

SUPERO[®]

SMC LCD

User's Guide

Revision 1.0

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Preface

About This Manual

The contents of this manual apply to Supermicro's SMC LCD software application. The SMC LCD application is a JAVA based API compatible with 32 & 64-bit Windows and Linux that interacts with Supermicro LCD series.

Manual Organization

Chapter 1: Introduction

This first chapter provides an introduction to the SMCLCD application and provides a useful reference for keyboard and typographical conventions in this document.

Chapter 2: User Interface

This chapter provides information and functional descriptions for the user interface and its features.

Chapter 3: Installation

Use the procedures in this chapter to install the LCD hardware module and the SMC LCD application to your system.

Document Conventions

The following document conventions apply in this manual:

- ▶ The syntax of a command is given in **Courier New 10 bold**.
- ▶ Elements in (< >) indicate the field required as input along with the command, for example, < integer (100-1000)>.
- ▶ Elements in square brackets ([]) indicate optional fields for a command.
- ▶ Text in {} refers to 'either-or' group for the tokens given inside separated by a | symbol.
- ▶ A command usage is given in *Courier New 10 regular*.
- ▶ Outputs and messages for commands are given in *Courier New 10 regular*.
- ▶ The no form of the command resets a particular configuration to its default value or revokes the effect. This is explicitly explained in the description of the commands for which it is applicable.
- ▶ Application user interface (UI) elements, objects or window names are shown in SMALL CAPS.

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Chapter 1

Introduction

SMC LCD is a JAVA based API compatible with both Windows and Linux that is used to configure the LCD displays for Supermicro LCD solution modules (model numbers MCP-210-00007-01/02/0V and MCP-220-00095-0B). See Figure 1-1 and Figure 1-2 for Supermicro 1U chassis and 5.25" LCD modules.

Figure 1-1: MCP-220-00095-0B 5.25" LCD Module



Figure 1-2: MCP-210-00007-01/02/0V 1U Chassis Panel Module



1.1 Module Characteristics

LCD modules display two lines of text with up to 16 characters per line on the screen. The screen is provided with back lights and 6 access keys (4 ways directions and Enter/Cancel buttons) for displaying information on the host systems. The LCD modules use a USB interface to communicate with the system.

The information that can be displayed on the module LCD screen can include any of the following:

- Company Name
- Clock
- System Information
- Hardware Information
- Network Information
- Monitoring System Status
- Hard Disk Drive Memory Usage
- IPMI Information

1.1 Module Uses

Using the SMC LCD application you can configure the above information on the LCD screen remotely, change the LCD display settings and provide the location of the server to a local client from the management side. This makes this application extremely useful to end users who can anticipate an component failure and act remotely to minimize the potential downtime caused by a failure.

Chapter 2

User Interface

This chapter covers the user interface of the SMC LCD application and its controls and components.

2.1 Launch the Application

To launch the SMC LCD application, use the application execution files as shown below for each operating system:

Operating System	File
Windows	LCDMainUI.exe
Linux	LCDMainUI.sh

Note: It is required that Sun Java SE be installed on your system to use the SMC LCD application.

After launching the application the MAIN SCREEN appears. The MAIN SCREEN contains two tabs (LCD FUNCTIONS and SETTING) and a TOOLBAR with buttons and icon controls.

Toolbar

The TOOLBAR (Figure 2-1) contains controls for manipulating the display of LCD screen. These include the following controls:

- LCD Icon
- Start Button
- Stop Button
- LCD Emulator Button
- About Icon

Figure 2-1: Toolbar



LCD Icon

Click the LCD Icon (Figure 2-2) at the top-left corner of the MAIN SCREEN in order to show the LCD MONITOR panel (Figure 2-3). Pressing the direction keys in the panel allows you to navigate in the panel. You can press the Enter button to enter a command, while pressing the ESC button cancels the command.

Figure 2-2: LCD Icon

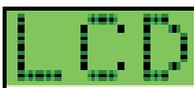


Figure 2-3: LCD Monitor



Start Button

This button is used to start LCD functions. It defaults started after the application is launched.

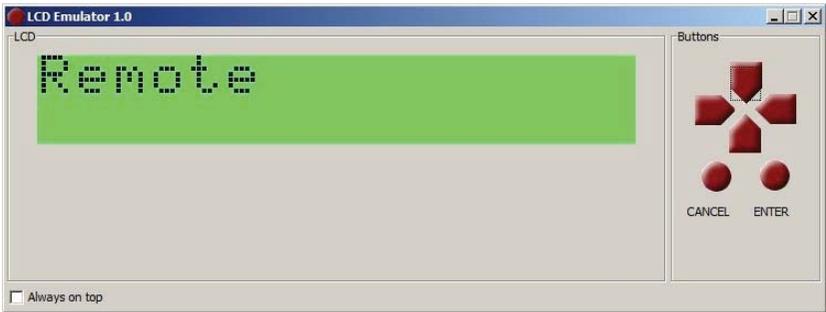
Stop Button

Pressing this button stops LCD functions.

