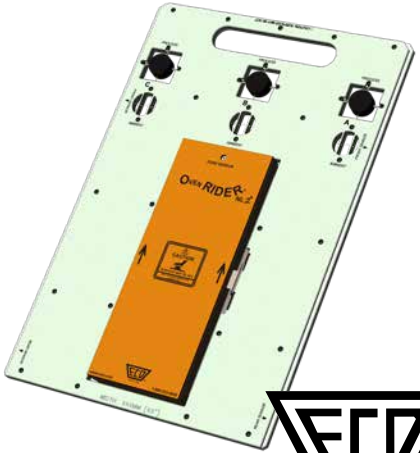
OvenRIDER® NL 2+

QUICK REFERENCE GUIDE



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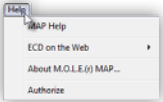
This Quick Reference Guide is designed to help the user to familiarize themselves with the equipment, perform basic hardware setup/communications and operation. For detailed information on both Hardware & Software components, please refer to the Help system accessible in the M.O.L.E.® MAP Software.

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***.

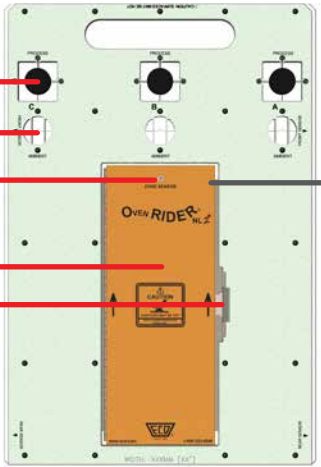


Process and Ambient Sensors:
A combination of 3 thermal and 3 position sensors that measure oven performance.

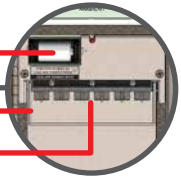
Zone Sensor Light:
This light illuminates when the detects zone boundary magnets.

Thermal Barrier:
This is the protective Thermal Barrier for the M.O.L.E.® Profiler.

Barrier Locking Latch:
Secures the cover of the barrier to prevent it from opening.



Zone Sensor Battery:
This is the power source for the zone sensor light.

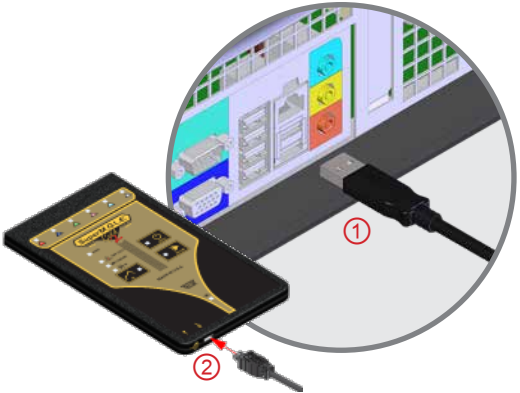


Connector Bridge:
This is where the M.O.L.E.® Profiler plugs into the RIDER.

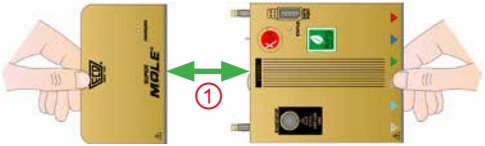
Extractor Handle:
This disconnects the M.O.L.E.® Profiler from the connector bridge.

1. Insert the USB cable male series “A“ plug into a computer USB Port.
2. Insert the USB cable male series “B” mini plug 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.

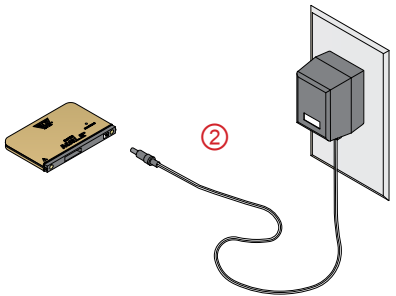


1. Remove the Power Pack.
2. Plug the transformer end of the charger into a (120 or 230VAC) wall outlet and the connector end into the Power Pack.

