

INSTRUCTIONS FOR USING “Erev_estimator”

When you double-click on the Erev_estimator.exe file, in some computers you may get the error message that the comctl32.ocx file is missing. You may download this file from this link:

<http://antactivity.com/comctl32.ocx>

Your browser may warn you that ‘This type of file can harm your computer. Do you want to keep comctl32.ocx anyway?’ click on "Keep".

Place the comctl32.ocx file to your system directory:

For **Windows 7 or 10, 32 bit**: The system directory is C:\Windows\System32. After placing comctl32.ocx in this directory, go to start and type cmd, but do not press enter. Right-Click on cmd and select “Run as Administrator”. Type: regsvr32 comctl32.ocx and press enter. If successful, you should get a popup saying "DllregisterServer in comctl32.ocx succeeded".

For **Windows 7 or 10, 64 bit**: The system directory is C:\Windows\SysWOW64. After placing comctl32.ocx in this directory, go to start and type cmd, but do not press enter. Right-Click on cmd and select “Run as Administrator”. Type regsvr32 c:\windows\SysWOW64\comctl32.ocx and press enter. If successful, you should get a popup saying "DllregisterServer in comctl32.ocx succeeded".

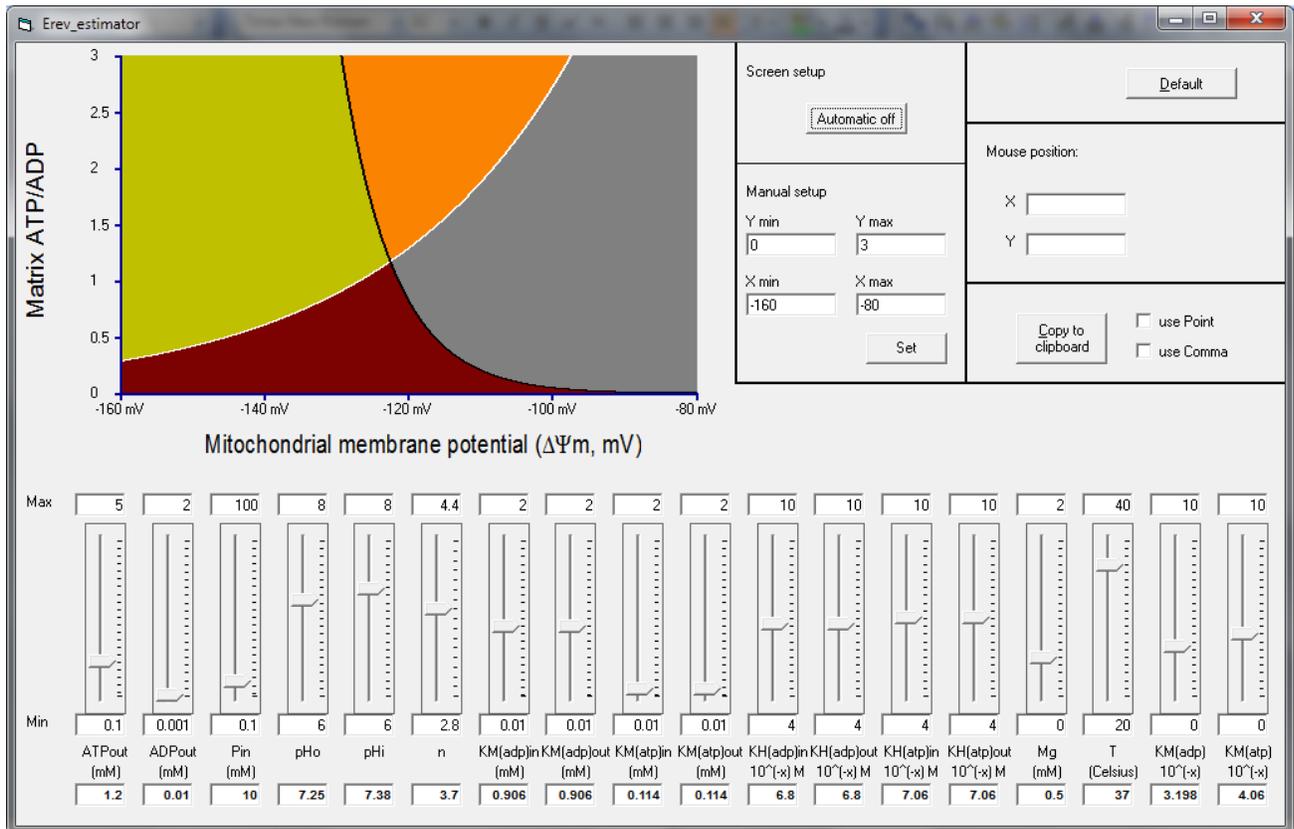
For **Windows Vista, 32 bit**: The system directory is C:\Windows\System32. After placing comctl32.ocx in this directory, go to start and type cmd, but do not press enter. Right-Click on cmd and select “Run as Administrator”. Type regsvr32 comctl32.ocx and press enter. If successful, you should get a popup saying "DllregisterServer in comctl32.ocx succeeded".