LCD Emulator Button

Press this button to show a full function LCD EMULATOR window with keypad (Figure 2-4). You can open either the LCD MONITOR or the LCD EMULATOR.

Figure 2-4: LCD Emulator Window



About Icon

Pressing The ABOUT icon brings up the ABOUT dialog box (Figure 2-5), which contains application information.

Figure 2-5: About Icon

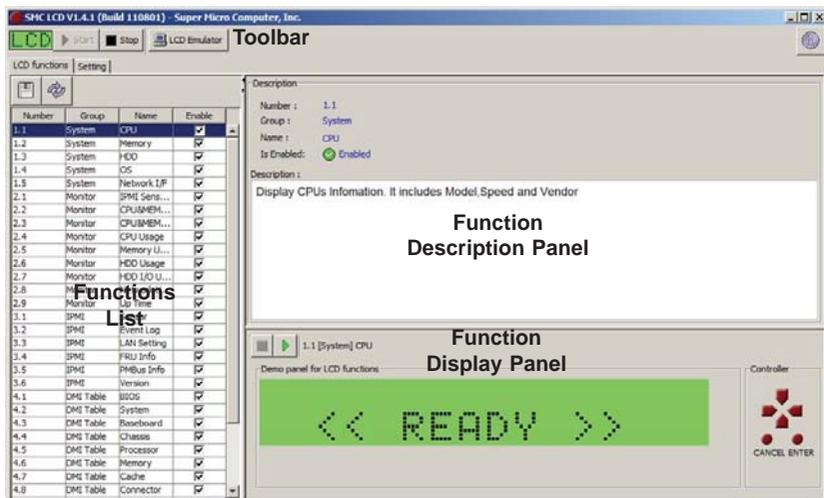


2.2 LCD Functions Tab

The LCD FUNCTIONS tab (Figure 2-6) contains the following controls and panels for configuring the LCD modules remotely:

- ▶ Functions List
- ▶ Function Description Panel
- ▶ Function Display Panel

Figure 2-6: Main Screen – LCD Functions Tab



Functions List and Function Description Panels

The FUNCTIONS LIST panel contains a table list of all supported LCD functions. It is located in the bottom left panel of the MAIN SCREEN (see Figure 2-7).

Figure 2-7: Functions List Panel

Number	Group	Name	Enable
1.1	System	CPU	<input checked="" type="checkbox"/>
1.2	System	Memory	<input checked="" type="checkbox"/>
1.3	System	HDD	<input checked="" type="checkbox"/>
1.4	System	OS	<input checked="" type="checkbox"/>
1.5	System	Network I/F	<input checked="" type="checkbox"/>
2.1	Monitor	IPMI Sens...	<input checked="" type="checkbox"/>
2.2	Monitor	CPU&MEM...	<input checked="" type="checkbox"/>
2.3	Monitor	CPU&MEM...	<input checked="" type="checkbox"/>
2.4	Monitor	CPU Usage	<input checked="" type="checkbox"/>
2.5	Monitor	Memory U...	<input checked="" type="checkbox"/>
2.6	Monitor	HDD Usage	<input checked="" type="checkbox"/>
2.7	Monitor	HDD I/O U...	<input checked="" type="checkbox"/>
2.8	Monitor	Network U...	<input checked="" type="checkbox"/>
2.9	Monitor	Up Time	<input checked="" type="checkbox"/>
3.1	IPMI	Sensor	<input checked="" type="checkbox"/>
3.2	IPMI	Event Log	<input checked="" type="checkbox"/>
3.3	IPMI	LAN Setting	<input checked="" type="checkbox"/>
3.4	IPMI	FRU Info	<input checked="" type="checkbox"/>
3.5	IPMI	PMBus Info	<input checked="" type="checkbox"/>
3.6	IPMI	Version	<input checked="" type="checkbox"/>
4.1	DMI Table	BIOS	<input checked="" type="checkbox"/>
4.2	DMI Table	System	<input checked="" type="checkbox"/>
4.3	DMI Table	Baseboard	<input checked="" type="checkbox"/>
4.4	DMI Table	Chassis	<input checked="" type="checkbox"/>
4.5	DMI Table	Processor	<input checked="" type="checkbox"/>
4.6	DMI Table	Memory	<input checked="" type="checkbox"/>
4.7	DMI Table	Cache	<input checked="" type="checkbox"/>
4.8	DMI Table	Connector	<input checked="" type="checkbox"/>
4.9	DMI Table	Slot	<input checked="" type="checkbox"/>
5.1	Message	Local Mes...	<input checked="" type="checkbox"/>
5.2	Message	Remote M...	<input checked="" type="checkbox"/>
6.1	Option	Back Light	<input checked="" type="checkbox"/>
6.2	Option	Date Time	<input checked="" type="checkbox"/>
6.3	Option	About	<input checked="" type="checkbox"/>

