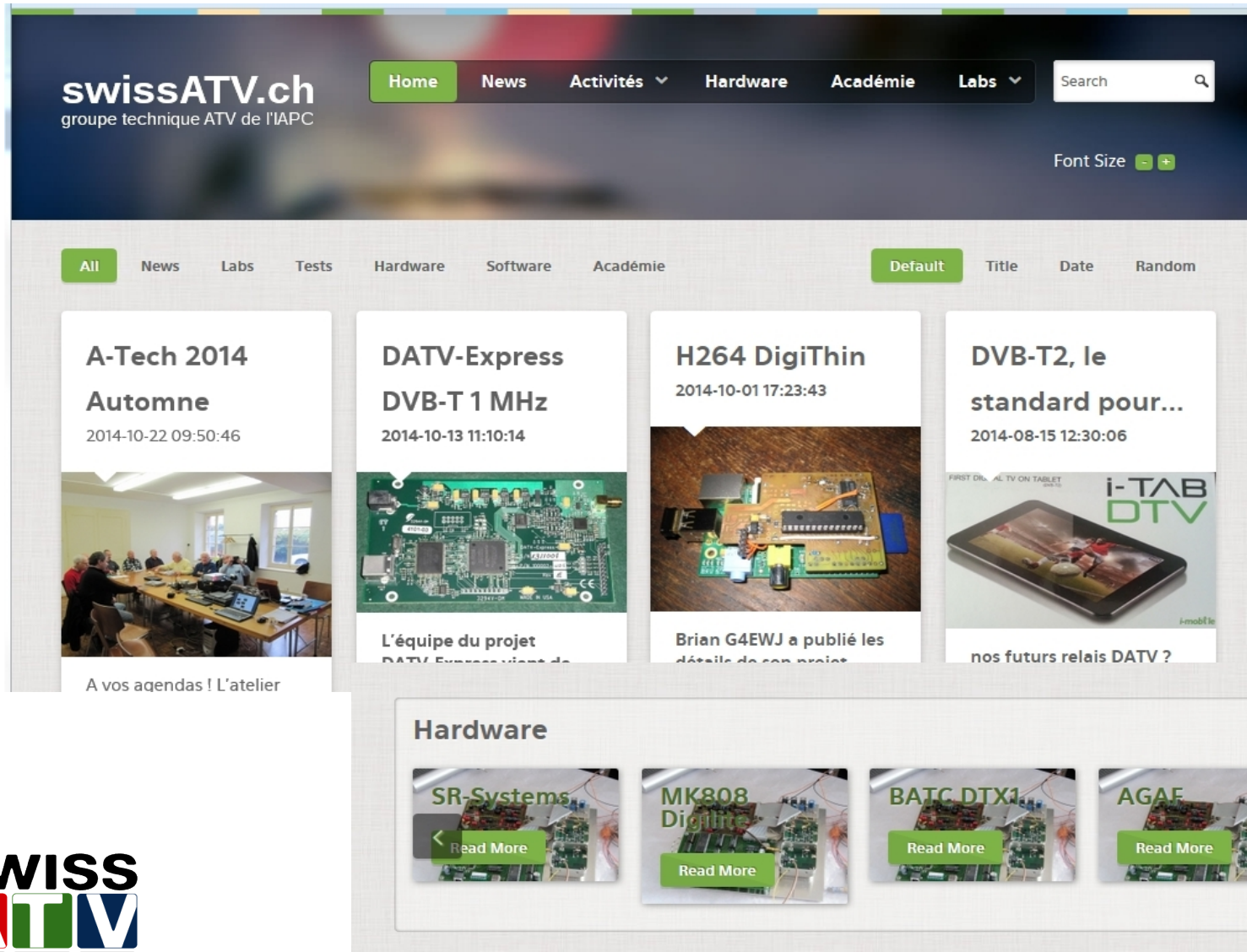
A online manual is provided for each module by selecting the question mark icon in the top right corner of the window module.



A forum is available:

<https://groups.io/g/sdrangel/>

References



Good hack !