

### 5 Steps To Setup The Evaluation Board...

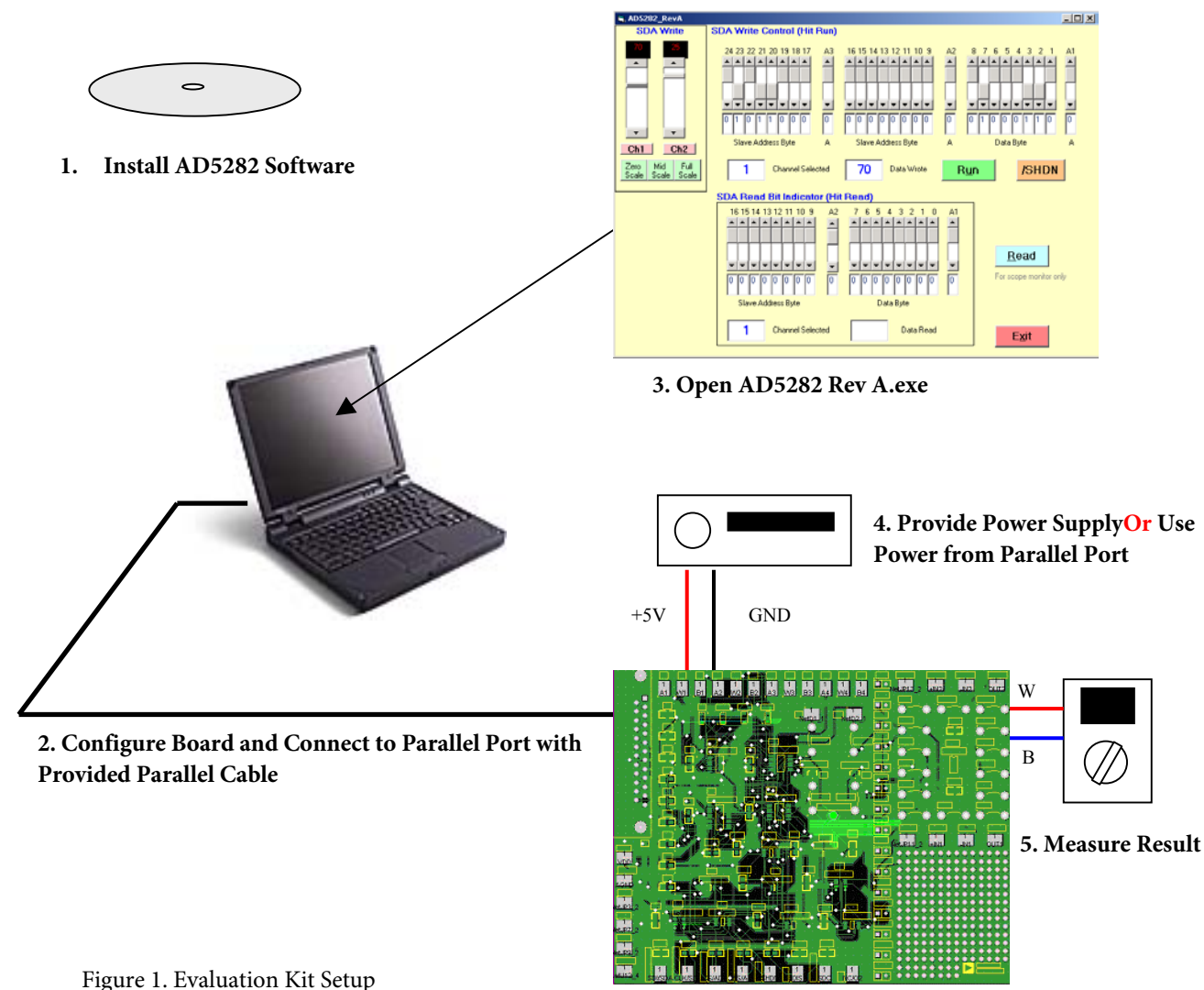


Figure 1. Evaluation Kit Setup

**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. Only one digital pot can be placed on the board at a time. For the user's convenience, a general purpose opamp, 2.5V voltage reference, and two power MOSFETs are included and can be configured in a variety of flexible configurations. The digital pot can be used by itself or in conjunction with these other components.

