

Operating the Biotage® Horizon 5000 Software

(Previously known as SPE-DEX 5000)

The SPE-DEX 5000 software controls all operations of the system. It has basic passwording that allows routine operators to access a selection of stored methods to run on the system. The administrator can access functions to set up each module and develop methods by modifying previous methods or by starting a new method. We will describe the two processes in more detail in this product note.

Simple Operation for Routine Use

For the routine user, choosing and running a method is just a few clicks away. When the hardware and software are powered up the user will see the opening screen and press start to bring up the software shown in Figure 1.

Click on **Assign Method** to prepare to run the Module 1. The screen shown in Figure 2 will appear and allow the method to be chosen for the stations that will be run (one method for all three stations). The sample identification for each sample can be typed in or a barcode reader used to facilitate the entry. In this case we will choose the *Prime Sample Lines* Method which should be run each morning or after the solvent bottles are filled to ensure there is no air in the solvent lines.

Once the method is chosen it can be assigned to the stations that will be run as shown in Figure 3. When the station is assigned, the Sample ID entry is permitted and either a barcode scanner or typing can be used to enter the information, as shown in Figure 4.

When the button **Assign** is clicked the message shown in Figure 5 will remind the operator to check the needed hardware to be sure it is ready for operation.



- Simple to use with limited choices for routine operators
- Flexible for method development
- Features for rugged operation

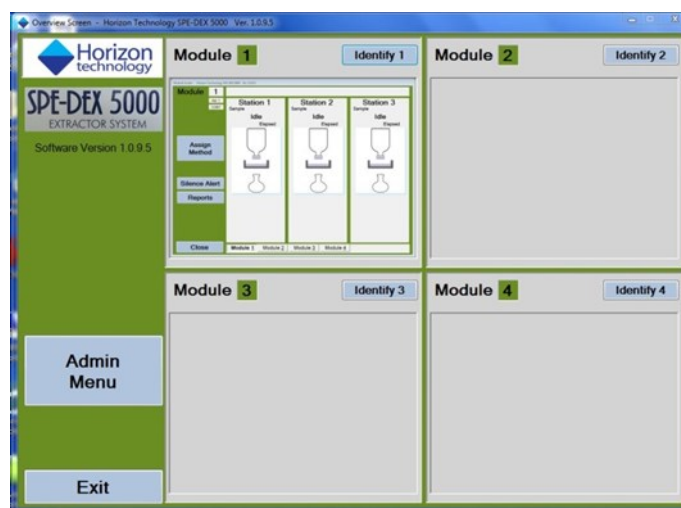


Figure 1. Overview screen for one module powered up.



Figure 2. Choose the method to be run from the pull-down list.

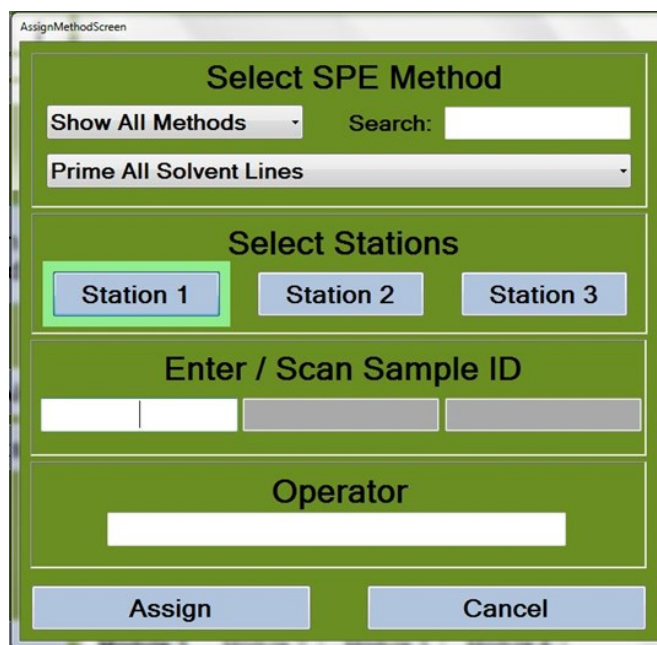


Figure 3. Stations being assigned to run the **Prime All Solvents Lines** method. Sample IDs will be entered next.

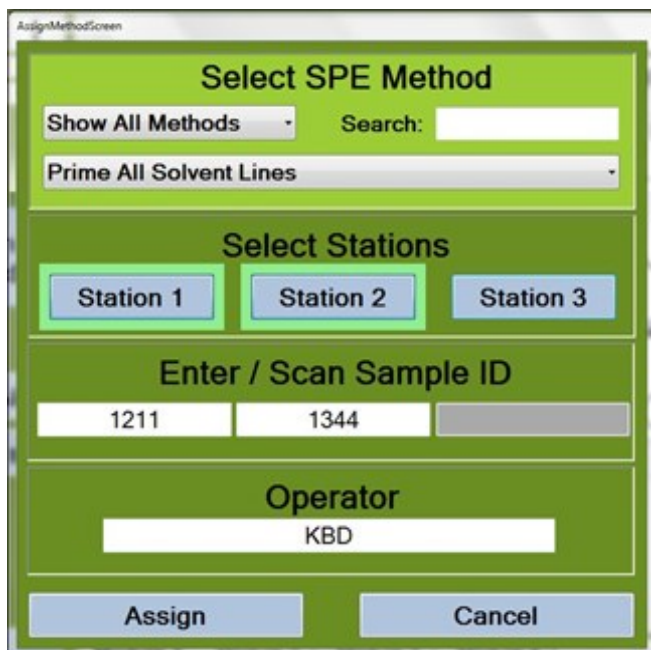


Figure 4. Sample IDs entered for two stations.