For **Windows XP, 32 bit**: The system directory is C:\Windows\System32. After placing comctl32.ocx in this directory, go to start and type cmd, and press enter. Type regsvr32 comctl32.ocx and press enter. If successful, you should get a popup saying "DllregisterServer in comctl32.ocx succeeded".

For **Windows NT/2000, 32 bit**: The system directory is C:\WINNT\System32. After placing comctl32.ocx in this directory, go to start and type cmd, and press enter. Type regsvr32 comctl32.ocx and press enter. If successful, you should get a popup saying "DllregisterServer in comctl32.ocx succeeded".

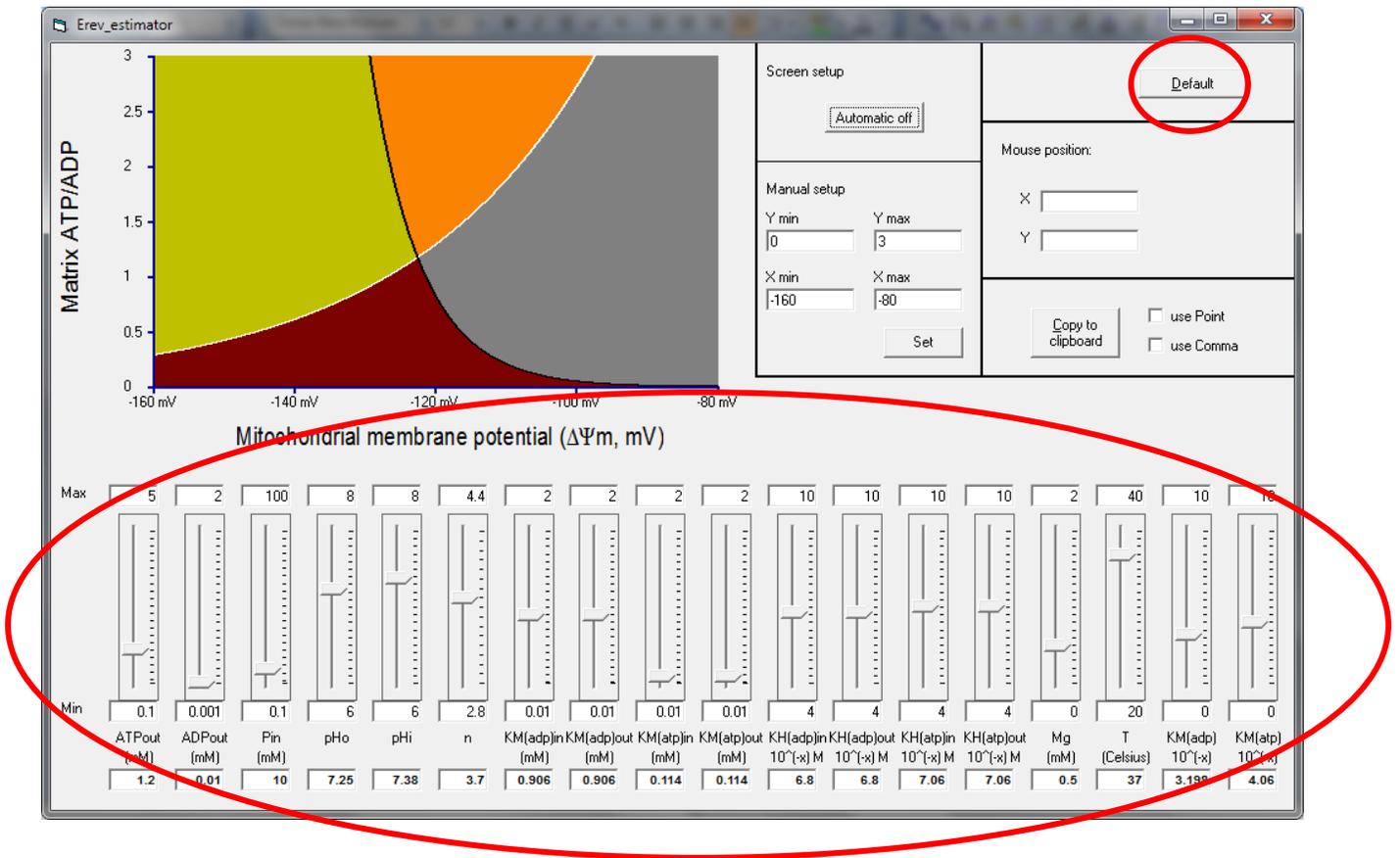
For **Windows Me and below**, it is sufficient to place the comctl32.ocx file to the system directory.
95/98/Me - C:\Windows\System

