Chapter 3 - System Operation

Introduction

This section is designed to help a new user or occasional user step through the operation of the vacuum control software. Some systems may have options not mentioned in this section. Consult the other chapters of this manual for more detailed descriptions and explanations of the various aspects of the control software and the Inficon deposition software. Button "click" descriptions are highlighted in **bold** text. Typed text is shown in *italics*.

Start up and using the tool

1. If the system is not powered, turn the disconnect switch on the rear or side of the system to on. These switches usually turn one quarter revolution and can be very stiff. The Switch will clunk and lock into the on position. A clunk may be heard from inside the cabinet as the master control relay pulls in. If not the user may need to cycle the e-stop button on the front of the machine by pushing it in and then rotating it counter-clockwise to pop it back out or simply pulling it outward. Then power up the system computer and the monitor if they do not power up automatically. The button to turn on the computer may be behind a panel on the front of the PC (typically black) in the electrical section below the keyboard. The panels swing out and down to reveal the switch and the CD drive. The system control software should start up automatically when the computer is booted. If it has not, then start the system control software (typically labeled) on the desktop after the PC has finished booting up. After the control software has finished starting up login to the software by clicking on the **Login** button. System Default User names/passwords are *Operator/Operator* and *Supervisor/Supervisor*. The login is case sensitive.
2. Clear any alarms by clicking the **Acknowledge** button in the middle of the alarm in the middle of the main page and then press the **Reset Fault** button. If any alarm persists the user may need to restore water flow, pneumatic gas, or other interlocks on the system to continue.

Using the Main Chamber

1. If the system is up and running the user can vent the chamber by selecting the **Chamber Vent Sequence** button, **Acknowledge** the warning and then press the **Start Selected Sequence** button on the vent page or the sidebar on the right. Open the chamber door and load your deposition material, if needed. Prepare your substrates and place them in the substrate holder. The material the user intends to use may already be in a sputter source. Click the **Source Detail and Shutter Control** page to check the source material descriptions for each location. If the user added a material to a location then they should add this information to the **Source Detail** page at the correct location. Close and secure the chamber door.

2. The user can now select the **Chamber Pump Down Sequence** button and then start it by pressing **Start Selected Sequence** button.
3. Wait for the system to achieve base pressure and deposition pressure. Once base pressure and deposition pressure have been achieved a banner is displayed on the control software screen indicating the chamber pump down sequence is complete. Click on the banner to acknowledge the sequence has ended and the banner will disappear. While waiting for base pressure the user can set up their deposition parameters.
4. Follow the instructions in the next chapter to perform your deposition. Remember to allow items to cool before venting the chamber.
5. Once the user feels that everything has cooled sufficiently and to a safe level, the user can select the **Chamber Vent Sequence** in the system control software and click **Start Selected Sequence** to start the sequence. After the sequence is complete the user can carefully open the chamber door and remove their substrates.

Shut down procedure

The system can be shut down manually by users logged in at the Supervisor level only. Turbo pump should be turned off and spooled down before power is removed from the system whenever possible. To do this simply vent the chamber. The system PC can be shut down and the disconnect switch opened if desired. If the user desires they can rough pump the chamber with the rough pump and foreline valve to maintain a level of vacuum in the chamber.