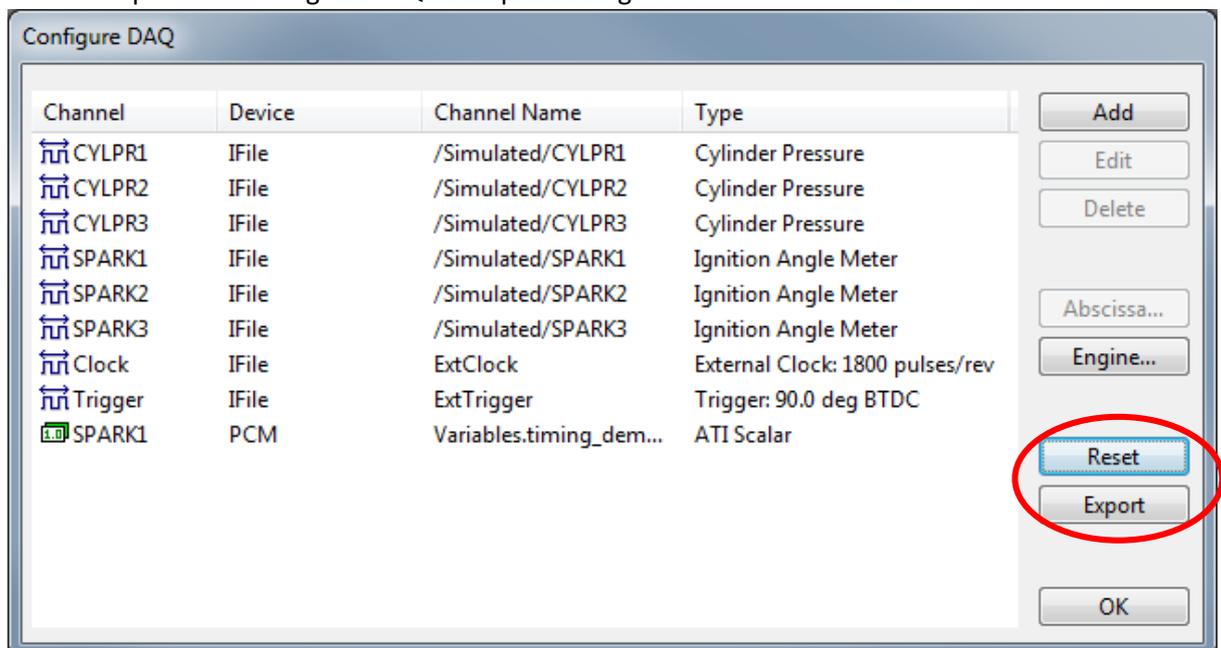


catoolRT 16.3 Release Notes

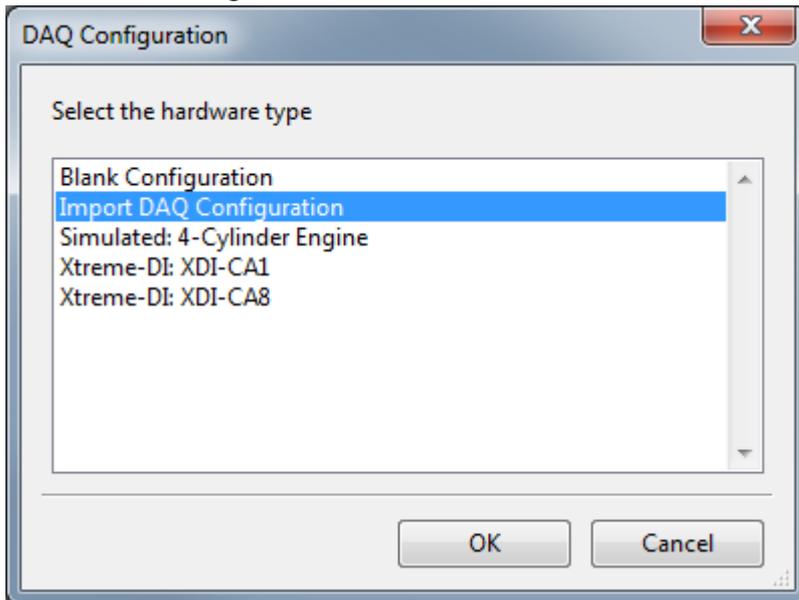
Changes since 15.12:

- Single installer for 32 and 64 bit processors
- Include channel units in "Copy Data"
- BUGFIX: Fix corruption of plot when number of data points is similar to screen resolution
- BUGFIX: Ensure first cycle is analysed during extrapolated clock acquisition when first cycle is out-of-sync.
- Add catoolRT icon to "About" box
- Move "Cancel" buttons to bottom right hand corner of windows
- Re-order "Advanced Config" items
- Make encoderless logging optional ("Advanced Config" -> "Create DAQ Logging File")
- Allow minimum display update rate up to 10,000 ms
- Prevent axes labels from being regenerated when loading projects. This allows axes to be edited permanently.
- Ensure that when channels are added or deleted the existing plots are updated correctly.
- Icons updated throughout the application and now used for all windows. Plot windows have an icon corresponding to the abscissa type.
- Do not set TDC offset angle to zero when firing order is set to "Custom"
- Ensure crash handler runs on 64-bit versions of catoolRT
- Delete crash dumps if they are very small, i.e. failed to generate correctly
- Ensure dwell time is only calculated for "Spark Primary Current" channel type
- Added "Export" in "Configure DAQ" to export configuration

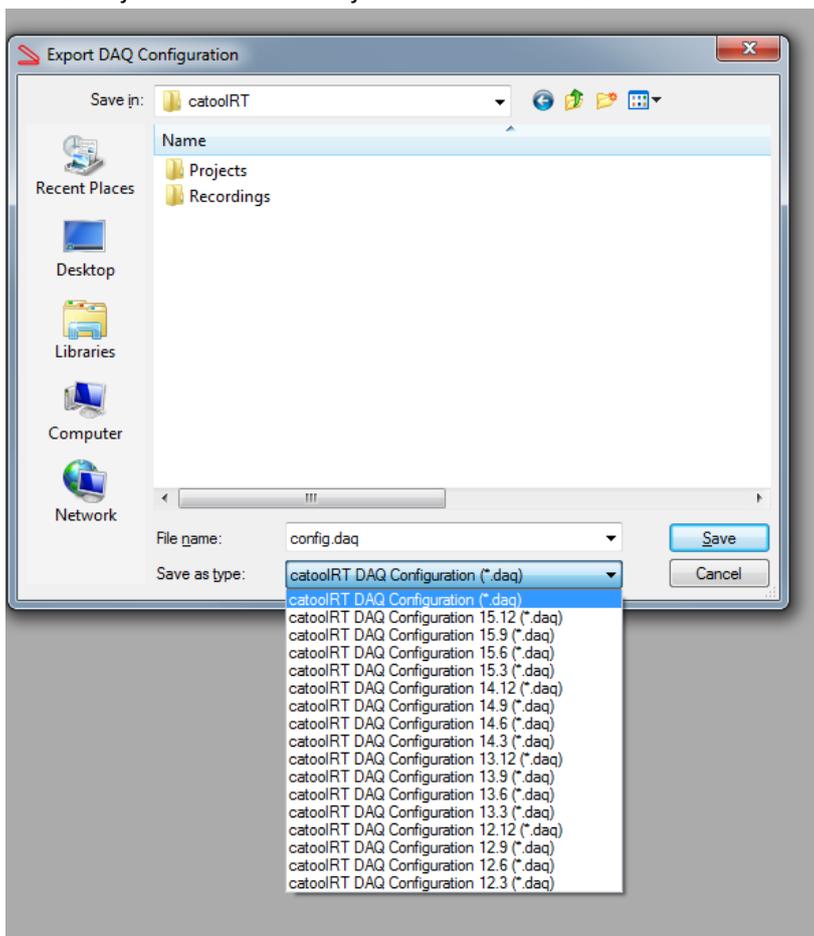


- Support more flexible initialisation of DAQ configuration including loading from a .daq file and auto detection of hardware. A new installation or "Reset" in "Configure DAQ" allows

the choice of configurations.