When the Erev_estimator successfully loads (no installation required, this is a single executable file), it should look like this:



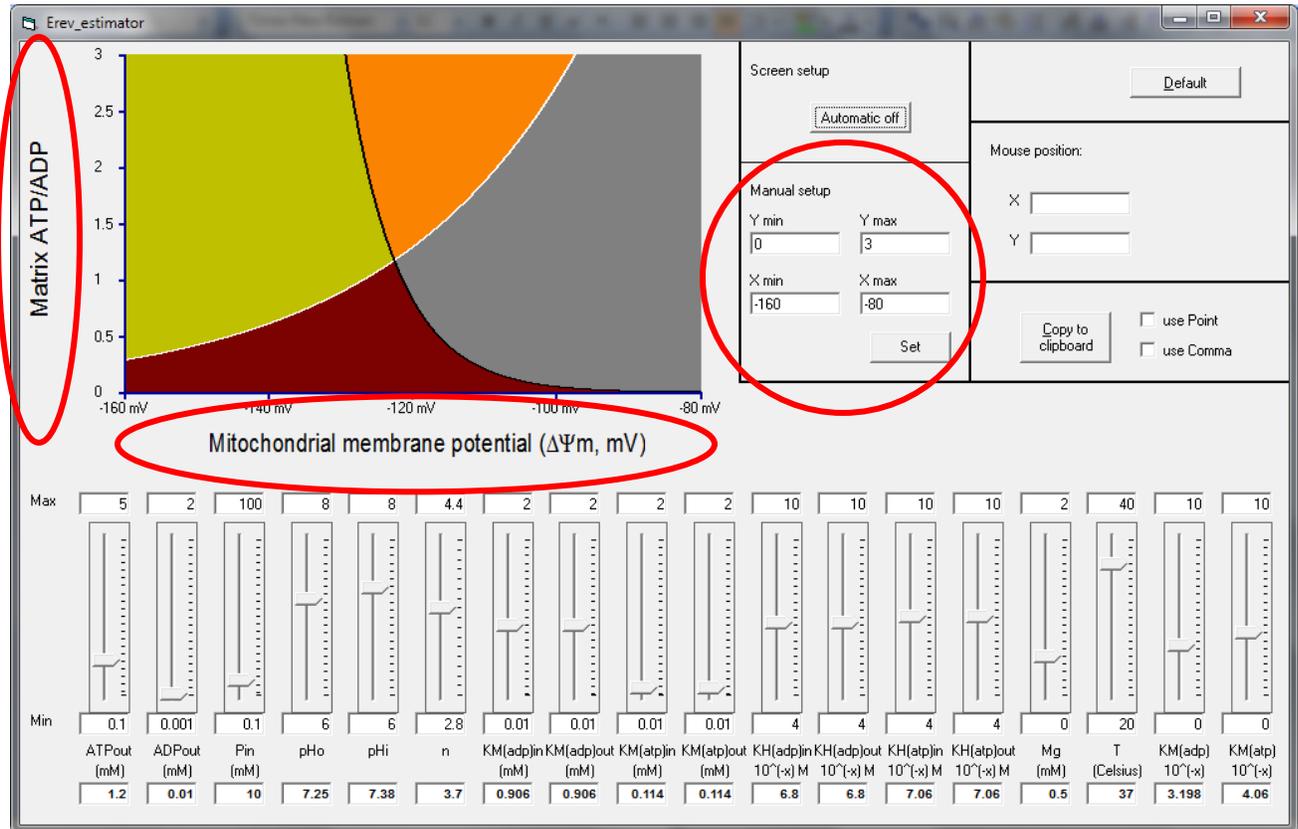
This software models alterations of the variables participating in Equations 1, 2, 3, and 4 of FASEB J. 2010 Jul;24(7):2405-16. PMID: 20207940. **Eq.1 depicts Erev ANT (white line)** and **Eq. 2 depicts Erev ATPase (black line)**. Corrections for Eq. 2 are included in J Neurosci Res. 2011 Dec;89(12):1897-904.