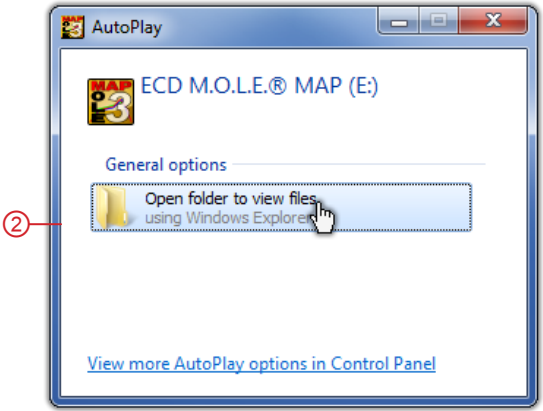


A completely discharged Power Pack takes about 14 hours to be fully charged.

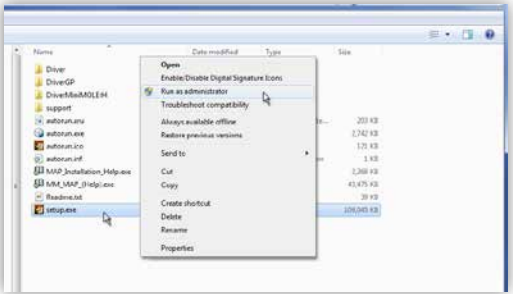
3. Once charged, reconnect to the M.O.L.E.® Profiler. The activity light flashes once indicating the M.O.L.E.® Profiler is ready to collect data.



1. Insert the Flash Drive in a USB Port and the AutoPlay menu appears.
2. Select ***Open folder to view files*** button on the AutoPlay menu to launch Windows® Explorer. Closely follow the instructions for your operating system. For detailed information view the ***Installation Help*** file on the Flash Drive.

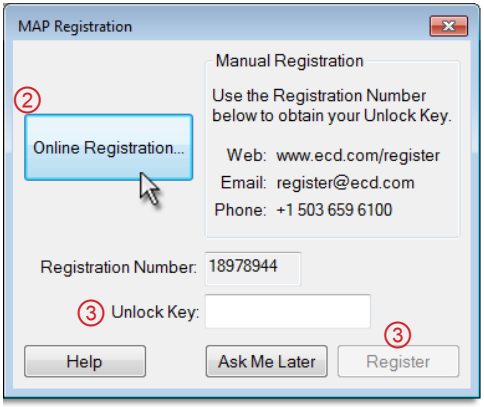


The user must have administrator permissions for the computer to install and register the software. To install as administrator, locate the ***setup.exe*** on the installation drive. Right-click the file to display the shortcut menu and select ***Run as administrator***.



An ***Unlock Key*** can be obtained via an online registration form or using the contact information supplied on the dialog box, contact ECD.

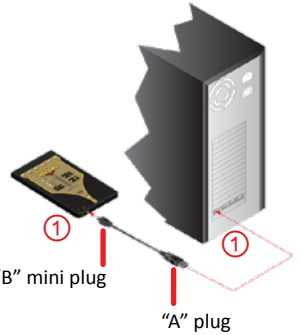
1. On the ***Help*** menu, click ***Register*** and the dialog box appears.
2. Select ***Online Registration*** and enter the required information on the M.O.L.E.® MAP Software Registration form.
3. Enter the 16-digit Unlock Key and then the ***Register*** command button to complete the software Registration.

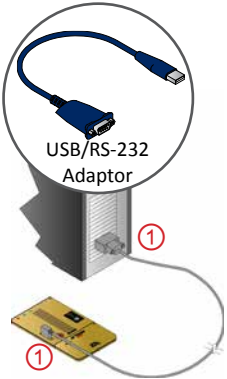


1. Plug the computer interface cable into a computer COM Port and the other end into the M.O.L.E.® Profiler Data Port.

> When using a SuperM.O.L.E. Gold 2, the AutoPlay panel appears in the lower right corner of the desktop. This panel displays the four most common MAP commands.

