RACK OVEN V-M.O.L.E.® SYSTEM
QUICK REFERENCE GUIDE
This Quick Reference Guide is designed to help the user to familiarize themselves with the equipment, perform basic hardware setup/communications and operation. For detailed information on both Hardware & Software components, please refer to the Help system accessible in the M.O.L.E.® MAP Software.

To access the help system start the software and use any of the methods listed:

- Select the **Help Button** on the **Toolbar**.

- Pressing the shortcut key **[F1]**

- On the **Help menu**, click **MAP Help**.
Activity Indicators:
Indicates state of the M.O.L.E.® Thermal Profiler

OK Button:
Invokes “OK” process resulting in a GO-NO GO decision

Charging LED:
Indicates when the internal Power Pack is charging

Thermocouple/Inputs:
This is where Type “K” Thermocouple sensors are connected

ON/OFF Button:
Turns Profiler “ON/OFF”

Record Button:
Starts/Stops Profiler recording data.

Data/Charging Port:
Transfers data to/from a computer & charges the internal Power Pack
<table>
<thead>
<tr>
<th>Activity Indicator</th>
<th>Action</th>
<th>LED Color</th>
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<tbody>
<tr>
<td>ON/OFF</td>
<td>Indicates Profiler is “ON” and idle</td>
<td>Green (Flashing)</td>
</tr>
<tr>
<td>Record</td>
<td>Indicates Profiler is recording data</td>
<td>Green (Flashing)</td>
</tr>
<tr>
<td>OK</td>
<td>Indicates recorded profile passes pre-configured criteria</td>
<td>Green - Pass (Solid) Red - Fail (Solid)</td>
</tr>
<tr>
<td>Temp(erture)</td>
<td>Indicates if internal temp is at or above a threshold.</td>
<td>Red (Solid) &gt;40°C</td>
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<td>Battery</td>
<td>Indicates when the internal Power Pack voltage is low</td>
<td>Red (Solid) &lt;3.0V</td>
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<tr>
<td>Charge</td>
<td>Indicates when the internal Power Pack is charging</td>
<td>Yellow (Solid)</td>
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</table>
1. Insert the USB computer interface cable into a computer USB Port and the other end into the Data/Charging Port.

A completely discharged Power Pack takes about 8 hours to be fully charged. For quick charges, it can be charged for 15 minutes allowing one 10 minute data run to be performed.
1. Insert the CD in the drive and the M.O.L.E.® MAP software autorun menu appears.

2. Select the Install Software command button to start the installation. Closely follow the instructions for your operating system. For detailed information select the Installation Help command button on the autorun menu.
The user must have administrator permissions for the computer to install and authorize the software. To install as administrator, locate the `setup.exe` on the installation CD. Right-click the file to display the shortcut menu and select `Run as administrator`.
A Software Unlock Key must be obtained from www.ecd.com or using the contact information supplied on the dialog box.


2. Select Web Authorize and enter the required information on the M.O.L.E.® MAP Software Authorization form.

3. Retrieve the 16-digit Software Unlock Key from the confirmation email and enter it into the dialog box. Next select Start MAP to complete the process.
1. Plug the USB cable into a computer COM Port and the other end into the M.O.L.E.® Profiler Data Port. The Auto-Play panel appears in the lower right corner of the desktop. This panel displays the four most common MAP commands.

2. Select **Start M.O.L.E.® MAP**
3. On the M.O.L.E.® menu, click the **Select Instrument** command.

4. Select the desired instrument from the dialog box. If there are none displayed, click the **Scan for Instruments** command button to detect all available instruments.

Once a M.O.L.E.® Profiler has been selected, the software automatically selects that M.O.L.E. Profiler if it used again on the same COM port.

5. Click the **OK** command button to accept.
This operation procedure guides you through a typical process on how to set a M.O.L.E.® Thermal Profiler up for performing a data run. For additional detail, consult the Help System in the software.

The M.O.L.E.® Thermal Profiler depends on the MAP (Machine-Assembly-Process) software to control how it collects and interprets data. Several kinds of data runs may need to be performed to achieve desired information, or the same data run may be performed repeatedly over time to monitor one process. Either way, each data run must be set up at least once.

The MAP software includes wizards that help you get started quickly, even if you are a beginner or infrequent user.
STEP 1: SETUP INSTRUMENT

1. Open the M.O.L.E.® MAP software.
2. Connect the M.O.L.E.® Thermal Profiler to the computer.
3. Make sure the M.O.L.E.® Internal Power Pack battery is fully charged. When a M.O.L.E.® Thermal Profiler is selected, the software status bar displays the current battery voltage.
4. Set an Environment. Either open an existing Environment Folder or create a new one.
When navigating through the wizard, the step list on the left of the dialog box uses a color key to inform the user of the progression through the wizard.

