

## HOW TO DEFINE PARAMETERS IN ORIGAVIEWER SOFTWARE WHILE USING ORIGAMUX MODULE



In this technical note user will find out how to define parameters in OrigaViewer software while using OrigaMux module.

## INTRODUCTION

OrigaMux module is one of the OrigaLys products used for performing electrochemical tests on different samples sequentially (Figure 1).

This module contains 8 cells for connecting electrodes and samples, by which users can run electrochemical tests from one cell to another cell.

Working electrode is always connected to OrigaMux module, but for Reference and Auxiliary electrodes there are two possibilities:

- 1- The reference electrode could be connected to OrigaFlex and be common for all used cells, or for each cell independent reference electrode could be used.
- 2- The auxiliary electrode could be used in common on OrigaFlex for all cells or separately one auxiliary electrode for each cell.



**Figure 1: OrigaMux module connected to OrigaFlex potentiostat**

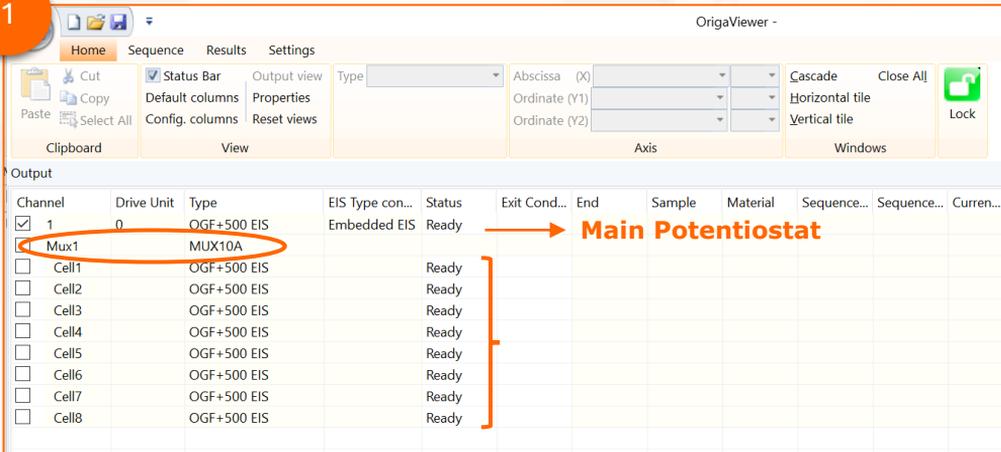
## PARAMETERS

OrigaMux module works with OrigaViewer software, so DriveUnit is needed as power supply. The potentiostat used for OrigaMux module could be: OGF+500, OGF+01A, OGF+05A, OGF+10A or all OrigaFlex classic with or without impedance module.

While the package of DriveUnit+Potentiostat+OrigaMux is connected to OrigaViewer software, there is needed to define some parameters for the potentiostat and for the Cells of OrigaMux respectively enabling it to work correctly.

In following text, it is explained step by step how to define parameters in software: **1)** First make sure that the OrigaMux is well connected to system and is known by software (Figure 2). All 8 cells of one module OrigaMux must be seen on OrigaViewer.

1



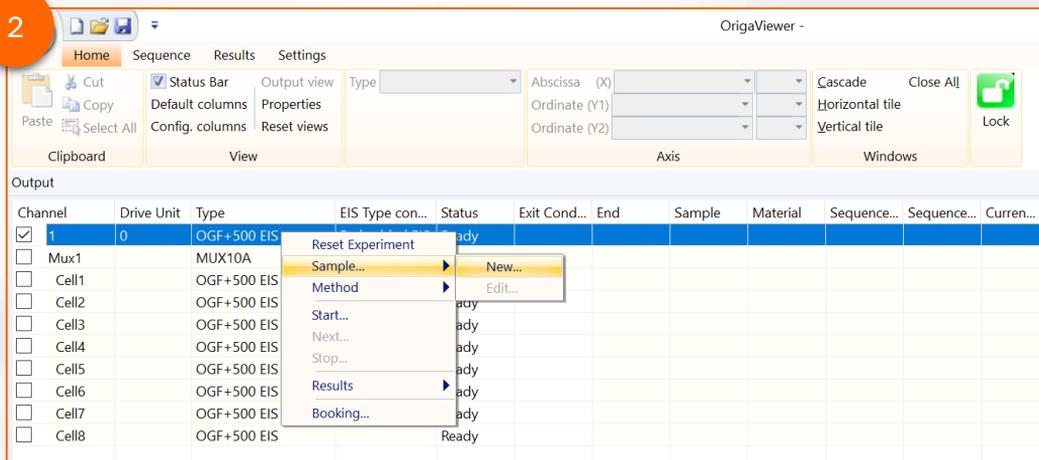
The screenshot shows the OrigaViewer software interface. The 'Output' table is visible, with the following data:

Channel	Drive Unit	Type	EIS Type con...	Status	Exit Cond...	End	Sample	Material	Sequence...	Sequence...	Curren...
<input checked="" type="checkbox"/>	1	0	OGF+500 EIS	Ready							
<input checked="" type="checkbox"/>	Mux1	MUX10A	Embedded EIS	Ready							
<input type="checkbox"/>	Cell1	OGF+500 EIS		Ready							
<input type="checkbox"/>	Cell2	OGF+500 EIS		Ready							
<input type="checkbox"/>	Cell3	OGF+500 EIS		Ready							
<input type="checkbox"/>	Cell4	OGF+500 EIS		Ready							
<input type="checkbox"/>	Cell5	OGF+500 EIS		Ready							
<input type="checkbox"/>	Cell6	OGF+500 EIS		Ready							
<input type="checkbox"/>	Cell7	OGF+500 EIS		Ready							
<input type="checkbox"/>	Cell8	OGF+500 EIS		Ready							

An arrow points from the 'Mux1' row to the text **Main Potentiostat**.

Figure 2: OrigaMux is connected to potentiostat and known by OV2 software

# PARAMETERS



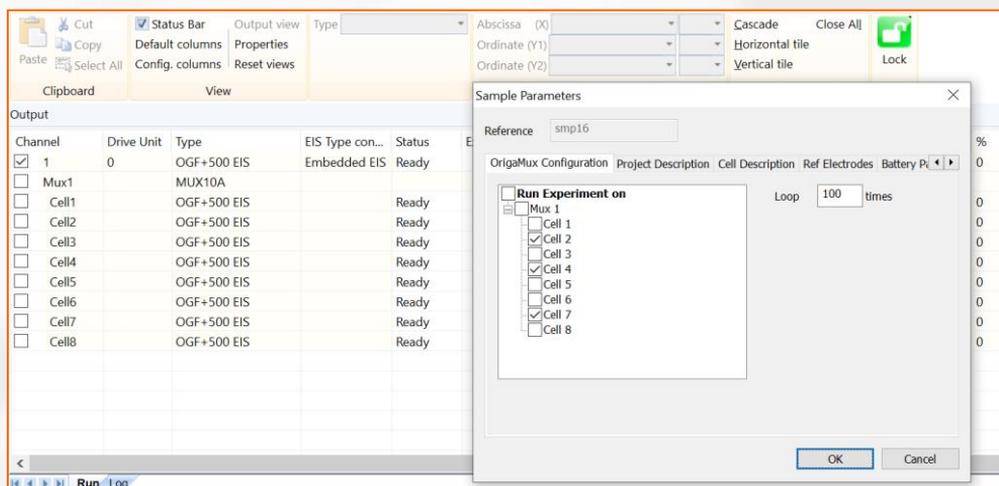
**Figure 3: "Sample" must be defined for main potentiostat while working with OrigaMux**

**2)** In the second step right click on the main potentiostat ribbon and select the "Sample" and then "new" like figure 3.

The "Sample Parameters" window is open, the cells trough which the electrochemical test will be run, must be selected. For example, in figure 4, Cells 2, 4 and 7 are selected it means the electrochemical tests of interests are performing on these cells.

