ANALOG DEVICES

64/256-Position I^{2}C Compatible
Nonvolatile Memory
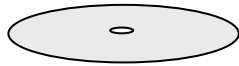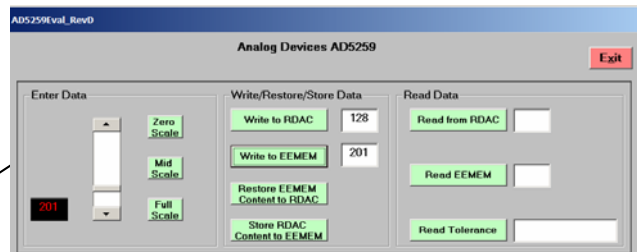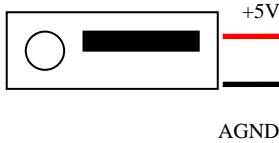Digital Potentiometer

Evaluation Board User Manual

AD5258/AD5259

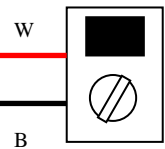**5 Steps to Setup The Evaluation Board…**

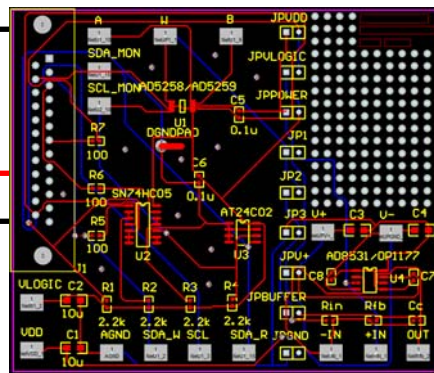1. **Install AD5258 / AD5259**

3. Open AD5258/59Eval_RevX.exe

2. Configure Board and connect to Parallel Port with Provided Connector and Cable

+5V

W

AGND

B

4. Use Computer's Supply or Provide Power Supply

5. Measure Result

Figure 1. Evaluation Kit Setup

No Programming Skills Required!

General Overview

This evaluation board provides the user with a simple and quick solution to evaluate digital potentiometers from Analog Devices.

How to Get Started

1. Load the CD and click on setup.exe.

2. Use power from the parallel port or apply an external power supply(refer to "Powering Options" to avoid damaging the part and computer port).

3. Connect board to parallel port with the provided connector and cable.

4. Open the AD5258/59Eval_RevX program from the Windows Start menu.

Powering Options

A. **Using the power from the parallel port.**
   1. Connect JPVDD jumper. This will power V_{DD}.
   2. Connect JPVLOGIC jumper. This will power V_{LOGIC}.

B. **Using an external power supply(supply must be at least +2.7V)***
   1. DO NOT connect JPVDD and JPLOGIC jumpers.
   2. Connect JPPOWER jumper.
   3. Connect voltage supply power and ground to the V_{DD} and GND pads on the board.

*If two independent supplies are being for V_{DD} and V_{LOGIC}, do not connect JPPOWER. Simply apply the two power supplies to V_{DD}, V_{LOGIC}, and GND pads on the board.

How to Use Software Interface

1. In the 'Enter Data' box, either type in the value, use the scroll bar, or click a preset button. Note that this is simply a data entry box and does not perform any function on the digital potentiometer device. Communication with the device occurs in Steps 2 and 3.

2. In the 'Write/Restore/Store' box…

   i. Click on 'Write to RDAC' to write value chosen in Step 1 to the RDAC.
   ii. Click on 'Write to EEMEM' to write value chosen in Step 1 to the EEMEM.
   iii. Click on 'Restore EEMEM Content to RDAC' to restore current EEMEM content to RDAC.
   iv. Click on 'Store RDAC Content to EEMEM' to store current RDAC setting to EEMEM.

3. In the 'Read Data' box…

   i. Click on 'Read from RDAC' to read back current setting of RDAC.
   ii. Click on 'Read EEMEM' to read back current content of EEMEM.
   iii. Click on 'Read Tolerance' to read back the tolerance of the resistance R_{AB}. For example, if the device is the device is a 10kΩ option and the tolerance readback is 3.5%, that would mean the actual value of R_{AB} = 10,350Ω.

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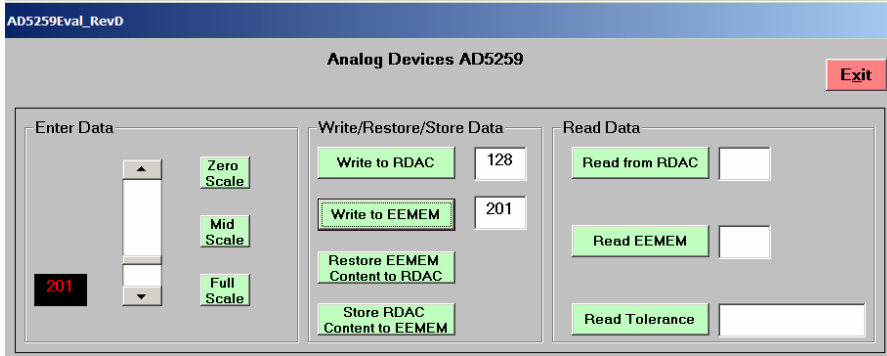
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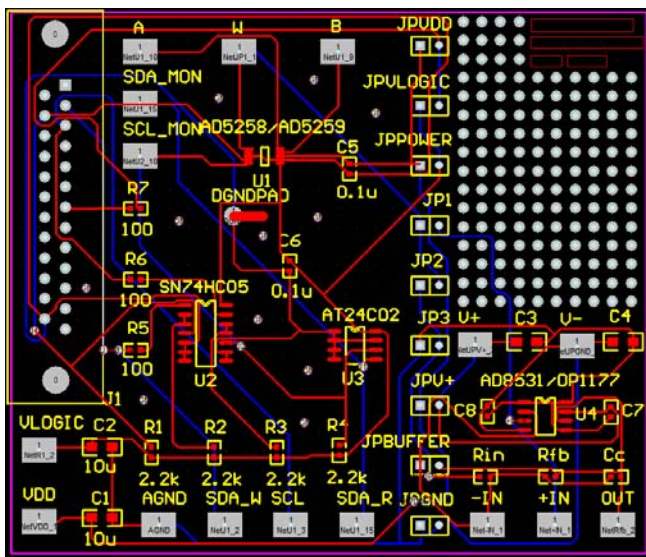
Figure 2. AD5259 Software Graphical Interface

Figure 3. Evaluation Board Top Overlay.
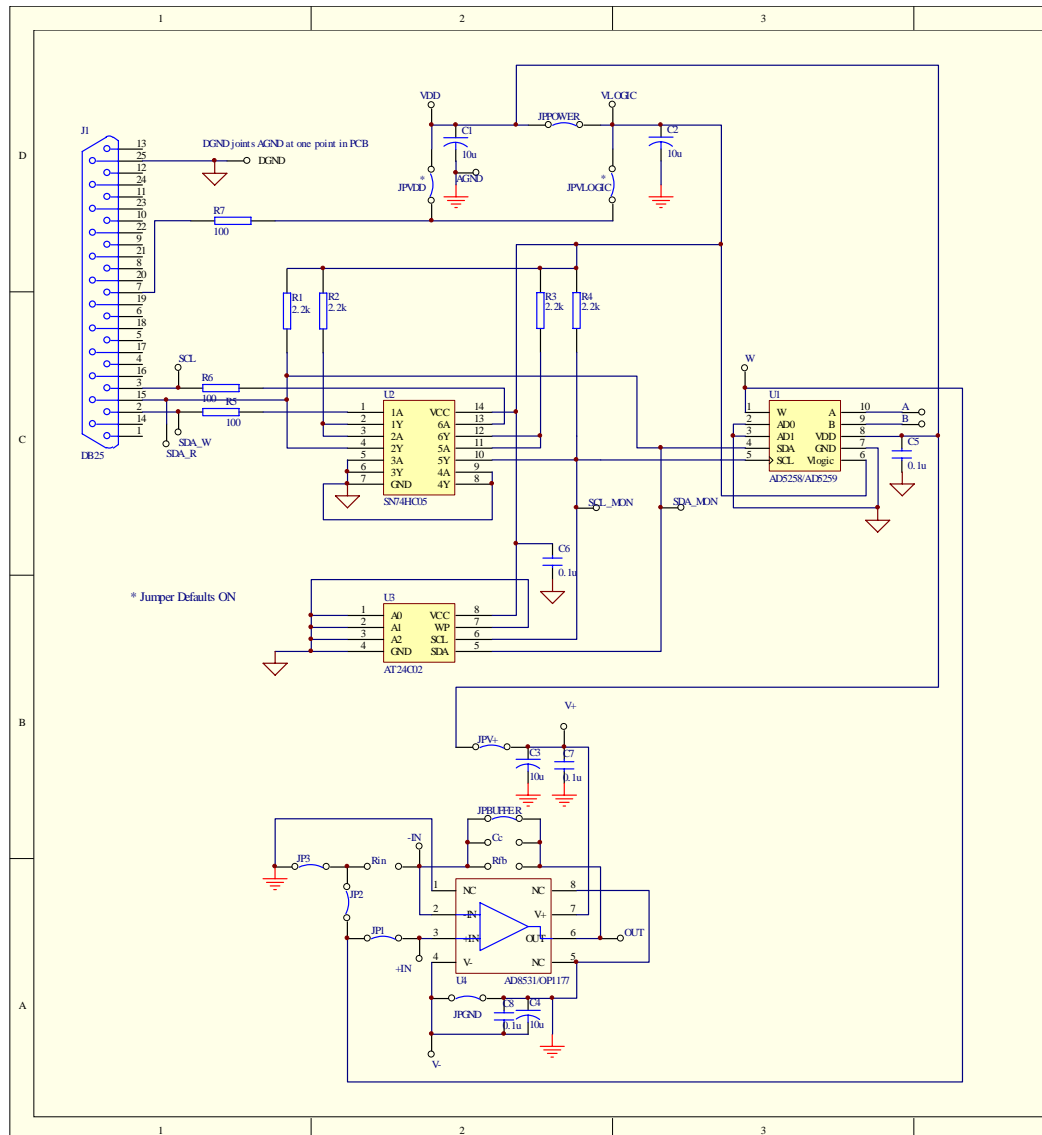
Figure 4. Evaluation Board Schematic

