

Super LCD Display Commander Software

The **Super L.C.D. Display Commander** software is an evaluation, control, and setup software package for the Super L.C.D module. This software package allows the user to exercise all of the features and set the default mode of the of the Super L.C.D. module.

System Requirements: Microsoft © Win 95/Win98.
Display resolution equal to 800x600 or greater.
Comm Port on port 1, 2, or 3 with 57600 bps capabilities.

Installation: The installation is started by double clicking on the setup icon in the folder that the program was unzipped to.

Connecting Hardware: In order for the application to communicate with the module, the module must be connected to power and the RS232 port must be connected to the PC (See *Figure 1* and *Figure 2*).

Figure 1:

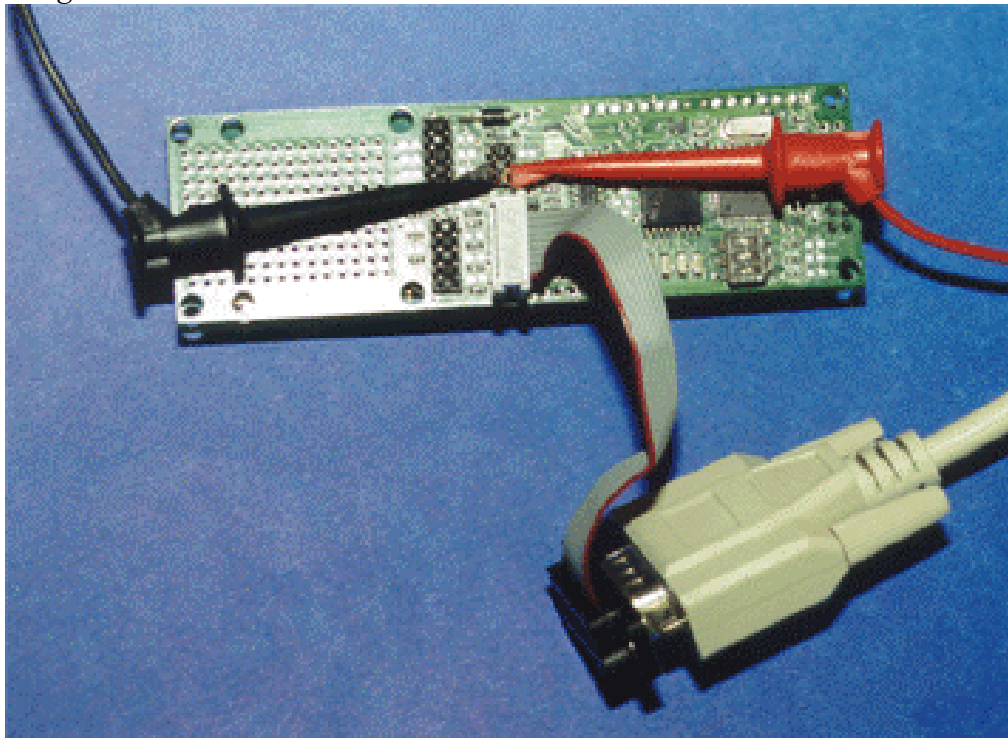
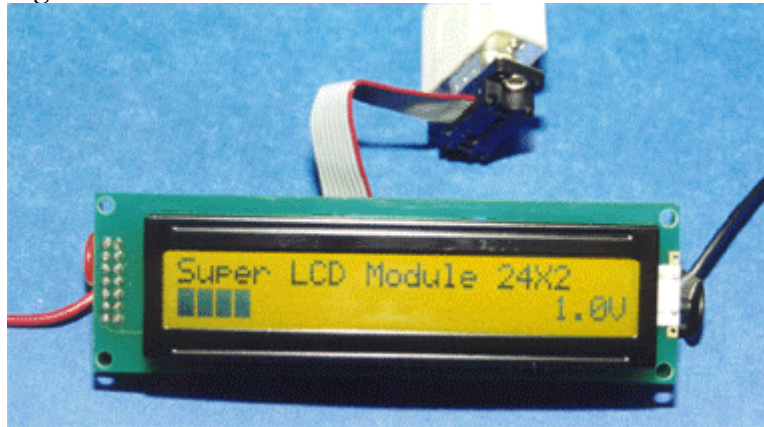
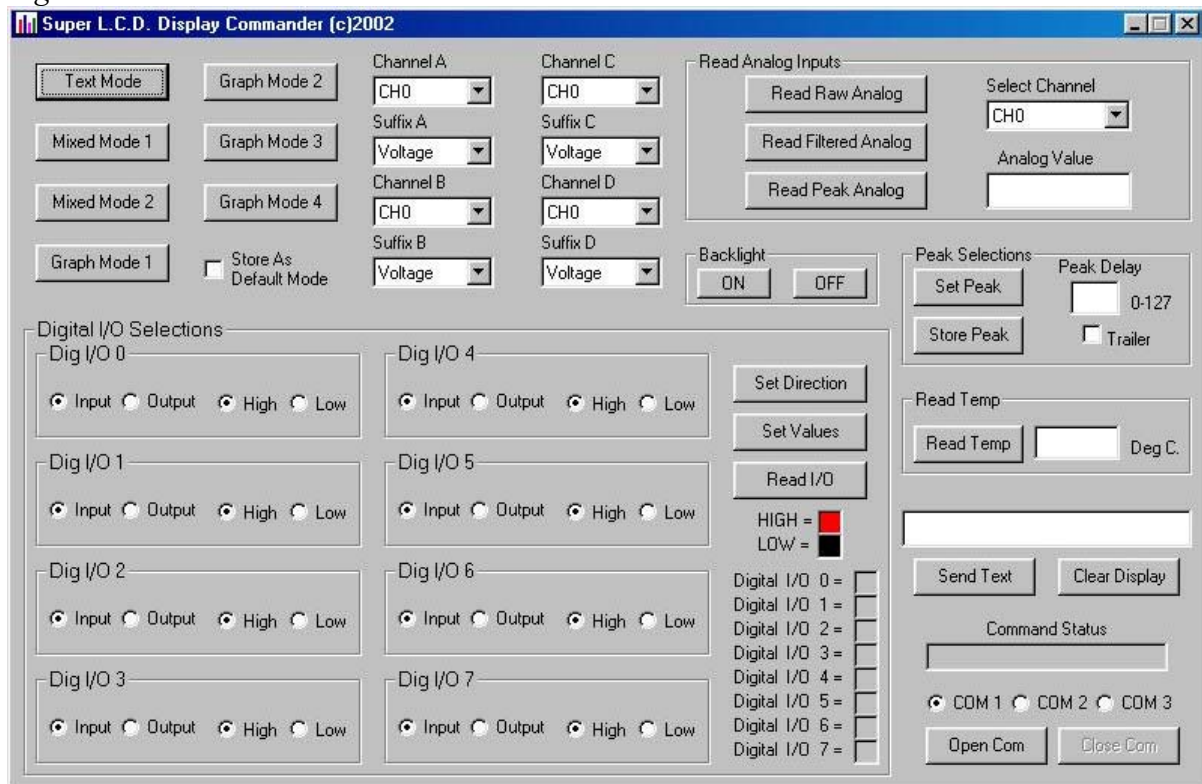


