Instructions for the AD9865/AD9866 Evaluation Software
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INSTALLATION INSTRUCTIONS

Install National Instruments' LabVIEW™ Run-Time Engine, version 5.1.1 on your PC. This software is available free and can be downloaded from http://digital.ni.com/softlib.nsf/954feaeea92d90918625674b00658b83/053afff5c03be4ac862568a800082170?OpenDocument.

For Windows® 2000 or Windows NT

1. Unzip the AD9865_66_SPI_Win2K_NT.zip file, which can also be downloaded from the AD9865 or AD9866 product web page in the Evaluation Tools section. Once the file is unzipped, a folder called SPI_Executable_Win2K_NT is created. In that folder is a folder called Data, along with the following four files: AD9865_66_SPI_Win2K_NT.exe, GIVEIO.EXE, daqdrv, and serpdrv. Maintain the directory file structure.

2. Run the GIVEIO.EXE application to install the proper drivers, which configure the printer port used for the SPI interface. Reboot your system after installation.

3. Run the AD9865_66_SPI_Win2K_NT.exe application. The graphical user interface (GUI) appears. See Figure 1.

For Windows 95 or Windows 98

1. Unzip the AD9865_66_SPI_Win95_98.zip file, which can be also be downloaded from the AD9865 or AD9866 product web page in the Evaluation Tools section.

Once the file is unzipped, a folder called SPI_Exe_Customer_Win98 is created. In that folder there is a folder called data along with the following files: AD9865_66_CustWin.exe; daqdrv and serpdrv. Please maintain the directory file structure.

2. Run the AD9865_66_CustWin.exe application.

The graphical user interface (GUI) appears. See Figure 1.

OPERATION INSTRUCTIONS

The SPI controller GUI provides write and read access to all the SPI registers required to program and optimize the AD9865 and AD9866 MxFEs. Figure 1 shows the front-panel display of the GUI. The default setting is for a 3-wire SPI interface with MSB format. This can be changed to a 4-wire SPI interface and/or LSB format by toggling the designated switches located at the top of the display. Note that the user must also set Bit 7 of Register 0x00 prior to changing over to a 4-wire interface.

The register names and addresses are listed sequentially in two columns of oval buttons that can be selected (yellow) or deselected (red). To the right of each register button is a row of eight circular buttons for writing the specific bits (black for high or 1 and white for low or 0) to the 8-bit register. Below these circular buttons are small, square indicators showing the readback status of each bit (highlighted for high or 1 and unhighlighted for low or 0). Click Help in the toolbar menu to open a help text box that provides further information about the selected control button.

The user has the option of accessing all registers simultaneously or individually. Operation instructions for the SPI controller software are as follows.

Reading Back the SPI Data
Reading Back All Registers

1. Select the All Registers button. The button turns yellow.

2. Select the Read button. The button turns yellow.

3. Click the Run arrow at the top left corner of the screen. The appropriate bits are highlighted or unhighlighted in the small square indicators, signifying 1 or 0, respectively.

Note: Make sure that the Write button is deselected (red) or a write command also takes place.

Reading Back Specific Registers

1. Deselect the All Registers button (red).

2. Select the Read button (yellow).

3. Select the specific registers that you want read back (yellow).

4. Click the Run arrow. The appropriate bits are highlighted or unhighlighted in the small square indicators, signifying 1 or 0, respectively.

Note: Make sure that the Write button is deselected (red) or a write command also takes place.

Writing SPI Data

Writing to All Registers

1. To write to all the registers simultaneously, select the All Registers button (yellow).

2. Enter the desired data for each register by selecting the individual circular bit buttons next to each specific register button.

3. Click the Run arrow.

Note: To read back the written data simultaneously with the write command, select the Read button before clicking the Run arrow.

Selecting the All Registers write function forces the writing of all registers regardless of which ones are selected. Typically, this is unnecessary and should be avoided to prevent accidentally overwriting registers.

