

8200 Quick Reference Guide
(Refer to the Operator Manual for additional information)

Creating or Modifying a Program

1. Press **Program**. The program creation screen will appear.
 2. If you want to modify an existing program:
 - a. Press **Open**. The **Open File** dialog box will appear.
 - b. Select the desired program.
 - c. Press **Open**.
 - d. Go to step 3.
 3. If you want to start with a blank program:
 - a. Press **New Prog.**
 - b. For on-screen, step-by-step instructions, press **Wizard**, press **Next**, and follow the instructions in the **Program Wizard**. Otherwise, go to step 4.
 4. Select and change the settings for each interval of the program. The following list describes the program values and options displayed:
 - a. For **Initial Value** enter the starting value for each active channel's setpoint for this interval. After interval 1 the initial value will always be the final value of the previous interval and cannot be edited.
 - b. For **Final Value** enter the ending value for each active channel's set point for this interval.
 - c. For **Deviation** enter how far you will allow the selected channel's process variable to be from setpoint. Enter a positive number only; the 8200 will monitor both plus and minus deviations and activate the deviation alarm if the values are exceeded.
 - d. If you want to specify a **Ramp Rate**, enter the speed (in units of measurement per minute) for the 8200 to cycle an active channel's process variable to a new setpoint. (To determine change rates, refer to your chamber manual's performance specifications.) The 8200 will calculate the difference between the interval's initial and final values, divide the difference by the ramp rate, and adjust the interval **Time** accordingly. Only one active channel's ramp rate can be set per interval.
 - e. Select the desired **Refrig Mode** (refrigeration mode) for the interval.
 - f. Select the desired **Parameters** (control parameter group) for the interval. For more information, see "Control Parameters Panel" in Section 1 of this manual.
 - g. Select the desired **Auxiliaries** for the interval. Auxiliaries are active only when the 8200 is running.
 - h. For **Time** enter the length of the interval in hours, minutes, and seconds. The maximum interval time is 99 hours, 59 minutes, 59 seconds.
 - i. To enable guaranteed soak, check **G-Soak** and set one or more **Deviations**. The 8200 will immediately set the setpoint equal to the interval's final value and then wait until the process variable is within the deviation band of the final value. Once the process variable is within the deviation band, the interval time will begin counting down. For multiple channel programs, all non-zero deviation bands must be satisfied at the same time before the interval time will begin counting down.
 - j. For **Next Interval** enter the number of the interval you want the 8200 to transition to after this interval is complete. For programmed looping this number must be less than or equal to the current interval number, and the **Num Loops** value must be greater than 1. If no loops are programmed, the **Next Interval** field displays the number of the next interval.
 - k. For **Num Loops** enter the number of times you want the programmed loop to be executed. A loop can be repeated up to 300 times. Up to 32 separate loop patterns can be used per program. **NOTE:** The interval will actually loop back to the target interval the **Num Loops** value minus 1.
 - l. Select the desired **Options** for the interval. **NOTE:** Enabling **PTC** disables the **Humidity** channel. When **PTC** is enabled, only the values for the PTC channel can be edited. Enabling **Humidity** disables the **PTC** (product temperature control) channel. Refer to your chamber manual for a description of the options available on your chamber.
 - m. To insert a new interval following the current interval, press **Add Int.**
 - n. To delete the current interval, press **Delete**.
5. The program graph allows you to view your program as you create it. To expand and collapse the graph, press the **Expand/Collapse** button.
 6. To add notes to your program:
 - a. Press the **Notes** button. The **Notes** dialog box will open.
 - b. Select the notes field and use the alphanumeric keyboard to add your notes.
 - c. To save your notes, press **OK**.
 7. You may save your program at any time by pressing **Save**.
 - a. The first time you save the program, select the **File Name** field and use the alphanumeric keypad to enter a file name.
 - b. Press **Save**.
 8. To delete a saved program:
 - a. Press **Open**. The **Open File** dialog box will appear.
 - b. Select the desired program.
 - c. Press the **Delete** button at the top right of the **Open File** dialog box.
 - d. Press **Yes** to confirm the deletion.

Manual Mode Operation

Manual mode operates the chamber using setpoint and rate of change (ramp rate) settings. You can enter manual mode when the system is in stop mode.