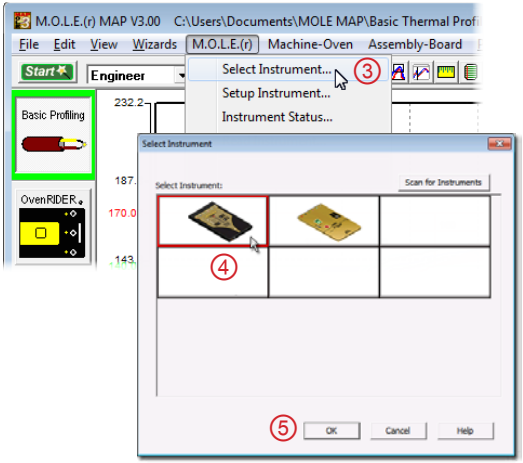
2. On the M.O.L.E.® menu, click the ***Select Instrument*** command.





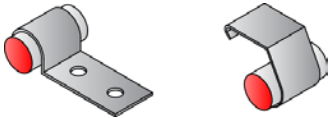
3. Select the desired instrument from the dialog box. If there are none displayed, click the ***Scan for Instruments*** command button to detect all available instruments.

4. Click the ***OK*** command button to accept.



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.

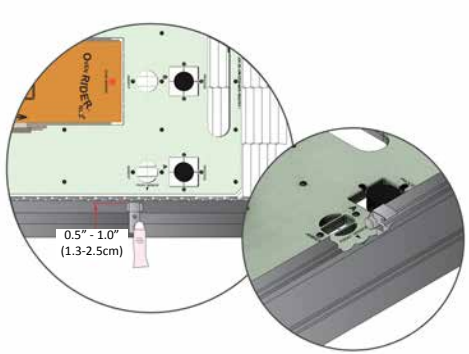
1. The zone boundary magnet kit is supplied with two different types of magnet clips designed to mount the magnets to the reflow oven rail. Reflow ovens may have different conveyor rails than the one used in these instructions, so determine which type will best mount the magnets in your oven. Modifications to the clips may be necessary to properly mount magnets.



2. Open the top of the oven and determine where to place the start of the first zone magnet.
3. Adjust the conveyor to match the RIDER width. (The width of the pallet is engraved on the back edge of the pallet top.)
4. Slide the RIDER on the conveyor until the front sensor reaches the magnet.
5. Center a magnet and clip on the first zone boundary within 0.5” to 1.0” (1.3-2.5cm) from the edge of the pallet and slide it past the magnet.

- When the RIDER front and rear zone sensors pass the magnet, the Zone sensor light stay illuminated while each sensor has moved past it for .75” +/- .25” (1.9cm +/- .6cm).
- When the RIDER passes the magnet, the Zone sensor light must not double flash. If this occurs the magnet is placed to close to the pallet sensor.

6. When the magnet is properly aligned mount the “P” clip securely by tapping and drilling for a #6 or #8 screw. If the “OMNI FLO” clip is being used, clip it to the rail and slide it into the desired position. Using the Manual Zone feature in the software, you can make an oven model by measuring from the magnet to the center between zones for all the other zones.



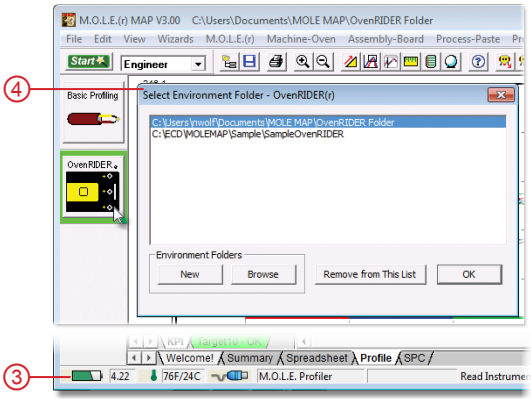
This operation procedure guides you through a typical process on how to set a M.O.L.E.® Thermal Profiler up for performing a OvenRIDER® NL 2+ data run. For additional detail, consult the Help System in the software.

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.