Writing to Specific Registers

1. To write to specific registers, deselect the All Registers button (red).

2. Select the specific registers that you want to write (yellow).

3. Enter the desired data for each selected register by selecting the individual circular bit buttons next to the register button.

4. Click the Run arrow.

Note: To read back the written data simultaneously with the write command, select the Read button (yellow) before clicking the Run arrow.
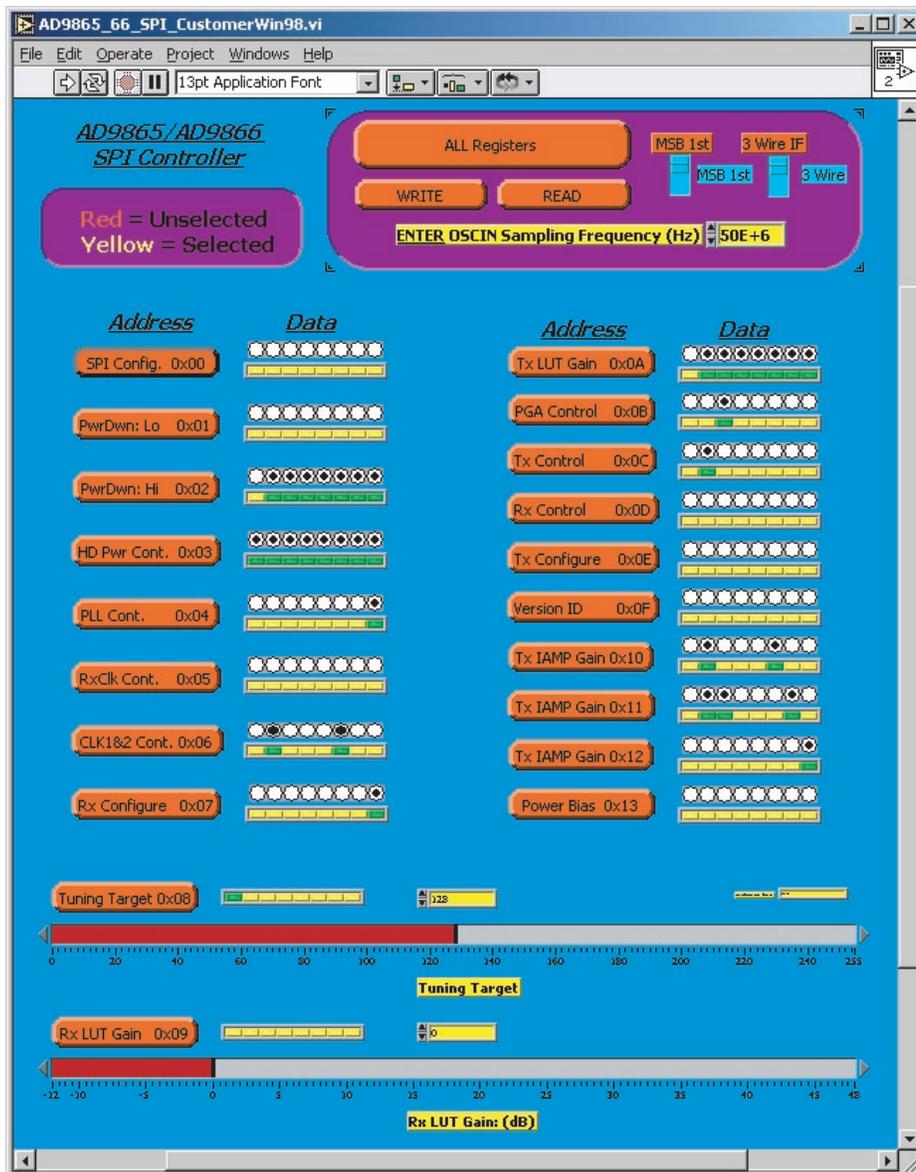
Figure 1. Front-Panel Display of the AD9865/AD9866 SPI Controller GUI

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