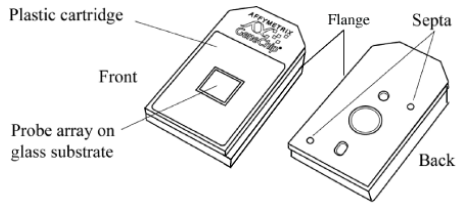


Staining and Washing a GeneChip® Probe Array

The Affymetrix® GeneChip® Probe Array



Note: the number of vials used and the specific reagent mix will be different depending on the protocol used. Consult your package inserts and the user guides for details. Follow closely the LCD messages on the fluidics station.

1. If prompted to “**Remove Vials**,” remove the vials from the sample holder of the fluidics station.
2. If prompted to “**Load Vials 1-2-3**,” place the three experiment vials containing staining reagents into the sample holders 1, 2 and 3 on the fluidics station.
3. If prompted to “**Load Cartridge**,” open the cartridge holder by pressing down on the cartridge lever to open the cartridge loading door.

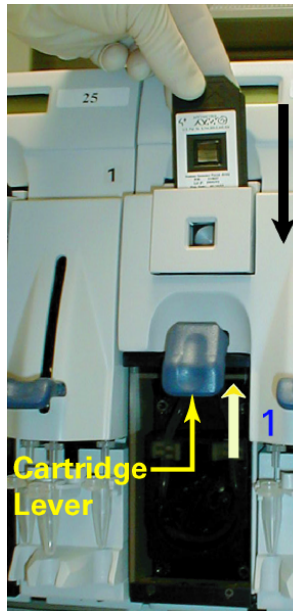
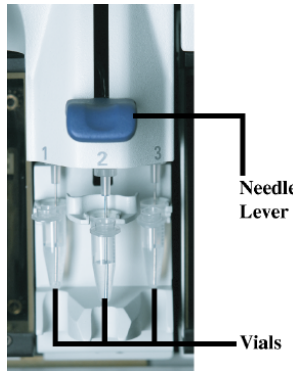
Place the appropriate cartridge into the cartridge holder corresponding to the module set up in the experiment.

4. Pull up gently on the cartridge lever. This inserts the cartridge septa needles into the septa.
5. When you have loaded the vials, gently but firmly press down on the needle lever to snap the needles down into the vials. The run will commence automatically.

As the staining run progresses, check to ensure that the cartridge is filling properly and that bubbles are not forming. **If bubbles form, refer to the appropriate Fluidics Station user guide.**

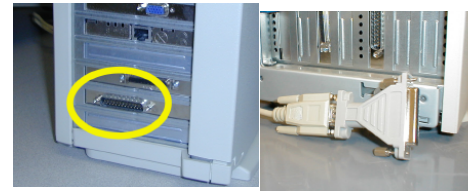
6. When the staining and washing are complete, the LCD window should display the **Eject Cartridge** message.
7. Eject the cartridge by pushing down on the cartridge lever. The LCD window should display the **Engage Washblock** message. Remove the cartridge.
8. Pull up on the cartridge holder lever to re-engage the washblock.

9. Lift up on the needle lever to remove the needles from the vials. Replace the used vials with new empty vials.
10. Press down on the needle lever. The fluidics station will automatically perform a Cleanout procedure. The LCD window will indicate the progress of the Cleanout procedure. When the Cleanout procedure is complete, the LCD window should display the **Remove Vial** message. Lift the needle lever and remove the sample vial from the sample holder.