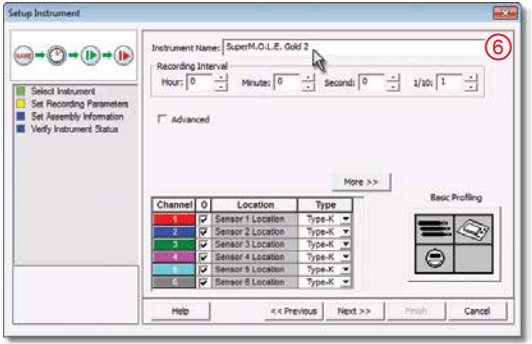
STEP 1: SETUP INSTRUMENT

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.® 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 OvenRIDER® NL 2+ 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.

- Current
- Completed
- Remaining



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

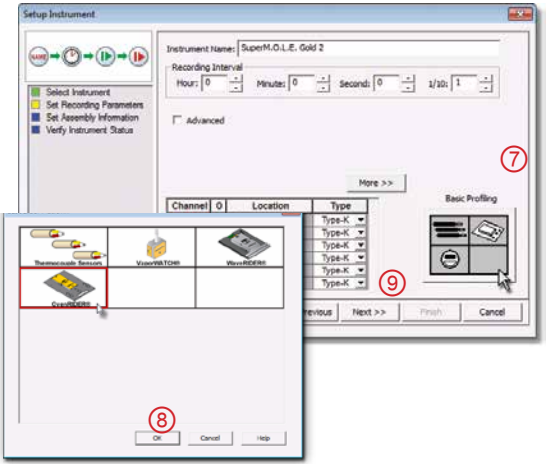
6. Set the ***Instrument Name***.

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

7. Select the ***Sensor Platform*** button.

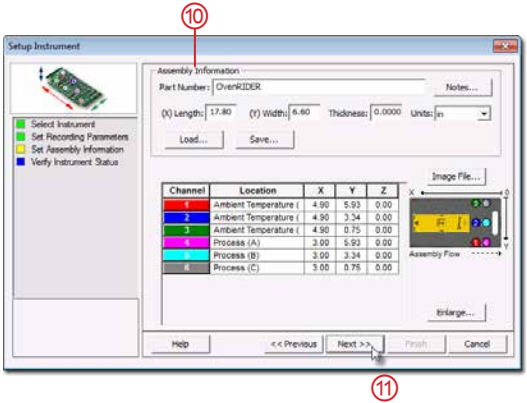
8. Select the ***OvenRIDER® NL 2+*** then the ***OK*** command button to proceed.

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.

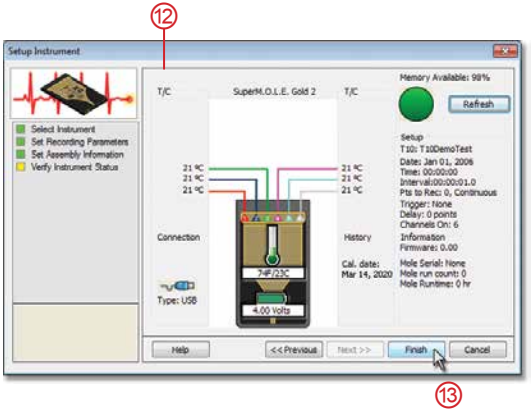
11. Click the ***Next*** command button.



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.

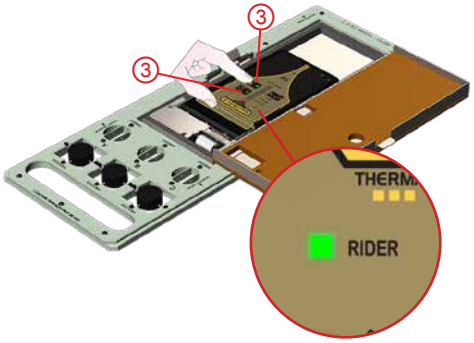
13. Select the ***Finish*** command button to complete the Setup Instrument wizard.