Figure2:



Starting the Application: To start the application, simply click on the *Display Commander* icon in the start menu. After the program starts the display interface will appear on the screen. All commands are entered through the single easy to use custom interface pictured below.

Figure3:



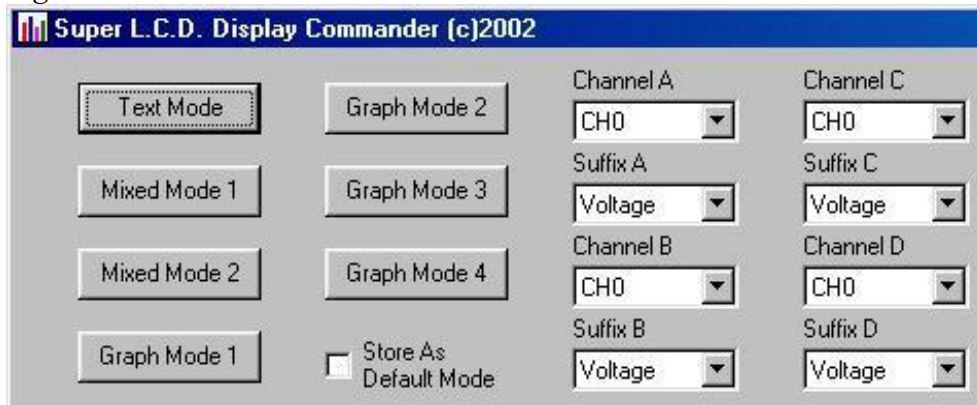
Communicating: To start the communication between the PC and the L.C.D. select the COM Port that the module was connected to in “**Connecting Hardware:**” and click the *Open Com* button. After communication has been established, clicking any button on the interface except *Send Text* or *Clear Display* will turn the Command Status indicator

green and display the text “Command Received”. If the Command Status indicator turns red and displays the text “Command Not Received”, double check the power and serial connections on the L.C.D. module. Once a successful communication link has been established, you may send and receive information to the L.C.D.