For example there are System, Monitor, IPMI and DMI table functions, etc. You can enable or disable a listed function by checking the checkbox next to it in the list. Pressing the Save button allows you to save the setting, while pressing the Refresh button allows you to refresh the setting. Once you have made some change you must stop, then restart the SMC LCD application (using the STOP and START buttons in the TOOLBAR) to see the change.

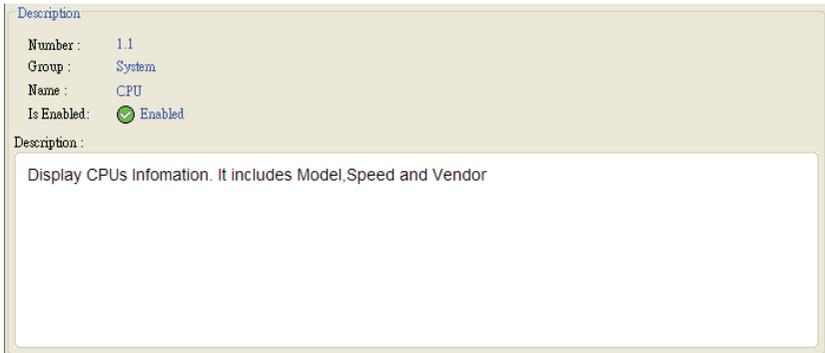
Shown in the table below are details for each of LCD functions in the FUNCTIONS LIST panel.

Table 2-1: LCD Functions			
Number	Group	Name	Description/Function
1.1	System	CPU	Displays CPU information such as Model, Speed, and Vendor.
1.2	System	Memory	Displays memory information.
1.3	System	HDD	Displays HDD information including the HDDs in the system and network.
1.4	System	OS	Displays OS information.
1.5	System	Network	Display LAN information including IP and MAC for the available network adaptor.
2.1	Monitor	IPMI Sensors	Monitors the IPMI sensors.
2.2	Monitor	CPU & ME	Monitors the usage of CPU and memory.
2.3	Monitor	CPU & ME	Monitors the free usage of CPU and memory.
2.4	Monitor	CPU Usage	Monitors the usage of CPUs, including the individual CPU monitoring. The screen displays "B" for Busy and "I" for Idle.
2.5	Monitor	Memory Usage	Monitors the usage of Memory and displays "U" for usage and "F" for free.
2.6	Monitor	HDD Usage	Monitors the usage of HDDs. The screen displays "U" for usage and "F" for free.
2.7	Monitor	HDD I/O Usage	Monitors the HDD I/O usage. The screen displays "R" for read and "W" for write.
2.8	Monitor	Network Usage	Monitors the Network usage. The screen displays "RX" for receive and "TX" for transmission.
2.9	Monitor	Up Time	Monitors the up time since the last boot.
3.1	IPMI	Sensor	Displays the IPMI sensor data record.
3.2	IPMI	Event Log	Displays the IPMI system event log.
3.3	IPMI	LAN Setting	Displays the IPMI LAN configuration.
3.4	IPMI	FRU Info	Displays the IPMI FRU (Field Replacement Unit).
3.5	IPMI	PMBus Info	Displays the PMBus information.
3.6	IPMI	Version	Displays the IPMI version.
4.1	DMI Table	BIOS	Displays the DMI type 0,13 for BIOS information.
4.2	DMI Table	System	Displays the DMI type 1, 12, 15, 23, 32 for system information.
4.3	DMI Table	Baseboard	Displays the DMI type 2, 10 for base board information.
4.4	DMI Table	Chassis	Displays the DMI type 3 for chassis information.
4.5	DMI Table	Processor	Displays the DMI type 4 for processor information.
4.6	DMI Table	Memory	Displays the DMI type 5, 6, 16, 17 for memory information.
4.7	DMI Table	Cache	Displays the DMI type 7 for cache information.
4.8	DMI Table	Connector	Displays the DMI type 8 for port connector information.
4.9	DMI Table	Slot	Displays the DMI type 9 for system slots information.
5.1	Message	Local Message	Displays your specified message.

