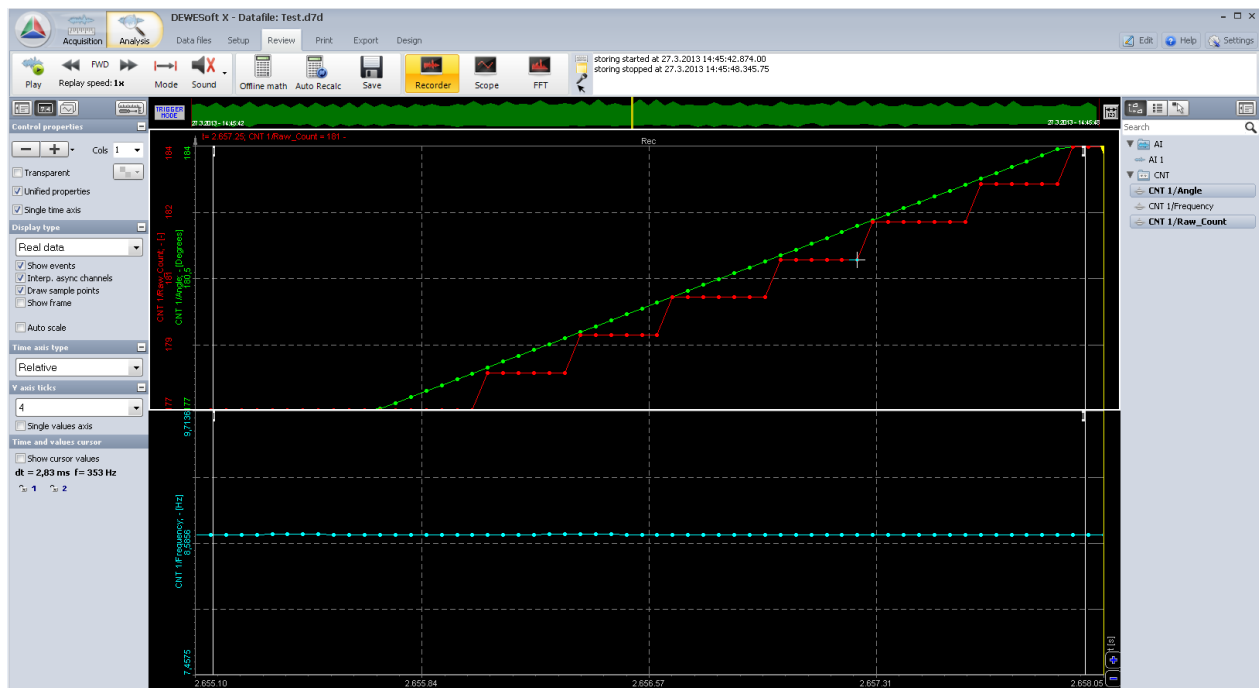


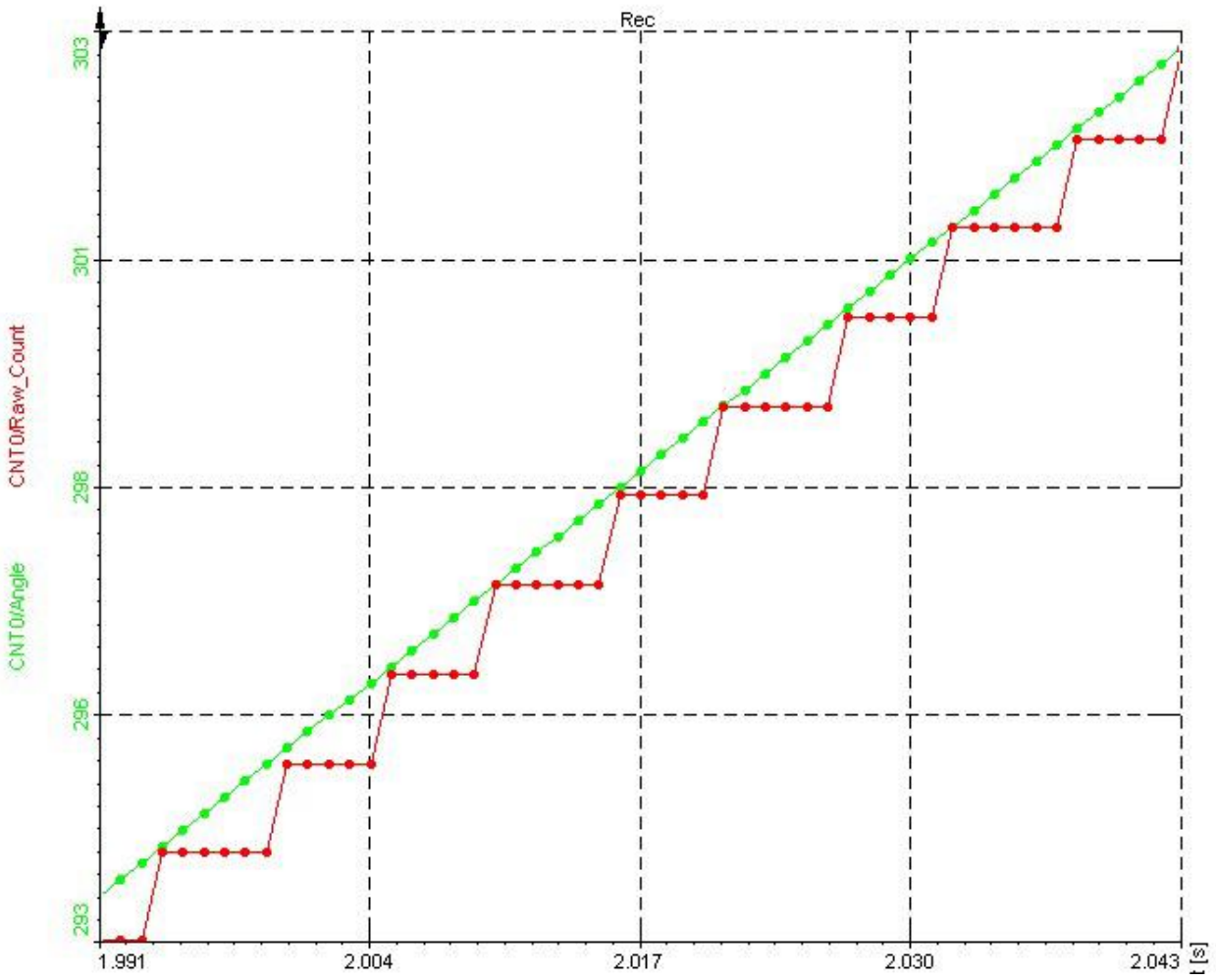
Supercounter and Order tracking in Dewesoft

