OM-DLTH DATA LOGGER INSTRUCTIONS

The OMEGA OM-DLTH Data Logger is a self-contained precision instrument for recording the temperature, humidity and dew point of the surrounding environment. The OM-DLTH can store up to 8,000 temperature, humidity and dew point measurements for each recording. The recordings can be read using the supplied PC interface or the optional OM-DP3 Data Plotter.

The Windows™ compatible software allows the user to set the OM-DLTH for a recording session, read the recorded data in text or graphical format and to store the recorded data for future reference or analysis. Applications include monitoring of environmental areas, coolers, food or storage areas, laboratories, greenhouses, museums, etc. Refer to the following instructions for explanations of how to record and how to retrieve temperature / humidity recordings.

SOFTWARE INSTALLATION

The Data Logger to PC program is supplied on two 3-½″ floppy disks. To install the software follow the instructions below:

1. Insert disk 1 of 2 into Drive A.
2. If you are using Windows™95, click on **START**, then click on **RUN.**
3. Type **A:SETUP** and press **Enter**.
4. If you are using Windows™ 3.1, then click on **Program Manager**.
5. Select **FILE**, and select **RUN**.
6. Type **A:SETUP** and press **Enter**.

If you are not familiar with the above commands refer to the instructions that are supplied with your version of Windows™.

SETTING THE DATA LOGGER

The OM-DLTH recording interval is the time between each temperature / humidity measurement that is saved in the logger's memory. This interval is set from the PC interface program (supplied) or from the optional OM-DP3 Data Plotter. This interval can be set from 5 seconds to 5 hours. A user message of up to 20 characters can also be stored in the OM-DLTH. This message can be used to identify a customer's location or identify a particular logger for tracking purposes. Use the example below to set a OM-DLTH logger.

For instructions on installing the software refer to **Software Installation**.

1. Plug the PC interface into the printer port of the computer being used to set the OM-DLTH. Plug the OM-DLTH being set to the cable from the PC interface.

2. Start the Data Logger program. If you are using Windows™95, click on **Start**, click on **Programs**, click on **Omegalog**, click on **OMEGALOG.**

3. If you are using Windows™3.1, double-click on the window labeled **Omega-log**, then double-click on the **OMEGALOG** icon.

4. The program will open with a blank window showing no text or graph. On the toolbar located along the top of the screen, click on the **Setting Data Logger before recording** button. This will open a secondary window **Setting Data Logger**.
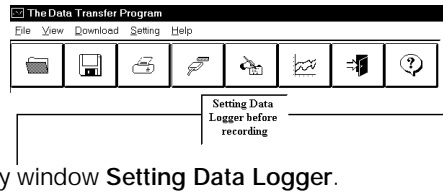
5. If a user message is desired, click in the **User Information** field and add the desired message. Note that the last message will be displayed and will remain until it is erased or changed by the user.
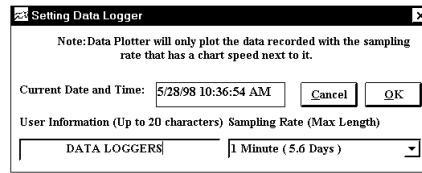
6. To select the recording interval click on the down arrow in the **Sampling Rate** box. This will open a drop-down menu with the recording interval selections. The time shown in parenthesis is the maximum recording length. Note that the maximum recording times are indicated in parentheses next to the record-ing interval.
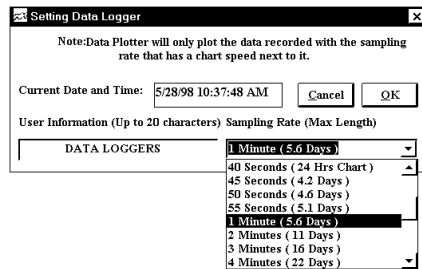
7. The recording intervals that correspond to charts used by the OM-DP3 Data Plotter show the appropriate chart selection instead of a maximum recording time.

8. Click on the desired recording interval. You may need to use the up or down arrows on the drop down menu to see more of the available recording inter-vals.

9. The bottom tool bar will show the current time that is set in the PC being used to set the OM-DLTH. If this time is not correct, or if for some reason you wish to change the time set in the OM-DLTH, use the down arrows at each box (Year, Month, Day, Hour, Minute) to open a drop down menu that will allow the displayed number to be changed.