Table 2-1: LCD Functions			
Number	Group	Name	Description/Function
5.2	Message	Remote Message	Displays your specified message from remote.
6.1	Option	Back Light	Toggles the LCD light on or off.
6.2	Option	Date/Time	Shows current date/time information.
6.3	Option	About	Displays information for the LCD.

Information about each function is shown in the SMC LCD application within the FUNCTION DESCRIPTION panel (Figure 2-8) in the MAIN SCREEN.

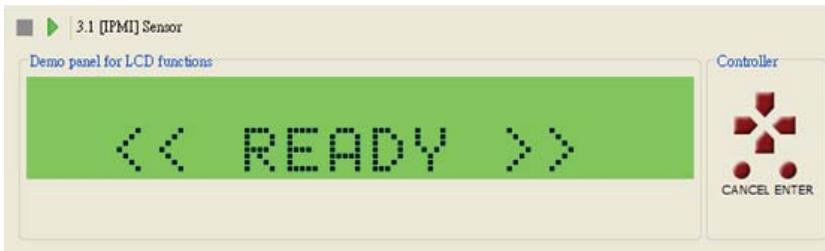
Figure 2-8: Function Description Panel



Function Display Panel

When you select an LCD function from the FUNCTION LIST panel, the selected function is shown in the FUNCTION DISPLAY panel (Figure 2-9). Press  to start a demo test, and press  to stop the demo test. You can navigate LCD functions using the soft keypad in the panel. Please note, this function is independent from the real LCD device and LCD MONITOR.

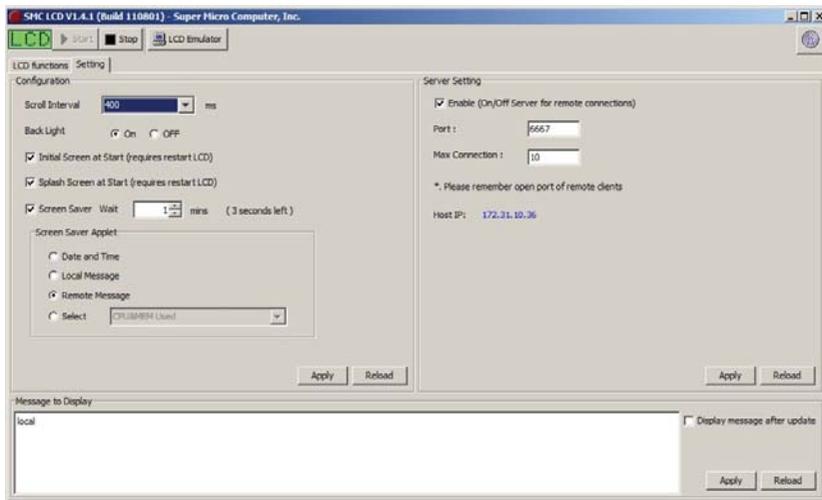
Figure 2-9: Function Display Panel



2.3 Setting Tab

The **SETTING** tab (Figure 2-10) allows you to configure settings for the SMC LCD application.

Figure 2-10: Main Window – Setting Tab



Configuration

This section contains the basic configuration settings for the SMC LCD application. It includes settings for **SCROLL INTERVAL**, **BACK LIGHT** and **START SCREEN** configuration. A screen saver will wait for several minutes and start a LCD applet. You can choose **DATE & TIME**, **LOCAL MESSAGE**, **REMOTE MESSAGE** or another monitor's LCD applet to display.

Server Setting

The **SERVER SETTING** section is for a remote LCD displayer. It includes fields for specifying the **PORT** and **MAX CONNECTION** speed.

Message to Display

Input text here to display a message on LCD remotely. To do this, check the **DISPLAY MESSAGE AFTER UPDATE** checkbox and press the **APPLY** button after you have entered your message in the text box. Then you will see the message displayed in LCD window. You can also use **Function 5.1** (from the **FUNCTIONS LIST** panel) to enter a display message.