Figure 5. Pinout

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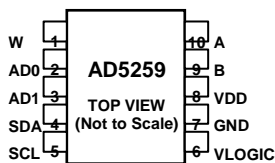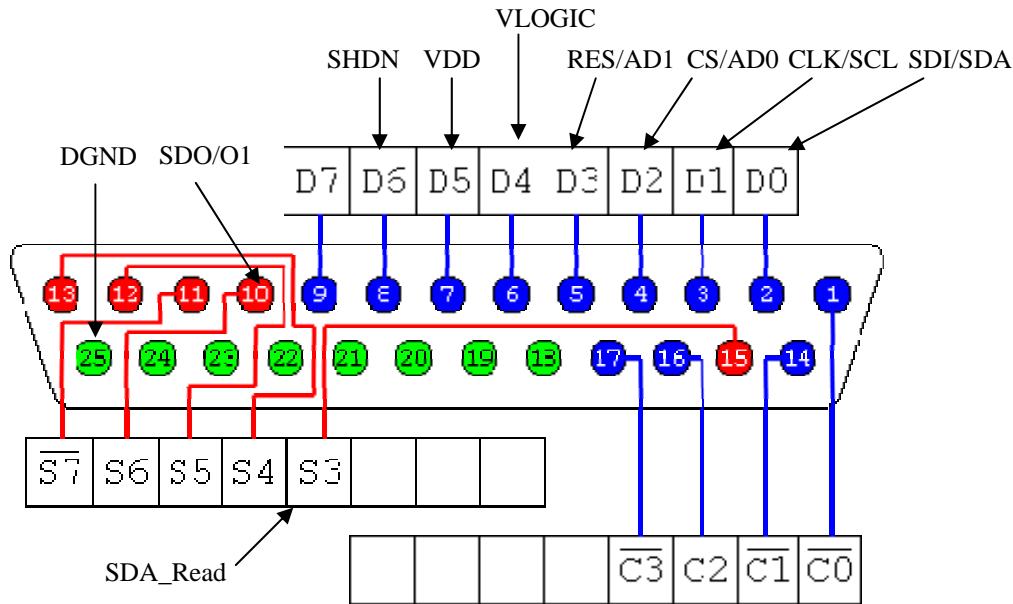
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Parallel Port Connection (Information for Visual Basic Program Developers Only)

http://www.doc.ic.ac.uk/~ih/doc/par/

8 output pins accessed via the **DATA Port**   portID = Val("&H" + "378")   [378h = 888]
5 input pins (one inverted) accessed via the **STATUS Port**   portID = Val("&H" + "379")   [379h = 889]
4 output pins (three inverted) accessed via the **CONTROL Port**   portID = Val("&H" + "37A")   [37Ah = 890]
The remaining 8 pins are grounded