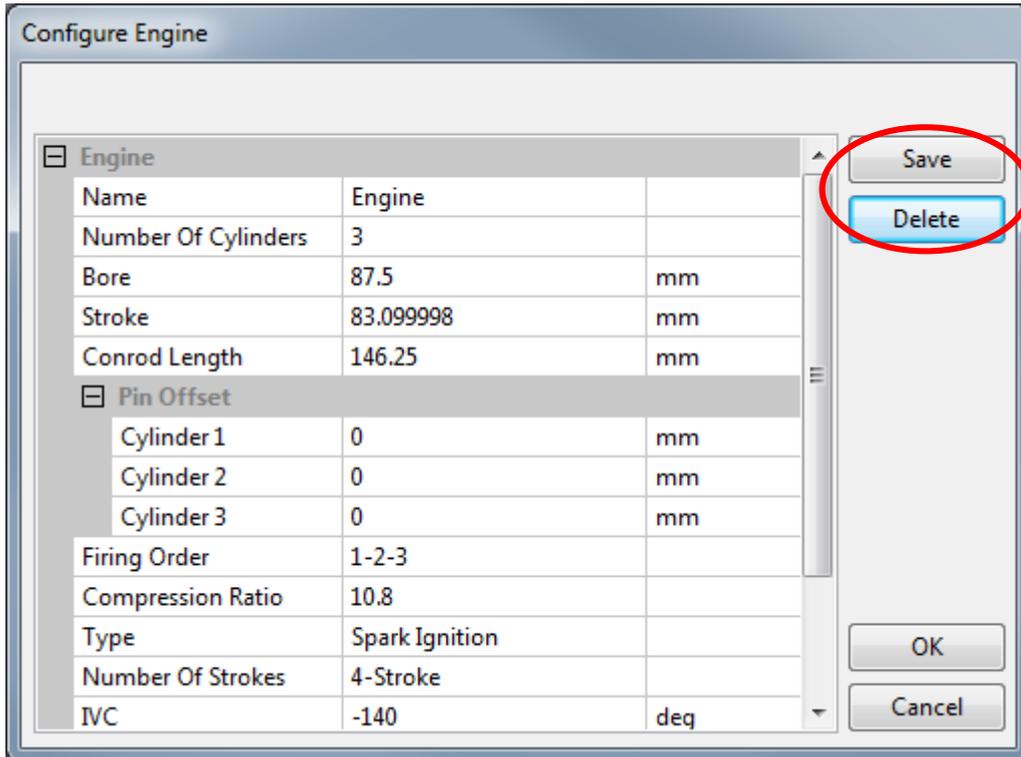


- Support saving of project and DAQ config files back to version 12.3. Added “Open Project”, “Save Project” and “Save Project As” to “File” menu.

