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## 1. Analog I/O in IviumSoft now sets/shows real values. [vs. 4.959]

Many Ivium potentiostats are equipped with a peripheral interfacing port that includes one or more analog inputs/outputs. Up to now it was the user's responsibility to enter the correct value in IviumSoft in order for the instrument's analog output to set the desired voltage, depending on the type of peripheral port.

From the above-mentioned version of IviumSoft you can now enter the desired voltage directly in IviumSoft; the software will convert this so that the same value will be set. So, from now on it is what-you-set-is-what-you-get.

The same is true for the values of the analog input: the IviumSoft will show the actual voltage as measured by the analog input(s).

## 2. MC Mode [vs. 4.960]

To facilitate the control of multiple (many) channels in parallel, the MC (Multi Channel) Mode has been designed. The MC mode opens an extra channel-connection panel to the left of the IviumSoft user interface that allows the easy operation of multiple/many channels. Channels can be easily selected and started/stopped/aborted with a single mouse click.

In MC Mode the channels are not connected to IviumSoft to ensure that the data stream does not overload your computer resources. It is possible to connect only 1 channel at a time to the IviumSoft that you are operating from.

More detailed information and operating instruction can be found in the IviumSoft Help file: \Instrument control\MC Mode.

## 3. Modified E start for CV [vs. 4.966]

It is now allowed that the start potential for the first cycle of a CV is different than for the subsequent cycles. When Estart is defined outside the range of both vertexes:

- The First cycle starts at the defined Estart, and will scan until Vertex 1 is reached, at which the first cycle ends. That initial cycle thus becomes a sweep, instead of a cyclic voltammogram.
- The next cycle starts at Vertex 1, and will make full cycles to Vertex 2, and back.

Note that this can be combined with Modify last cycle.

## 4. Analog trigger at method start [4.989]

To allow synchronization with external devices, it is possible to start a method triggered from a signal on the analog input 1. Also, an analog output can be generated at the start of a method. To facilitate this, two extra checkboxes are added under the method parameter 'AUX':

- a) **"Wait for An trigger"**: The method start will be delayed until the signal on Analog 1 exceeds 2V, or an Abort command is given (the cell is not switched on during the waiting period). Immediately after the trigger condition is met, the method starts in the normal order (Pretreatment, Equilibrium period, Actual scan, etc.).
- b) **"Apply An trigger"**: After the method is started, directly after the cell is switched on, a 4V signal is applied to the Analog output 1. The AUX.RDE Speed

parameter is not available when "Apply An trigger" box is checked. The Analog output will be reset to 0V at end of scan.

For an OctoStat with a switchable I/O option peripheral pin, when the Analog 1 pin is used as output, the "Wait for An trigger" will wait for a trigger on Analog input 2 instead.

## 5. Labview examples update [4.989]

The available example for Labview programming has been updated so that it is now compatible with Labview version 2020.

## 6. Time, date, and duration indicators for scans [4.989]

- a) **Scan time in status bar:** At the bottom of the IviumSoft user interface is the status bar that shows real time data during the scan. The Scan time in the Status bar indicates the elapsed time since the method was started from the pc and ends when the end of scan indicator is communicated to the PC. This therefore does not necessary define the accurate scan duration, as it includes several overhead times, such as interface latencies and duration of (USB) communication.
- b) **Timestamp in the data/sql filename:** This is generated at the time that the datafile was created which is often close to, but not necessarily equal to, the method start time. For example, when a scan is downloaded from a DataSecure module, it will differ from the measurement start time.
- c) **Start time, end time in Report:** In the Method parameter "Report" the start time is synchronized with the PC time, when the measurement was started. The end time is recorded by the internal instrument/channel device clock. For long duration measurements, slight differences in end time might occur due to differences between PC and device clock.

## 7. Managing PC power mode changes [4.989]

- a) When a measurement is running, IviumSoft will prevent the PC going into scheduled Sleep Mode.
- b) When no measurements are running, IviumSoft will disconnect all channels, before going into scheduled Sleep Mode.
- c) When the user manually forces the PC to go into Sleep Mode or Windows forces a reboot, IviumSoft first Aborts all ongoing scans, and disconnects the channels. However, if a DataSecure is present, the channels are disconnected without Aborting the scans and the measurement continues.

## 8. Directly loading Database file in IviumSoft [4.989]

In IviumSoft data is saved in an idf/ids file, and in a sqlite database file. The database file contains more information than the idf/ids file, such as the complete data set in case of automatic data reduction due to the maximum workfile size in the Datahandling settings being exceeded. It is possible to load data directly from the database file into IviumSoft: right-click the desired scan in the Legend panel, then in the popup window press the "LoadDB" button. Examples of the extra information retrieved in this manner:

- a) If an idf/ids file was reduced/compacted to a maximum size (data handling option); loading the database file will restore all datapoints in IviumSoft.
- b) In the techniques MixedMode and CycliScan, the EIS signal-monitor data is standard not stored in the .idf/.ids data file. This action will make that info available.

## **9. Detection of OctoStat address conflicts [4.989]**

When 2 OctoStats with same address are connected (resulting in identical channel names), the software will issue an Error message. While this situation lasts, the user cannot connect or run scans. The user should change the address by means of the rotary address selector at the front of the instrument and reboot the unit. Detailed instructions can be found in the IviumSoft helpfile under -Getting started\OctoStat.

## **10. Copy Database Files from history list [4.989]**

When right-clicking a line in the history list, a popup menu appears. Now, the option "Copy Database Files" has been added. This will allow quick copying into a folder, attaching to an email, etc.



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