2
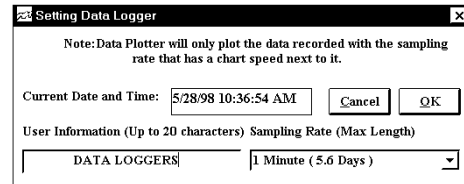
10. When all of the settings for the OM-DLTH are to your satisfaction, click on **OK** to store the setting in the OM-DLTH and to close the window.

11. The OM-DLTH is now set and ready to begin a new recording. Disconnect the OM-DLTH from the PC interface.

12. You can now connect a different OM-DLTH or exit the program. To exit the program click on the **Exit** button on the tool bar.

TO START A RECORDING

Prior to starting a new recording be sure that the OM-DLTH is set for the required recording interval. You may also wish to add a descriptive message to identify the location or other important user information. Refer to **Setting the Data Logger** for specific instructions on selecting recording intervals and storing user messages.

To begin a new recording slide the access door closed. The LED indicator will begin to flash for 10 seconds. During this period the recording can be canceled without losing the data previously recorded. When the LED indicator stops flashing, a new recording has begun and any previous


START Recording / Slide Door DOWN
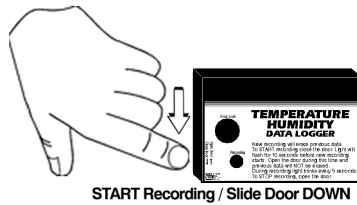
data has been erased. The recording function can be "locked" on by passing a Ty-Wrap™ or similar restriction through the logger-mounting opening. This can be used to prevent accidental or intentional disruptions of a recording.

The LED will flash every 5 seconds to indicate operation. A bright flash of the LED is used to indicate the temperature and humidity has been sampled and recorded. A dim flash is used to indicate the OM-DLTH is operating properly and the temperature and humidity have not been sampled or recorded. The LED indicator will continue to flash until, the user stops the recording, or when the memory has reached its maximum capacity of 8,000 samples.

NOTE: If the battery is exhausted during a recording, the OM-DLTH will automatically terminate the recording and save any temperature and humidity data recorded up to that point. The LED will stop flashing and the OM-DLTH will not allow a new recording to be started until the battery has been replaced. Recorded data can be retrieved regardless of the condition of the battery.

TO STOP A RECORDING

Slide the access door open. If locked, first remove restriction device. The LED indicator will stop flashing. The recorded data can now be retrieved using the supplied Windows™ compatible software and PC interface or the recording can be plotted on a circular chart using the optional OM-DP3 Data Plotter.

STOP Recording / Slide Door UP
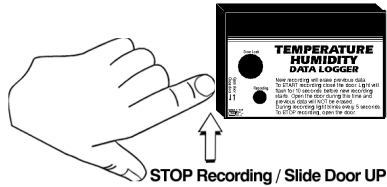
NOTE: Do not close the door until a new recording is desired! It is important to leave the door open until you want to start a new recording. Starting a new recording now will erase any previous recording. To prevent accidental ending of recordings the access door of the OM-DLTH can be "locked" open by passing a Ty-Wrap™ or similar restriction through the lock opening. The recording will remain in the OM-DLTH until a new recording is started. The recordings may be retrieved as many times as required or the battery can be removed with no effect on the stored data.

RETRIEVING TEMPERATURE RECORDINGS

1. Plug the PC interface into the printer port of the computer being used to set the OM-DLTH. Plug the OM-DLTH being set to the cable from the PC interface.

2. Start the Data Logger program. If you are using Windows™ 95, click on **Start**, click on **Programs**, click on **Omegalog**, click on **OMEGALOG.**

3. If you are using Windows™ 3.1, double-click on the window labeled **Omegalog**, then double-click on the **OMEGALOG** icon.

4. The program will open with a blank window showing no text or graph. On the toolbar located along the top of the screen click on the **Download data from Data Logger** button. A **Data Transfer** window will open. A message will be displayed to connect the OM-DLTH to the printer port. Connect the OM-DLTH now if it is not already connected.
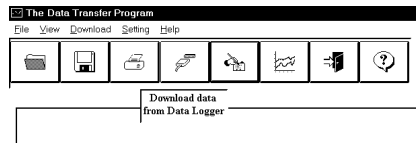
5. To the right of the connect message a selection box will allow you to select the temperature information in Celsius or Fahrenheit. Click on the desired scale, °F or °C.

