

# Setting up and Running SPI Sample (MPC3008)

## MCP3008 Setup

### Connections

MCP3008 Pin	Rasp Pi Signal	
V <sub>DD</sub>	+3.3V	
V <sub>REF</sub>	+3.3V	
AGND	GND	
CLK	SCLK	
D <sub>OUT</sub>	MISO	
D <sub>IN</sub>	MOSI	
$\overline{CS}$ /SHDN	CE0	
DGND	GND	

CH<number> pins get connected to the Analog<sub>OUT</sub> of the analog circuits

## Analog Circuits

### Force-sensitive Resistor

### Photocell

### Potentiometer (Variable Resistor)

## Running SPI Sample

First build the dio-spi.jar file:

```
cd samples/spi
ant
```

Then copy ../build/jar/dio-spi.jar to the board.

(On the Pi)

For this example you should have SPIDevice entry in your dio.properties file like this example for the raspberry pi:

```
12 = deviceType: spibus.SPIDevice, name:
SPI_Slave, deviceNumber:0, address:0,
csActive:1, wordLength:8, clockFrequency:500000
, clockMode:1, bitOrdering:1
```

Note that these are the current values in the repo which reflect a recent update. Older dio.properties versions will not work.

```
sudo $JAVA_HOME/bin/java -Djava.library.
path=. -Djava.security.policy=./java.policy -
classpath ../dio.jar:dio-samples.jar:dio-spi.
jar -Djdk.dio.registry=./dio.properties -
Ddeviceaccess.uart.prefix=/dev/ttyAMA dio.spi.
MCP3008Sample 12 4
```

Note that "12" is the device manager ID number of the SPIDevice in the example property line shown above. "4" selects the channel on the MPC3008. You should use the channel number connected to the analog circuit you're trying to read.