



# RF Explorer<sup>®</sup> SERIES

**Firmware Version 1.20**

## **Cumulative Release Notes**

RF Explorer is an affordable Handheld Spectrum Analyzer with a growing list of features.

*This little powerful unit is the tool you need  
to reduce the implementation time and cost  
of your next wireless project.*

*This Release Notes document is complementary to the RF Explorer User Manual, [available online](#).*



*Please consider the environment before printing this document.*

## Firmware Upgrade Instructions

----- DO NOT USE THIS FIRMWARE IN SIGNAL GENERATOR -----

To upload this firmware, you must use the Uploader tool included in this software package. Firmware upgrade is a safe, simple process that can be repeated many times if something goes wrong.

You can update firmware using Windows, Linux or MacOS X operating systems.

For more details on how to upload firmware into your device, please visit online guide:

[www.rf-explorer.com/upgrade](http://www.rf-explorer.com/upgrade)

Firmware upgrade S/N troubleshooting:

The S/N upgrade is a required step for units coming from older firmware versions (prior to v1.12) which had no visible Serial Number on screen. This is completed automatically and has been tested in thousands of units with success, but some may not complete correctly in first try.

Note: If the unit completes upgrade and remains on screen with "S/N Init..." message, please wait a few seconds to complete the upgrade.

If S/N upgrade fails for any reason to complete this step in the first try, please repeat the upgrade process once again.

Check in the CONFIG MENU of the RF Explorer device it is configured for 500Kbps or 2400bps same as you select in Firmware Update tool.

If fails after a couple of attempts, then please contact us at [contact@rf-explorer.com](mailto:contact@rf-explorer.com) and provide us with:

- File RFXplorer\_Uploader.log available in the <My Documents> folder of your computer.
- Operating System version and confirmation you are connecting directly to USB port on your computer, not an intermediate USB hub.

If the problem persist, you can overcome this step by pressing ENTER when a small message shows up with <Press ENTER to Stop> next to "S/N Init..." on screen.

## Version 1.20

Release date: CET June 19, 2017

### Fixes:

- Resolved a problem where WiFi Analyzer in 2.4GHz may show incorrect channel numbers.
- Fixed a cursor position issue in FREQUENCY MENU affecting WSUB1G module (240-960MHz) while editing values.

## Version 1.18

Release date: CET March 10, 2017

### Fixes:

- Resolved a problem where certain frequency setup combinations may lead to stability problems in SNA Tracking with RF Explorer Spectrum Analyzer.

## Version 1.17

Release date: CET Feb 27, 2017

### Enhancements:

- Added dedicated charge and calibration Battery screen
- Enabled ASK/OOK Sniffer capabilities. This feature is only available from the RF Explorer for Windows application. Please check [www.rf-explorer.com/sniffer](http://www.rf-explorer.com/sniffer) for more details.
- Added an improvement to DSP algorithm for WSUB1G and 3G modules, it now correctly removes the potential spurs in some units at 30MHz multiple frequencies (leakage from LO crystal). With this fix, using DSP:Auto and DSP:Filter correctly removes these spurs if present.
- Improved RBW automatic filter selection, it has additional finer grade filter options to adjust better on some boundary conditions.
- Internal code refactoring to make room for additional capabilities coming un next releases
- Improved OPERATIONAL MODE menu to only show options relevant to the RF Explorer model, to avoid confusion. In earlier versions, all options (such as RF Generator or WiFi Analyzer) would be listed even if not available.

### Fixes:

- Added code to ignore keypress when the unit is in Tracking SNA, Sniffer or Calibration mode. Before this fix, an accidental key press may stop the current workflow with unknown results.

## Version 1.15

Release date: CET July 8<sup>th</sup>, 2016

This is recommended release for all users of RF Explorer Spectrum Analyzer.

### Enhancements:

- Added support for Wifi Channels in 5GHz band:

<b>Channel number</b>	<b>Center frequency</b>
<b>36</b>	5180 MHz
<b>40</b>	5200 MHz
<b>44</b>	5220 MHz
<b>48</b>	5240 MHz
<b>52</b>	5260 MHz
<b>56</b>	5280 MHz
<b>60</b>	5300 MHz
<b>64</b>	5320 MHz
<b>149</b>	5745 MHz
<b>153</b>	5765 MHz
<b>157</b>	5785 MHz
<b>161</b>	5805 MHz
<b>165</b>	5825 MHz

- Support firmware upgrade in MacOS X and Linux using Mono libraries.
- Included protocol support for external calibration data
- Added support for RFEMWSUB3G internal calibration table - details on how to use this will come in future RF Explorer for Windows release
- Added option to overcome "S/N Init" screen with a ENTER key press if does not complete for any reason (see troubleshooting at the end of this note).
- Unified firmware with support for all RF Explorer Spectrum Analyzer models, pending final test for release
- Support for 300MHz span in RF Explorer 6G and 600MHz span in RF Explorer 6G Combo.

### Fixes:

- Resolved a problem with RF module switch power. Before this fix, the Combo units with two modules may not always power off the unused module correctly, leading to higher power consumption and RF false readings.
- Added dynamic support for automatic data cache in MaxHold mode. With this new feature, the MaxHold cache will refresh after a number of sweeps defined in Iterations parameter in

ATTENUATOR MENU. Using this feature is convenient to prioritize fast signal capture (Iterations:16) or clean spur free capture for constant signals (Iterations:1)

- Resolved a problem with WiFi Analyzer in 5GHz, when returning to Spectrum Analyzer mode may keep "Re-calibrating" on screen hang.
- Resolved a problem where upgrades from older firmware versions than v1.10 may misconfigure the device model.
- Fixed amplitude connection refresh from Windows application to device. Before this fix was in place, amplitude top/bottom change from RF Explorer for Windows application was ignored by the device.
- Added extra delay to try to resolve lock frequency issues in user reported 6G unit
- Fix for certain WSUB3G calibration tables not working properly after upgrade
- Workaround for internal tolerance failure found in certain FLASH memory chips
- Fixes a screen lock problem sometimes in Analyzer mode when the Top dBm setting is very low and a high peak signal is detected
- Allow first digit of span to be edited
- Power on unit with RETURN button pressed will enable the main board module
- Added extra reset time for internal mixer in order to improve clean startup and avoid reported tuning issues
- Added asterisk (\*) symbol on Spectrum Analyzer screen as an signal if tuning issues are being detected by the unit
- Added check for RF Generator screen in 6G units to make sure it is not made available

This is stable and robust release, but still tagged as beta due to some ongoing development not yet made available. In a future final GA release you will get:

- Wifi Analyzer mode for 5GHz band (supported by 6G, 6G Combo and Wifi Combo units).
- Better noise floor flatness in 3G and 6G modules using a newly defined internal mixer frequency plan

## Disclaimer

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For more info on RF Explorer, please visit [www.rf-explorer.com](http://www.rf-explorer.com)

For instructions to upload this new firmware in your RF Explorer unit, please visit online documentation at [www.rf-explorer.com/upgrade](http://www.rf-explorer.com/upgrade) .

Some of these new features documented below may not be available in the user manual until a final release is published. For questions, please go to RF Explorer forum at [www.rf-explorer.com/forum](http://www.rf-explorer.com/forum) .

Some of these notes may refer to beta versions. They have been thoroughly tested, but they may not pass all formal review and regression test of a final version. You should not install a beta firmware if you are not comfortable with occasional bugs or risk of losing data.

Final release versions pass a full set of test cases and formal review process to minimize the risk of any issue.

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