We can use DEWE-43 and encoder wheel connected counter/DI to demonstrate supercounter and Order tracking functionality in Dewesoft [1].

Screenshots 1 and 2: Red signal is a normal counter value. Green signal calculates points between two counts and also takes into account where between two analog samples the counting event happened. Therefore the green line shows the position of the counter as precise as possible, depending on the AD card with 80-100 MHz resolution independent of the sample rate.



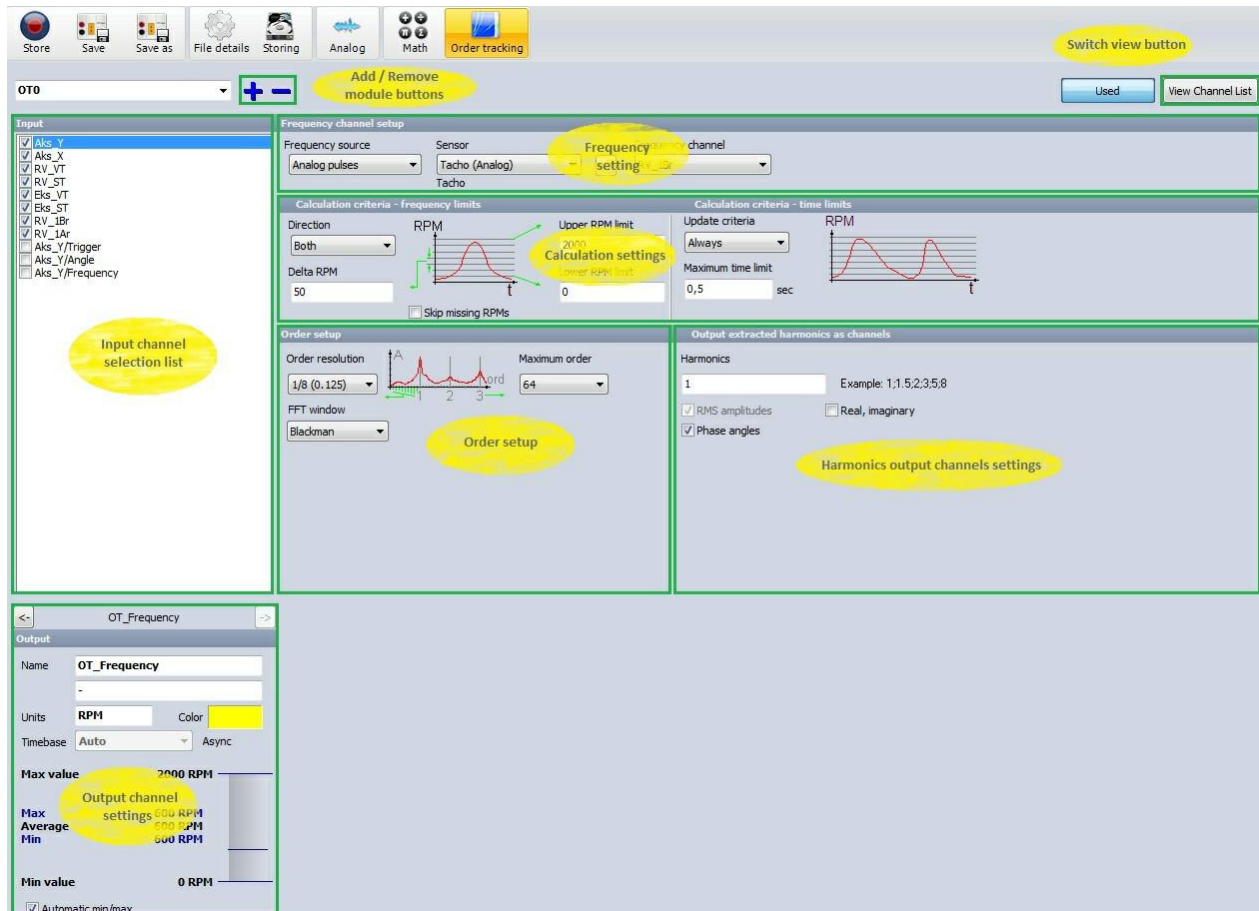
Picture 1: Recorder view in Dewesoft X where raw count and angle channels are shown.



