Quick Start Guide

Smart Motherboard
Firmware Version 1.3X
Software Version 2.1.3

Welcome

- Thank you for purchasing MicroStrain's Smart Motherboard

Software Installation

- Place the Smart Motherboard CD in your CD-ROM drive and follow the on-screen instructions to install MicroStrain's Smart Motherboard Data Acquisition and Display software.

Hardware Installation

- Connect the male DB-9 connector of the RS-232 cable into the serial connector on the Smart Motherboard rear panel.
- Connect the female DB-9 connector of the RS-232 cable into a free serial port on your computer.
- Connect the external power supply DIN connector into the power connector on the Smart Motherboard rear panel.
- Plug the external power supply into a proper power receptacle.
- The Smart Motherboard is now powered and ready to communicate with the Smart Motherboard Data Acquisition and Display software.

Software Operations

- Double-click the Smart Motherboard Data Acquisition and Display desktop icon to launch the program.
- The default configuration will be automatically loaded and the **Main** screen will appear like the example shown in Figure 1.
- On the menu bar of the **Main** screen, click **Tools**.
- A drop-down menu will appear. Click **Comm Port**.
- The **Comm Port** screen will appear as shown in Figure 2.
- Using your mouse and/or keyboard, enter the number of the serial port that you have used to connect your PC to the Smart Motherboard into the **Select Comm Port** number scroll.
- **Note:** This number scroll accepts values between 1 and 16.
- Click **Detect**. The software will attempt to poll the Smart Motherboard, and if successful, will return a message box indicating 'Smart Motherboard found on serial port X'. Click **OK** to close the message box.
- If the detect is unsuccessful, a message box will be returned indicating 'Smart Motherboard not found on serial port X'. Click **OK** to close the message box and

proceed with troubleshooting the communication failure before proceeding further with Quick Start.

- To return to the **Main** screen, click **OK**.
- On the menu bar of the **Main** screen, click **Tools**.
- A drop-down menu will appear. Click **Configuration**.
- The **Configuration** screen will appear.
- As stated above, the default configuration will be automatically loaded and the screen will appear like the example shown in Figure 3.
- Click the tab entitled '**Channels 4-7**' and that tab's contents will become visible as shown in Figure 4.
- Smart Motherboards come with from 1 to 8 channels populated. The channel names are designated 0 through 7. Determine which channels are populated on your particular hardware configuration.
- On each of the tabs (**Channels 0-3** and **Channels 4-7**), click the appropriate checkbox (a check appears) to indicate which channels are populated in your configuration. Insure that unpopulated channels have no checks in their checkboxes. These checkboxes are found on the top line of each tab; the line is entitled '**Channel**'.
- For purposes of this Quick Start, insure that the default channel parameters are set for each active channel, i.e., those channels that you have checked. The values are as follows:
    - **Unit Conversion** = Linear
    - **Slope** = 1
    - **Offset** = 0
    - **Peak Detect** = None
    - **Units** = Volts
- **Unit Conversion** can be set by clicking the radio button with your mouse.
- **Slope** can be set by using your mouse and/or keyboard to change the number scroll.
- **Offset** can be set by using your mouse and/or keyboard to change the number scroll.
- **Peak Detect** can be set by using your mouse to select from the drop-down box.
- **Units** can be set by using your mouse and keyboard to enter text into the textbox.
- When you have completed the configuration, click **File** on the menu bar.
- A drop-down menu will appear. Click **Return** and you will be returned to the **Main** screen.
- To begin sampling, click **File** on the menu bar of the **Main** screen.
- A drop-down menu will appear. Click **Sample**. A check will appear to the left of the **Sample** menu item indicating sampling is in progress.
- Continuous sampling will begin and the voltage values returned from each channel will be displayed in the **Volts** textbox contained in the **Channel** frames. In the example (Figure 5), we see channels 0 and 1 as active, with channel 0 currently reporting -0.145 volts and channel 1 currently reporting -1.731 volts.
- Recalling that we set our **Gain** at 1 and our **Offset** at 0 for each of these channels on the **Configuration** screen, we see **Scaled Values** of -0.145 volts and -1.731

volts, meaning that the scaling coefficient is operating correctly. Refer to the configuration screen for details of the scaling coefficient operation.

- We also see that our graph is visualizing the continuous sampling by showing us the individual channels voltage values over time.
- To stop sampling, click **File** on the menu bar.
- A drop-down menu will appear. Click **Sample**. The check to the left of the **Sample** menu item will disappear and sampling will end.

Congratulations!

You are off and running! Please read the Smart Motherboard users manual to learn how to successfully put your Smart Motherboard to work.

