

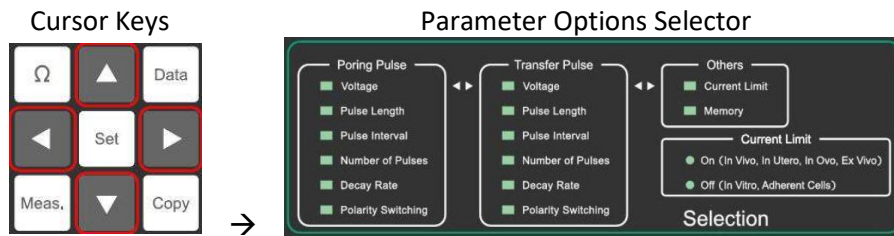


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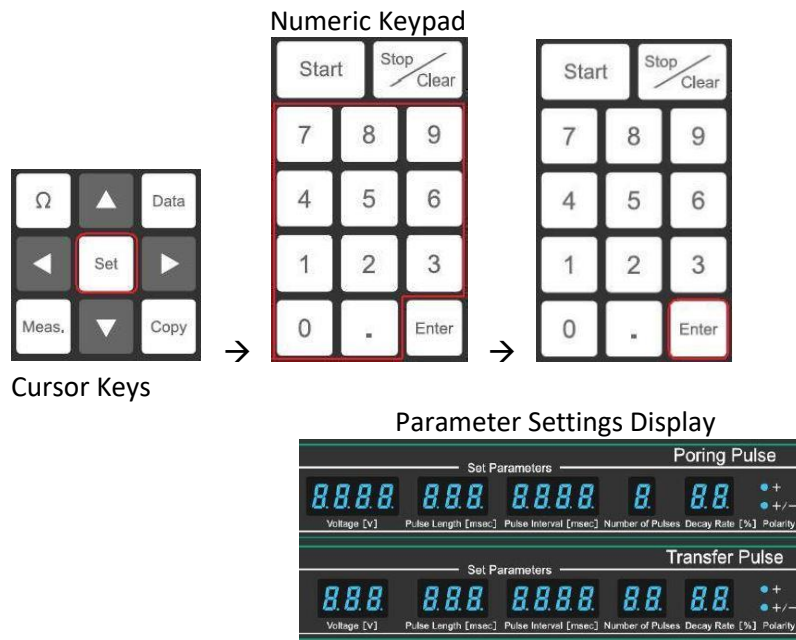
## Nepa Gene NEPA21 Electro-Kinetic Transfection System Programming Guide

The NEPA21 Electro-Kinetic Transfection System offers unparalleled pulse program flexibility, allowing users to finely tune parameters in order to achieve optimal viability and transfection efficiency for any transgenic project. Programming is very simple and comprises just a few key sequences. Bulldog Bio can provide any NEPA21 user with a spreadsheet listing the pulse parameters specific to the cells or tissue to be transfected, which should be programmed into the Parameter Settings using the following steps:

- 1) **Select Parameter:** Use the Cursor Keys to move the green LED indicator in the Parameter Options Selector to the value you wish to change; e.g. Poring Pulse Voltage. *Please note that while the Parameter Options Selector is oriented in vertical columns, the Parameter Settings Display lists values in the same order but in horizontal rows.*



- 2) **Enter Value:** Press the SET key at the center of the Cursor Keys, and then enter the desired value followed by the ENTER Key on the Numeric Keypad.



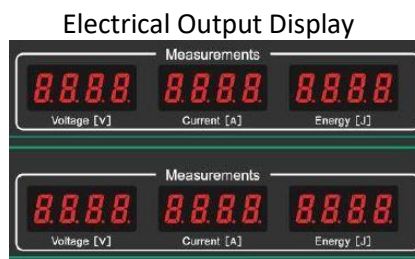


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- 3) Check Impedance: Immediately prior to starting a DC electronic pulse sequence, press the  $\Omega$  key to check and record the sample Impedance. This delivers a trickle current to determine resistance, which over time will serve as one way to ensure that the NEPA21 will deliver consistent energy to your samples.



- 4) Run pulsing parameters: Press the START button above the numeric keypad to deliver the pulse sequence shown in the Parameter Settings Display. Each audible beep indicates that a pulse has been delivered. Wait until beeping stops before removing the sample. The Electrical Output Display then shows values measured during the pulse sequence, and the “Energy (J)” should be recorded along with Impedance as a complete record of electrical data for optimization purposes.



#### Tips for Success:

- 1) When performing cuvette or adherent cell electroporations, make sure that the “Current Limit” option (Fig.2) is OFF. Conversely, when performing *in vivo* experiments the current limit is an important safety measure to ensure that technicians and lab animals are not potentially exposed to harmful electrical levels. Use the cursor keys to illuminate the “Current Limit” LED (within the “Others” menu) and then press the SET key to toggle between ON and OFF.
- 2) Always check and record impedance just prior to starting the electroporation pulse set.
- 3) Always record electrical output data from your optimization experiments.

Do you own a NEPA21 system? [Ask us](#) for a user manual with more details!