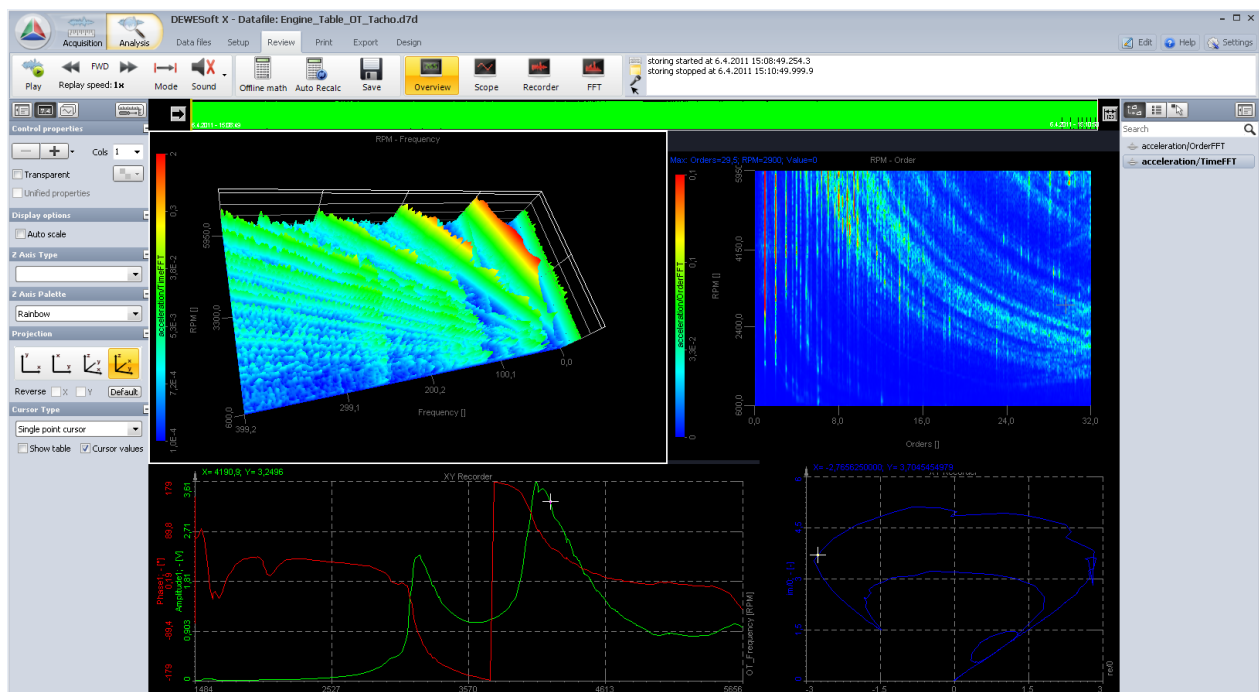
Picture 2: Raw count and supercounter interpolation.

We use this functionality for Order tracking calculation.

See Dewesoft Manual: Chapter **2.12.4** [\[4\]](#) for Order tracking setup in Dewesoft.



Picture 3: Order tracking setup.



Picture 4: Order tracking results in analysis: (a) RPM-Frequency 3D graph, (b) RPM-Orders 2D graph*, (c) Phase and amplitude change with RPM, (d) Re/Im components.

* Note how aliasing is filtered out at high orders. Order tracking in Dewesoft is using external clocking to filter out such aliasing, so that FFTs gives richer information.

Also introductory videos of Order tracking functions are available [5]:

`order-tracking_introduction.avi`

`ordertracking_additional_infos.avi`

And demo datafile:

`Engine_Table_OT_Tacho.d7d`

Sources:

1. Dewesoft software: <http://www.dewesoft.com/download>
2. Dewesoft Tutorial: Chapter **2.6.4 Frequency / super-counter**, page 95
3. Dewesoft Manual: Chapter **2.5 Counters**, page 77
4. Dewesoft Manual: Chapter **2.12.4 Order tracking**, page 268
5. Please contact **support at dewesoft.com**