QUICK START

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User's Guide

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ENCORE SOFTWARE FOR OMB-NET6000 SERIES

Ethernet-Based Temperature, Voltage and Strain Measurement Modules

Table of Contents

Introduction 3
System Requirements 3
PC 3
Operating system 3
Installing Encore software 3
Installing OMB-NET6000 Series hardware 3
Adding a device to an Encore project 4
Encore user interface 6
Acquiring and logging data 7
Playing back data 7
Performing computations on logged data 8
Exporting data to Microsoft® Excel® 9
Encore Help file 9
Contact Omega Engineering 9

Introduction

Encore is interactive measurement software designed for acquiring, analyzing, logging, and viewing data from Omega Engineering OMB-NET6000 Series data acquisition devices. No programming is required. This document shows you how to perform the following tasks with Encore software:

- Acquire data from an analog input channel
- Log the data
- Play back the logged data
- Analyze the signal
- Export the data

System Requirements

The system requirements are based on acquiring and logging data from all 12 channels of an OMB-NET6220 device that is running at 100 kHz (1.2 MS/s).

PC

- Minimum Requirements:
  - CPU: Intel® Pentium® 4, 3.0 GHz or equivalent
  - RAM: 1 GB
  - Monitor: 1024 by 768 screen resolution
- Recommended Requirements:
  - CPU: Intel Core™ 2 Duo Family
  - RAM: 2+ GB
  - Monitor: 1024 by 768 screen resolution

Operating system

The following Windows operating systems are supported:

- Windows 7 (32-bit or 64-bit)
- Windows Vista (32-bit or 64-bit)
- Windows XP SP2 (32-bit)
- Windows 2000 SP4

Installing Encore software

Complete the following steps to install Encore software:

1. Close all running applications on the host PC.
2. Insert the Encore CD into your CD drive and wait for the installation program to start.
   If the installation program does not start automatically, navigate to the root of the CD and double-click **Install.exe**.
3. Follow the instructions on the installation dialog boxes.

In addition to Encore software, the installation CD includes the Encore Help file, readme, and hardware user's guides for OMB-NET6000 Series device.

Installing OMB-NET6000 Series hardware

Refer to the Quick Start booklet that shipped with your OMB-NET6000 Series device or to the hardware user's guide for information about connecting the hardware to your system.

Adding a device to an Encore project

Encore automatically detects OMB-NET6000 Series hardware connected to your system. You can add any detected devices to an Encore project. You can also add a simulated device to the project.

The procedures in this document use the OMB-NET6220 device and default settings. Complete the following steps to add a device to an Encore project:

1. Launch Encore software from **Start»Programs»Omega»Encore»OMB-NET6000 Encore 1.1**.

   The Encore main window opens and displays a **Welcome** dialog box. When you close the dialog box the **Hardware Configuration** window opens (Figure 1). Use this window to add hardware to an Encore project.