There are 18 sliders.

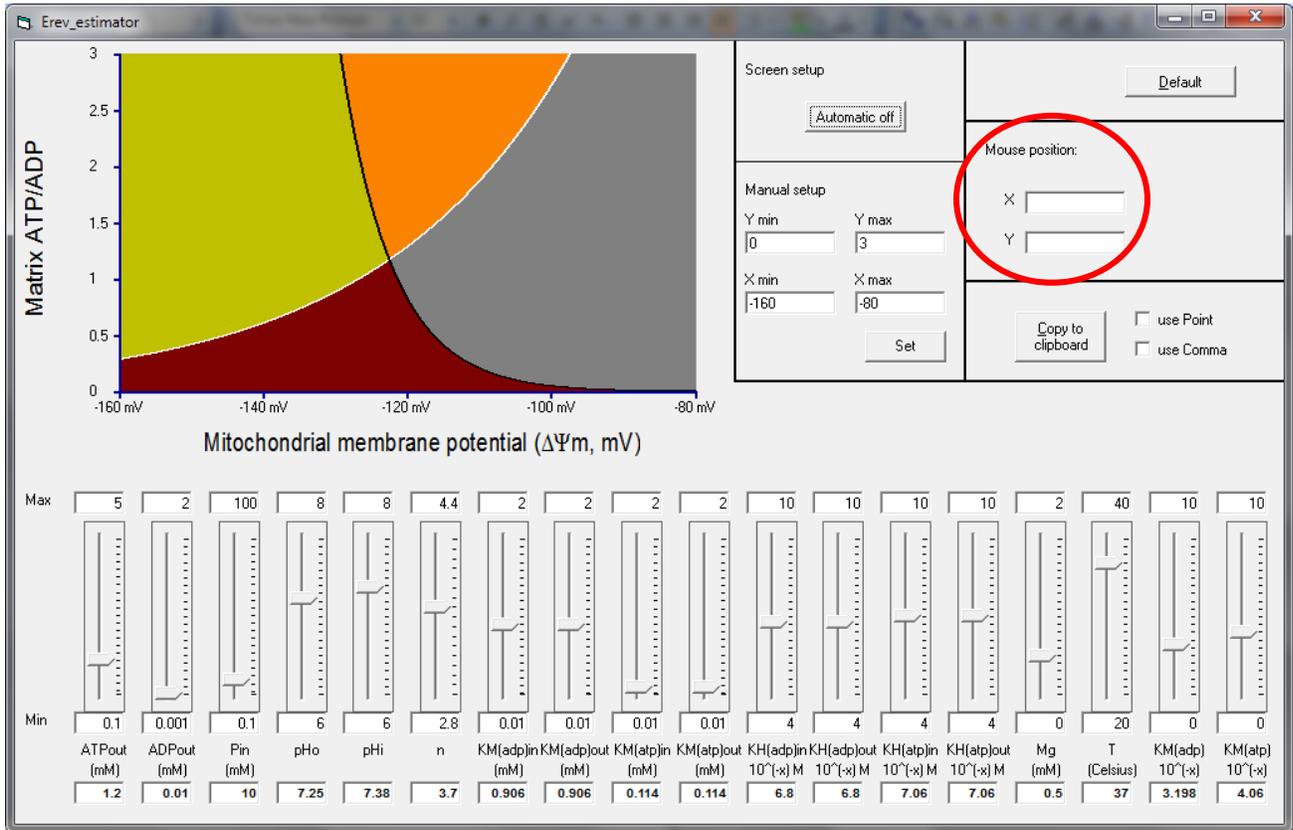


Moving each slider, will result in an online change of the black and white curves on the figure, representing Erev_ATPase and Erev_ANT, respectively. The values shown in the top boxes above each slider are the default maximum values, and the values shown in the boxes below each slider are the default minimum values. The user may set any value in these boxes, and the slider will be changing the actual values between the preset min and max values. Pressing the “Default” button, will result in reverting all values and slider parameters to their initial ones.

