

Use of a Switching USB Hub with the SimPrep Automated Liquid Handling Station

Introduction

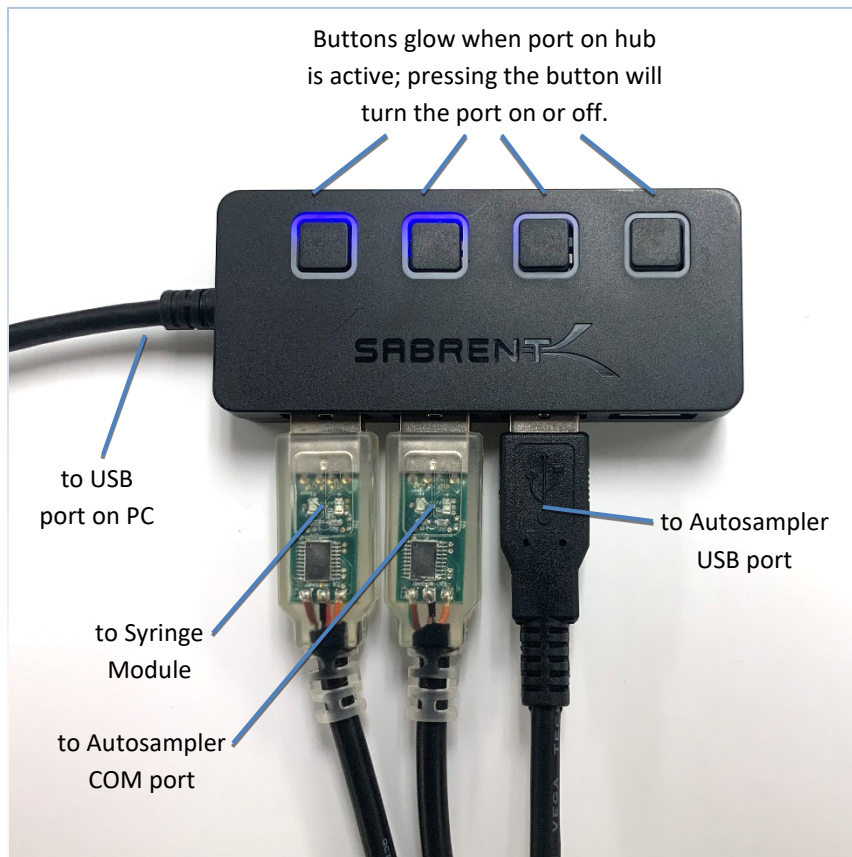
In addition to the sample preparation tasks that can be performed by the SimPrep Liquid Handling Station, the autosampler component can be used as a standard autosampler for sample introduction to an analytical instrument. The use of a switching USB hub makes it easy to switch between sample preparation and sample analysis.

Setup and Operation

This setup takes advantage of the built-in functionality of the ASX-560 that USB input will override serial input for all communications if both a USB and serial cable are connected. However, if no signal is received via the USB connection to the autosampler, the serial port will function normally. The Sabrent USB hub pictured has 4 USB 3 ports, each of which can be turned on or off by a corresponding button.

The SimPrep system communicates using custom serial to USB cables (USB end shown), these cables are to remain connected and powered at all times. One connects the USB hub to the syringe module; the other connects the USB hub to the autosampler serial port. A third communication cable, USB A to B, is used to connect the USB hub to the autosampler USB port. This third port is to be powered on when ICP analysis is desired, and the ICP software must be configured communicate through this port.

The third USB port should be powered off when communicating with the SimPrep software, to allow communication via the USB to serial cable to the serial port of the autosampler.



The only other steps required to switch between analysis and sample preparation are reinitializing the SimPrep software and changing the sample probe flow path.

A similar result can be achieved by simply unplugging the USB cable, but the push button functionality of this USB hub provides added convenience.