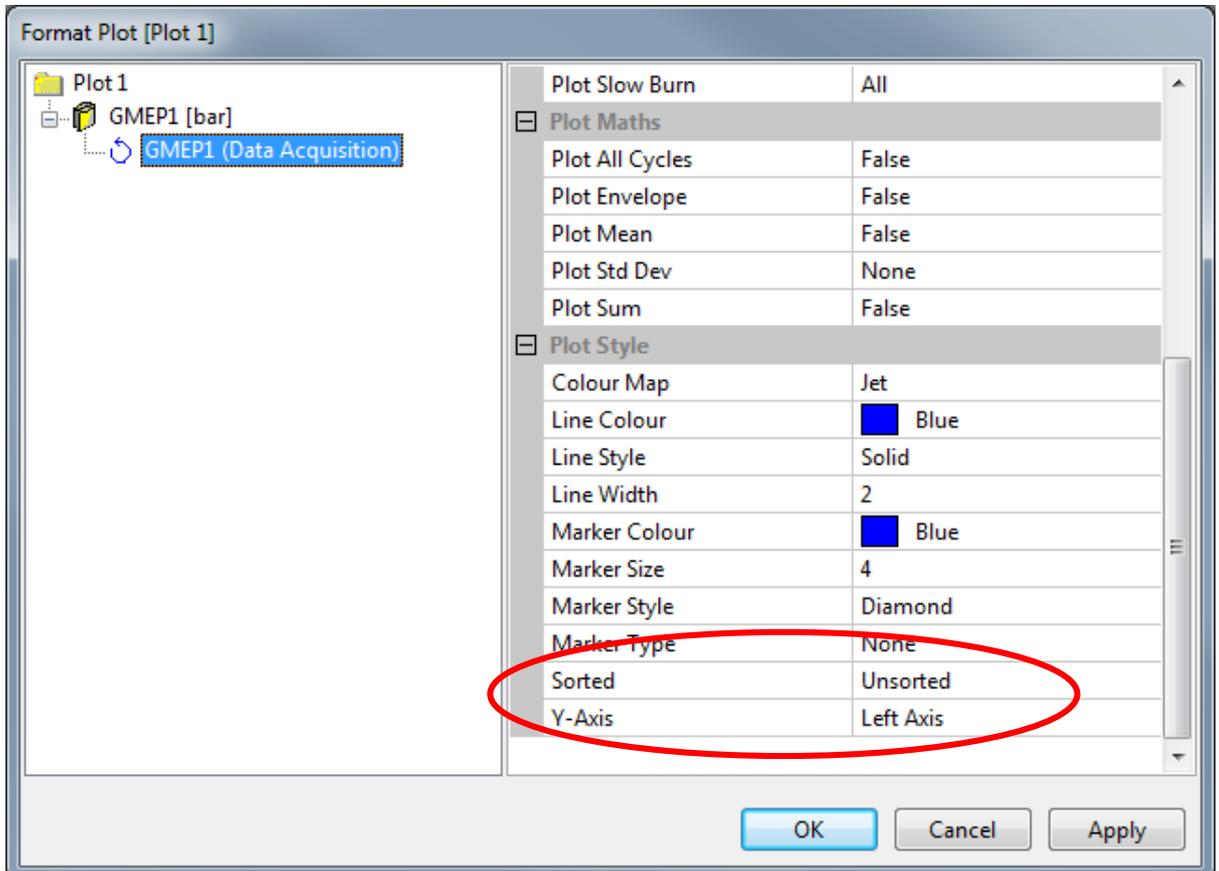


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- Fix and mitigate for corruption of 15.12 DAQ config files
- Swap labels of “Upper” and “Lower” frequency in channel configuration to prevent confusion.
- Prevent some items from being changed in channel properties when called from edit DAQ channel window. (Name, units, description, TDC offset, channel type and cylinder)

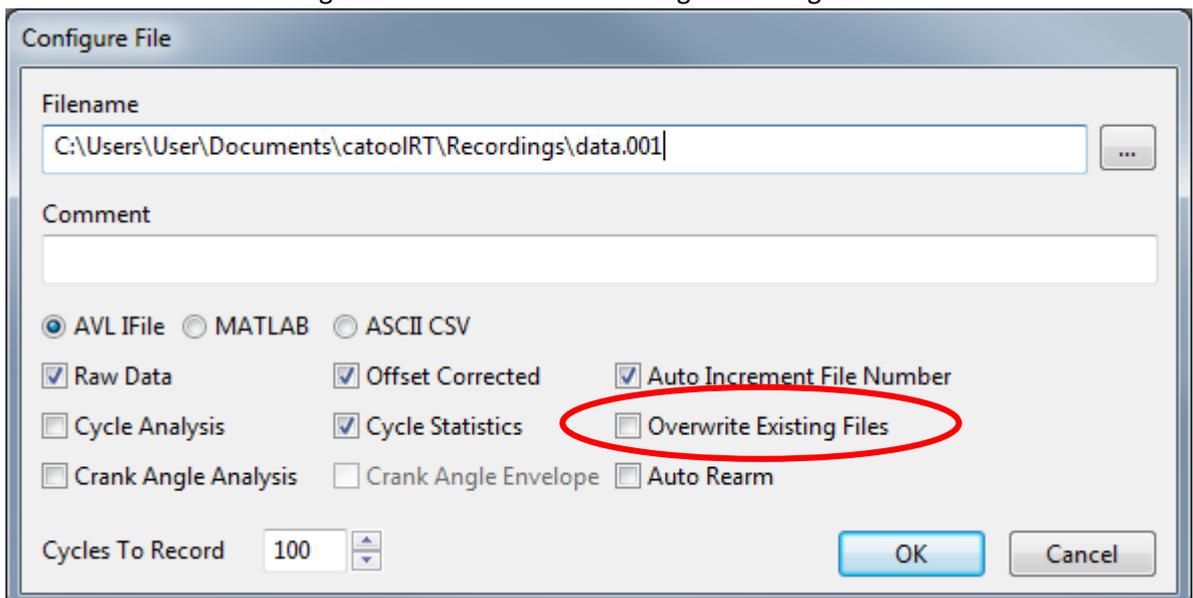
- Allow saving of engine geometry in "Edit Engine" window.



- Allow plots to have axis on the left and/or right hand size. In "Format Plot" the axis can be selected under "Y-Axis"
- Allow cycle based plots to sort the data in ascending or descending order. The sorting only occurs offline.