Manual Mode


- From the main screen press **Manual**. The manual mode screen will appear.
- Select and change the settings for the manual mode test.
- The following list describes the manual mode values displayed:
 - New Setpoint:** Enter the desired value for each active channel. When the ramp rate is not zero, the set point will change toward this new value at the selected rate.
 - Ramp Rate:** Enter the desired number of degrees per minute. If you enter a setting other than zero, the controller ramps to the new set point, changing the set point in a timed ramp. If you enter a zero, the controller performs a step change. During a step change, the 8200 outputs a full demand ($\pm 100\%$ throttle) until it enters the set point's proportional band
 - +/- Deviation:** Enter the value for how far you will allow the temperature or other process variable to be from set point. The deviation setting will be monitored and the deviation alarm will be activated if the value is exceeded. Enter a positive number only; the 8200 will monitor both positive and negative deviations.
 - PTC (product temperature control):** An optional heating and cooling process that controls the process variable from the product temperature rather than the test space air temperature. **NOTE:** Product temperature control is disabled if humidity is enabled.
 - Humidity:** Enables the optional humidity system. **NOTE:** Humidity is disabled if product temperature control (PTC) is enabled.
 - Purge:** Enables the purge option.
 - Refrig Mode:** Select the desired refrigeration mode for this manual mode test.
 - Parameters:** Select the desired parameter group for this manual mode test. For more information, see "Control Parameters Panel" in Section 1 of the Display Module Instruction Manual.
 - Auxiliaries:** Select the auxiliary relays you want to activate. Auxiliaries are active only when the 8200 is running.
- To start running in manual mode using the settings entered above, press **Run**.
- To suspend a ramp at its current settings, press **Hold**.
- To resume a suspend test, press **Run**.
- To stop manual mode operation, press **Stop**.

Running a Program

The programmer function operates the 8200 using programs. Each program consists of a group of intervals. In each interval the controller cycles the chamber toward a final temperature and/or other process variable in a specified amount of time. Once the interval is completed, the 8200 either transitions to the next interval or loops back to an earlier interval. Once a program is entered into memory it can be run immediately, or it can be set up for a delayed start.

Program Mode

- With the 8200 in stop mode, press **Run** from any screen other than the manual mode screen. The **Run Program Options** dialog box will appear with the name of the currently loaded program in the **Program Name** field.
- To load a different program:
 - Press the **Select Program** button. The **Select File** dialog box will appear.
 - Find and select the program you want to load.
 - Press **Select**. The name of the newly selected program will appear in the **Program Name** field.
- The **Number of Intervals** field displays the total number of intervals in the loaded program. The **Start At Interval** field shows the starting interval (the default value is 1). To start the loaded program at an interval other than 1, select the **Start at Interval** field and use the numeric keypad to enter the desired starting interval.
- To schedule a delayed start date and time, go to Step 5. To start the selected program immediately, go to Step 6.
- To schedule the selected program to start at a preset date and time in the future:
 - Select the **Delayed Start** check box.
 - Select the adjacent date and time field. The **Select Delayed Start Date and Time** dialog box will appear with the currently scheduled start date highlighted in blue and today's date circled in red. Choose when to start running the program, then press **OK**.
 - Press **Run**. The 8200 will enter delayed start mode and the status message at the bottom of the screen will read **Mode: Delayed Start**, followed by the date and time the program is scheduled to start.

NOTE: You cannot run another program or enter manual mode while a delayed start is pending. To cancel a delayed start, press **Stop**. You can also press **Run** and then press the **Cancel Delay** button.
- To start the selected program immediately, press **Run**. The 8200 will enter run program mode and the **Program Status** screen will appear.
- For humidity information, press the humidity  button next to the **Humidity** field. The **Humidity Info** dialog box will appear.
- To suspend the interval at its current settings, press **Hold**. The 8200 will enter hold program mode and the **Edit** button will appear in the lower left corner of the screen. **NOTE:** In hold program mode the 8200 will maintain the chamber test space at the last setpoint.
 - To enter temporary values into the current interval, go to step 9.
 - To resume running a suspended test, press **Run** and go to step 10.
- To enter temporary values into the current interval:
 - Press the **Edit** button.
 - Select and edit the values and options as desired.
 - Press the **Edit** button again, then press **Run**. The 8200 will enter run program mode again using the new values for the remainder of the current interval.

NOTE: Once the interval is completed, the temporary values will be discarded. The next time the interval is run, the original programmed values apply
- To stop a running test, press **STOP**.