

## catoolRT 18.9 Release Notes

Changes since 18.6:

- XCP is now disabled by setting the protocol to "None" in "Advanced Config"
- Improvements to AK protocol support
- Fix instances of axes being renamed to channel description rather than name
- Fix crash when not analysing loaded data
- DAQ devices used in the acquisition configuration are stored for use when that hardware is no longer connected to the PC
- Start of combustion can use digital channel for detection ("Digital Rising Edge", "Digital Falling Edge")
- Fixed issues loading older catoolRT project/config files
- Improvements to cylinder deactivation detection
- Improved calculation of pressure rise rate
- Robustness improvements to bad NI DAQmx hardware information, usually caused in vehicle by low battery voltage
- Improved defaults for Wiebe combustion parameter calculations
- Improved defaults for TDC determination
- Fixed issue of axis names being reset when new parameters added to plot
- Format plot – keep parameters synchronised as necessary
- All plots can now use colour maps
- Improvements to pseudo 3D plots
- Increased number of plot line styles
- New plot marker shapes – inverted triangle, hexagon, plus
- Improved robustness to compressing and uploading crash reports
- Prevent TDC alignment and logarithm settings being reset when adding new channels to existing plot
- Draw colour map scale on plots
- Recording of time based starts implemented
- Improvement to drawing speed for data with many more points than screen resolution
- Improvements to FFT speed and memory utilisation
- Added default plot styles to mimic AVL Concerto, AVL IndiCom, MATLAB, MS Excel and LabVIEW. "Diagram" -> "Diagram Defaults...".
- "Inverted" diagrams have been removed. Previous functionality can be found using "Diagram" -> "Diagram Defaults..." -> "Reset Diagram Defaults" and selecting either "catoolRT" or "catoolRT (Inverted)".
- Minimised plot borders and added border size to "Format Plot"
- Added Title option to plots
- Added waterfall option to frequency based plots
- Rescaling plots whilst online only uses data that has been acquired
- Does not rescale plots after adding new channels
- Copying plot to clipboard as vector uses EMF+ format to include envelope
- Option to copy figure as vector or bitmap
- If plot is configured to plot all cycles then all cycle data is copied using "Copy Data"
- Plot font sizes are better scaled when copying or printing
- Cursor legends can display channel label, filename or cycle number as per cursorless legend
- Legends show marker only or marker and line as necessary

- Diamond and Triangle markers are now correctly filled
- Right-click-and-drag between twin cursors will drag both cursors together
- Cursors show axis information correctly on FFT plots
- Mouse cursor now needs to be closer to a point to highlight it and changes cursor from hand to arrow so it is easier to see
- Default envelope colour now matches line colour rather than always being blue
- "Save CAN Database" is now "Export Database" and allows you to save the XCP configuration directly to an ATI VISION VST file
- Don't show statistics-for-statistics in data lists
- Implement more default settings for certain channel types
- Fixed issue when task bar icon did not show recording progress
- Improved TDC determination to reject late burning cycles from normal idle
- Work around ATI VISION API changes in VISION 5.2.0
- XCP data streaming robustness and performance improvements plus CAN transport layer now working
- DAQ status channel now enumerated in a2I
- If DAQ or project files are set as read only they are still reloaded next time catoolRT is loaded
- Main window position is correctly stored when maximised or "Aero snapped" to one side of screen
- Improved XCP and AK information in status bar
- Added "Duplicate Diagram" to make a copy of the current diagram
- Added another CSV format to import data
- Warn when number of calculations to calculate Wiebe parameters is excessive
- Pause XCP whilst "Configure Acquisition" is open
- Rebuild acquisition configuration before DAQ started if the acquisition clock rate is zero
- Warn user if no filename is configured to save recordings
- Improved cycle and segment engine speed calculation at engine startup
- Fix crash when modifying settings in "Advanced Config" and XCP is running
- Prevent cycle slider from moving during DAQ
- Maximising inter channel delay in "Advanced Config" clips the maximum sample rate to 50 kHz per channel