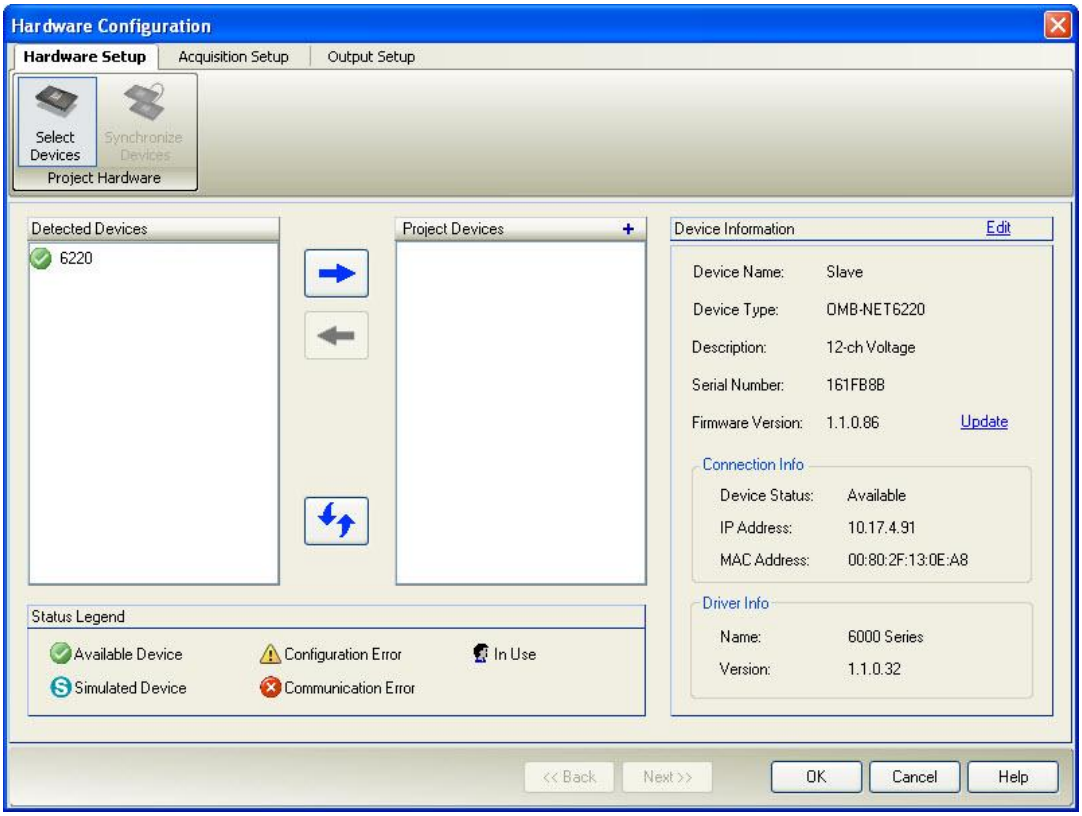


Figure 1. Hardware Configuration window – Hardware Setup tab

2. From the **Detected Devices** pane select the hardware that you want to add to the project and click the blue right-arrow button.

   The selected device appears in the **Project Devices** area, and the **Next** buton is enabled.

Adding a simulated device

If you don't have OMB-NET6000 Series hardware you can add a simulated device to the project and acquire virtual data. Complete the following steps to add a simulated device:

1. Click the **+** button next to **Project Devices** to open an **Add Project Devices** dialog box.
2. Click the **Simulated Device** arrow and select a device from the drop-down list, then click **OK**.

The device appears in the **Project Devices** area.

3. Click **Next**.

The **Acquisition Setup** tab opens and displays options for configuring analog channels (Figure 2).

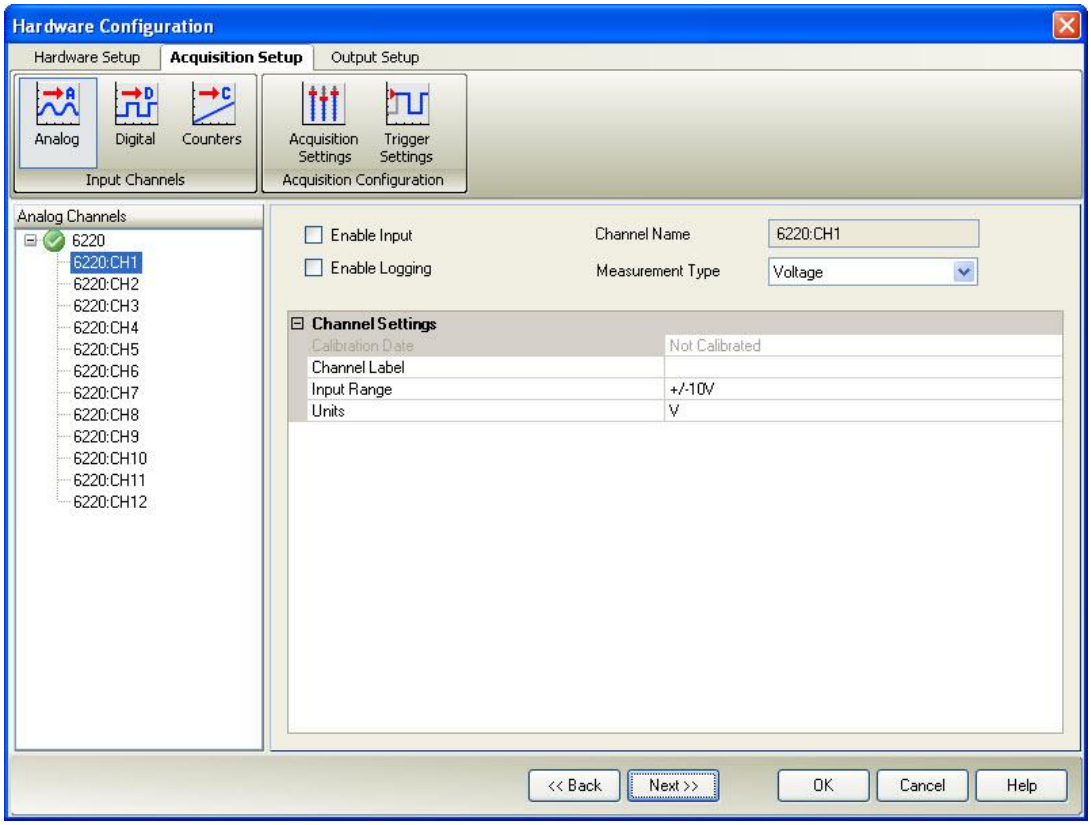


Figure 2. Hardware Configuration window – Acquisition Setup tab

Note: Each additional click of the **Next** button displays options for configuring digital channels, counter channels, acquisition settings, and trigger settings, respectively.

4. Click **6220:CH1** and select the **Enable Input** checkbox and the **Enable Logging** checkbox.
5. Click **OK**.

   The Encore main window opens, as shown in Figure 3.

Encore user interface

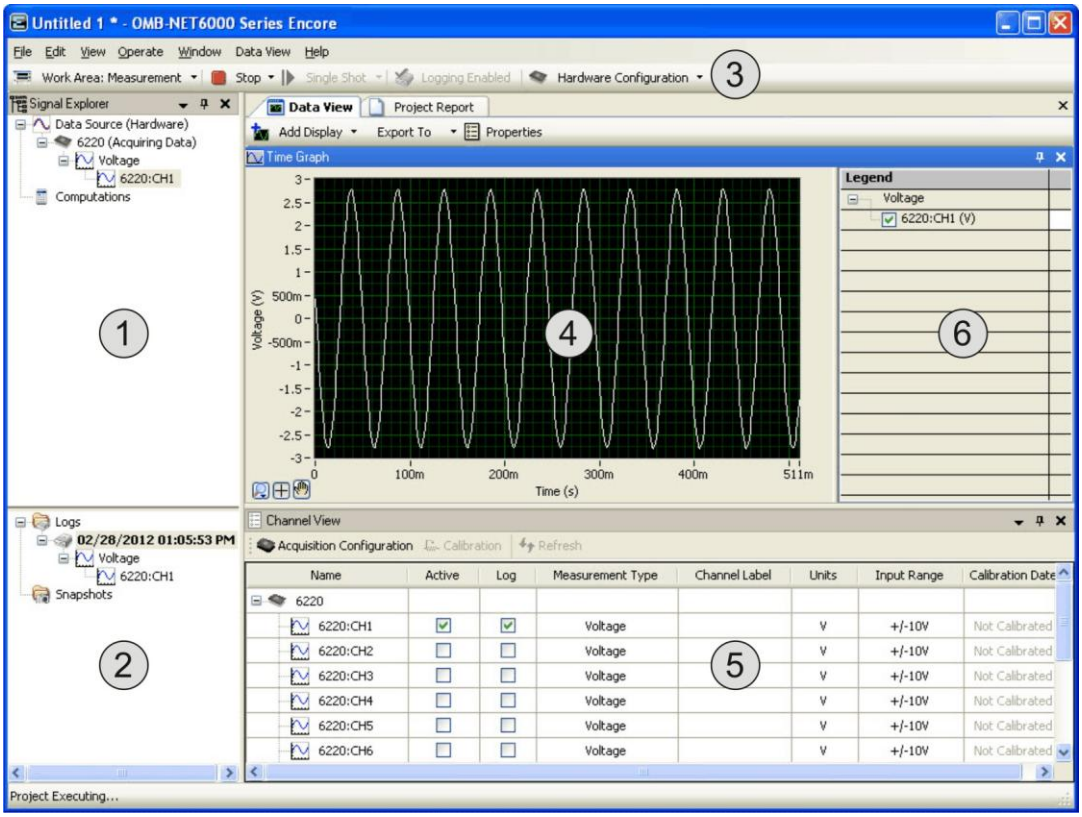


Figure 3. Encore user interface

Refer to the following table for a description of each component.

Encore user interface components

Callout	Description
①	The **Signal Explorer** displays the data sources, computations, snapshots and logs available for your project. You can select and drag signals into the Data View or directly Into Excel.
②	The **Log window** displays a list of the logged data and snapshots in a project. Snapshots allow you to save a record of the current values of any signal in the project. You can use snapshots as a reference signal to compare data within the same project or within another project. The Log window is a part of the Signal Explorer.
③	The **Hardware Configuration** button opens the Hardware Configuration window. This window has three tabs – Hardware Setup, Acquisition Setup, and Output Setup. ▪ Use the Hardware Setup page to add devices to the project and to display device information. ▪ Use the Acquisition Setup page to configure channels and acquisition options. ▪ Use the Output Setup page to configure digital output options.
④	The **Data View** displays the acquired signals. You can drag signals directly from the Signal Explorer or the Log Window to the Data View for display. The Data View can display signals in several formats, including graphs, charts, and various numeric representations. When you drag a signal to the Data View, the signal appears in a new or existing display, depending on whether a display showing that type of data already exists.
⑤	The **Channel View** displays channel information from the device added to the Encore project. Use this area to enable/disable channels, enable/disable logging for each channel, select the measurement type, and specify a channel label. The **Calibration** button opens a Calibration window.
⑥	The **Legend** lists each signal displayed in the graph and shows its corresponding plot color.

Acquiring and logging data

Complete the following steps to acquire and log data from channel 1:

1. From the Signal Explorer, select the signal (**6220:CH1**) or measurement group (**Voltage**) and drag it onto the graph in the **Data View**.
2. Click **Start**. The acquired data displays on the graph in the **Data View**, as shown in Figure 4. Note that the **Start** button changes to **Stop** when a project is running.

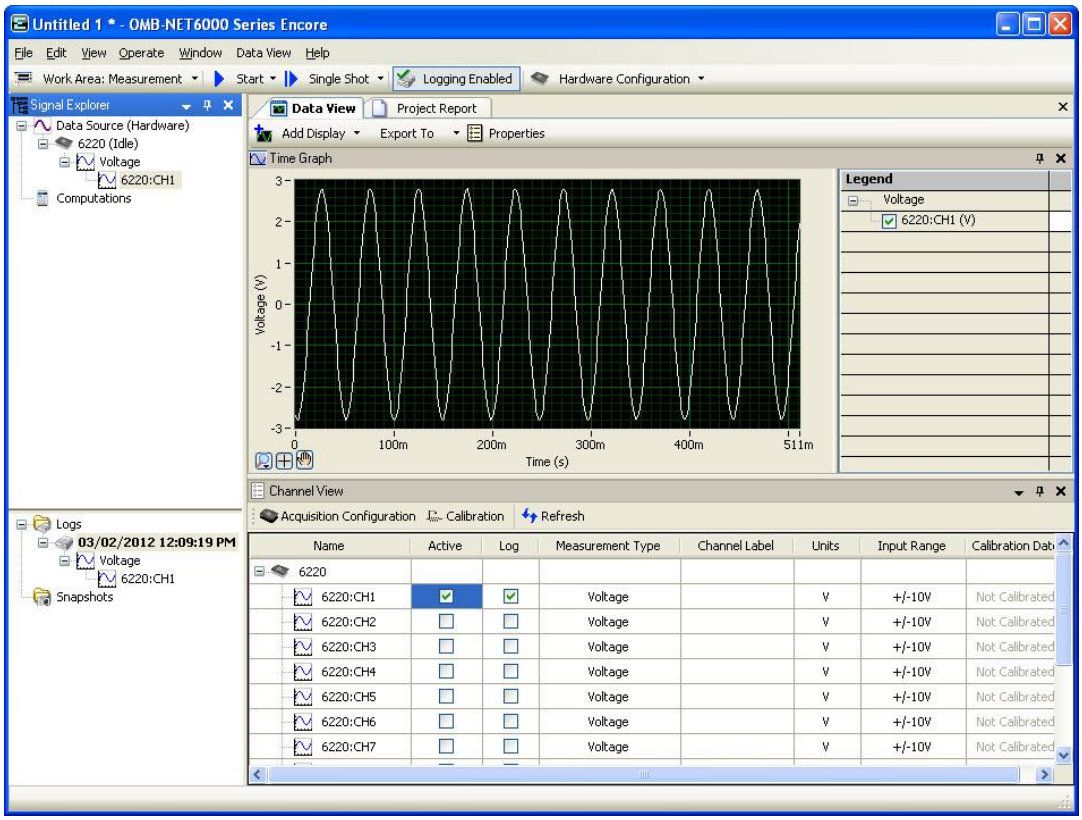


Figure 4. Acquiring and logging data

The **Logs** area updates with a log file named by default with the date and time that the log file was created.

You can drag the measurement group from the Logs area to the **Data View** to view the signals saved in the log file. From the **Data View** you can zoom in and out, or navigate to different portions of the file.

3. Click **Stop** to stop acquiring data.
4. Select **File»Save Project** and enter **Project 1.enproj** as the filename.

Playing back data

Complete the following steps to play back data that you logged to a file:

1. Click **Work Area: Measurement** to display the **Work Area: Playback** window.

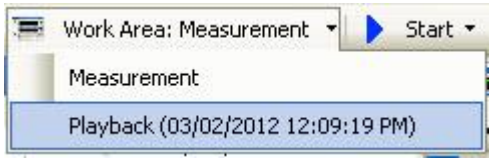


Figure 5. Work Area: Measurement button

2. From the Signal Explorer, drag the Measurement group (**Voltage** in this example) onto the graph in the **Data View**.
3. Click **Play**.

   Data playback begins. The **timeline marker** shows the playback progress. Select **View»Playback Options** to change playback settings, such as the start and stop time or block size.

Performing computations on logged data

You can perform computations on data in either the **Measurement Work Area** or **Playback Work Area**. The following procedure shows you how to compute the power spectrum:

1. Right-click on the channel group in the Signal Explorer and select **Compute»Power Spectrum**.

   A **Computations** folder containing a *Power Spectrum* entry is added to the **Signal Explorer**.
2. Drag **Power Spectrum** from the **Signal Explorer** to the **Data View**.

   A **Frequency Graph** is automatically added to the Data View. The Data View automatically splits to show both the time domain and the frequency domain data simultaneously.

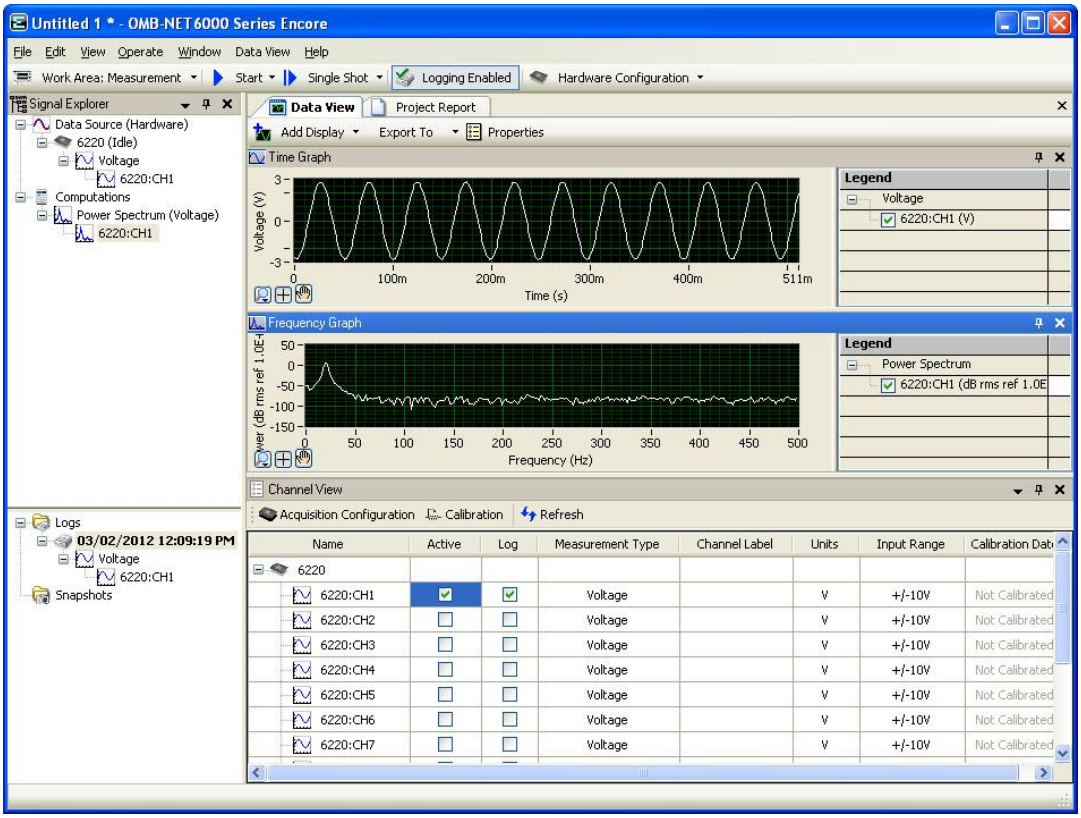


Figure 6. Calculating the Power Spectrum

3. Click **Start** or **Play**, depending on the Work Area.

   The Computations folder updates with the calculated data.

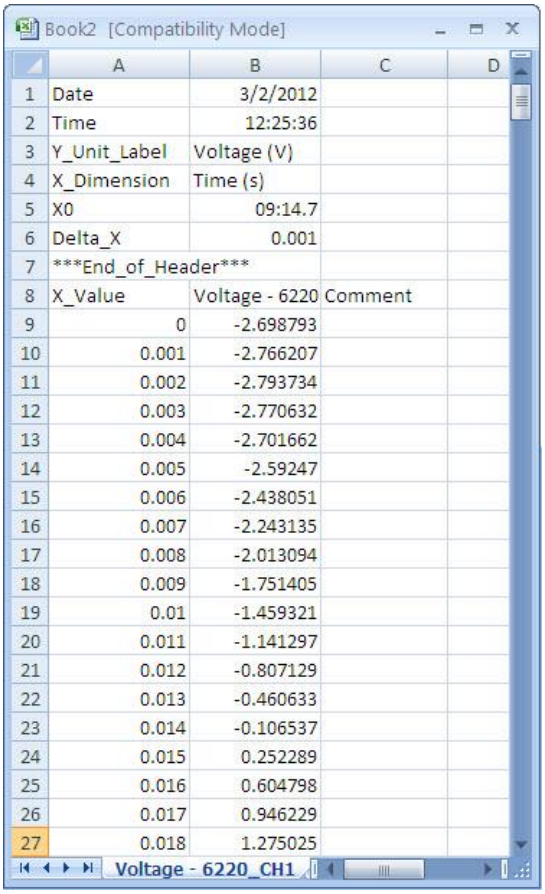
Refer to the Encore Help for a list of the computations you can perform.

Exporting data to Microsoft® Excel®

You can export signal data to Microsoft Excel from the Signal Explorer, the Log window, and the Data View.

- To export data from the Signal Explorer, right-click on the measurement group or signal(s) and select **Export To»Excel**.
- To export data from the Data View, right-click on the display plot and select **Export To» Excel**.
- To export data from the Log window, right-click on the measurement group and select **Export to»Excel**.

Microsoft Excel automatically opens and displays the exported data in a new file.



	A	B	C	D
1	Date	3/2/2012		
2	Time	12:25:36		
3	Y_Unit_Label	Voltage (V)		
4	X_Dimension	Time (s)		
5	X0	09:14.7		
6	Delta_X	0.001		
7	***End_of_Header***			
8	X_Value	Voltage - 6220	Comment	
9	0	-2.698793		
10	0.001	-2.766207		
11	0.002	-2.793734		
12	0.003	-2.770632		
13	0.004	-2.701662		
14	0.005	-2.59247		
15	0.006	-2.438051		
16	0.007	-2.243135		
17	0.008	-2.013094		
18	0.009	-1.751405		
19	0.01	-1.459321		
20	0.011	-1.141297		
21	0.012	-0.807129		
22	0.013	-0.460633		
23	0.014	-0.106537		
24	0.015	0.252289		
25	0.016	0.604798		
26	0.017	0.946229		
27	0.018	1.275025		

Figure 7. Data exported to Excel

Encore Help file

Detailed information about Encore is available from the Encore Help file. This file is installed by default to **Start>>Programs>>Omega>>Encore>>Encore Help**, and is also available from with Encore software.

Contact Omega Engineering

Contact Omega Engineering if you have questions about Encore software.

For questions or technical support, you can contact Omega Engineering via phone or email:

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