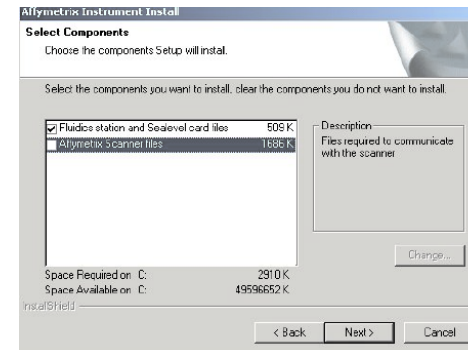


Fluidics Station Installation

1. Confirm that a Sealevel card and 25-pin cable adapter are installed in your system.
2. Browse to the AGCC CD.
3. Double-click the Instrument Folder.
4. Double-click **setup.exe** within the Instrument folder. The Welcome window appears.
5. Click **Next**. Several consecutive Software License Agreement windows appear. Click **Yes** in each window to accept the terms of the agreement.
6. The Choose Destination Location window appears.
7. Click **Browse** and select the Destination to install the instrument driver (select the same location where you installed Microarray Suite).
8. Click **Next**. The Select Components window appears.
9. Select the Fluidics Station Files option. Click **Next**.
10. Enter the Port # for the COM serial port for the Sealevel serial card. Enter **2**. If the workstation is the Dell GX110, select COM Port **3**.
11. Click **Next**. The Start Copying Files window appears. Review the information and click **Next** to continue. Program files and device drivers are copied to your system, and the Install Complete window appears.
12. Click **Finish**.



A 25-pin connector confirms the presence of a Sealevel card and the 25-pin adapter (right)



The Select Components window

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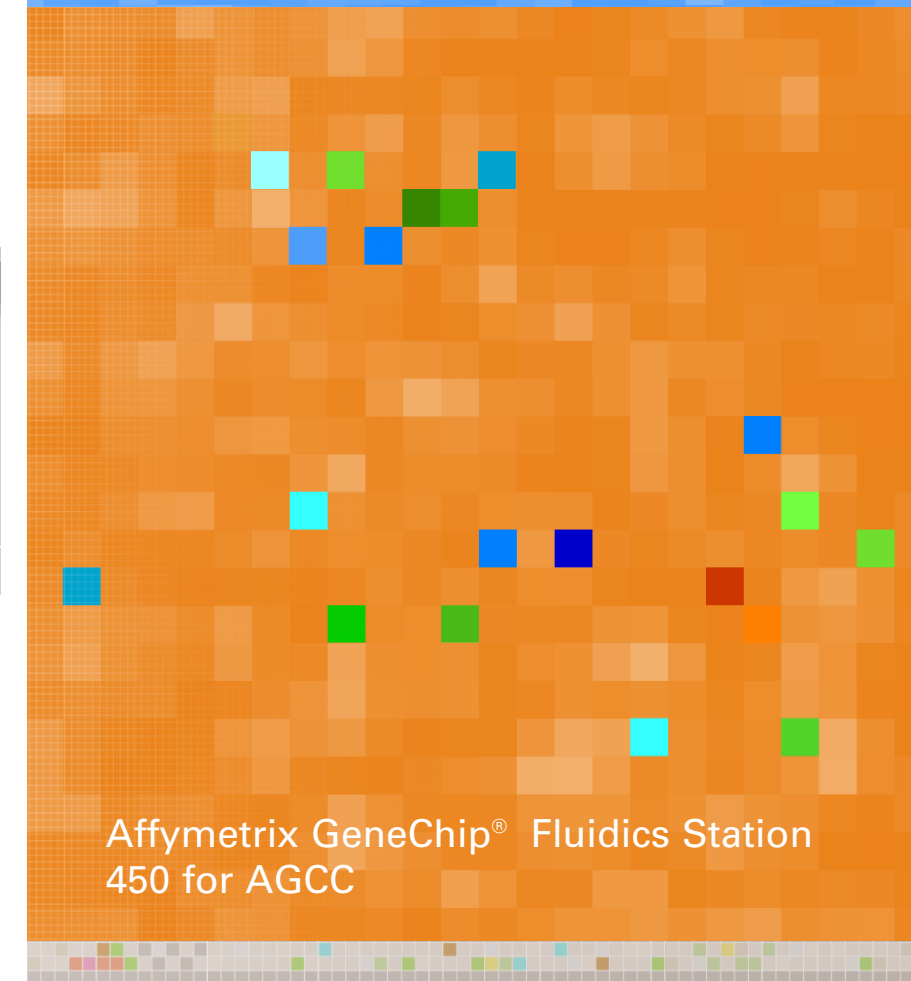
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VERSION A