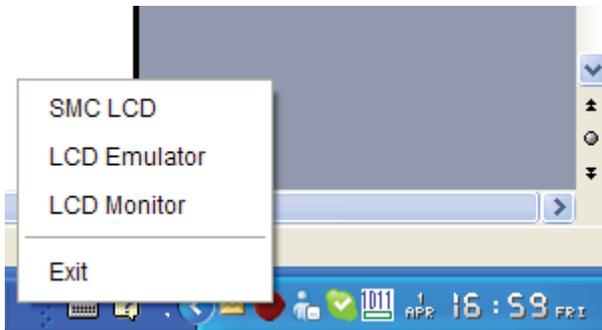
2.4 LCD System Tray

Figure 2-11: LCD System Tray Icon



The red dot icon in the system tray (Figure 2-11) shows that the SMC LCD is running in the background. If you right click on the icon you can open the SMC LCD Main Screen, LCD Emulator or LCD Monitor (see Figure 2-12). Clicking Exit in the system tray allows you to exit the SMC LCD program.

Figure 2-12: Exiting SMC LCD From the System Tray



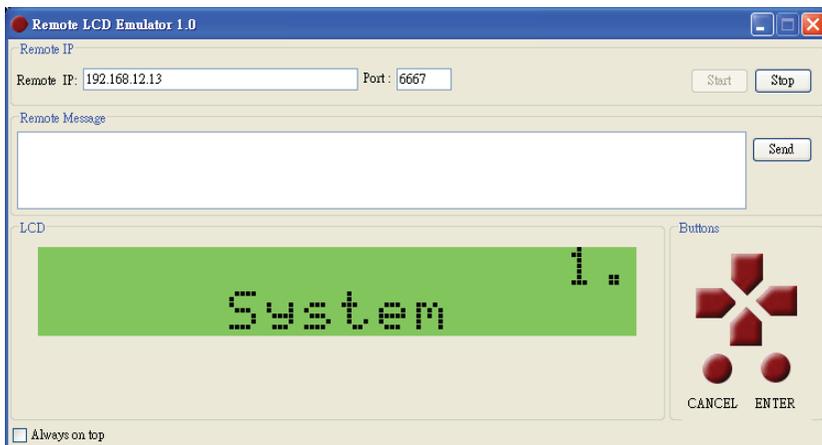
2.5 Remote LCD Displayer and Message Sender

Using the SMC LCD application, you can send a message to a remote LCD screen. Use the procedure below to send a message:

Sending a Remote Message to an LCD Screen

1. Run `proxy.bat <IP>`, an LCD EMULATOR window (Figure 2-13) will be shown that displays the message that is shown on the remote LCD screen.

Figure 2-13: LCD Emulator Window



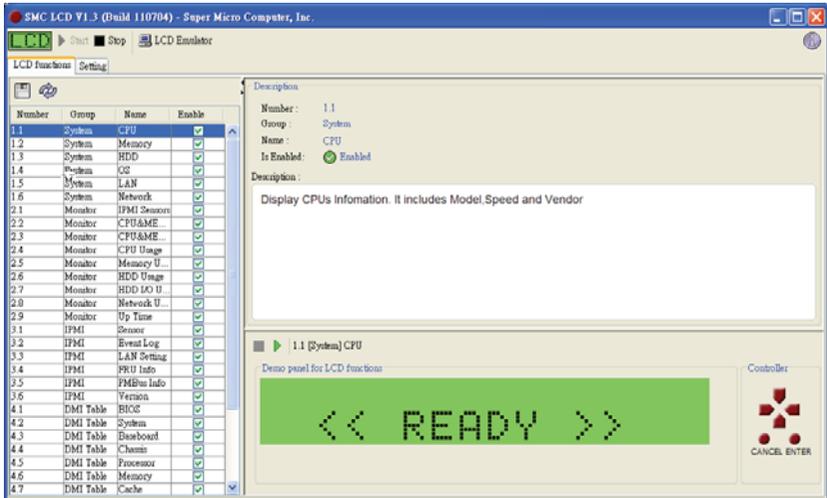
2. To send a message to a remote LCD screen, input the message into the REMOTE MESSAGE text box of the LCD EMULATOR window and press the SEND button (Figure 2-14).

Figure 2-14: Sending a Message



- Once the message is sent. You can go to the 5.2 REMOTE MESSAGE function to display the message (Figure 2-15).

Figure 2-15: Displayed Message



2.6 Launch LCD UI without LCD HW

If you want to run the LCD UI but do not have LCD hardware to do it, you can open the `lcd.conf` file and find following setting (at line 8):

```
lcdType = com.supermicro.lcd.SMCLCD2x16
```

change the entry to

```
lcdType = com.supermicro.lcd.SMCLCD2x16_
```

save the `lcd.conf` file and re-launch the LCD UI again.