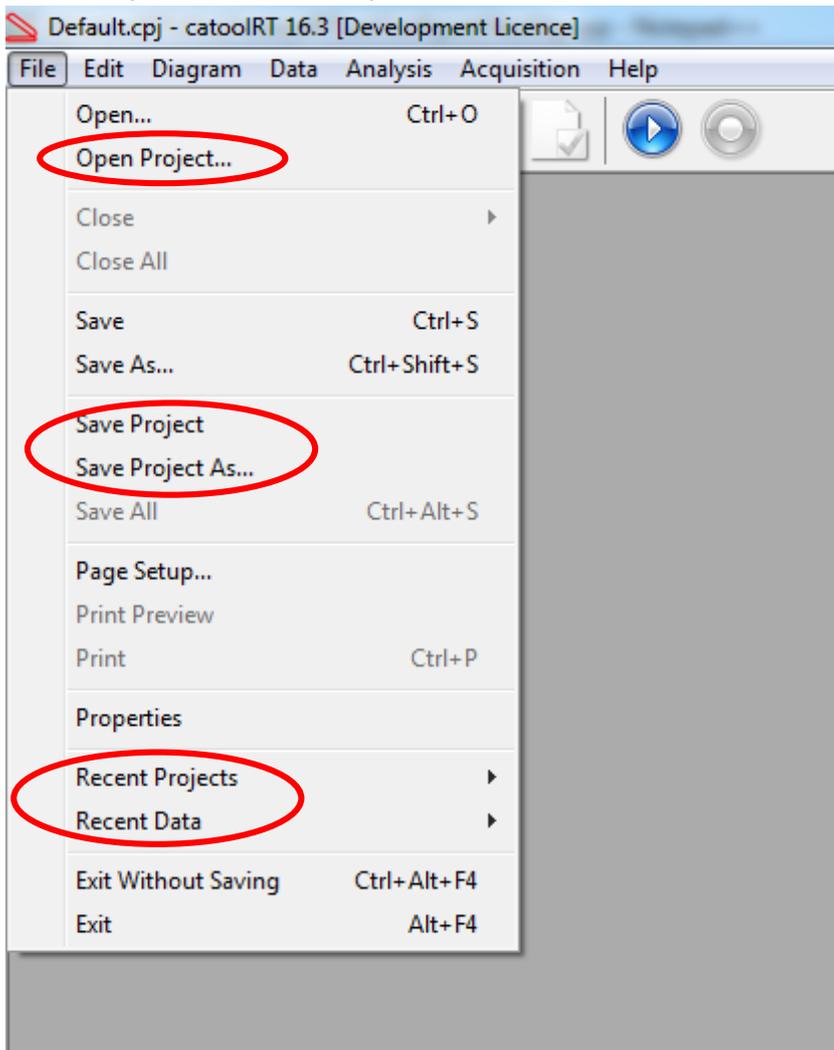


- Add wxWidgets internationalisation catalogue for Spanish/German translations. Add new strings to translation. Respace windows to fit internationalised text.
- Draw GUI before loading DAQ configuration on startup to ensure toolbar is drawn and doesn't look corrupt
- Only warn about failed startup if the configuration file exists
- Close plots if all the channels in that plot have been deleted
- Add a warning if it was not possible to upload crash reports.
- Added window background colour option to plots. Current plot background colour is used for existing projects.
- BUGFIX: Crashed when trying to save a file to a directory we didn't have write access to
- Improvements to when/how file numbers are incremented
- Improvements to waiting for the DAQ threads to finish
- Warn if "Check for updates" cannot connect to server
- Only allow "Add Channel as X-Axis" and "Add Analysis Type as X-Axis" for certain abscissa combinations
- Allow licence file to be dropped on the "Manually Update Licence" window
- Warn if the manually specified licence file is not valid
- Add robustness to prevent encoderless acquisition trying to trigger segment events on the never-to-arrive missing tooth.
- Update total number of cycles when running in encoderless acquisition
- Only invert plot colours from black-to-white and white-to-black to allow custom background colours to remain constant
- Tweaks to the plot axis spacing in normal and MATLAB styles
- In "Configure DAQ" the "Abscissa" and "Delete" buttons are now hidden/shown as appropriate
- When creating a new cylinder pressure channel the default polytropic index is now relevant to the engine type, gasoline (1.32) or Diesel (1.37)
- When changing from "External Clock" to "Interpolate External Clock" use the interpolated resolution to rescale existing abscissas.
- Add "Overwrite" to "Configure Files" to force overwriting of existing files.



- Check that the directory recorded files are destined is writeable by the user
- Prompt the user if the specified file already exists in "Configure Files"

- Improvements to prevent a single resync during an “External Clock”, i.e. encoder, acquisition from continually re-syncing.
- If the data acquisition device is not found whilst editing a channel then it finds one with the same device name
- Hide the cylinder number and TDC offset for crank position sensor or camshaft channels.
- Update progress bar during crash dump upload
- Add project and data file history to file menu
- Update progress bar when uploading crash reports
- Added Project and Data history to “File” menu



- Main window now has filename of project file in title
- Improvements to calculation time of plot windows particularly for long time based plots
- Various other small bug fixes and robustness improvements