Affymetrix GeneChip® Fluidics Station
450 for AGCC

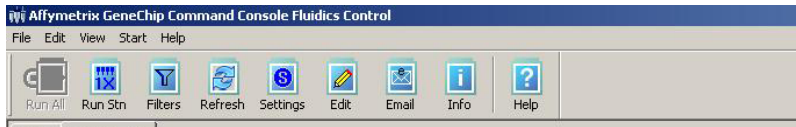
Quick Reference Card

This card provides you with a quick tour of the operation of the Fluidics Station 450 for use with the new Affymetrix® GeneChip® Command Console™

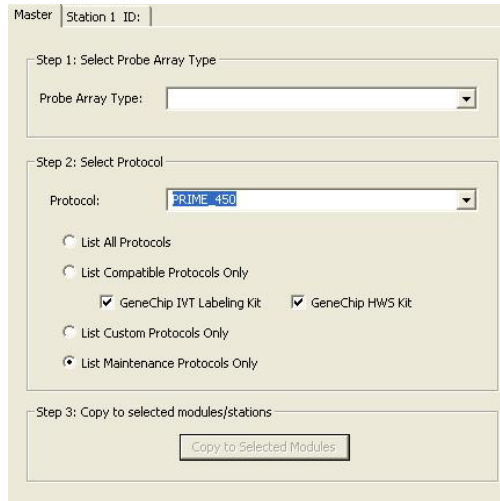


Launching the Fluidics Station Control Software


1. In the AGCC Launcher, click the AGCC Fluidics Control Icon or click **Programs® Affymetrix® → Command Console® → AGCC Fluidics Control...** The AGCC Fluidics Control window opens.

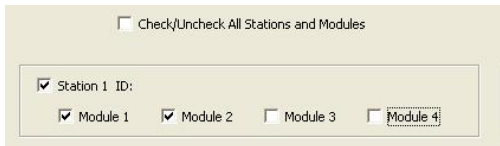


Priming the Fluidics Station



The AGCC Master Controls Page

1. In the Select Protocols section of the Master controls, select **List Maintenance Protocols Only**.
2. Select **Prime_450** from the Protocol drop-down list; or Select the maintenance protocol you wish to run.
3. Select the modules to be primed.
You can:
 - Select individual checkboxes for each module.
 - Click the Station ID checkbox to select all modules for a particular station.
 - Click Check/Uncheck all Stations and Modules to select/deselect every station and module.
4. Click Copy to Selected Modules. The selected protocol (Prime_450) is applied to the selected stations and modules.
5. Fill the intake buffer reservoirs A and B with the appropriate priming buffer. (Refer to the appropriate GeneChip® probe array package insert).
6. Empty the waste bottle and fill the water reservoir with deionized water.
7. Load an empty, standard 1.5 mL microcentrifuge tube in the sample holder of each module to be primed.
8. Click the **Run All** button  or Select **Start → Run All Modules Selected** on Master Page.
9. Follow the prompts in the Status window (also shown in the module LCD window). The Status window and the module LCD window display the status of the procedure. You can begin running the fluidics station when the station has completed priming, and **Priming done, Ready** appears in the module LCD window.



Running a Fluidics Protocol on Multiple Stations

1. In the Master Control page, select the array type from the **Probe Array Type** list.
2. Select the protocol from the **Protocol** drop-down list
3. Select a probe array type from the drop-down list. or select the appropriate checkbox to filter the protocols

List All Protocols

List Compatible Protocols Only (displays only protocols that can be used with the selected labeling kit):

GeneChip IVT Labeling Kit

GeneChip HWS Labeling Kit

List Custom Protocols Only (displays only protocols that have been edited or provided by the user)


List Maintenance Protocols Only (displays only maintenance protocols)

4. Select the modules to be run by:

Selecting individual checkboxes for each module.