Figure 1

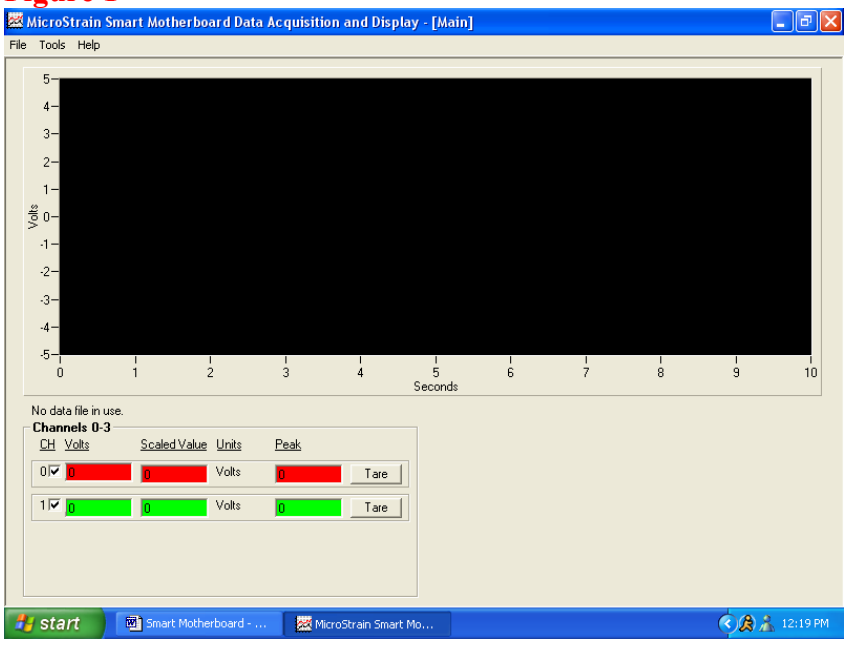

Figure 2

Figure 3

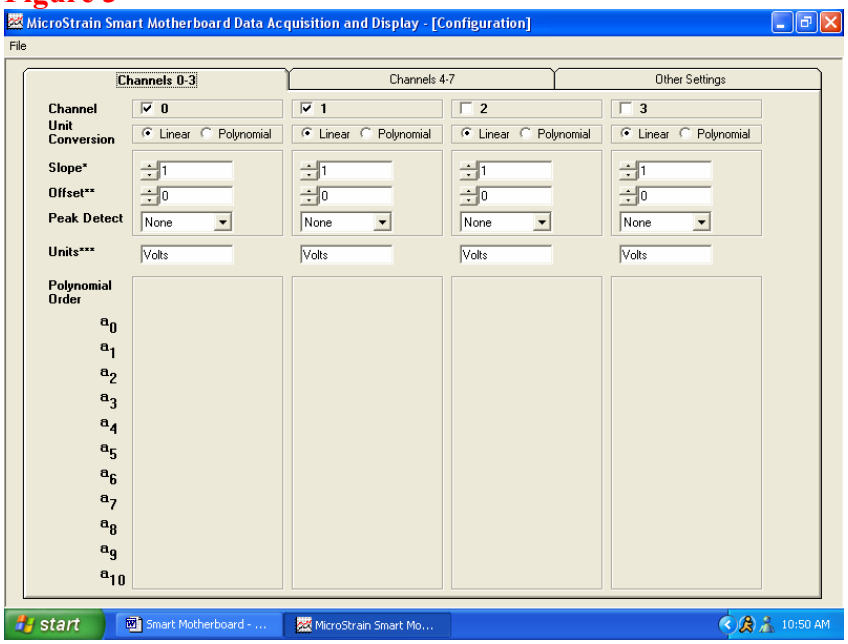

Figure 4

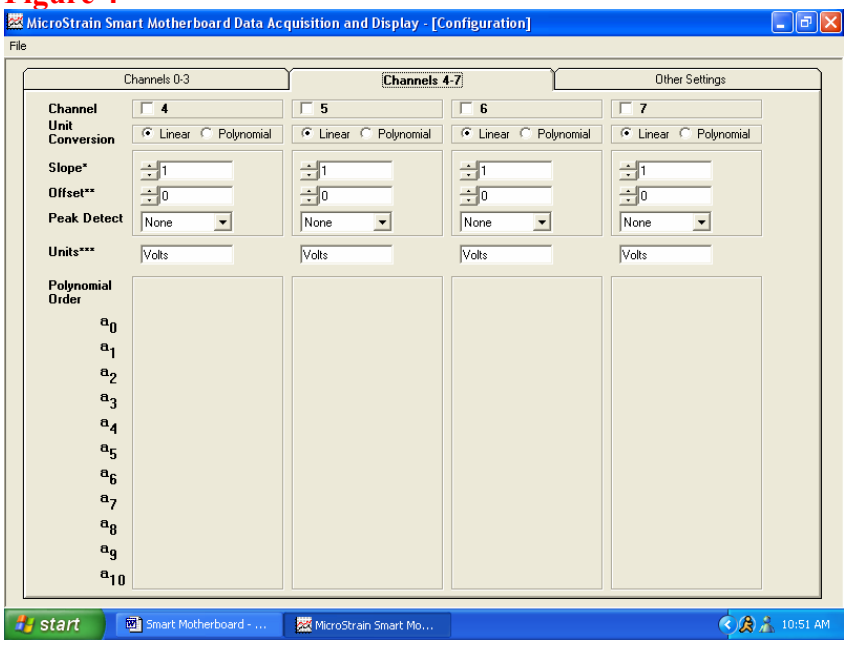

Figure 5