4
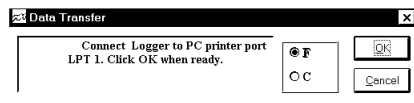
6. Click on **OK**. The program will begin to retrieve the recording. A status bar along the top of the window will show the progress of information being retrieved. When the information has been retrieved, the program will automatically display the recording as a text listing.

7. When the information has been retrieved, the program will automatically display the recording as a text listing.

Example of Text Listing Screen:

```
C:\NEWTEST.DAT                                                                    _ ⊡ ☒
File  View  Download  Setting  Help

  [folder]  [save]  [print]  [  ]  [  ]  [chart]  [exit]  [?]        ┌Display────────────┐
                                                                      │ ⦿ Text   ○ Graphics │
                                                                      └────────────────────┘

New Test                    12/10/97   8:34:58 AM                                        ▲
Model: DLTH Sampling Rate(Seconds):   60   Starting time: 12/04/1997  13:23:00
Temperature(F) Humidity(%) Dew_Point(F)       Time(M/D/Y  H:M:S)
      84.89         34.30         54       12/04/1997     13:23:00
      84.99         28.37         49       12/04/1997     13:24:00
      84.30         26.42         46       12/04/1997     13:25:00
      83.52         25.76         45       12/04/1997     13:26:00
      82.94         25.62         44       12/04/1997     13:27:00
      82.25         25.52         43       12/04/1997     13:28:00
      81.67         25.74         43       12/04/1997     13:29:00
      81.28         26.01         43       12/04/1997     13:30:00
      80.79         26.27         43       12/04/1997     13:31:00
      80.40         26.42         43       12/04/1997     13:32:00
      80.11         26.57         43       12/04/1997     13:33:00
      79.71         26.87         43       12/04/1997     13:34:00
      79.52         27.07         43       12/04/1997     13:35:00
      79.42         27.34         43       12/04/1997     13:36:00
      79.32         27.74         43       12/04/1997     13:37:00
      79.23         27.85         43       12/04/1997     13:38:00
      79.23         27.85         43       12/04/1997     13:39:00
      79.23         27.85         43       12/04/1997     13:40:00
      79.32         27.70         43       12/04/1997     13:41:00
      79.32         27.70         43       12/04/1997     13:42:00
      79.32         27.70         43       12/04/1997     13:43:00
      79.32         27.62         43       12/04/1997     13:44:00
      79.23         27.61         43       12/04/1997     13:45:00
      79.13         27.65         43       12/04/1997     13:46:00
      79.03         27.69         43       12/04/1997     13:47:00
      78.93         28.24         43       12/04/1997     13:48:00
      79.13         28.13         43       12/04/1997     13:49:00
      79.32         27.86         43       12/04/1997     13:50:00
      79.32         27.50         43       12/04/1997     13:51:00
      79.42         27.30         43       12/04/1997     13:52:00
      79.42         27.22         43       12/04/1997     13:53:00
      79.32         27.14         43       12/04/1997     13:54:00
      79.23         27.14         43       12/04/1997     13:55:00                        ▼

 Start  W Microsoft Word - D...  PrtScr 2.0b<untitled>  Paint Shop Pro     C:\          9:09 AM
```

VIEWING A RECORDING AS A GRAPH

1. To view a graph of the recording click on the **Full Graph** button. The program will display the entire recording as a plotted graph with the temperature, humidity and dew point on the vertical scale and the time on the horizontal scale. For clarity each parameter is a different color. Note the legend at the top of the screen.
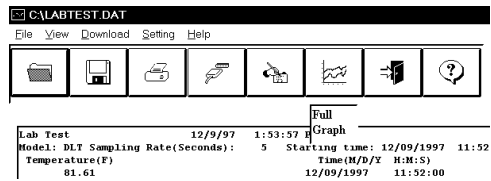