### How to Get Started

1. Click on the Install Software link in the Digital POT CD browser or setup.exe if you don't have the CD browser.
2. Configure board to your liking (refer to "Configuring Other Components" on page 4 for more details). A two channel opamp (AD822B), 2.5V reference (ADR03), and two power mosfets (FDV301N) are provided for your convenience. **If you would simply like to evaluate the digital pot, then ignore Step 2 and proceed to Step 3.**
3. **Apply a separate power supply or use power from the parallel port** (refer to "Powering the AD5282" on page 4 to avoid damaging the part).
4. Connect board to parallel port with provided parallel cable.
5. Open the AD5282 Rev A program from the Windows Start – Program. Move scroll bar to program resistance settings. The operation is self-explanatory.

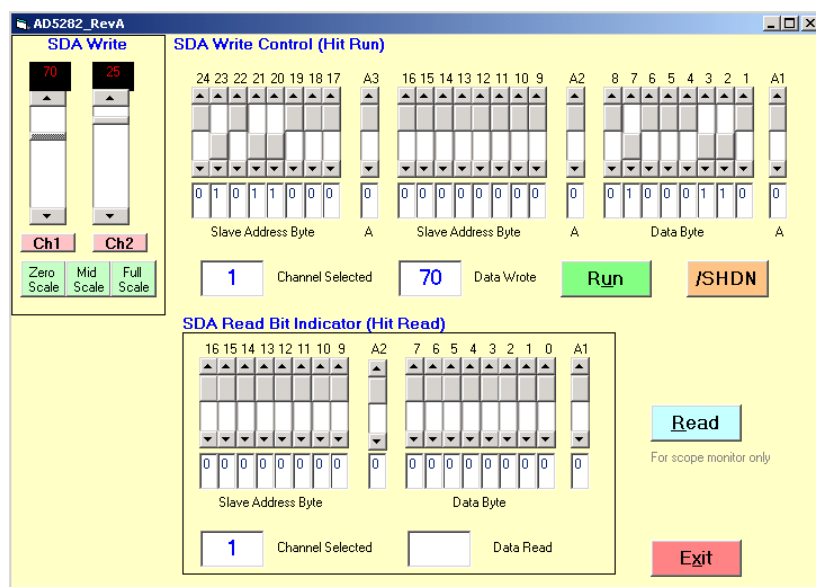


Figure 2. AD5282 Software Graphical Interface



# 256-Position I<sup>2</sup>C Compatible Dual, +15V, Digital Potentiometer

Evaluation Board User Manual

AD5282

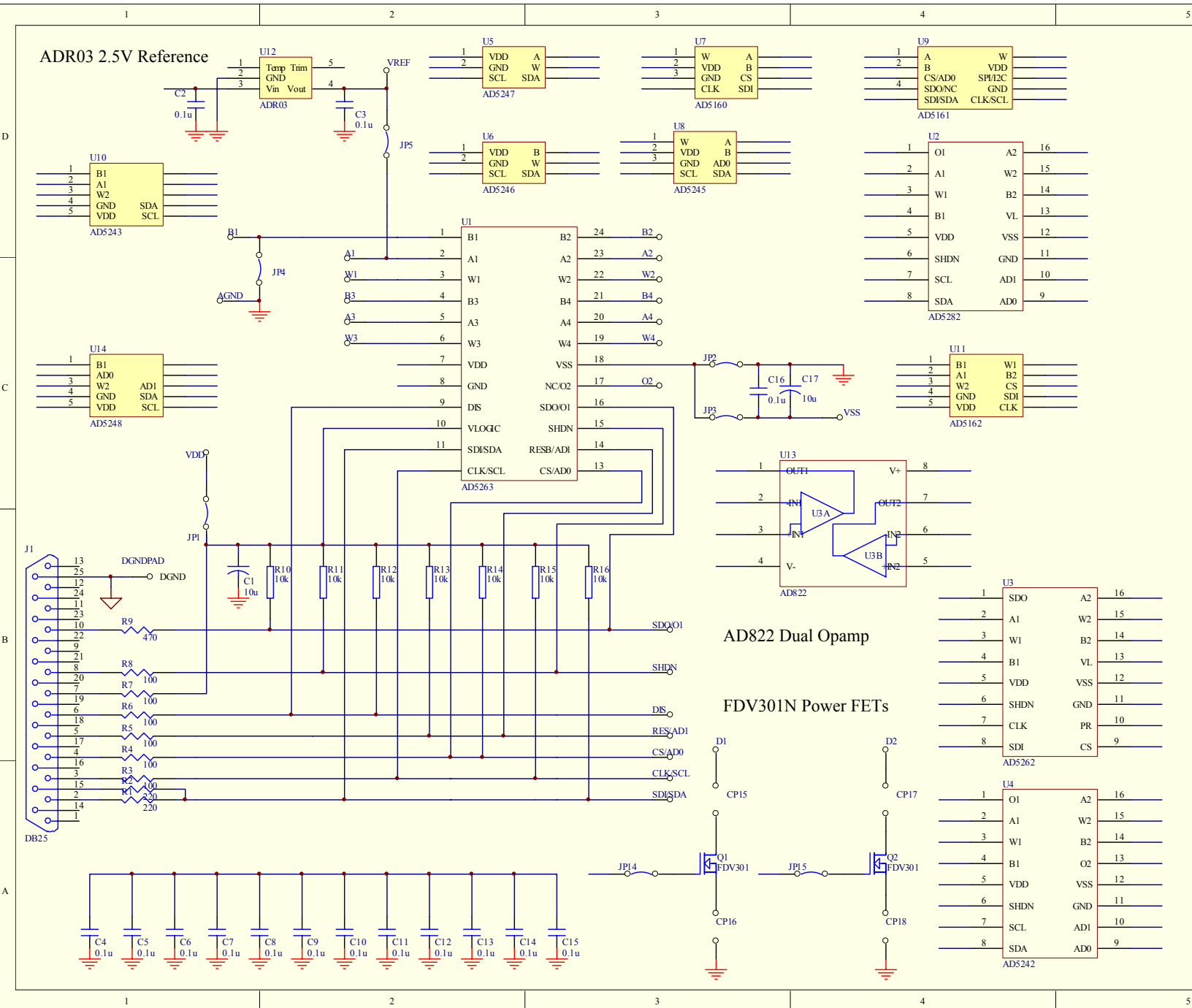


Figure 3. Evaluation Board Schematic

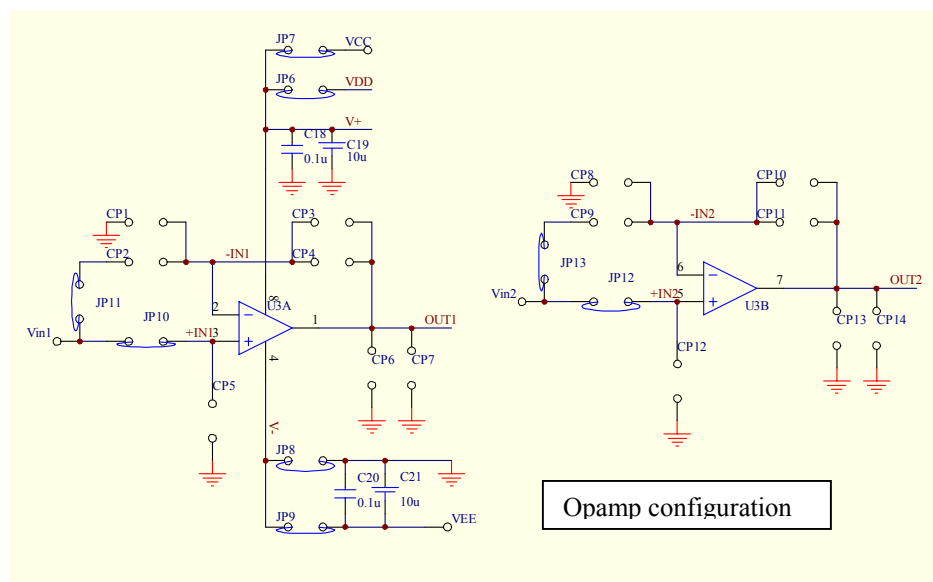


Figure 4. Detailed Opamp Connections

### Powering the AD5282: Two Options for Powering

#### I. Using the power from the parallel port as VDD

Simply connect JP1 and JP2.

