ExpertSDR2 1.3.1 Release Notes
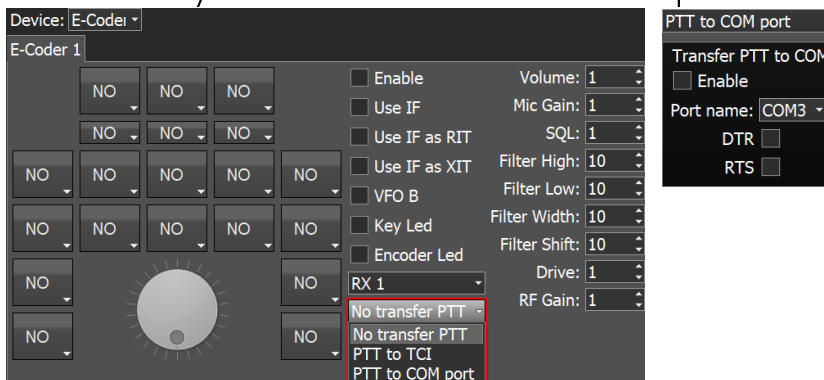
23 October 2019

Release description

ExpertSDR2 1.3.1 for SunSDR2 PRO, SunSDR2 QRP and MB1 transceivers, ColibriDDC and ColibriNANO receivers.

Additions and improvements in the ExpertSDR2 1.3.1 in comparison to 1.3.0:

- Optimized software **Start** algorithm for MB1, SunSDR2 PRO and SunSDR2 QRP

- We've added the Notch Filter – it is the IIR filter, its quality depends on its width. On the panorama, you see the result of the Notch Filter operation.
  On the main software window, you can recognize 2 new buttons: **NF** and **NF+**.
  NF enables/disables all set Notch Filters, **NF+** adds a new filter placing it inside the RX filter. Remove a required Notch Filter with a click of the mouse wheel or double-click of the right mouse button. Tune and adjust the width of the Notch Filter the same way you do that for the main RX filter. For fine-tuning rotate the mouse wheel with a 1 Hz step.
  You can set up to 8 Notch Filters for each band. When you change the band you automatically activate previously set Notch Filters settings for the current band. Each Notch Filter stores two parameters: tuned frequency and width, until you delete it. RX1 and RX2 may operate on different bands, thus you may have up to 16 active Notch Filters at the same time.

- VAC settings now can be saved in global Profiles

- From now on you can transfer PTT from E-Coder panel via TCI or COM-port

MB1:

- Notch Filter control with MB1 GUI
  Press the **TNF** button on the MB1 front panel to enable or disable all set Notch Filters. You can assign the following functions to the multifunctional buttons (F1-F10): Add (**NF+**), delete (**NF-**) and select (**NF>**) Notch filter.
  Add a new Notch Filter pressing the **NF+** button. It automatically enables all other previously set Notch Filters for this band, you can change the frequency of the new filter with a **Multi3** knob,

with a Step value set for the VFO A.
For fine-tuning of the Notch Filter activate control with Multi1 knob by enabling SHIFT mode (long-press the **WF/SHIFT** button).
TNF.P - fine-tuning with 1 Hz step.
TNF.W - adjust filter width, changing step is adaptive - the wider the Notch filter the bigger the changing step.
When there are several Notch filters on the panorama, you can select the controlled one with the **NF>** button. The controlled filter has a round mark on it. Consecutive presses on the **NF>** button switches between controlled filters and then the round mark will disappear, at that moment **Multi3** again will tune the VFO B frequency and **Multi1** will be inactive.

- APF can be assigned to the multifunctional buttons (F1-F10)

Additions and improvements in the ExpertSDR2 1.3.0 in comparison to 1.2.0:

- New button **Device options** for quick access to hardware settings

- New button to call up Volume and Monitor settings, it appears when you squeeze ExpertSDR2 window

- A **switchable** compact/classic **display of band and mode** buttons (Options-> Display-> Main tab-> Compact band/mode panel checkbox)

- **Switchable spectrum slopes** to disable unused area (Options-> Display-> Spectrum tab-> Hide spectrum slopes checkbox)

- **TX signal analyzer** in TX PROC module, to analyze your own signal. You can monitor your own signal either before (low latency) or after (higher latency) the modulator

- **Phase rotator** in TX PROC module

- **Pre-proc module** in TX PROC module, it enriches signal with new harmonics **imitating tube preamplifier**

- You can use several ColibriNANO on the same PC, select the required one from the list

- **CW PITCH** setting was added **for receivers**

- Automatic detection of ITU band plan

- VOX On, VOX Off can be assigned to E-Coder panel buttons

- Opportunity to **transfer audio signal via TCI**, it allows third-party developers to eliminate VAC, transferring audio signal via TCI

- **New commands in TCI:**
  - for operation with CW macros
  - to inform third-party software, that ExpertSDR2 is in focus or not, and control of this parameter

- to control tuning frequency VFO
- enable/disable SQL
- control SQL level
- protocol version, informs which TCI version is used and firmware version (at the moment informs only about TCI version)
- clear all spots
- output power level indication
- TX SWR level indication
- global volume control
- Mute, with an argument for a receiver
- Tune, with arguments on/off
- Drive, to control the output power
- Tune_drive, to control the tune output power

- From now on you can record **IQ-files in HDSDR** compatible **format**

- Mute is disabled if you change the volume

- **BIN** algorithm was **improved** for AM/SAM/DSB/NFM

- Line Out/Sound Card/VAC modules were updated, the same way we've done it in the ExpertRC 1.3.0

Known issues

- Waterfall issue – with high spectrum resolution and squeezed panorama, thin width stations (like CW) might not be displayed

- RX2 BreakIn does not work (software limitation)

- Ext reference cannot be used in MB1, SunSDR2 QRP (firmware issue)

Tips for smooth ExpertSDR2 installation

Before the upgrade of the ExpertSDR2, always backup your current ExpertSDR2 folder (it contains your settings and Profile files), which is placed here C:\Users\UserName\AppData\Local\Expert Electronics\ExpertSDR2.

Before installing the ExpertSDR2 shut down all running ExpertSDR2 instances.

You don't have to uninstall the older ExpertSDR2 version before installing the new one.

If you want to downgrade the ExpertSDR2 you need to uninstall the current version and then install the older one.

Useful documents

MB1 User Manual v1.2.0

SunSDR2 PRO User Manual v1.5

SunSDR2 QRP User Manual v1.1

ColibriDDC User Manual v1.2

ColibriNANO User Manual v1.1

ExpertSDR2 User Manual Addendum, by Erik EI4KF

Expert Remote User Manual

Technical Support

If you've experienced any issues using the ExpertSDR2 or need any help, you may ask your question on the Forum or contact us via the technical support form on our web-site.

Hours of operation: Our technical support engineers are available Monday-Friday from 7:00 – 16:00 UTC. If you need a remote session, we should discuss it beforehand, usual time Monday-Friday from 12:00 – 15:00 UTC.

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