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Interfacing Arduino with LabView

Go to the Sensorica Technical Education for more learning experiences

This is a co-creation document, make sure you respect the Content rules

Contents

NOTE: Only works for LabView 8.5 and higher.

Based on LINX

See tutorial on LabView Hacker
See tutorial on National Instruments

See short video

LVH LINX

Base on LIFA

NOTE: LIFA is not supported anymore, you can encounter problems, perhaps you need to use an older version of the Arduino IDE. For example, 1.0.5 that you can get from here, with a windows installer.

Sparkfun sells a software kit for 50$.

LabViewHacker: Getting started with LabView interface for Arduino

LabVIEW Interface for Arduino Setup Procedure

Setting up the LabVIEW Interface for Arduino is a six step process that you will only need to complete once. Please follow the instructions below to start creating applications with the LabVIEW Interface for Arduino.

(For a brief overview of the LabVIEW Interface for Arduino see Michaels post here).

1. Install LabVIEW
   - If you purchased the LabVIEW and Arduino bundle from Sparkfun.com you can install LabVIEW from the included DVD.
   - If you do not own a copy of LabVIEW you can download and install the 30 day evaluation version here.

2. Install the NI-VISA drivers.
   - Windows Download.
   - Linux Download.
   - Mac Download.

3. Install JKI VI Package Manager (VIPM) Community Edition (Free).
   - All Operating Systems.

4. Install the LabVIEW Interface for Arduino as described in KB 5L38JQYG

5. Connect your Arduino to your PC as described in KB 5INA7UYG

6. Load the LabVIEW Interface for Arduino Firmware onto your Arduino as described in KB 5LPAQIYG

(We are working to fix the above document. The firmware can be found in <LabVIEW>\vi.lib\LabVIEW Interface for Arduino\Firmware\LVIFA_Base . Use the arduino IDE to deploy this firmware to your Arduino.)

You are now ready to use the LabVIEW Interface for Arduino. Click here to see some examples to help get you started.

NOTES:
Some applications require a modified version of LIFA. For example, the DHTxxx air temperature and humidity sensor requires this LIFA DHTXX LV09 Rev B version.
LIFA is not used anymore, so you might need to use an order version of Arduino IDE.

After the installations you need to make sure you have VISA on installed.
If there is a communication error (*error 5002 or 5003 - unable to connect to USB*) see THIS resource. I had a bodrate problem that I had to fix in the LabVIEWinterface.h

```
#define FIRMWARE_MAJOR 02
#define FIRMWARE_MINOR 00
#if defined(__AVR_ATmega1280__) || defined(__AVR_ATmega2560__)
#define DEFAULTBAUDRATE 9600    // Defines The Default Serial Baud Rate (This must match the baud rate specifid in LabVIEW)
#else
#define DEFAULTBAUDRATE 9600
#endif
#define MODE_DEFAULT 0          // Defines Arduino Modes (Currently Not Used)
#define COMMANDLENGTH 15        // Defines The Number Of Bytes In A Single LabVIEW Command (This must match the packet size specified in LabVIEW)
#define STEPPER_SUPPORT 1       // Defines Whether The Stepper Library Is Included - Comment This Line To Exclude Stepper Support
```

See also

- MyOpenLab, an open source software, graphical programming, like LabView, works with Arduino Uno. See our help document.
- Scilab open source software, graphical prog. simulations, math, signal analysis and processing
- Miniblog