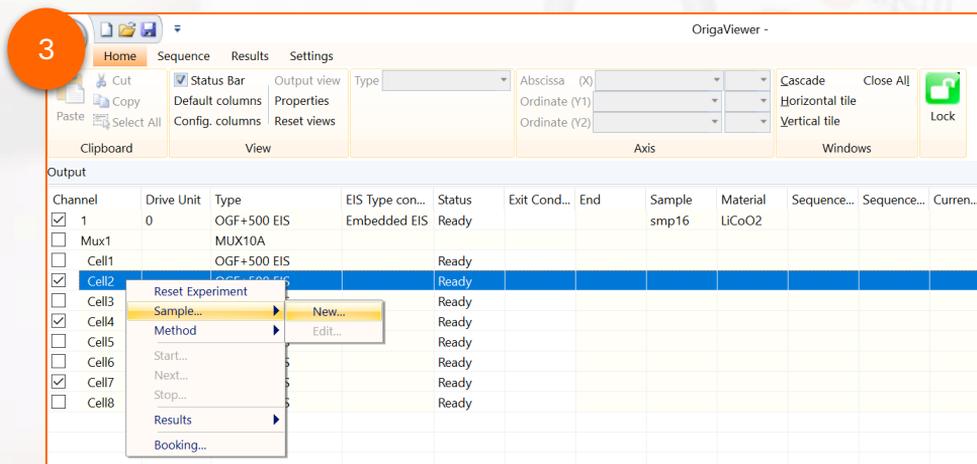
It is also possible to define number of "loop" regarding how many time it is needed that the test be repeated. For example 100 time.

# PARAMETERS



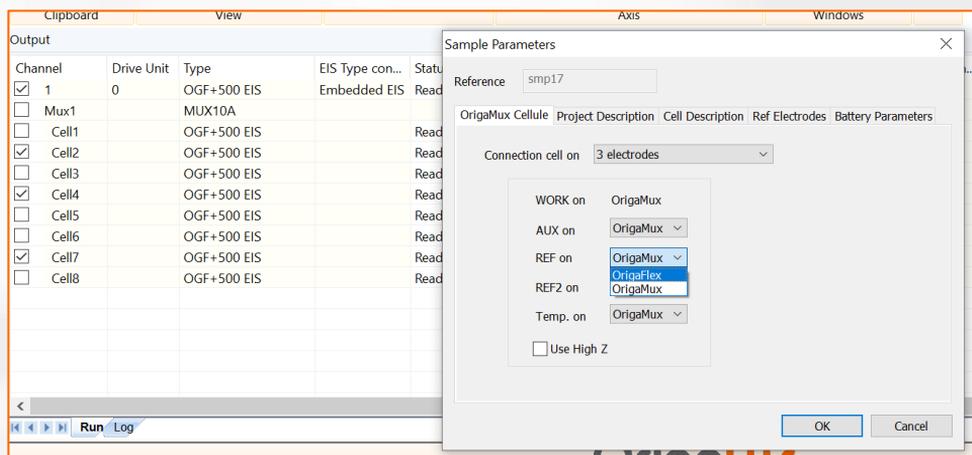
**Figure 4: Defining Cells under tests and loop number on "sample" window**

3) In the third step the « Sample » must be defined for each cell of OrigaMux by right clicking on the cell ribbon and choosing the « sample » and then « new » as it is shown in figure 5 and 6.



**Figure 5: Defining "Sample" for Cells under tests**

# PARAMETERS



**Figure 6: defining cell configuration**

The most important parameters for this window is defining the electrode configuration, and the Reference and Auxiliary electrodes connections.

It is possible to use one reference and one auxiliary electrode for all 8 cells of tests on OrigaMux. when "AUX on" and "REF on" are fixed on OrigaFlex it means that only working electrode is connected to OrigaMux and reference and auxiliary electrodes will be connected to main potentiostat.

But if "OrigaMux" is selected for Reference or Auxiliary electrodes, they are connected to OrigaMux, means each cell has its own reference and auxiliary electrodes.

If user wants to use temperature probe, then « Temperature on » must be defined too.

## PARAMETERS

Now it is time to load the electrochemical method for the selected cells. For this reason, it is enough just to right click on the cell and load the desired method as figure 7.