The voltage level will be whatever your parallel port operates at.

#### II. Using a separate supply

**DO NOT connect JP1. Only connect JP2.**

Connect voltage supply power and ground to the VDD and GND pads on the board.

**Note:** In both modes, VL will be supplied from the parallel port.

To use the part in a dual supply mode, instead of connecting JP2, connect JP3. Proceed to connect negative supply to the VSS pad.

### Configuring other Components

#### Two Channel Opamp - AD822

##### Positive Supply

To use the same VDD as the AD5282, connect JP6.

To use a separate positive supply, connect JP7 and apply positive supply (no more than +5V) to the VCC pad.

##### Negative Supply

To use GND, simply connect JP8.

To use a negative supply, connect JP9 and apply negative supply to VEE pad.

For more details on connectors and jumpers around the opamp, refer to Figure 4.

**2.5V Voltage Reference – ADR03**

By connecting JP5, the voltage reference is connected to the A-terminal of channel-1 of the AD5282. You don't need to worry about applying VDD because it is hardwired from the same source that is powering the AD5282.

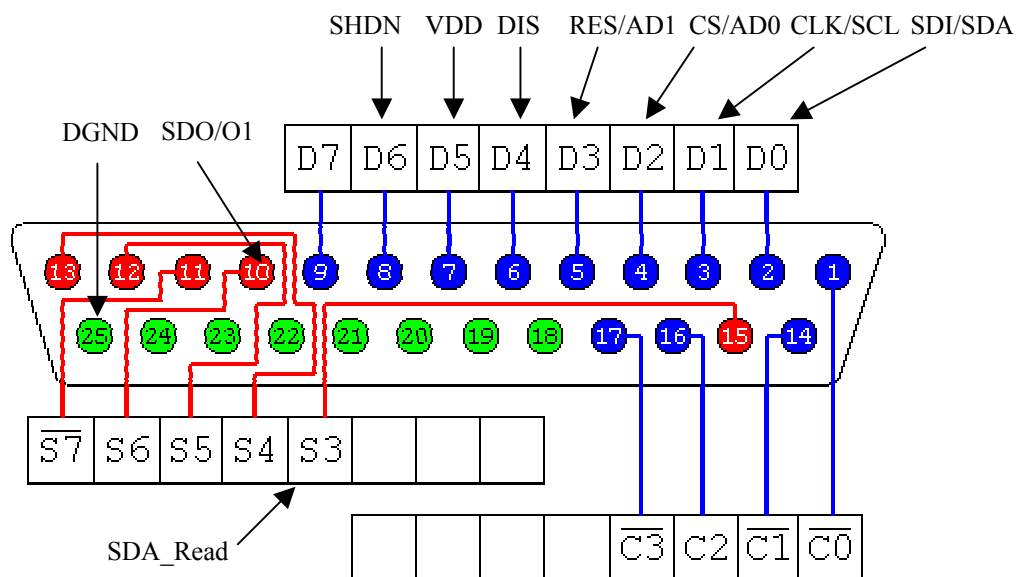
**Power Mosfets – FDV301N****Q1**

By connecting JP14, the wiper of channel-1 is connected to the gate of Q1. CP15 can be used to place a resistor between the drain and pad D1. CP16 can be used to place a degenerative resistor between the source and GND.

**Q2**

By connecting JP15, the wiper of channel-2 is connected to the gate of Q2. CP17 can be used to place a resistor between the drain and pad D2. CP18 can be used to place a degenerative resistor between the source and GND.

### AD5282 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**

5 input pins (one inverted) accessed via the **STATUS Port**

4 output pins (three inverted) accessed via the **CONTROL Port**

The remaining 8 pins are grounded

portID = Val("&H" + "378") [378h = 888]

portID = Val("&H" + "379") [379h = 889]

portID = Val("&H" + "37A") [37Ah = 890]

### TIMING DEFINATION IN VISUAL BASIC SOURCE CODE cmdRUN

(I<sup>2</sup>C shown)

