Plasma Control Startup Guide

- **Connect Cables**
  - Connect a cable from a bench power supply to GND and 15V on the controller board
  - Connect a ribbon cable from the controller board to the driver board
  - Connect a cable from the HV power supply to GND and HV (the large black and red wires toward the center) on the driver board
  - Connect a USB cable from the microcontroller on the controller board to your laptop
  - If using the vacuum filtration system: connect a cable from a second bench power supply to the terminals on the fan enclosure. Ensure that the power supply used can handle 9V, 8A
- **Setup Power Supplies**
  - Turn on 15V supply, limit the current to 100mA
  - Turn on HVDC supply, **do not turn the output on or set a voltage!**
  - If using the vacuum filtration system: set the supply between 8 and 9V.
- **Set up Gas**
  - Connect the gas of your choice to the back of the array. If using the HV enclosure, make sure the vacuum line is turned on. If using the vacuum filtration system, ensure that the face of the array is pressed against the sanitization surface and there are **no gaps**
  - Check the flow meter and ensure that the output is between 120 and 150 (when gas is on).
- **Startup Sequence**
  1. Turn on the 15V supply to power on the controller board
  2. If using the vacuum filter system: Turn on the power supply connected to the fan. Ensure the fan starts up and draws more than 6A before proceeding
  3. On your computer, open and configure the GUI
  4. Turn on the gas supply
  5. Turn on the HVDC supply by slowly raising the voltage
- **Power Down Sequence**
  1. On your computer, using the GUI, turn off the plasma
  2. Turn off the HVDC supply by slowly lowering the voltage
  3. Turn off the 15V supply connected to the controller board
  4. Turn off the gas supply
  5. If using the vacuum filter system: leave it running for a little while to allow the array to cool down before turning the supply off