- Yellow: Current
- Green: Completed
- Blue: Remaining

5. On the **M.O.L.E.® menu**, select **Setup Instrument** and the workflow wizard appears.

6. Set the **Instrument Name**.
For settings such as **Start Parameters** and **Stop Parameters**, select the **More>>** command button.

7. Select the **Sensor Platform** button.
8. Select the desired sensors then the **OK** command button to proceed.
9. Confirm the settings and then, select the **Next** command button to send the data listed in the dialog box to the instrument.
10. Confirm the assembly information such as the test **Product Description, size, sensor locations** and a **image**.
11. Click the **Next** command button.
12. Verify the instrument status. This dialog box displays the health of the M.O.L.E.® Profiler such as battery charge, internal temperature, thermocouple temperatures.

   If everything is OK, the dialog box displays a GREEN sign. If there are any items that may prevent the user from collecting good data, they are highlighted and a RED sign is displayed.

13. Select the Finish command button to complete the Setup Instrument wizard.
Never permit the M.O.L.E.® Thermal Profiler to exceed the absolute maximum warranted internal temperature, as permanent damage may result. The warranty will not cover damage caused by exceeding the maximum specified internal temperature.

**1. Oven Balancing:** Make a product-level ambient profile test first; with one thermocouple (T/C) situated to monitor the top, middle and bottom racks oven air at pan or tray height.

This time/temperature profile provides the data to make oven adjustments to equalize oven air temperatures throughout the oven. This is called oven balancing.
2. **Oven Balancing (verification):** Once initial oven balancing has been performed and after oven adjustments have been made, this process can be verified by repeating the process with the sensors in the same locations.

3. **Product Testing:** Next, from your balanced oven, insert a thermocouple into the center of a dough piece (measure and bend the T/C and insert up to the bend, then pinch the dough around the Teflon-coated wire).

The data from this profile run helps determine proper temperature settings and bake times per variety for quality, consistency, new variety and ingredient testing, and increased capacity and yields to enhance your bottom line profits.
4. Connect the M.O.L.E.® Profiler to the sensors.
5. Press the M.O.L.E.® Profiler “ON” button.
6. Place the M.O.L.E.® Profiler in the appropriate Thermal Barrier and press the “Record” button.
7. Close the Thermal Barrier making sure the sensor wires do not get pinched and the latch is secure.
8. Pass the thermally protected M.O.L.E.® Profiler, and test product through the process.

When retrieving the M.O.L.E.® Profiler and test product use caution as it may be warm.
9. As the M.O.L.E.® and test product emerge from the process, retrieve the sensors from the test product and lay the Thermal Barrier on a table or flat surface.

10. Open the Thermal Barrier and if the Record button is still flashing this means the M.O.L.E.® Profiler is still logging and it should be stopped.

11. Remove the M.O.L.E.® Profiler from the Thermal Barrier and wait a few minutes for the M.O.L.E.® Profiler to cool. Handle it carefully, as the case may still be warm.

12. Disconnect M.O.L.E.® Profiler from the sensors and place it near the PC that has the MAP installed.

![Warning]

If sensors are removed before the M.O.L.E.® Profiler has stopped collecting data, it may cause the data to become distorted.
STEP 3: DOWNLOAD DATA

1. Connect the M.O.L.E.® Thermal Profiler to a computer and the AutoPlay panel appears in the lower right corner of the desktop.

2. Select the Read Instrument command and the workflow wizard appears.
3. Select the desired data run from the M.O.L.E.® memory list and then click the **Finish** command button to complete the wizard and read the data run from the M.O.L.E.® Profiler.

If a data run (*.XMG) is saved in a different Environment Folder other than the currently selected, the software automatically activates the new Environment Folder. This process does not delete any data run files in the previously set Environment Folder and can be quickly accessed using the Recent Environment Folders on the File menu or Welcome Worksheet.
4. When the data run has been downloaded, the software will prompt the user to name and save the data run file (*.XMG).

To prevent data loss, it is recommended that data run files (*.XMG) are not saved in the M.O.L.E. MAP Sample Environments. Your Environment Folders should be in locations such as My Docs (Windows® XP) Libraries>Documents (Windows® 7/8).

5. The information is automatically saved in the data run file (*.XMG) and the experiment data can now be analyzed with the software tools.
The VaporWATCH® Relative Humidity Sensor allows you to perfect your proofing process and improve your production yields. Accurately track humidity and temperature levels and view easy to read profile graphs generated via ECD’s BakeWATCH® Profiling System.

MiniM.O.L.E.® rH provides one Relative Humidity and one Temperature channel just right for your Proofers monitoring and data logging. The large LCD display makes the MiniM.O.L.E.® easy to read for monitoring current status.