Figure 5. Check message shown before run started

Once the **OK** or the **Start Run** button has been clicked the run will proceed and the method will be performed. Figures 6 and 7 show the method in progress.

The run will proceed to completion without user intervention.

Flexible Operation for Method Development

There are a number of functions for method development available to the administrator with password access to the system.

Method Development

For example, methods can be modified or developed using the steps shown in Figure 8. If a method from a regulatory source is being implemented the steps can be entered to follow the method. Some adjustment may be necessary to take full advantage of the automated system, but it will provide an excellent start. Figure 9 shows the screen when Prime Solvent Lines method step is chosen. The solvent is selected from a pull-down menu and the volume for clearing out the lines chosen in mL.

When a method is fully developed it can be seen, with the conditions shown for each step. Figure 10 shows a method developed for a full suite of analytes in drinking water, following the guidance of US EPA 525.2.

So whether you are developing methods or running them, the software has depth of capability and simplicity of operation for your requirements.

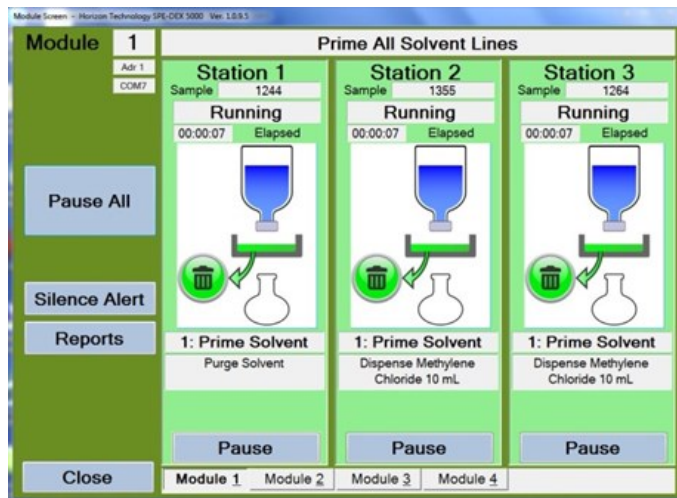


Figure 6. Three stations running the method **Prime All Solvent Lines**

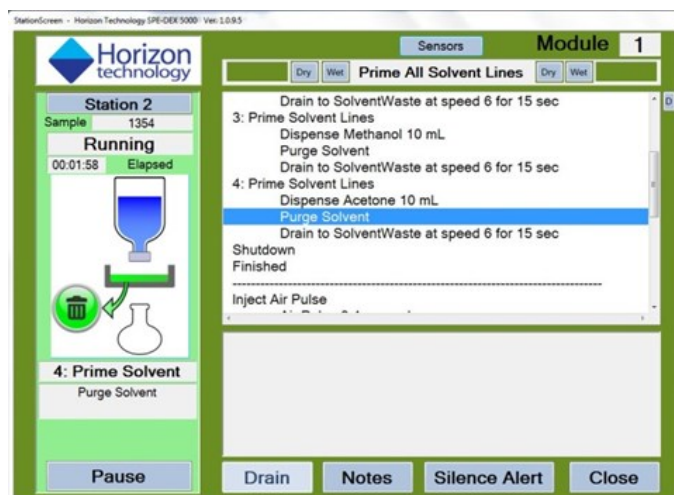
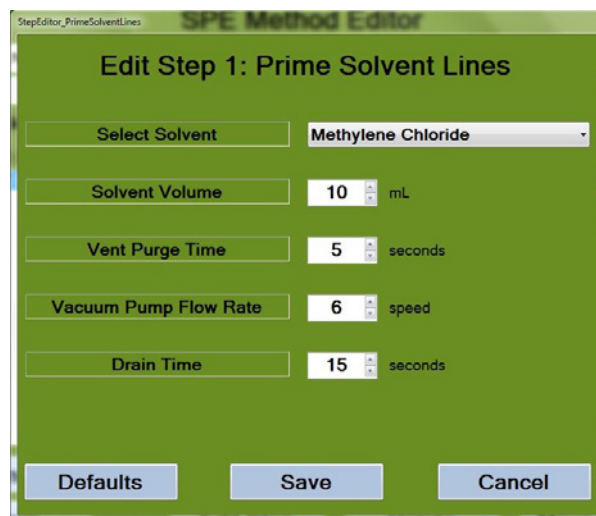


Figure 7. Detailed view of Station 2 progress. Get here by clicking on Station 2 on the screen in Figure 6.