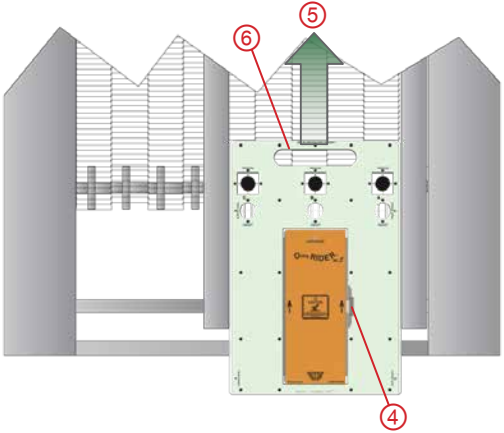
STEP 2: DATA COLLECTION

Never permit the M.O.L.E.® Thermal Profiler to exceed the absolute maximum warranteed internal temperature, as permanent damage may result. The warranty will not cover damage caused by exceeding the maximum specified internal temperature.

1. Set the width of the conveyor to match the RIDER.
2. Set the oven as you normally would for a common product (i.e. zone temperatures, conveyor speed).
3. Connect the M.O.L.E. Profiler to the connector bridge in the Thermal Barrier. Turn it "***ON***" and press the "***RECORD***" button.



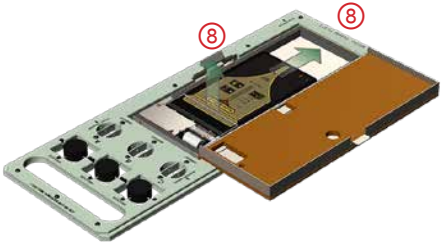
4. Close the Thermal Barrier cover and latch securely.
5. Place the RIDER on the reflow oven conveyor. Make sure the RIDER is fed into the machine in the proper direction. There are two arrows on the RIDER barrier that indicates the proper direction.
6. When the RIDER has traveled through the oven, use protective gloves to retrieve it from the conveyor. The best way to do so is to grasp it by the front carrying handle.



It is important to open the Thermal Barrier to prevent the internal temperature of the M.O.L.E.® Profiler to rise above operating temperature specification.

7. 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.

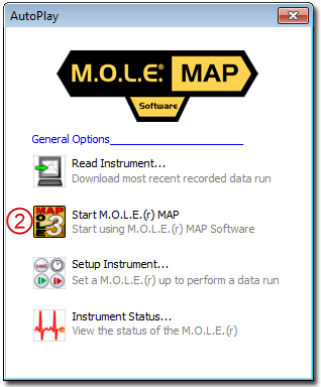
8. Remove the M.O.L.E.® Profiler from the Thermal Barrier by pulling the extractor handle up. Wait a few minutes for the M.O.L.E.® Profiler to cool. Handle it carefully, as the case may still be warm.



If the M.O.L.E.® Profiler is removed before it has stopped collecting data, it may cause the data to become distorted.

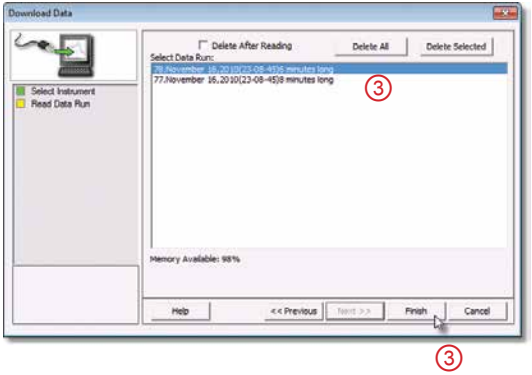
STEP 3: DOWNLOAD DATA

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.

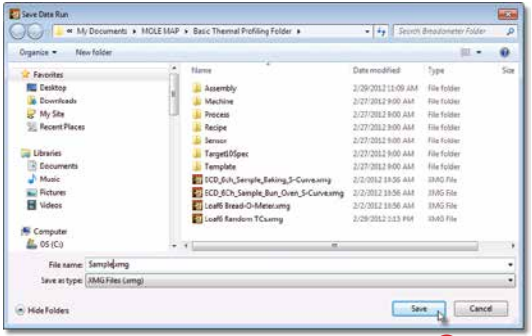
If a data run (*.XMG) is saved in a different Environment Folder other than the currently selected, the software automatically activates the new Environment Folder. This process does not delete any data run files in the previously set Environment Folder and can be quickly accessed using the Recent Environment 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*** (Winows® 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.



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