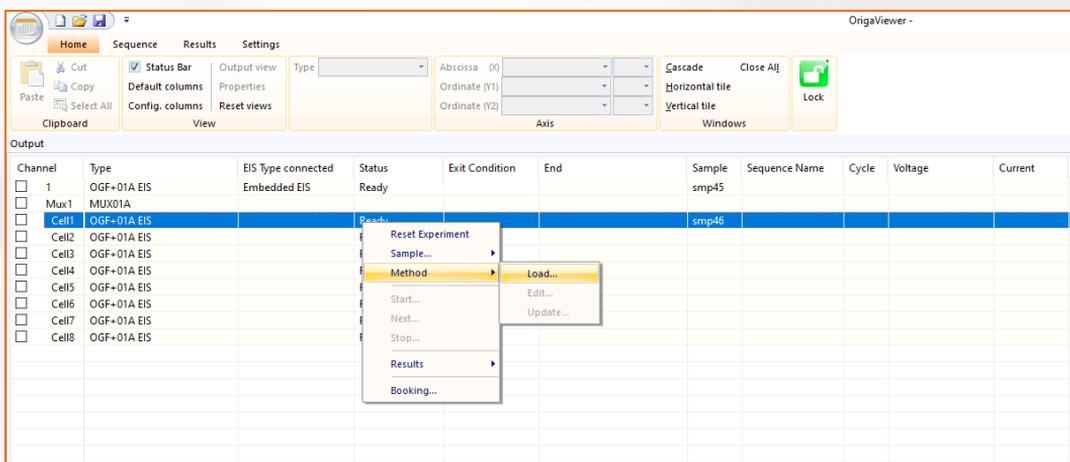


Figure 7: Loading method for cells

While the methods are loaded for cells, in the next step it is needed to right click on the "Maine Potentiostat" ribbon and select "Start" (figure 8).

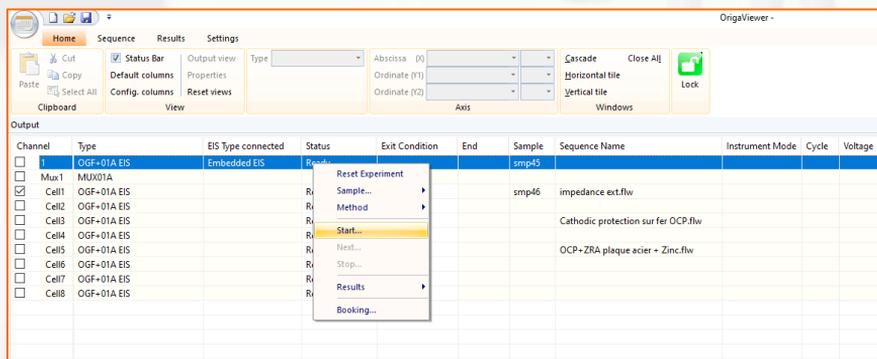


Figure 8: Start tests for all cells of Origalys by selecting "Start"

## EXTRACT RESULTS

When the electrochemical tests finish on all cells, it is needed to extract data.

### Extract data to OrigaMaster software

For extracting data to OrigaMaster, click right on the considered cell, then click on "results" and then "OrigaMaster" (figure 9).

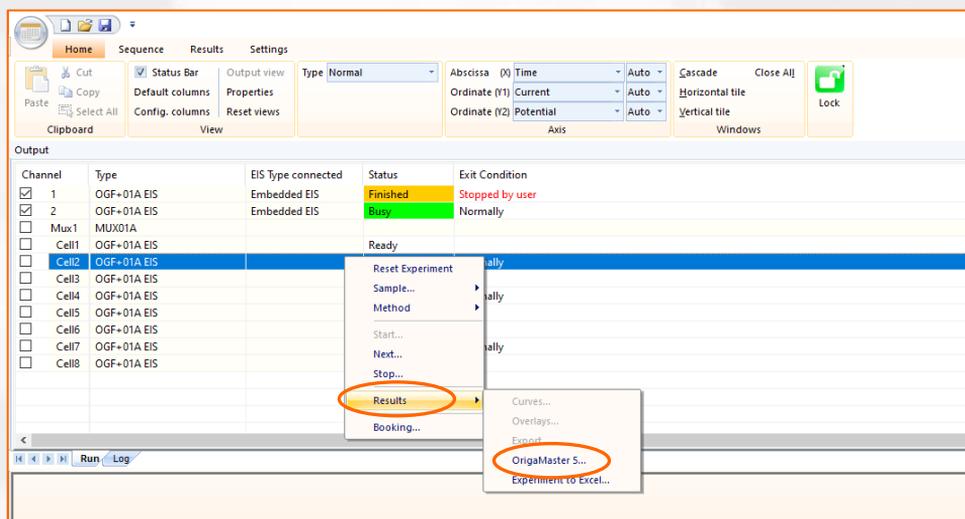


Figure 9: Selecting OrigaMaster software for extracting curves