Clicking the Station ID checkbox to select all modules for a particular station.

Clicking Check/Uncheck all Stations and Modules to select/deselect every station and module.

5. Click **Copy to Selected Modules**. The selected protocol is applied to the selected stations and modules.
6. Fill the intake buffer reservoirs A and B with the appropriate solutions (Refer to the appropriate GeneChip® probe array package insert).
7. Empty the waste bottle and fill the water reservoir with deionized water.
8. Click the **Run All** button  or Select **Start → Run All Modules Selected** on Master Page. The Status window and the module LCD window display the status of the procedure.
9. After the protocol is finished, remove the probe array and inspect the probe array window for air bubbles. If air bubbles are present, reinsert the probe array into the fluidics station to automatically drain and refill the probe array with the last wash buffer used. (Refer to the appropriate GeneChipR probe array package insert.) If no bubbles are present, you may scan the probe array.

Resuming a Fluidics Protocol

AGCC tracks the progress of a fluidics protocol run. If the protocol stops before completion, it can be resumed at the point where it was interrupted. The resume feature is only available for fluidics protocols that display multiple steps in the Step drop-down list of the Fluidics Station dialog box. If you exit AGCC Fluidics Control while a fluidics protocol is running, the resume feature will be unavailable upon startup of the software.

1. Click **Resume** in the Modules controls. The selected protocol is started in modules one through four of the fluidics station.

Bypassing Steps in a Fluidics Protocol

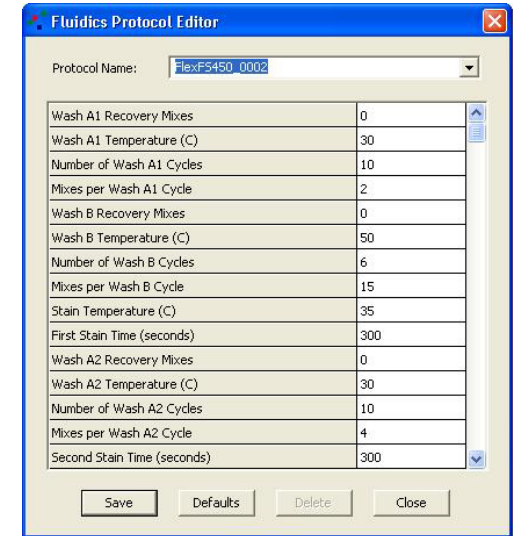
Some multi-step fluidics protocols can be started at any step, so that part of a protocol can be bypassed. The bypass function is only available for fluidics protocols that display multiple steps in the Step drop-down list of the Fluidics Station dialog box.

1. Select an array and protocol.
2. Select the desired beginning step from the Step drop-down list.
3. Click Run to start the fluidics protocol at the selected step.

Editing a Fluidics Protocol

Protocol changes made during a run do not affect the run in progress.

1. Select **Edit → Edit Protocol** from the menu bar.
2. Choose the fluidics protocol you want to edit from the **Protocol Name** drop-down list.



Only the protocols in this list may be edited. All others are defined for specific applications and cannot be customized.

3. Highlight the parameter value you want to change and enter the new value. Enter a Hybridization Time of zero if only a wash is desired. To omit Wash A or B, enter zero for the Number of Wash A or Wash B cycles.

Parameter	Valid Range
Hybridization or stain time	0 - 86,399 seconds
Temperature	15 - 50° C
Number of Wash cycles	0 - 99
Mixes per Wash cycle	1 - 99

4. To save the parameters under the same protocol name (overwrites the old protocol), click **Save**.
5. To save the parameters under a new protocol name, enter a new name in the Protocol Name field, then click **Save**. This adds the new protocol name to the drop-down list.
6. Click **Defaults** to return the parameter settings to the default values.