Chapter 3

Installation

This chapter covers installation of the installation of both hardware and software components for the Supermicro SMC LCD application system.

3.1 Hardware Installation

Use the procedure below to install the MCP-220-00095-0B LCD display into your system.

Installing the MCP-220-00095-0B LCD display

1. Install the MCP-220-00095-0B LCD display module into the chassis as shown in Figure 3-1 and Figure 3-2.

Figure 3-1: Installing the LCD Display Module into a Horizontal Chassis

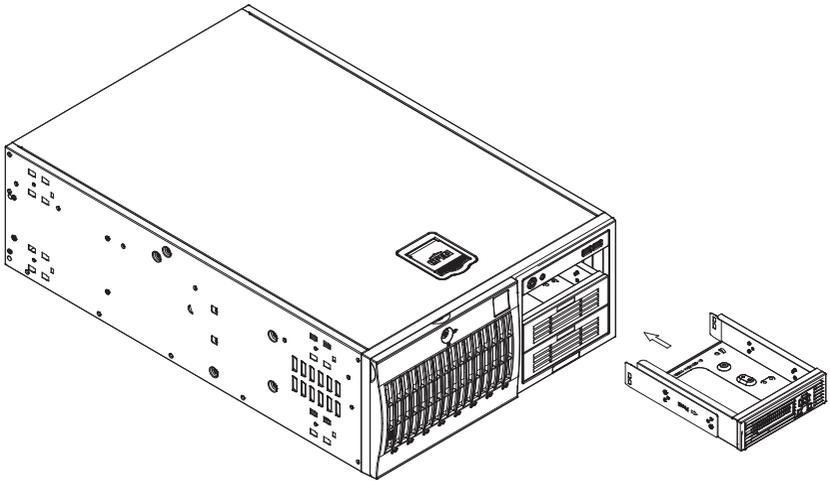
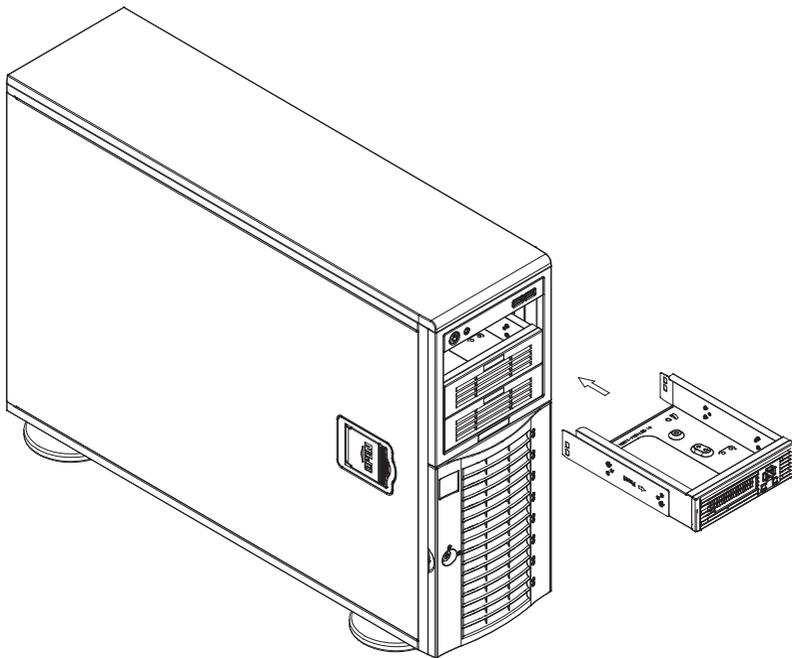
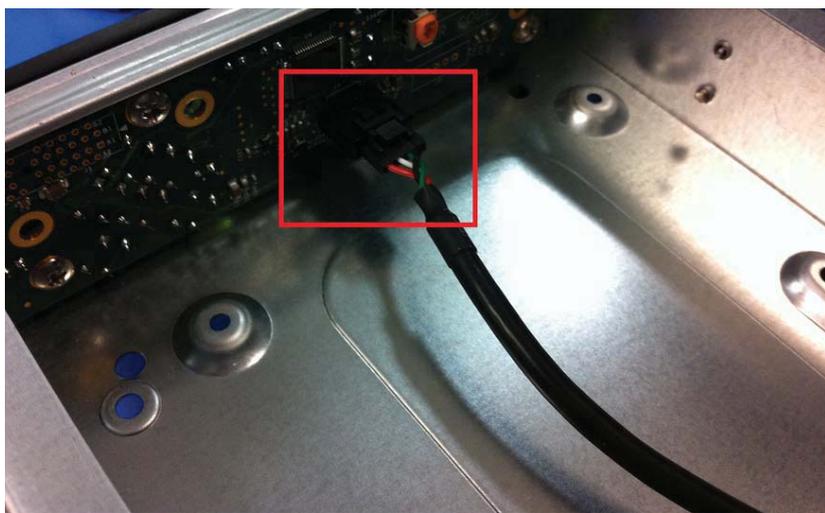