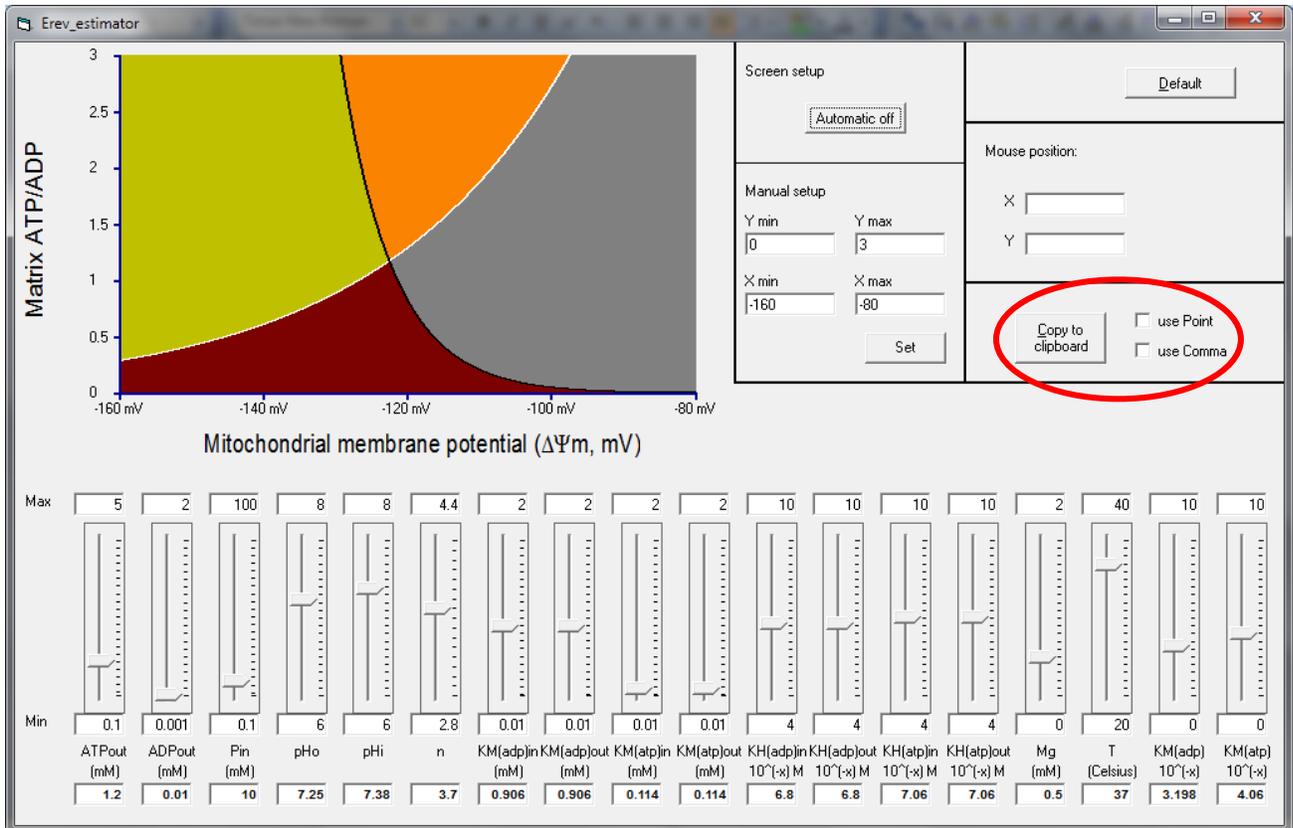
The y-axis of the graph represents the ATPin/ADPin ratio. The x-axis represents the mitochondrial membrane potential, $\Delta\Psi_m$. Both y-axis and x-axis ranges can be manually configured through the “Manual setup” box, showing 4 input boxes, Y min, Y max, X min and X max. After typing the desired values, press “Set” to rescale the graph.



Moving the mouse anywhere in the 4-coloured figure will result in the viewing of the y-axis and x-axis values in the top right part of the Erev estimator, indicated as “Mouse position”. Clicking on the graph, will capture those values.



Clicking on the “Copy to Clipboard” button, will result in the copying to clipboard the Erev_ATPase and Erev_ANT for the range of ATPin/ADPin and $\Delta\Psi_m$ depicted in the graph, and the values of the corresponding parameters. If pasted to excel (or Sigmaplot), the first row names the columns as [ATPin]t / [ADPin]t (y axis), Erev_ANT (x axis), Erev_ATPase (x axis), Parameter name, Parameter value. The user has the option of the data output generated to be point, or comma delimited. The default is point delimited.



The user may see the graph changing by i) the sliders using the “Automatic off” function, during which the curves are changing, or by ii) switching the “Automatic on” function, during which the y-axis and x-axis are automatically scaled.