2. To zoom to a particular part of the graph place the mouse cursor in a corner of an imaginary box that will enclose the area of interest. Press and hold the left mouse button and move the cursor in a diagonal direction from the original position of the cursor. A dashed line forming a box will be displayed.
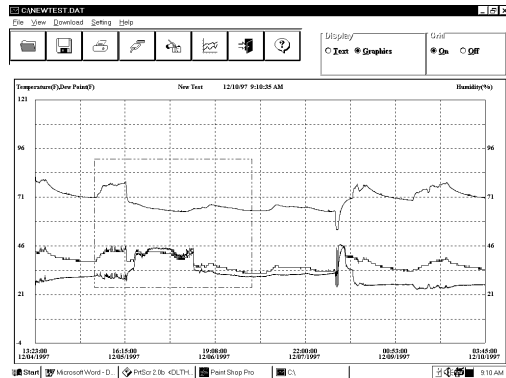

3. Move the cursor until the box encloses the area of interest and release the left mouse button.

4. The box will now be stationary on the screen. Move the mouse cursor so that it is inside the box and click the left mouse button.

5. The enclosed area of the box will now be zoomed so that it fills the entire window. This may be repeated if additional magnification of an area of the graph is desired.

6. To return to the original graph click on the **Full Graph** button.
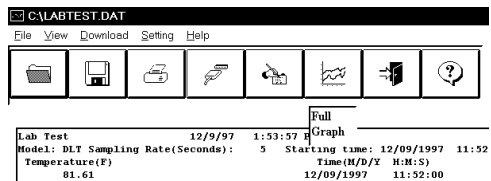
7. The graph on the screen may be printed at any time by clicking on the **Print** button. Note that the printout will be what is displayed on the screen when the button is clicked.
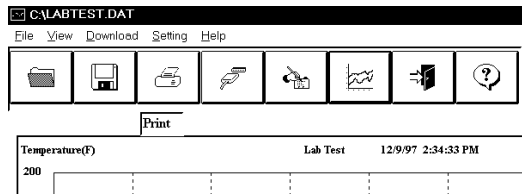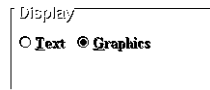
8. A window will open in the middle of the screen. You can select temperature, humidity or dew point to print by selecting each box. When you have selected which items to print click **OK**, or click **Cancel** of you change your mind.
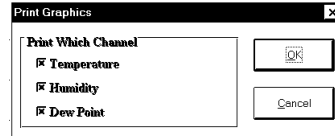
VIEW A RECORDING AS TEXT

1. When a recording is first retrieved or when a saved recording is opened, the default format is a text table of the recording.

2. To view a recording as text when a graph is on the screen click the **Text** button located in the display box.

3. Use the Windows™ scroll bar on the right hand side of the screen to scroll through the text information.

4. To print the text information as text data click on the Print Button. A window will open in the middle of the screen. In the lower left of the window will be a drop-down menu which will allow you to select the number of degrees the temperature has to change before the new value is printed or the percent of humidity that has to change before a new value is printed. This feature will prevent needless printing of the temperature and humidity when no change has occurred. If you wish to print all the recorded information, leave this value at zero. Typically only one channel will be used as a filter. It is possible, however, to filter
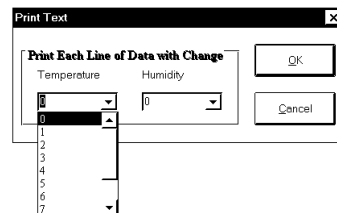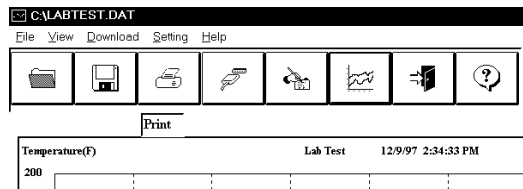
both the temperature and humidity channels independently of each other to provide maximum flexibility for this filter function.

5. When you have selected the amount of temperature or humidity change to print (if any), click on the **OK** button to start printing.
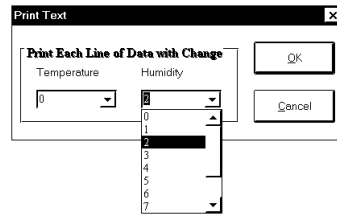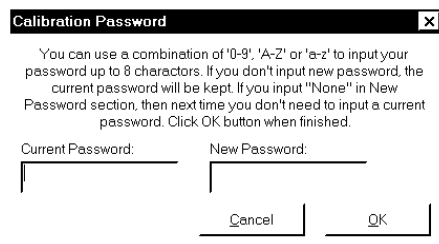
DATA LOGGER CALIBRATION

You can calibrate the OM-DLTH data logger to make its reading match an external reference or standard. Set the OM-DLTH sampling rate long enough to allow the logger to stabilize at the reference temperature and humidity and make a recording along with an external reference in a controlled environment such as a temperature / humidity chamber.