Sending Commands: All available commands for the L.C.D. are available through the single custom interface. This document will divide the commands into several sections. These sections are **Setting/Storing Mode**, **Sending Text/Clear Display**, **Read Analog Inputs**, **Setting/Storing Peak**, **Read Temp**, **Setting/Reading Digital I/O**, and **Operating Backlight**.

Setting/Storing Mode: The ability to set and store the modes of the L.C.D. module is accessed through the following buttons and drop down menus. The *Store as Default Mode* feature is useful if the L.C.D. module is to be set to a graphing mode and installed in to a system without any further serial communications.

Figure 4:



To set the current operating mode, simply select the appropriate analog channels and corresponding suffixes from the drop down lists and click the desired mode button (Note1: Not all modes use all of the channels) (Note2: If the temperature channel is selected, the suffix is a don't care and the temperature is displayed instead of a graph). If a default operating mode is desired check the *Store As Default Mode* then click the desired mode button (Note3: When the *Store As Default Mode* is checked, clicking a mode button will only set the default power up mode and not change the current operating mode. If you wish to change the current mode, uncheck the *Store As Default Mode* checkbox.)

Available Modes: *Text Mode* → L.C.D. only displayed the entered text (See **Sending Text/Clear Display**).

Mixed Mode 1 → L.C.D displays entered text on top row and the graph and suffix of channel A across the entire bottom row of the display.

Mixed Mode 2 → L.C.D displays entered text on the top row and the graphs and suffixes of channel A and B across the bottom row of the display.

Graph Mode 1 → L.C.D displays the graph and suffix of channel A across the entire top row and displays the graph and suffix of channel B across the entire bottom row.

Graph Mode 2 → L.C.D. displays the graph and suffix of channel A on the entire top row, the graph and suffix of channel B is displayed on left-hand side of the bottom row, and the graph and suffix of channel C is displayed on the right-hand side of the bottom row.

Graph Mode 3 → L.C.D. displays the graph and suffix of channel A on the left-hand side of the top row, the graph and suffix of channel B is displayed on right-hand side of the top row, and the graph and suffix of channel C is displayed across the entire bottom row.

Graph Mode 4 → L.C.D. displays the graph and suffix of channel A on the left-hand side of the top row, the graph and suffix of channel B is displayed on right-hand side of the top row, the graph and suffix of channel C is displayed on the left-hand side of the bottom row, and the graph and suffix of channel D is display on the right-hand side of the bottom row.

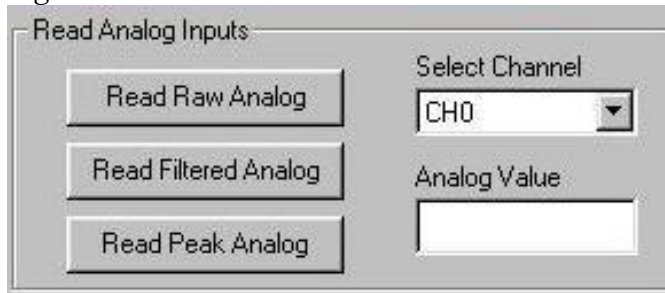
Sending Text/Clear Display: The ability to send text and clear the text from the L.C.D. module is accessed through the following buttons and text box. To enter text, just type the desired text in the box and press the *Send Text* button to send it to the display. To clear all the text from the screen, simply press the *Clear Text* button. (Note 4: When in text mode the text will scroll from bottom to top once both lines are filled.)(Note 5: When in either mixed mode the text will scroll from right to left once the line has been filled.)

Figure 5:



Read Analog Inputs: The ability to read the analog inputs from the L.C.D module is accessed through the following buttons and drop down list. To read an analog channel, select the desired channel from the drop down list and then click one of the read buttons. The resulting value will be displayed in the Analog Value text box.

Figure 6:

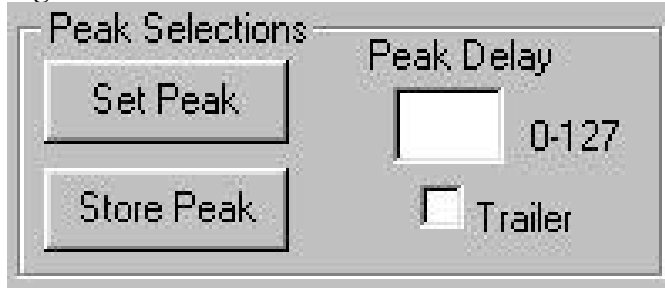


- Read Buttons:
- Read Raw Analog* → Reads the current value from the A to D converter.
 - Read Filtered Analog* → Reads the value that was averaged over the last 5 analog reads.(Over the last 400mS)
 - Read Peak Analog* → Reads the largest peak analog value that was sampled since the last time this command was issued.

