Microwave Reactor Manual
Krystyna Brzezinska (kbrzez@mrl.ucsb.edu)
(08/15/05)

Software modes:
1. **Chemistry**- set up and run experiments, and view experiment results.
2. **System**- change system settings, manage users. Only users with the system owner privilage can perform these tasks.
3. **Service**- service can only be performed by an authorized Biotage service technician.
4. **Shut Down**- shut down the system.

The **Chemistry** mode consist: Editor (1), Racks (2), Status (3) and Results (4).

Set up and run your experiment (with Robot)

1. Select the **Editor** tab in the right-hand panel.
2. Enter the number of reactions by pressing **Number of Vials**. You can also add a reaction to the experiment by selecting an empty vial position in the rack overview
3. Reaction can be performed within a temperature range of 60 to 250 °C at a pressure of up to 20 bar. To edit a reaction's process parameters or several reactions simultaneously, select the vial or vials in the rack overview and press **Edit**. The **Edit** dialog appears. To edit time, temperature and/or pre-stirring, press the parameter's button, enter the value on the keypad to the right and then press **ENTER**. To change vial type, absorption level and/or whether fixed hold time is used or not, repeatedly press the parameter's button until the desired value is displayed. Three different absorption levels are available- **Normal, High** and **Very High.** The High or Very High level should be used when heating reaction mixtures that include very polar solvents or have high ionic content, e.g. containing inorganic acids or ionic liquids. In this case energy is applied at lower rate to the reaction mixture in order to achieve a well-controlled rate of the temperature increase. If **Fixed Hold Time** is **Off**, the time countdown starts when the heating starts. To save the changes and return to the **Editor** tab, press **Apply**. If you wish to use advanced process parameters for a reaction (i.e. set up a reaction including several heating or cooling steps, control by means of temperature, pressure and/or power, set initial power and/or cool while heating), press **Advanced Edit**. At the racks tab you can view the contents of the rack(s) loaded onto the instrument and unload processed vials.
3. Press **Run**. If the instrument is processing, the experiment is added to the queue and the processing is paused for loading.
4. When the **Load Experiment** dialog appears, load the vial(s) into the rack according to the yellow position(s) in the rack overview.
5. Select user and enter the experiment name in the **Load Experiment** dialog.
6. To confirm loading and start/resume processing, press **Run**.

Monitor your experiment and view results.
To monitor the reaction in progress- Select the **Status** tab in the right-hand panel. With the **Show Values/Show Graph** button, you can toggle between viewing:
- The process graph with real time measurements of temperature, pressure and applied power.
- The target values (temperature, pressure and/or power) are shown as dashed lines.
- The current values of temperature, pressure and applied power.

To view the results of your experiment:
1. Select the **Results** tab in the right-hand panel.
2. Press **Select User**. The **Select User** dialog appears.
3. Select user and press **OK**.
4. To view the results of an experiment, select the experiment in the experiment list. To scroll the list of experiments or the report up or down, press ▲ or ▼.