Figure 3-2: Installing the LCD Display Module into a Vertical Chassis



2. Connect the USB connector to the USB cable to the LCD module as shown in Figure 3-3.

Figure 3-3: Connecting the USB Cable to the LCD Display Module



3. Attach the USB cable connector to the USB pin header in its host system as shown in Figure 3-4.

Figure 3-4: Connecting the USB Cable to the Motherboard USB Header



3.2 Software Installation

Use the procedures below to install the SMC LCD application's software to your system.

Installing the Software

1. Make sure download and install Java SE to your system.
2. Download or copy the SMC LCD application's files to your desktop. The files should go to the SMCLCD folder (if necessary create a folder on your system to place the files). Place a shortcut to the SMCLCD folder on the desktop (see Figure 3-5).

Figure 3-5: SMCLCD Folder On The Desktop

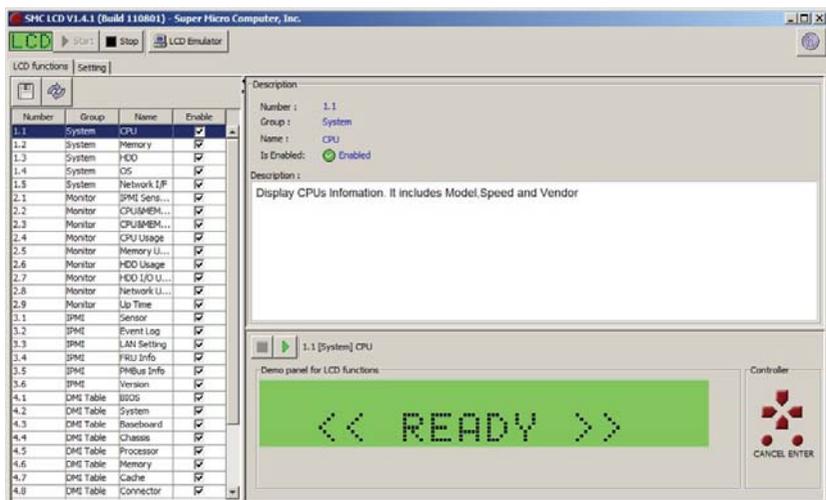


- Open the `LCDMainUI` executable file in Windows (Figure 3-6). The SMC LCD application's MAIN WINDOW will appear (Figure 3-7).

Figure 3-6: Open the LCDMainUI Executable File

Name	Date modified	Type	Size
Apache_License	7/26/2011 11:39 AM	Text Document	9 KB
bit	10/21/2009 1:57 PM	Application	8 KB
dmidecode	12/3/2008 7:30 PM	Application	79 KB
KCSLib.dll	12/16/2010 3:00 PM	Application extens...	52 KB
lcd.conf	8/1/2011 4:15 PM	CONF File	8 KB
LCDMainUI	3/2/2011 12:18 PM	Windows Batch File	1 KB
LCDMainUI	8/1/2011 4:11 PM	Executable Jar File	8,756 KB
LCDMainUI.sh	3/2/2011 1:11 PM	SH File	1 KB
LCDNetProxy	8/1/2011 4:11 PM	Executable Jar File	449 KB
libLIBSMC.so	5/13/2011 6:13 AM	SO File	12 KB
libLIBSMC64.so	5/10/2011 1:32 PM	SO File	24 KB
libsigar-amd64-freebsd-6.so	7/9/2009 9:46 PM	SO File	206 KB
libsigar-amd64-linux.so	7/9/2009 9:46 PM	SO File	241 KB
libsigar-amd64-solaris.so	7/9/2009 9:46 PM	SO File	245 KB
libsigar-ia64-hpux-11.sl	7/9/2009 9:46 PM	SL File	564 KB
libsigar-ia64-linux.so	7/9/2009 9:46 PM	SO File	484 KB
libsigar-pa-hpux-11.sl	7/9/2009 9:46 PM	SL File	504 KB
libsigar-ppc64-aix-5.so	7/9/2009 9:46 PM	SO File	413 KB