Setting/Storing Peak: The ability to display the peak of the analog signals is facilitated through the following text box and buttons. Setting a peak will set the peaks for all analog channels being displayed. To display the peak of the analog channels simply enter a number between 0 and 127 in the *Peak Delay* text box (the number represents how long, in 80mS increments, the peak will be displayed before looking for a new peak) next click the *Set Peak* button. If no peak is desired, enter 0 for the *Peak Delay*. The *Trailer* check box, if checked, will allow the peak indicator to slowly drop to the current analog level after the peak delay instead of immediately going to the current level. The *Store Peak* button allows the peak to be set on power up. To store the peak enter the desired *Peak Delay*

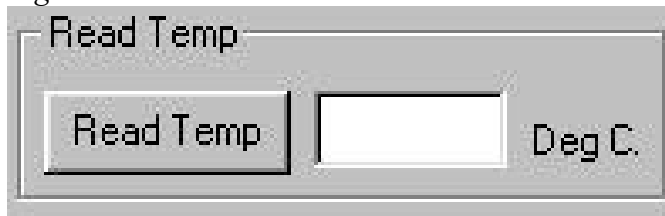
and *Trailer* information and click *Store Peak*. (Note 6: The *Store Peak* button does not change the current peak being displayed, but changes the default power up state of the peaks.)

Figure 7:



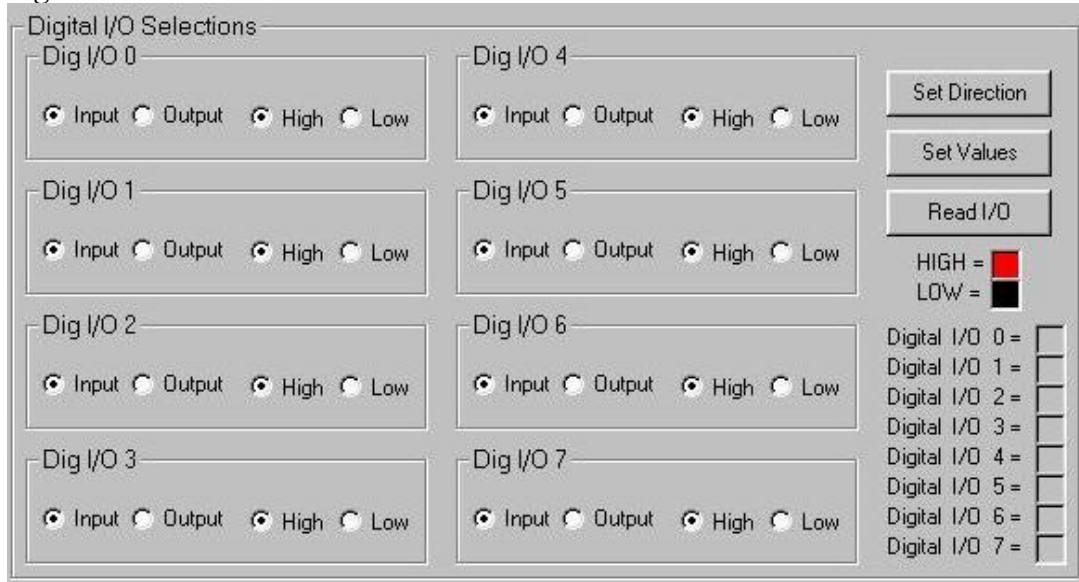
Read Temp: The ability to read the temperature from the remote sensor is accomplished by clicking the *Read Temp* button. The temperature will be returned in the text box in degree Celsius. If "No Temp" is displayed in the text box, check the temperature sensor connections.

Figure 8:



Setting/Reading Digital I/O: Setting and reading the digital I/O is accomplished using the following click buttons and radio buttons. To set the I/O directions, select the desired directions for each pin and click the *Set Direction* button. To set the I/O values, select the desired values and click *Set Values*. If a pin is set to an input the pins value is a "don't care" when the values are sent. To read the values of the I/O, simply click the Read I/O button. The value that is on the pins will be displayed in the boxes on the lower right. If the value of the pin is high the corresponding box for that pin will be red, and if the value of the pin is low the corresponding box for that pin will be black.

Figure 9:



Operating Backlight: Operating the backlight is as simple as clicking the *ON* or *OFF* button. The default mode for the backlight is ON.

Figure 10:

