OpenTuner DL1RF's 0.C

New features and improvements

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OpenTuner DL1RF's 0.C
New features and improvements

- Mute / Unmute with right mouse click in video window

- Start / Stop recoding with „r" key + left mouse click in video window

- Start / Stop streaming with „u" key + left mouse click in video window

- Do a snapshot with „s" key + left mouse click in video window

- New streaming and recording indicators at the info line in video window

- Toggle video window to full video area and back with left double click in video window

- Restore video windows to equal sizes with double click to separation line (idea from SV8ARJ)

- DATV Reporter removed as Tom's web site is no longer active

OpenTuner Beta 0.C
New Streaming and Recording indicators
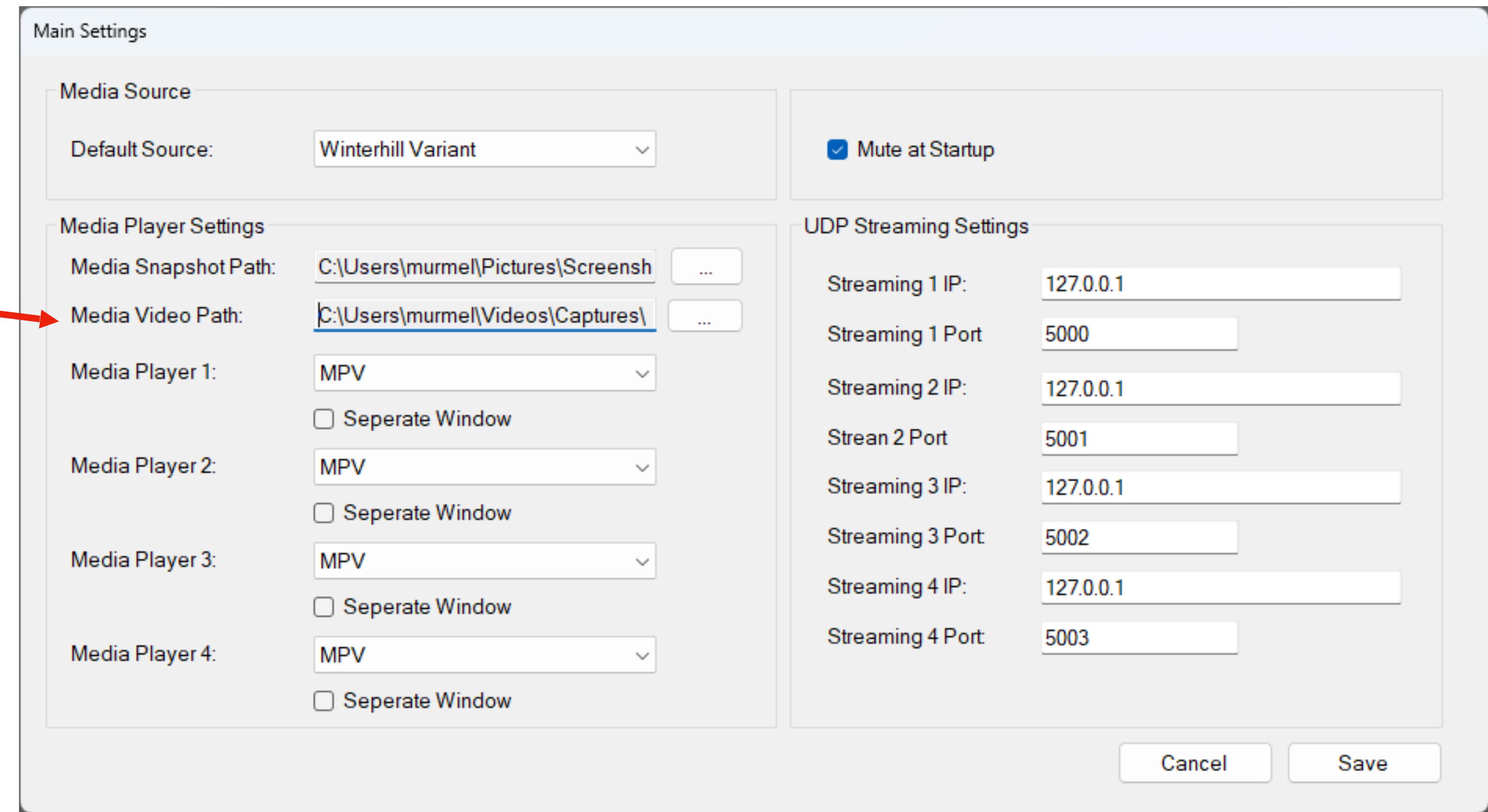
Streaming (U)
Recording (R)
Indicators

OpenTuner DL1RF's 0.C
Separate path for snapshots and videos selectable

Path to store video →

Main Settings

Media Source

Default Source: `Winterhill Variant`

☑ Mute at Startup

Media Player Settings

Media Snapshot Path: `C:\Users\murmel\Pictures\Screensh` `...`

Media Video Path: `C:\Users\murmel\Videos\Captures\` `...`

Media Player 1: `MPV`
  ☐ Seperate Window

Media Player 2: `MPV`
  ☐ Seperate Window

Media Player 3: `MPV`
  ☐ Seperate Window

Media Player 4: `MPV`
  ☐ Seperate Window

UDP Streaming Settings

Streaming 1 IP: `127.0.0.1`

Streaming 1 Port `5000`

Streaming 2 IP: `127.0.0.1`

Strean 2 Port `5001`

Streaming 3 IP: `127.0.0.1`

Streaming 3 Port `5002`

Streaming 4 IP: `127.0.0.1`

Streaming 4 Port `5003`

Cancel   Save

OpenTuner DL1RF's 0.C
New features and improvements

- Save and restore Main Window state. (Maximized, Normal, Minimized)
  If „Minimized" reopen in state „Normal"

- Save and restore position, size and state of BATC Web Chat window
  If „Minimized" reopen in state „Normal"
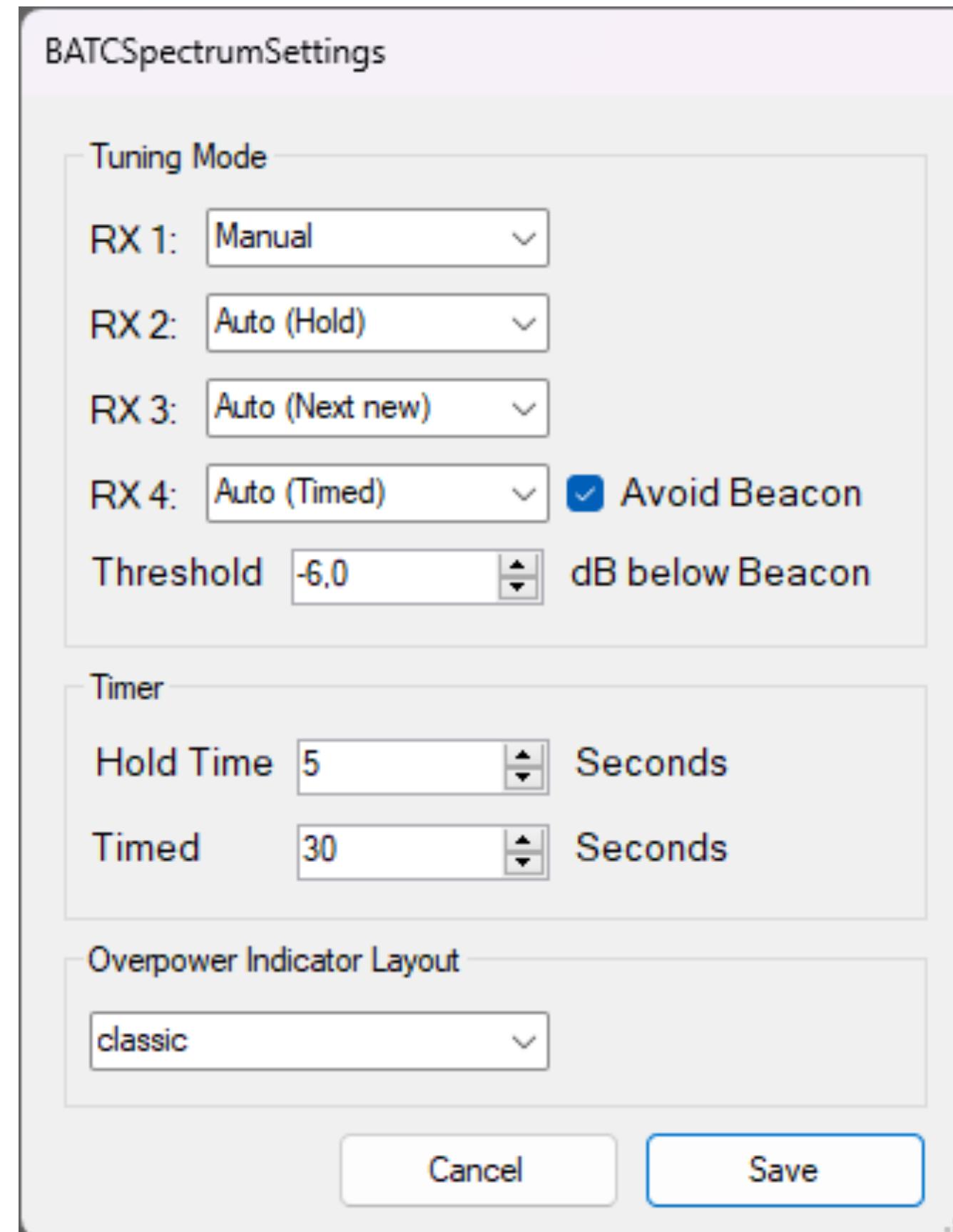
OpenTuner DL1RF's 0.C
New features and improvements

- BATC Spectrum improvements and new settings menu for Auto tune functions

- BATC Spectrum can be switched off and on with pressing CTRL-E

- Auto Tune function for all receivers
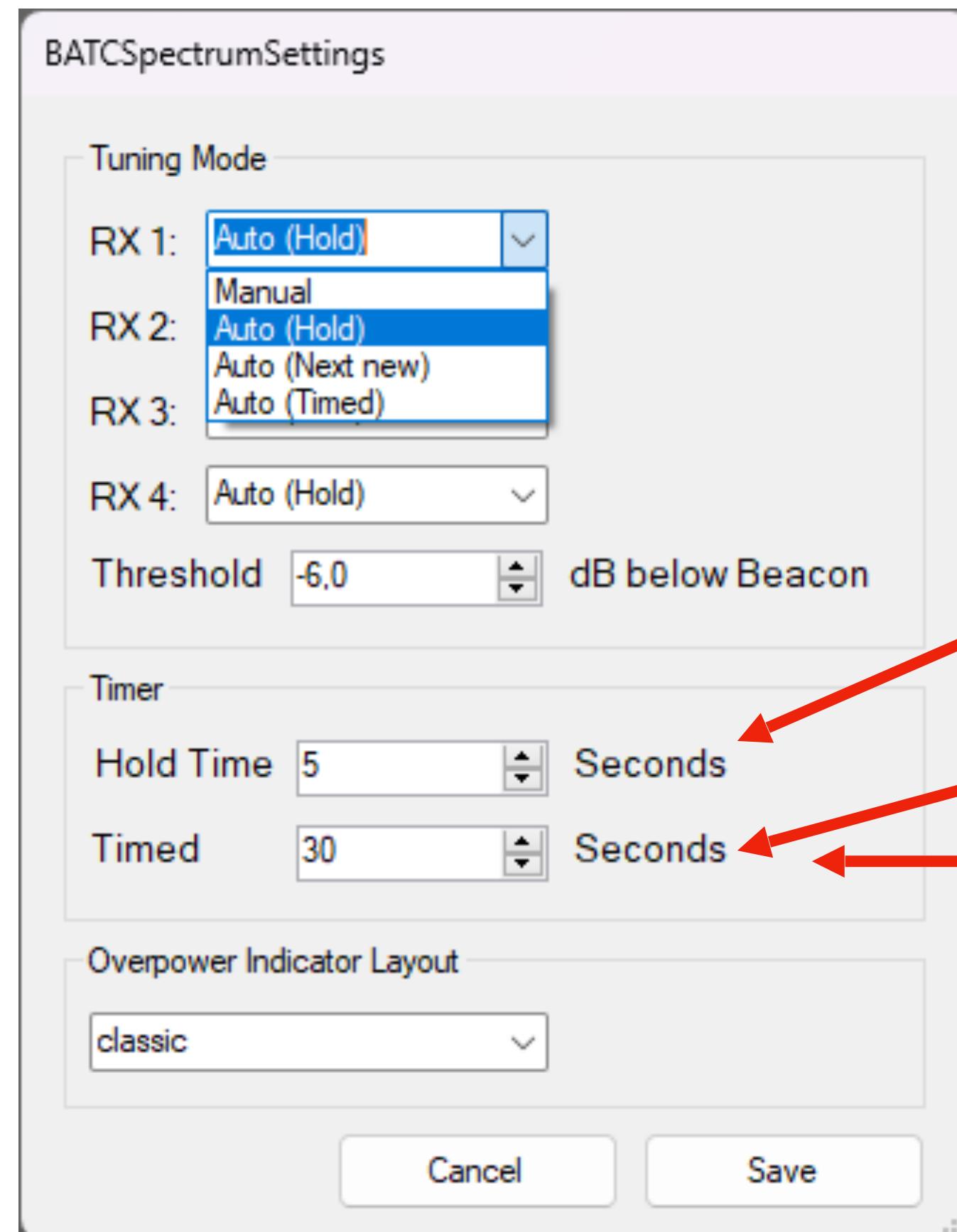
OpenTuner DL1RF's 0.C
BATC Spectrum Settings Menu Overview

- Tune Mode:
  RX1 … RX4: select tuning function per RX
  Threshold: select min. Signal strength for tuning.
  range: -6.9 … -0.1 dB below Beacon

- Timer:
  Hold Time: min. time to wait before tuning to a new signal
  after last tuned signal is lost.
  Used with „Auto (Hold)" mode.
  range: 0 … 60 seconds
  Timed: min. time to stay at signal before tuning to next signal
  Used with „Auto (Next)" and „Auto (Timed)" mode.
  range: 5 … 600 seconds

- Overpower Indicator Layout:
  (description at separate page)
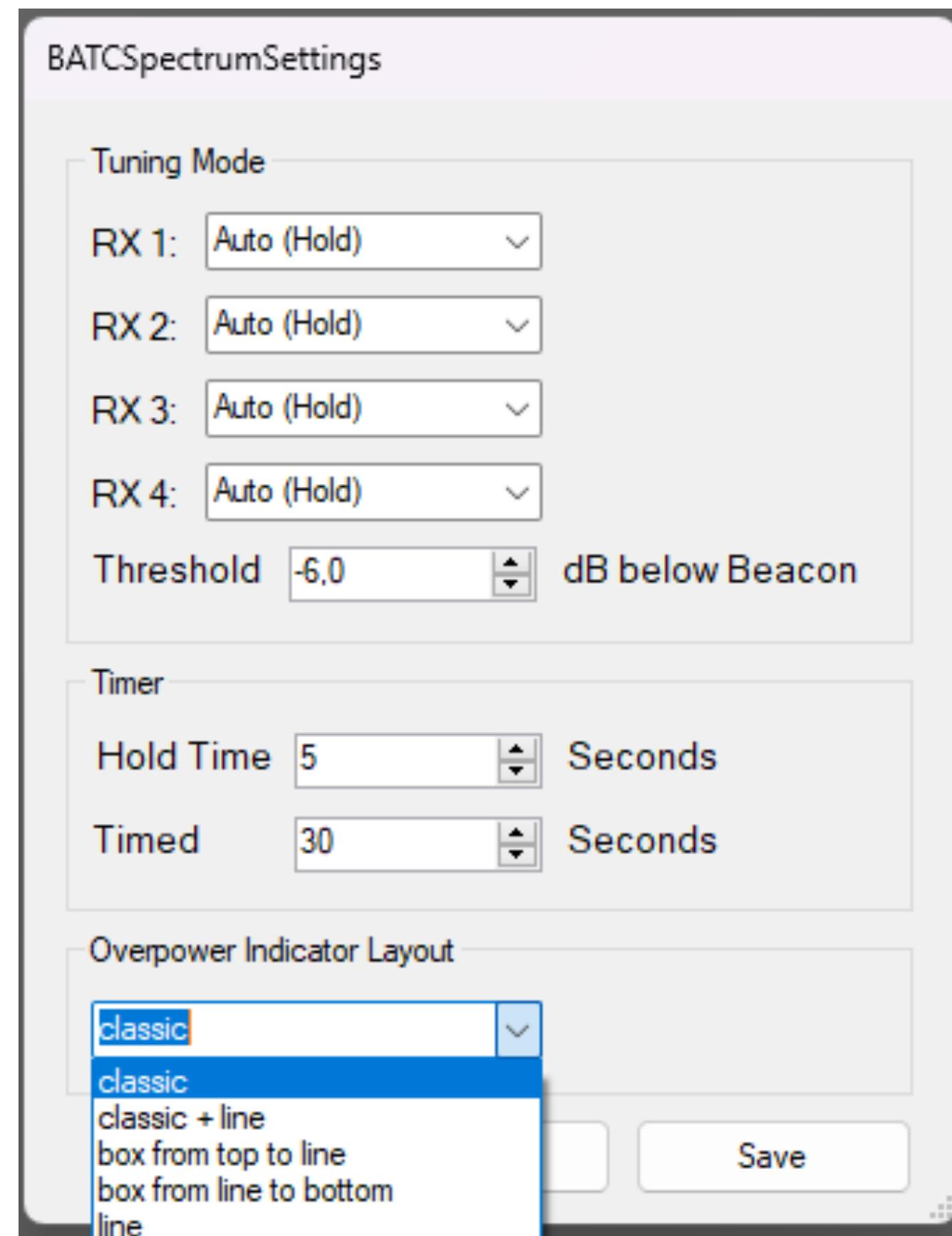
OpenTuner DL1RF's 0.C
BATC Spectrum Tune Modes

- **Manual:**   No auto tuning.

- **Auto (Hold):**   Tune to next untuned signal.
  Stay as long as signal is present.
  Wait „Hold Time" before tuning to next untuned
  signal. Beacon will be avoided.

- **Auto (Next new):**   Same as „Auto (Hold)" but will tune to next new untuned signal
  after„Timed" timer has expired
  even if the actual signal is still present

- **Auto (Timed):**   Tune to next signal.
  Stay min. „Timed" time at signal before switching
  to next signal.
  Tuning from lowest to highest frequency
  and repeat if end of band is reached.
  If „Avoid Beacon" is checked:
  Ignore Beacon as long as other signals are present.
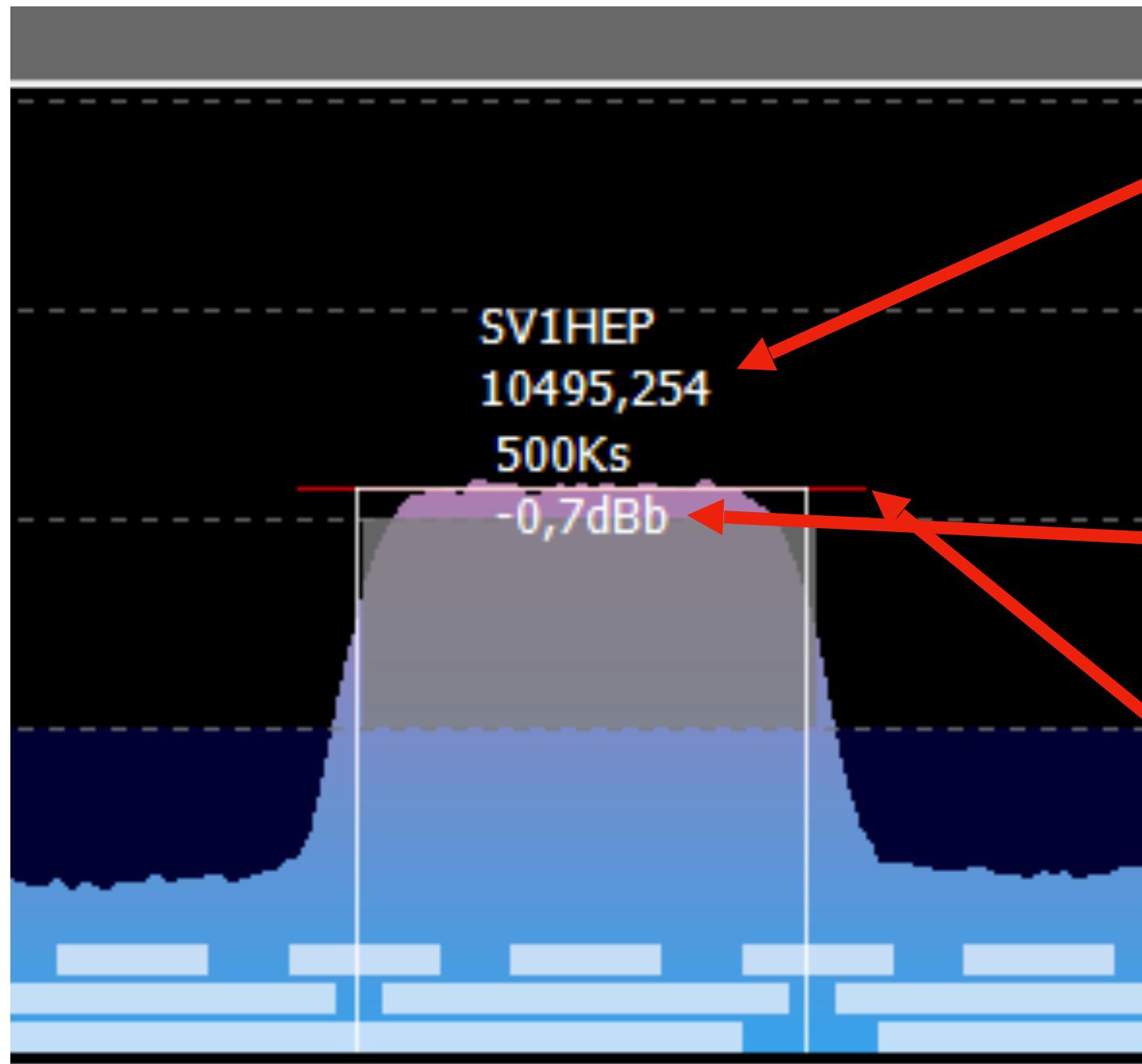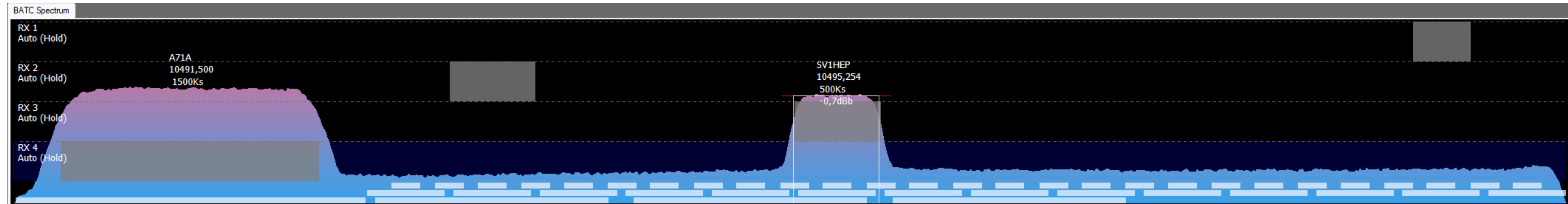
OpenTuner DL1RF's 0.C
BATC Spectrum Overpower Indicator Layout
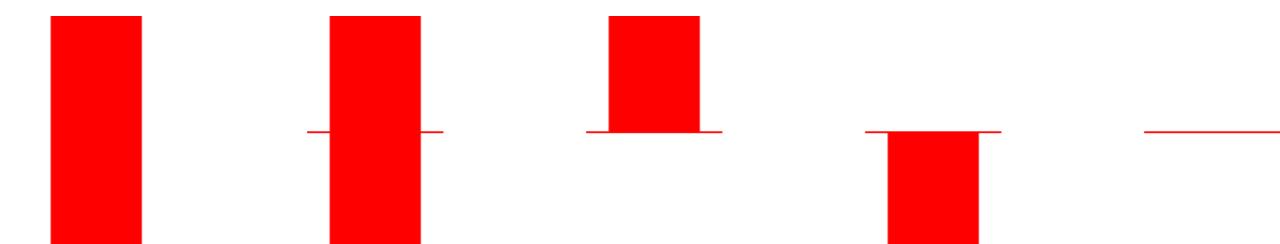
OpenTuner DL1RF's 0.C
BATC Spectrum improvements
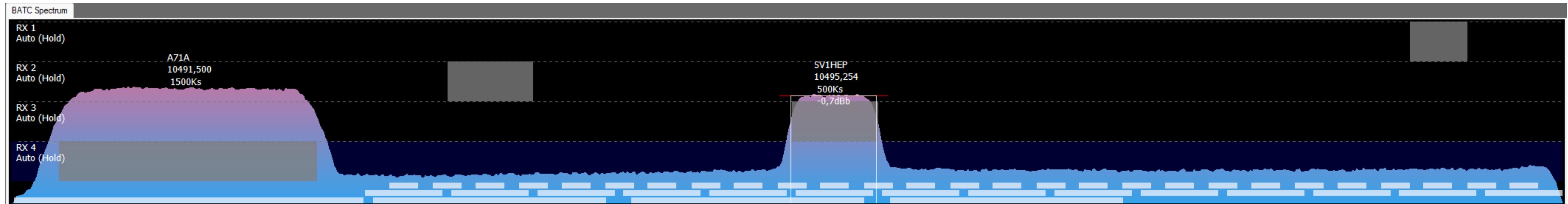
- Higher precision of displayed frequency

- More stable text positioning

- Signal strength indication with mouse over signal

- Selectable overpower indicator layout
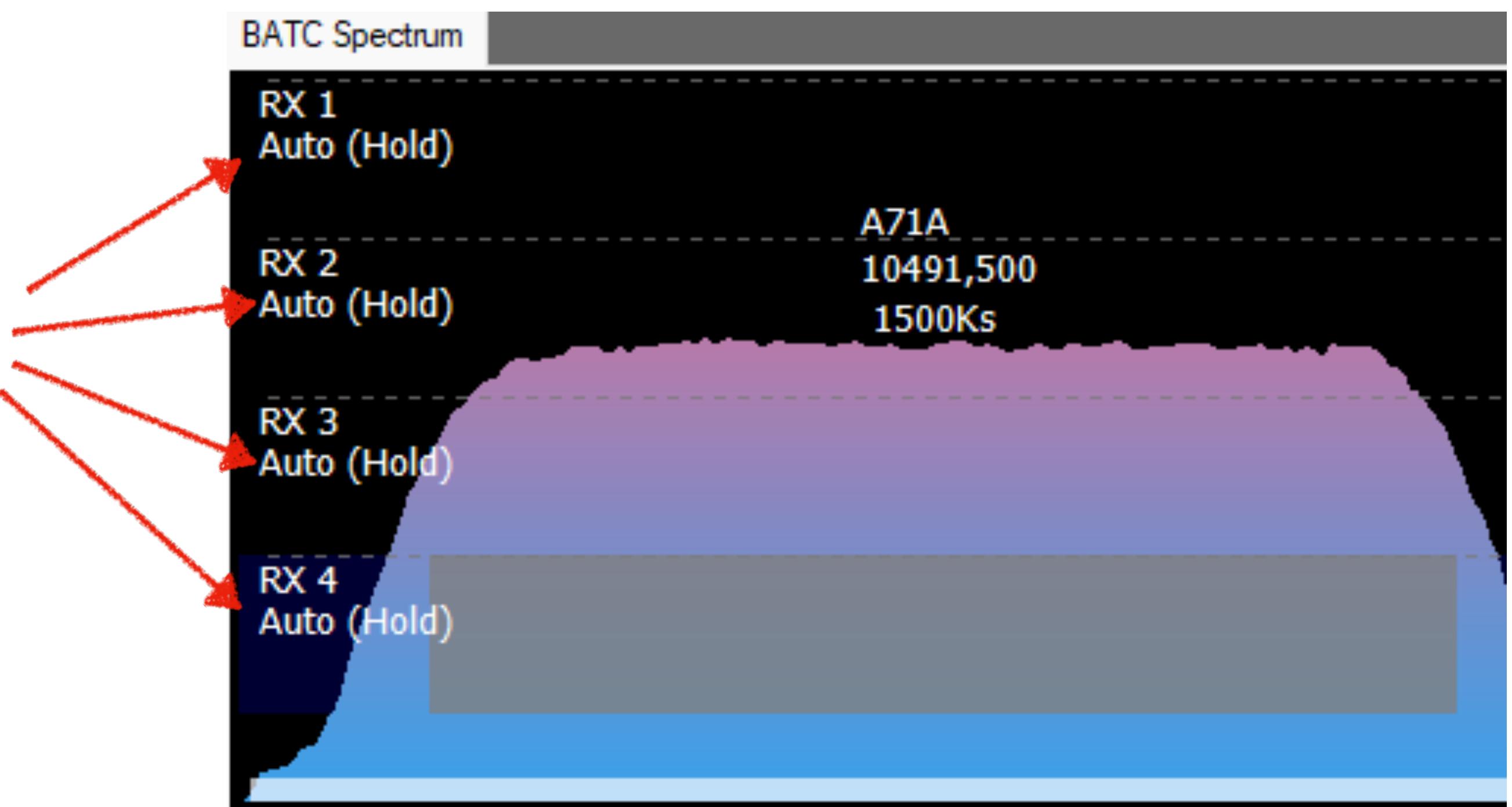
OpenTuner DL1RF's 0.C
Auto Tune functions (selectable per tuner)
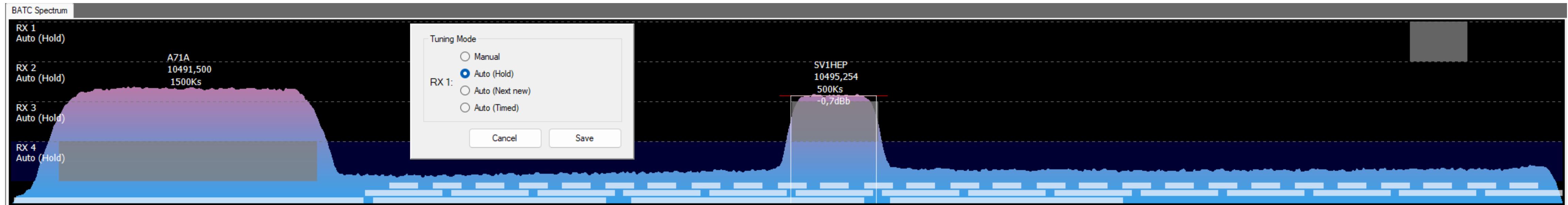
- Manual

- Auto (Hold)

- Auto (Next)

- Auto (Timed)

Selected function shown here
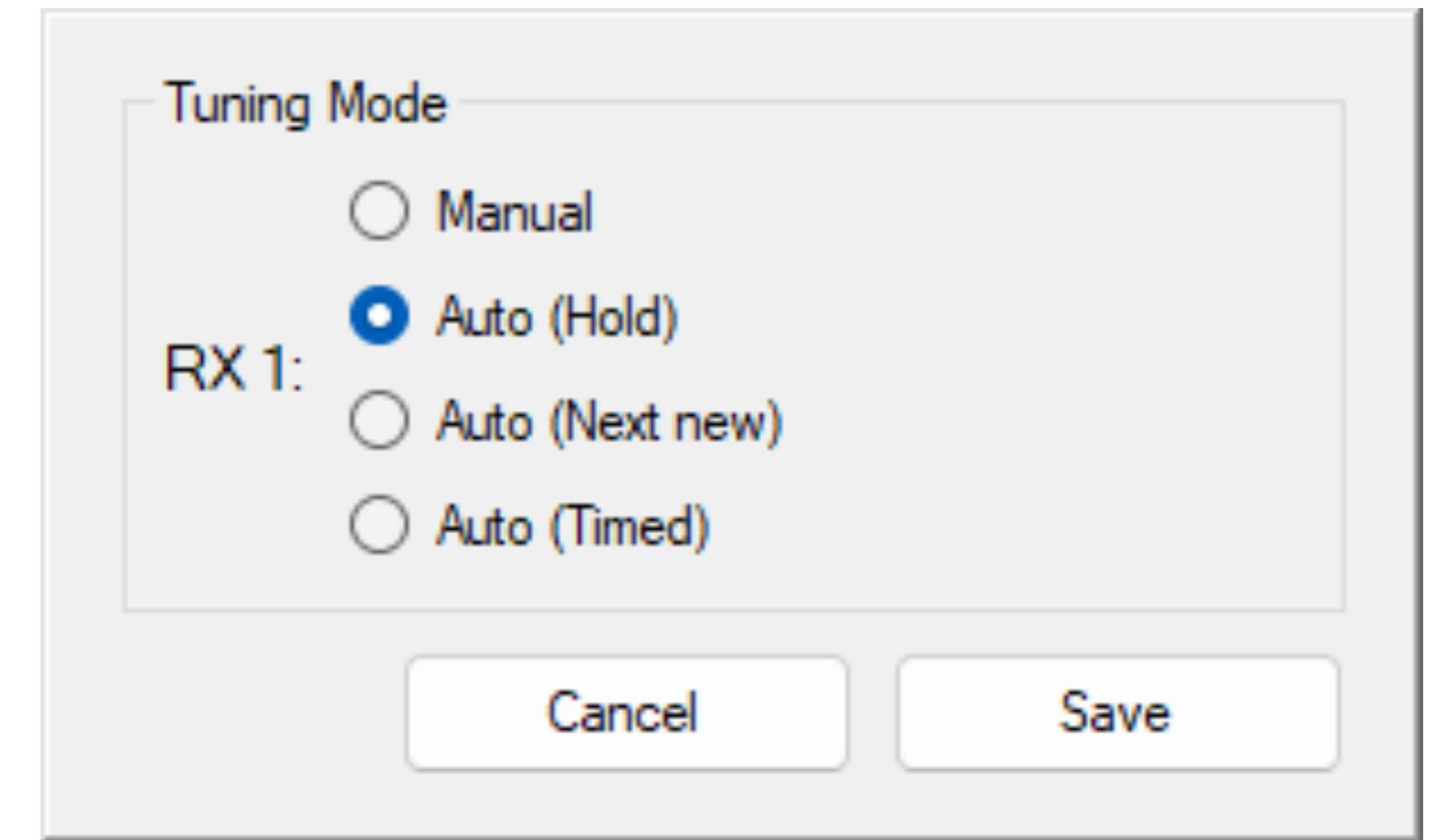
OpenTuner DL1RF's 0.C
Auto Tune functions Quick Mode change

- A click with the middle mouse button into the spectrum will pop up a selection menu to quickly change the Auto Tune function for a tuner

- A change here is only temporary and not stored

- It shall give the possibility to quickly change Auto Tune mode temporarily

Tuning Mode

RX 1:
- ○ Manual
- ● Auto (Hold)
- ○ Auto (Next new)
- ○ Auto (Timed)

[Cancel] [Save]
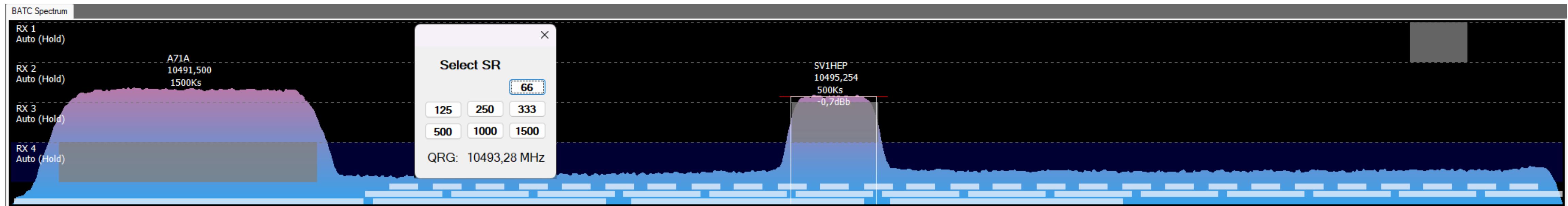
OpenTuner DL1RF's 0.C
Auto Tuner: Manual
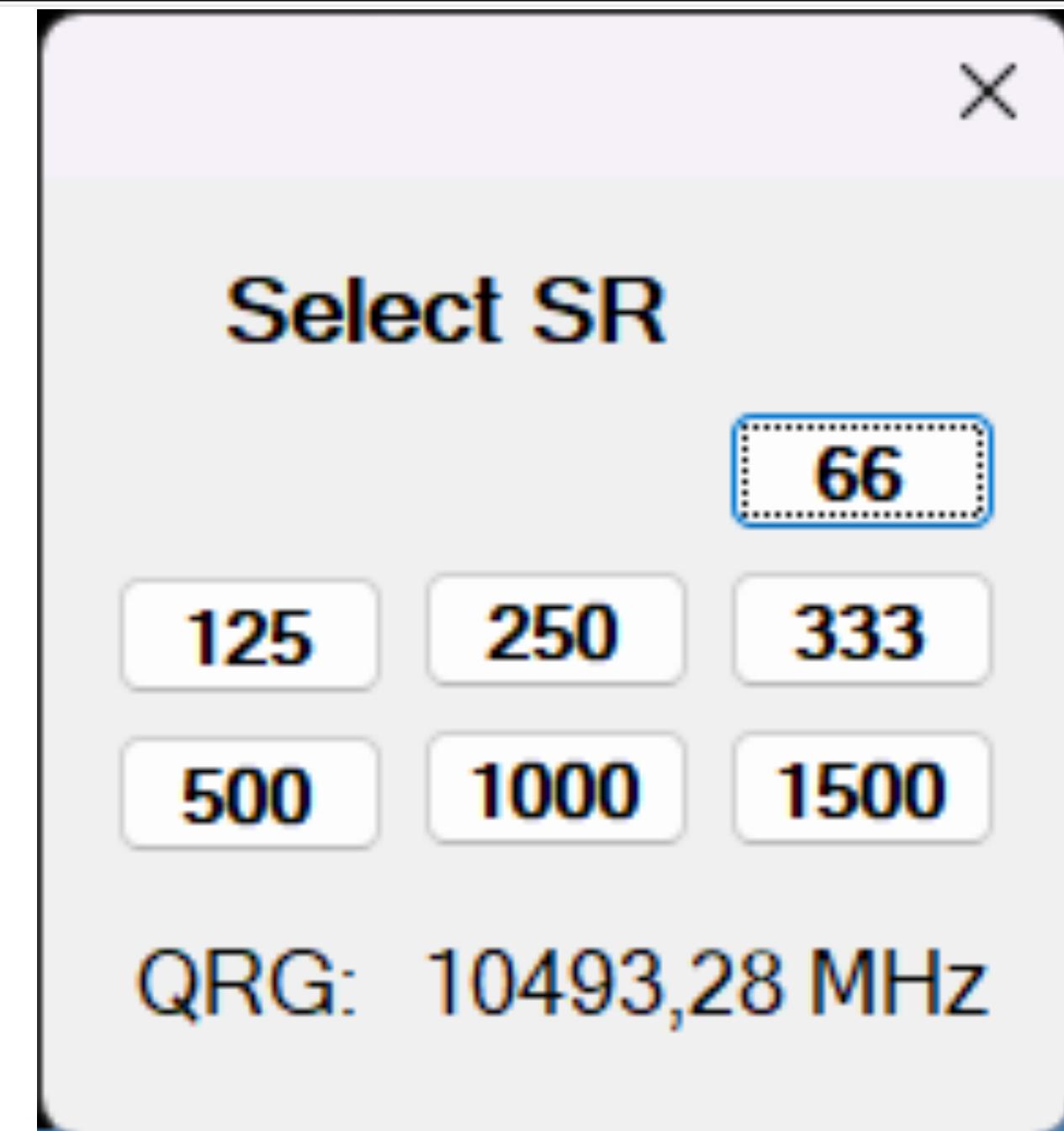
- No auto tuning

- Tuning to signal by left mouse click over signal in tuner area (Same as in previous OpenTuner versions)

- New „force" function via holding „ctrl" key + left mouse click (Idea from QO-100 WB Quick Tune 1.30 program)

- Manual tuning overrides any other auto tuning function

OpenTuner DL1RF's 0.C
Auto Tuner: Manual „force" function

- A left mouse click will pop up a symbol rate selection menu

- Selecting a symbol rate will tune to the frequency with selected symbol rate

- Cancel via (X) at upper right corner

- If there is no signal at the selected frequency the tuner is in hunting state at selected frequency

OpenTuner DL1RF's 0.C
Auto Tuner: Auto (Hold)

- This function is driven by the signal receiving function of BATC Spectrum

- The function will automatically scan through all available signals and will tune untuned tuners to the nearest untuned signal

- The tuning function will skip signals that are already tuned by either „Auto (Hold)", „Auto (Next)" or „Manual" tuning

- Signals tuned by „Auto (Timed)" will be tuned by this function as the „Auto (Timed)" tuning function work independent

OpenTuner DL1RF's 0.C
Auto Tuner: Auto (Hold)

- If a signal is lost the function will not tune to another frequency until the „Hold" timer has expired.

- If a signal reappears at the same frequency but with different symbol rate this new signal will be tuned first

- If more than one tuner is available Tuner 1 has highest priority, Tuner 2 next priority etc.

- The „Beacon" never will be tuned by this function

- Signals below „Threshold" value will not be tuned

OpenTuner DL1RF's 0.C
Auto Tuner: Auto (Next)

- Same basic function as „Auto (Hold)" tuning function

- In Addition if the „Timed" timer has expired the tuning function will look for new untuned signals (signals without callsign set) and try to tune to the new signal

- The idea behind this function is to get the call sign of new signals as soon as possible and is handy with the WinterHill receiver if enabled at RX4

OpenTuner DL1RF's 0.C
Auto Tuner: Auto (Timed)

- This function is driven by the signal receiving function of BATC Spectrum

- The function will automatically scan for available signals and will tune to a signal

- The tuning will start at „Beacon" and go from signal to signal in ascending order

- If the end of the spectrum is reached it will restart the process from „Beacon" frequency

- If „Avoid Beacon" flag is set the „Beacon" will be skipped as long as other signals are present

OpenTuner DL1RF's 0.C
Auto Tuner: Auto (Timed)

- A tuned signal will be hold till the „Timed" timer has expired or the signal is lost

- If no other signal is available and the „Avoid Beacon" flag is set the tuner will stay tuned to the actual signal till the signal is lost

- If the only signal in spectrum is the „Beacon" the „Beacon" will be tuned even if „Avoid Beacon" flag is set

- Signals below „Threshold" value will not be tuned

OpenTuner DL1RF's 0.C
Remarks Auto Tune Threshold Value

- The intention for the threshold is to prevent auto tuning to signals that can't be decoded

- The selectable range for the threshold is -6.9 … -0.1 dB below beacon

- The BATC Spectrum signal detection algorithm detects a signal as it reaches a strength of approximately -6.9 … -6.5 dB below beacon

- Setting the threshold below -6.5 dBb will deactivate the intended function

OpenTuner DL1RF's 0.C
Remarks Auto Tune Threshold Value

- While testing the function I found that -6.0 dBb is a good starting point for the threshold

- The value is only used for tuning

- It is not used to detect „signal lost"

- This is something to experiment with

OpenTuner DL1RF's 0.C
Improvements WinterHill

- Improved startup behavior with WinterHill

- Now will try to connect to WinterHill and if connect fail show error message and stay at startup screen

OpenTuner DL1RF's 0.C
Additions

- If OT 0.B setting files provided the old settings will be used where possible

- List of new command line options:
  --showextratools (show BATC Spectrum and tools within this container)
  --hideextratools (hide BATC Spectrum and tools within this container)

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End of presentation