Figure 8. Steps that may be chosen during method development.



Running Features

When you are running samples you always want to know what is going on and have the ability to intervene if necessary. Just a few of the features for this will be outlined next.

Pause the Sample Run

If there is a problem, the sample run can be paused and then either aborted or restarted. This is shown in Figure 11.

Pause with Message

A Pause step can be put in a method to allow the operator to intervene. This is shown in Figure 12 with an example message to “Please check the Disk now.”

Alerts

During the run the sensors collect information about the sample flow and level in the disk holder. If there is any problem detected an Alert message will warn the operator to check and perhaps intervene. One of these types of messages is shown in Figure 13.

The software for the SPE-DEX 5000 System has a number of features organized to make routine operation simple and more advanced operation flexible and powerful. The system has checks to ensure the operations proceed unattended, with safeguards to protect the operator and the samples being prepared.

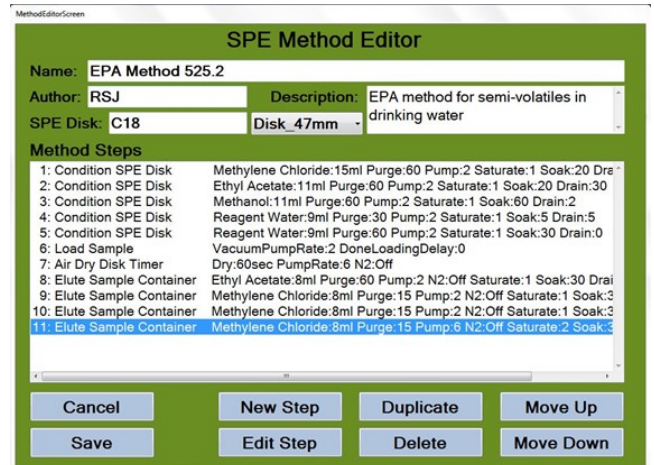


Figure 10. Drinking water method fully developed.

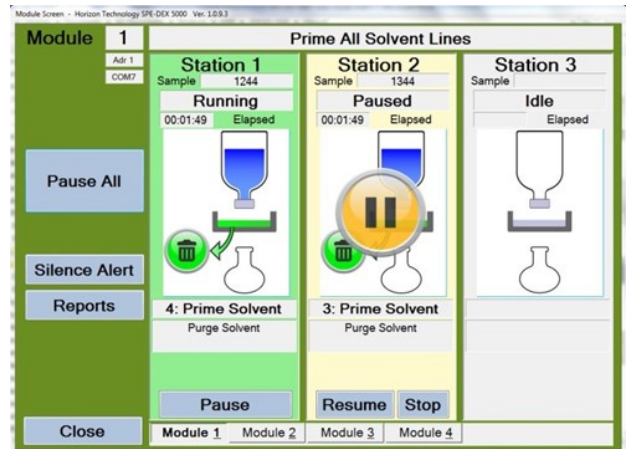


Figure 11. Station 2 is paused during the run.

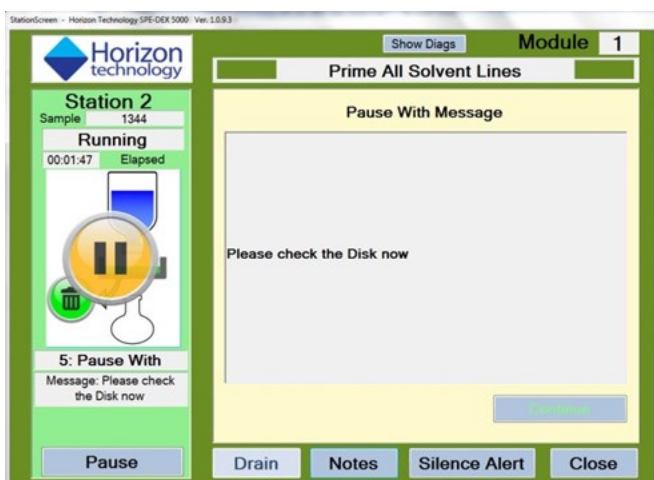


Figure 12. Pause with message function.

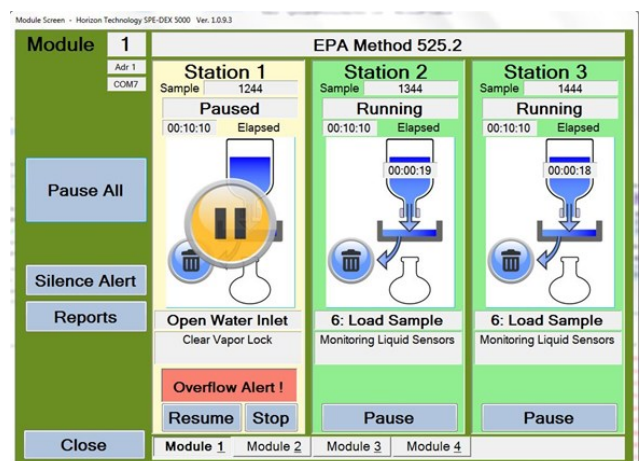


Figure 13. Overflow Alert shown on Station 1