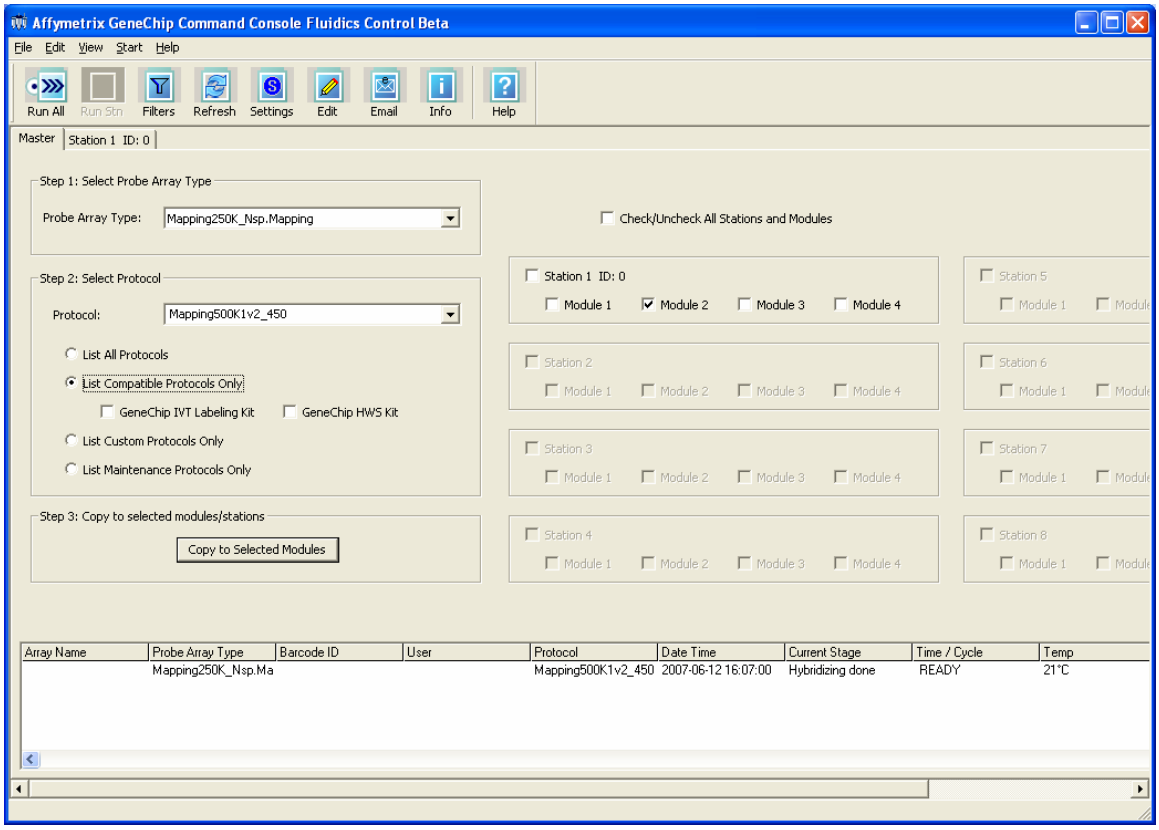
Controlling the FS-450 Fluidics Station

The AGCC Fluidics Control software is used to control the FS-450 Fluidics Station. A workstation with AGCC Fluidics Control software and a Sea level card installed can control up to eight different fluidics stations...

The FS-450 Fluidics Station is used to hybridize, wash, and stain the Gene Chip probe arrays. An individual FS-450 station can independently process arrays using a different fluidics protocol in each of four different modules.

Starting AGCC Fluidics Control

1. Double-click the AGCC Fluidics Control shortcut in the Affymetrix Launcher or click on **Start>Programs>Affymetrix>Command Console>AGCC Fluidics Control**
2. The following AGCC Fluidics Control window appears with Master Tab option enabled. If you only want to control only one specific station or a specific protocol step, you can click on the individual station's tab instead (see "Controlling the Stations individually").



3. From Step 1 select "Probe Array Type" from the drop down Menu. If the probe array type that you are interested is not there in the drop down menu, install the library from the following location: http://www.affymetrix.com/support/technical/libraryfilesmain.affx.

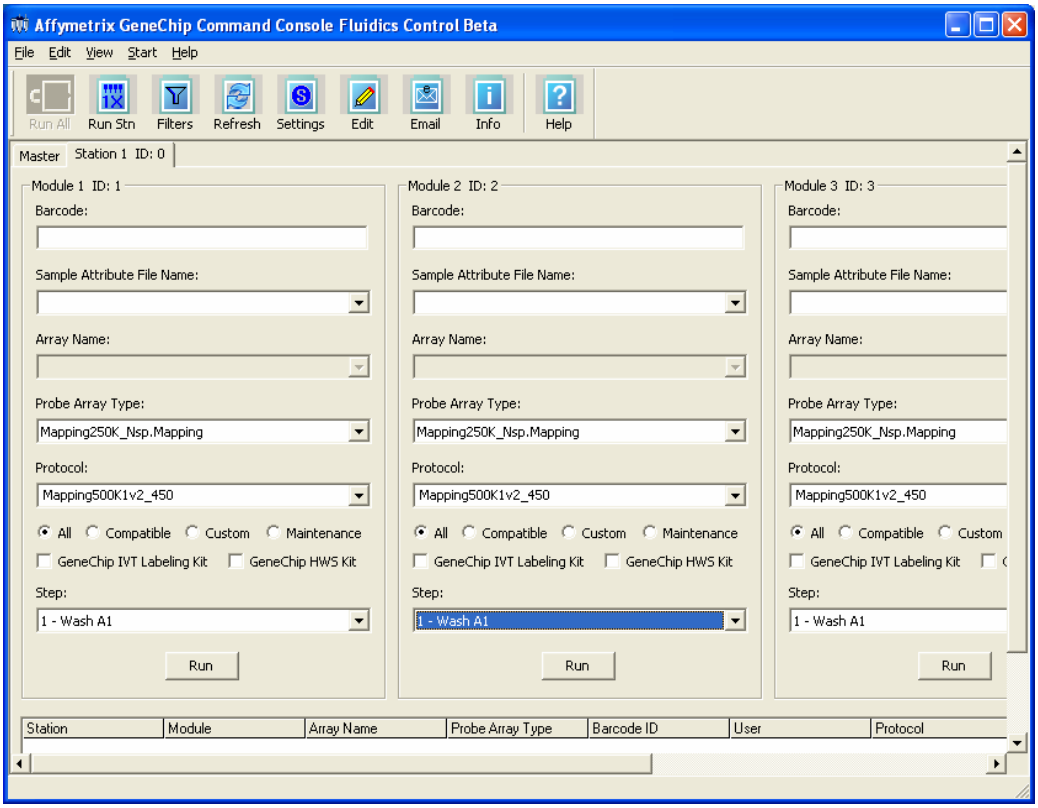
Note, before processing a probe array type for the first time please check that the necessary fluidics protocols are installed on the system by running the Fluidics Script Installer (**File>Install protocols**, or **Start>Affymetrix>Command Console>Fluidics Script Installer**.

4. From Step 2 select one of the following
    - List all protocols (Lists all the Fluidics protocols currently installed on the system).
    - List Compatible Protocols Only.(Displays only protocols that can be used with the selected probe array type)
    - List Custom protocols only. (Displays only Custom protocols. Custom protocols are created by or for specific customers needs by modifying the steps of the protocol.)
    - List Maintenance protocols only.(Displays maintenance protocols only. *e.g.*, Home, Drain, Clean, etc)
5. Select the appropriate protocol from the dropdown menu for the probe array type selected in step 1.

6. Select the Stations and Modules for the processing run selecting the individual check boxes for each module or by selecting the Station ID checkbox to select all modules for a particular station. To check all stations and all modules click on **Check/Uncheck all Stations and Modules.**

   Note, by default nothing is selected so you need to check at least one box to activate the run button

7. From Step 3 click **"Copy to selected Modules"** button. This option the copies the selected probe array type and protocol to the selected station/modules' tab. The individual station tabs will display the selected protocols as shown below.

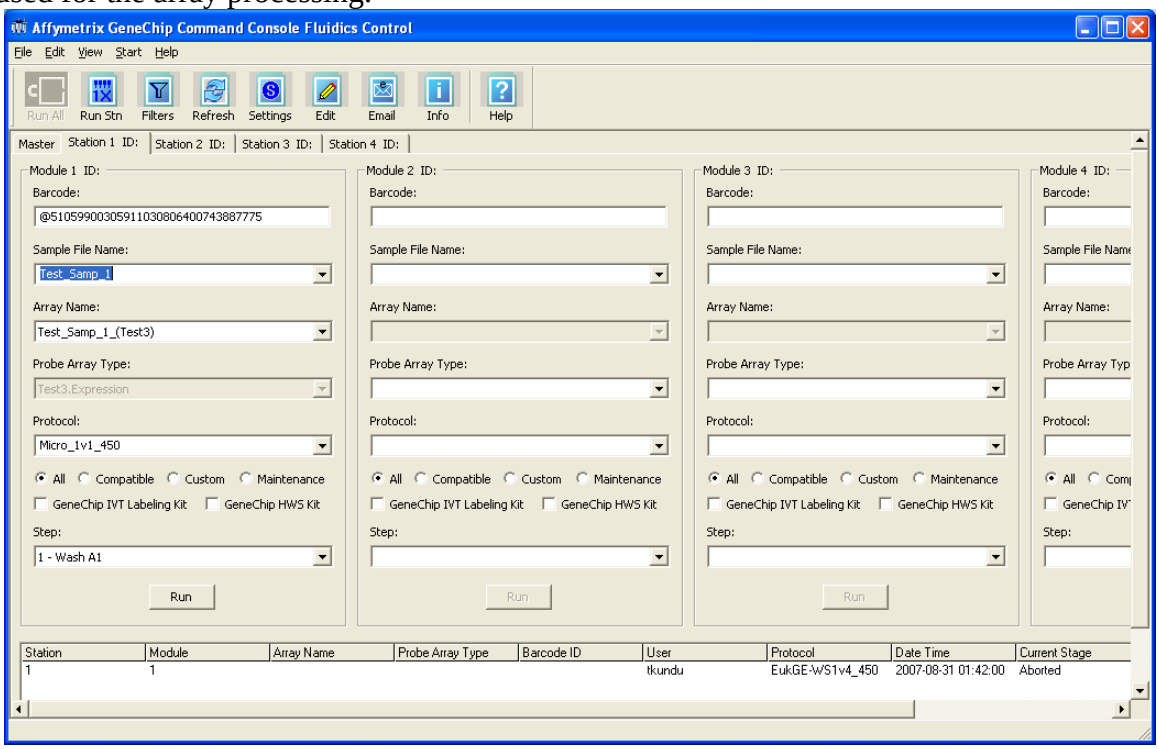


8. Switch back to the Master Tab and click the **Run All** button or Select **Start > Run All Modules Selected** on Master Page from the Menu bar.

9. The status window displays the current state of the fluidics station during a run. Below is the screenshot of the status window. You cannot stop the run in the Master tab. The individual station tab enables runs to be stopped and restarted.

Controlling the Stations individually

1. In the Fluidics Control Module window **click** on the Station tab corresponding to the station to be used for the array processing.



2. There are 3 ways to identify the protocol to be run on a station.
    a. Select an array by barcode, sample file name, or array name and the Affymetrix suggested compatible program will be displayed in the protocol dropdown list.
    b. Select a probe array type and the Affymetrix suggested compatible program will be displayed in the protocol dropdown list.
    c. Select the specific protocol from the dropdown menu.
        i. To limit the protocols displayed in the drop down list use the radio buttons and check boxes.
            1. All: displays all available protocols
            2. Compatible: displays only protocols compatible with the selected probe array type
                a. Use the check boxes to identify if the GeneChip labeling and/or the GeneChip hybridization, wash and stain kits were used.
            3. Custom: displays only custom protocols
            4. Maintenance: displays only maintenance protocols

3. The Step box indicates the step at which the protocol will begin.
4. Click the Run button for the station to start the processing.
    a. After initiating the run the Run button changes to a Stop button that can be used to stop the run if needed.
5. The status window displays the current state of the fluidics station during a run.