The calibration routine will use the second recording sample to make the logger reading match with the external reference. Click Tools on the menu and click Calibrate Logger. A calibration password window will open. Type your password in the Current Password section. If you want to have a new password next time, you can type a new password in the New Password section. Click the OK button when finished. If this is the first time you are calibrating the OM-DLTH, no password is needed. You can click the OK button or press the Enter key to continue. If you have typed a password before and you don't want password protection for the calibration function, you can input None as the new password and this will clear the password protection.

After you type the correct current password and click OK, a calibration window will open. You can click the plus or minus button to make the data logger reading match with the reference reading that you recorded at the same time and same place with the OM-DLTH. Click the OK button and the software will make a new data retrieval based on your new calibration setting. The new calibration setting will be saved in the OM-DLTH and apply to all future recordings.
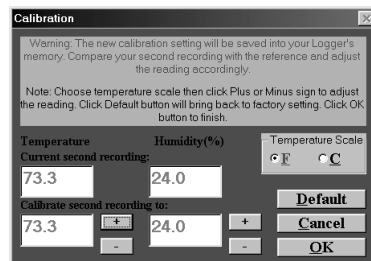
BATTERY REPLACEMENT

The OM-DLTH Data Logger uses a 9-volt Alkaline battery (not supplied) which will have an average life of 1 year. The actual life of the battery will depend on a variety of factors such as the temperature the battery is used in, the sampling rate of the logger, and how often the OM-DLTH is used. Extreme temperatures will result in reduced battery life. If the battery is exhausted during a recording, the OM-DLTH will automatically terminate the recording and save any data recorded up to that point. The LED will stop flashing and the OM-DLTH will not allow a new recording to be started until the battery has been replaced. Recorded data can be retrieved regardless of the condition of the battery. **Use only Alkaline batteries. Substitution of a different battery can result in reduced performance or permanent damage to this instrument.**

To replace the OM-DLTH's battery follow the steps below:

1. Make sure the logger is not set in the recording position. If so, slide the door open. Any information recorded up to this point will not be lost and is automatically saved.
2. Remove the rear battery cover.
3. The battery and battery clip may be extended from the battery compartment to facilitate replacement.
4. Remove the battery from the battery clip and dispose of properly.
5. Line up the connector of the new battery and push onto the pins of the battery clip with a firm motion. **Do NOT reverse the battery connection, even momentarily, as this can result in loss of data or permanent damage to the logger.**
6. Place the battery in the battery compartment of the OM-DLTH.
7. Replace the battery cover.

Once the battery has been replaced it will be necessary to reset the logger's internal clock. Refer to the section **Setting the Data Logger** for instructions on how to do this.

PRODUCT SPECIFICATIONS

Ambient Operating Temperature Range	+10°F to +140°F, (-12°C to 60°C)
Storage Temperature	-40°F to +170°F, (-40°C to 76°C)
Time Accuracy	+/- 100ppm @ 75°F
Relative Humidity Range	0 to 100% non-condensing
Relative Humidity Accuracy	+/- 2%
Relative Humidity Resolution	0.1%
Temperature Accuracy	+/- 2°F (1°C)
Temperature Resolution	0.1° F
Measurement Capacity	8000 Temperature / Humidity / Dew Point Data Samples
Size	2.5″ x 3.6″ x 1.1″
Weight	0.26 lbs.
Power Source	9 Volt Alkaline Battery
Battery Life	1 year (avg.)
Software	WIN 3.1x/95/98 Interface Software with 6 ft. connecting cable and Parallel Port

OM-DP3 DATA PLOTTER

The OM-DP3 is an optional accessory instrument that allows the user to retrieve data and program OM-DP3 data loggers in the field without the need of a computer. Using the OM-DP3 you can plot recorded information from a data logger or change the settings of a data logger prior to making a different data recording. The OM-DP3 can be operated from batteries or from the supplied AC adapter. The OM-DP3 uses a series of structured menus to provide a user friendly intuitive style of operation. The OM-DP3 also serves as a conventional temperature recorder.