Programming Handout - Laurel WS-650M
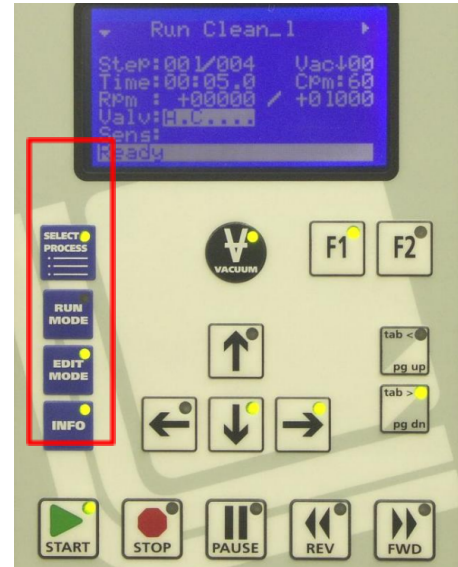Last Edited: Bassari 3/3

The spin coater, located with the PDMS tools in the Microfluidics Lab, is used to spin membranes onto substrates for fabrication of Microfluidic devices. The spinning regime can be programmed using the machine's controller interface.

Key point: the indicator lights on the controller buttons can be confusing. **<u>An illuminated light indicates that it is legitimate to press that button</u>**. In the image to the right the "Run Mode" light is out and the other mode buttons are on. This means that the mixer is in "Run Mode".

I) Navigating the controller:
The WS-650M controller has four modes, accessible through the four buttons on the left side of the controller. These modes are outlined below:

SELECT PROCESS - Allows the user to choose a program from 20 stored, pre-existing programs.
RUN MODE - Used to run a program from the select process menu.
EDIT MODE - Used to change the program settings, which is the focus of this handout.
INFO MODE - Contains information about the machine's statistics and configuration.

II) Controllable parameters: number of process steps, vacuum chug requirement (if required, process won't start until the required vacuum pressure is met), time of each step, Rpm, Cpm (agitation) , acceleration, number of loops, the return point for loops (indicated as a process step), valves, and sensors.

III) Navigating the edit mode:
To enter edit mode, navigate to the program you wish to change in the "**SELECT PROCESS**" menu via the arrows and press "**EDIT MODE**". Inside the edit mode, all program settings can be adjusted using a few controls:

A) The **tab<** and **tab>** buttons are used to move from one editable field to another.
B) For each editable field, the **UP** and **DOWN** arrows are used to change the numerical value of the setting.
C) **FWD** and **REV** can be used to go from one process step to another within the edit menu.
D) **F1** is used to enter submenus (for sensors, valves) and **F2** is used to exit them.
E) After making the desired changes, press run mode followed by the start to perform the process.