SOM-9260M/SOM-150ES Software Driver Interface

The SOM-9260M contains software drivers for the Analog to Digital converter, Character LCD, and a 4x4 Keypad on the SOM-150ES carrier board (if equipped). These drivers provide a convenient interface for the user-level programmer.

The following examples show how you can access these devices via the Linux command prompt:

ADC

The ADC is accessed via the sysfs interface. The interface allows you to choose the channel to monitor and read the value from the converter. The following example shows how to access channel 2 of the ADC:

```
echo 2 > /sys/class/gpio/mcp3208-gpio/index
cat /sys/class/gpio/mcp3208-gpio/data
```

The device can also be accessed via the character device node /dev/mcp3208-gpio.

For an example of how the access the device node from a C program see:
ftp://ftp.emacinc.com/Controllers/SoM/SoM-9260M/Software/Apps/egpc.tgz

LCD

The LCD device node can be accessed in the same fashion as any console. The following shows how to echo directly the LCD for the prompt:

```
echo "Hello World" >/dev/lcd
```

This device node can also be opened as a file in a C program to write it directly.

Keypad

The keypad will use a software package that is an extension to the SOM-9260's SDK. The source and binaries are available online at:
ftp://ftp.emacinc.com/Controllers/SoM/SoM-9260M/Software/Apps/getkey.tgz

Along with getkey is a configuration file for the keypad. It is a text file showing the layout of the keys on the board.

The following commands will configure the keypad and grab and display the key on the console:

```
./getkey -s Key-E020-21
./getkey -b
```

The -s option set the configuration and the –b option forces the getkey to wait for an input from the keypad. If the configuration is not set the getkey command will return 'x' for any key pressed. The code for the getkey utility will be added to the newest version of the SOM-9260 SDK.