Figure 3-7: SMC LCD Application Main window

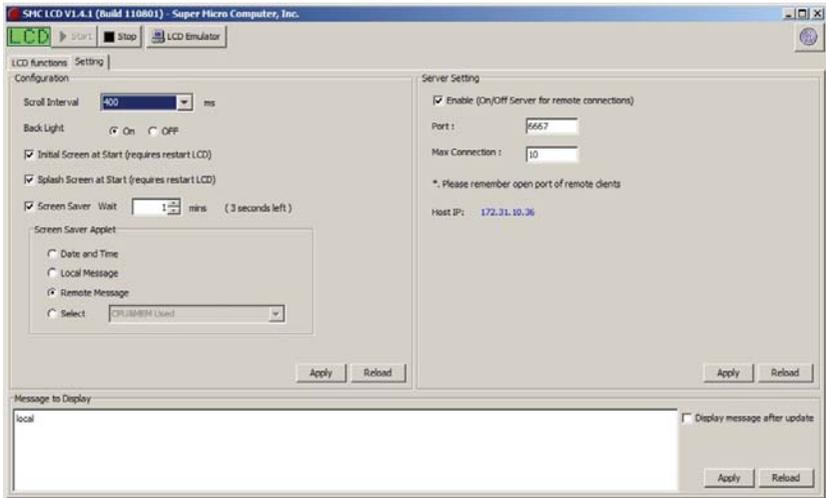


Go to the LCD FUNCTION LIST panel (Figure 3-8) and choose the function for the LCD to display out from the list.

Figure 3-8: LCE Function List Panel

Number	Group	Name	Enable
1.1	System	CPU	<input checked="" type="checkbox"/>
1.2	System	Memory	<input checked="" type="checkbox"/>
1.3	System	HDD	<input checked="" type="checkbox"/>
1.4	System	OS	<input checked="" type="checkbox"/>
1.5	System	Network I/F	<input checked="" type="checkbox"/>
2.1	Monitor	IPMI Sens...	<input checked="" type="checkbox"/>
2.2	Monitor	CPU&MEM...	<input checked="" type="checkbox"/>
2.3	Monitor	CPU&MEM...	<input checked="" type="checkbox"/>
2.4	Monitor	CPU Usage	<input checked="" type="checkbox"/>
2.5	Monitor	Memory U...	<input checked="" type="checkbox"/>
2.6	Monitor	HDD Usage	<input checked="" type="checkbox"/>
2.7	Monitor	HDD I/O U...	<input checked="" type="checkbox"/>
2.8	Monitor	Network U...	<input checked="" type="checkbox"/>
2.9	Monitor	Up Time	<input checked="" type="checkbox"/>
3.1	IPMI	Sensor	<input checked="" type="checkbox"/>
3.2	IPMI	Event Log	<input checked="" type="checkbox"/>
3.3	IPMI	LAN Setting	<input checked="" type="checkbox"/>
3.4	IPMI	FRU Info	<input checked="" type="checkbox"/>
3.5	IPMI	PMBus Info	<input checked="" type="checkbox"/>
3.6	IPMI	Version	<input checked="" type="checkbox"/>
4.1	DMI Table	BIOS	<input checked="" type="checkbox"/>
4.2	DMI Table	System	<input checked="" type="checkbox"/>
4.3	DMI Table	Baseboard	<input checked="" type="checkbox"/>
4.4	DMI Table	Chassis	<input checked="" type="checkbox"/>
4.5	DMI Table	Processor	<input checked="" type="checkbox"/>
4.6	DMI Table	Memory	<input checked="" type="checkbox"/>
4.7	DMI Table	Cache	<input checked="" type="checkbox"/>
4.8	DMI Table	Connector	<input checked="" type="checkbox"/>
4.9	DMI Table	Slot	<input checked="" type="checkbox"/>
5.1	Message	Local Mes...	<input checked="" type="checkbox"/>
5.2	Message	Remote M...	<input checked="" type="checkbox"/>
6.1	Option	Back Light	<input checked="" type="checkbox"/>
6.2	Option	Date Time	<input checked="" type="checkbox"/>
6.3	Option	About	<input checked="" type="checkbox"/>

4. Press the **SAVE** button to save your selection. Then press the **STOP** button and then the **START** button to load the display selection.
 5. The LCD module will reboot and display the update message.
 6. Go to the **SETTING** tab and change the settings of the SMC LCD application as you require (Figure 3-9). Using the controls on this tab, you may change such settings as:
 - LCD Display Back Light
 - Local Message Display
 - Remote Message Display
- See Chapter 2 for full details on the **SETTING** tab and its functions.

Figure 3-9: Setting Tab

Notes