New Features and bug fixes in Room Tools 4.0

This documents lists the new features of Room Tools in major release 4.0

1. Measuring Mode

1.1. Use Mic Calibration (New feature)

There is a possibility to use a "Mic Cal File" to compensate amplitude errors of microphones now. If you want to use this feature check the box in the screen *Measuring mode*. Then go to *Reference|Mic Calibration* in the main menu. There are two ways to do the compensation:

1. **Define a frequency response for the calibration by using the yellow dots:** This curve will be added to your measured frequency plot. E.g. if your microphone has a 1 dB dip you must realize a 1 dB peak in this curve.

2. **Make a reference measurement with a better microphone:** If you have access to a very good microphone you can do a reference measurement at exactly the same microphone position. Make the measurement and copy it with the *Get Ref Measurement* button to the mic calibration screen. Then change the microphone, do a second measuring and copy the plot with *Get Current Mic Measurement* button to the mic calibration plot. Now calculate the calibration with the *Calc Calibration* button.

Save the calibration with the *Save Cal. to File* button. This file will be used further on. To see the current settings go to *Reference|Show Current Settings* in main menu.

1.2. COM ports 5-8 running (New feature)

For communication with third party hardware the COM ports 5-8 are available now. The COM1 bug is solved.

2. Time Domain

2.1. Delay Finder (Reviewed feature)

In Loop back mode the Delay-finder (maximum of ETC) is now displayed bigger. Some minor bugs regarding wave open are fixed.

3. Frequency Domain

3.1. Phase (Extended feature)

The Phase is now displayed as raw, minimum phase or group delay and scaled in degrees instead of radians. It uses the right axis of the plot area which works completely independent from the lexft axis that displays dB.

3.2. Bandwith added to Virtual EQ (New feature)

Virtual EQ does now show also Bandwith not only Q (B=f0/Q)

3.3. Open multiple files for overlay management (New feature)

To open multiple files and copy these automatically to the Frequency overlays do the following: *Main Menu|File|Open|Multi Time Files for Overlays*.

3.4. Overlays (New feature)

Reference Measurement: To show frequency plots relative to a specific measurement do this: Make the measurement that shall work as reference. Copy it to overlay 1 and check button *Use Overlay 1 as Reference*. All further plots will be adjusted relative to the plot in overlay 1.

Show Legend: To display a legend of frequency overlays check the button *Show Legend*

All Off / All ON buttons switches all overlays Off/On

4. Acoustics

4.1. Clearing of tables and charts after opening a different file (New feature)

All charts and tables are cleared after opening a different file

4.2. Open multiple files and export for acoustic data (New feature)

To create a set of acoustic data from several time files there is a new entry *File|Open|Multi Time Files for Acoustics* in main menu. To use it do the following:

1. Define a file list
2. Choose resolution 1 octave (to include STI) or 1/3 octave
3. push *OK*

Room Tools generates a text file from each time file with detailed acoustic data in the same directory.

To import into Excel do the following in Excel: *Main Menu|Data|External Data|Import Text file*.

4.3. User defined Bandwidth in 1/3 Octave Mode (New feature)

There is a user band available where start and stop frequencies can be defined for acoustic calculations.

5. Realtime/RTA (New and reviewed features)

The older, uncalibrated Realtime Analyzer is removed.

Reference function in RTA mode: When the *Reference* button is pushed while RTA is running, all further plots are relative to the plot that was active at the moment when the button was pushed.
Minor bugs with RTA table file open/save are fixed

6. Various

6.1. Colour switching

The background colours of all charts can be changed now. In the frequency domain hit right mouse button inside the plot area. Choose background and label colours. There is also a possibility to change screenshots done with the Copy To Clipboard function to black/white.

6.2. Bug in Auto Save / Auto Save asks before saving

Bug with dot in filename is removed

There is an option that auto save is asking before saving at each measurement: This is helpful to discard bad measurings without counting at the filenames

6.3. Third party hardware "behold APU" support

The remote control for behold devices running Ascendo Room Correction Algorithms are implemented.

6.4. Installer removes registry nodes

The setup removes the 4.0 registry nodes now
To remove all nodes older than 4.0 run the 4.0 setup twice

6.5. Open multiple frequency files bug

Bug resolved that stopped machine after a couple of opened frequency files

6.6. Various checks on nonsense data

Various new checks are done to avoid error messages when data is not valid

6.7. Wave In Open error with UA5/25 resolved

With the new driver the wave error that occurred when switching back from RTA to impulse mode is fixed

6.8. ASIO support (Not fully implemented!)

The ASIO support is not fully implemented due to different issues. Nevertheless ASIO is running well with UA5/25 on many machines. The feature is hidden normally, but can be switched on in Third Party area. There is no support for problems with ASIO at the moment.