

Musbiha's Findings

LINX and Arduino interfacing

LabVIEW LINX GUI on the PC (My trial Files are names are: **Try to Interface or Program Arduino with LINX, USB 1.0.vi** AND **Try to Interface or Program Arduino with LINX, HC05 1.0.vi**) is only able to interface with Arduino over **USB** or **Bluetooth** connection. Note: **LINX - Bluetooth** connection is very unreliable (**99% times it gives error**).

LabVIEW LINX GUI **can NOT program** the Arduino (So once I disconnect the Arduino from the PC, the microcontroller does not have the program or logic loaded in it anymore).

LabVIEW LINX GUI **has to be able to Serial Print** (So that it can read and/or write data from and to HC-05).

LINX and HC-05 Bluetooth Communication (**99% times it gives error**). My post regarding this error is here

<https://forums.ni.com/t5/Hobbyist-Toolkit/LINX-Blink-Simple-vi-is-not-working-with-HC-05-over-bluetooth/td-p/4241723>

Emily's post received some answers which have been explored but the errors persisted.

<https://forums.ni.com/t5/LabVIEW/LabVIEW-with-Arduino-and-HC05-Bluetooth/m-p/4241534>

HC-05 Arduino bluetooth both read and write.. This way it is possible to make two Arduinos talk to each other via bluetooth but then computer interface (from Labview) is not possible without USB.

<https://www.engineersgarage.com/pairing-two-hc-05-bluetooth-modules-and-share-data-between-them/>

Can LINX Serial Print? I am trying to make linx serial print (using UART). I was unable to recreate this exact project with Linx and Arduino uno.

<https://www.youtube.com/watch?v=BhsX3CiwsW4>

(Trial File names are **Try to Interface (Serial Write) Arduino with LINX, USB 1.2.vi**)

UART error . UART read/write option Did not work between two arduino uno boards.

Linx and Error 5003 : These suggestions here were explored too

<https://forums.ni.com/t5/Hobbyist-Toolkit/Linx-for-Labview-2020-Error-5003/td-p/4070806>

NI VISA and Arduino interfacing

NI VISA on the PC (My trial Files are in the folder named **Bluetooth Experiments**) is only able to interface with Arduino over **USB** or **Bluetooth** serial comm, **provided, Arduino has a program (a sketch) pre-loaded in it.**

Note: **VISA - Bluetooth** connection is very reliable (**works all the time**). I was able to recreate this:

<https://www.youtube.com/watch?v=Kw4eOkq1B4k>

NI VISA GUI **can NOT program** the Arduino either (So once I disconnect the Arduino from the PC, the microcontroller does not have the program or logic loaded in it anymore).

NI VISA and HC-05 Communication (**works perfectly**).

How to Pair HC-05 Bluetooth Modules <https://www.youtube.com/watch?v=BXXAcFOTnBo>
<https://www.youtube.com/watch?v=uOUSW00n838>

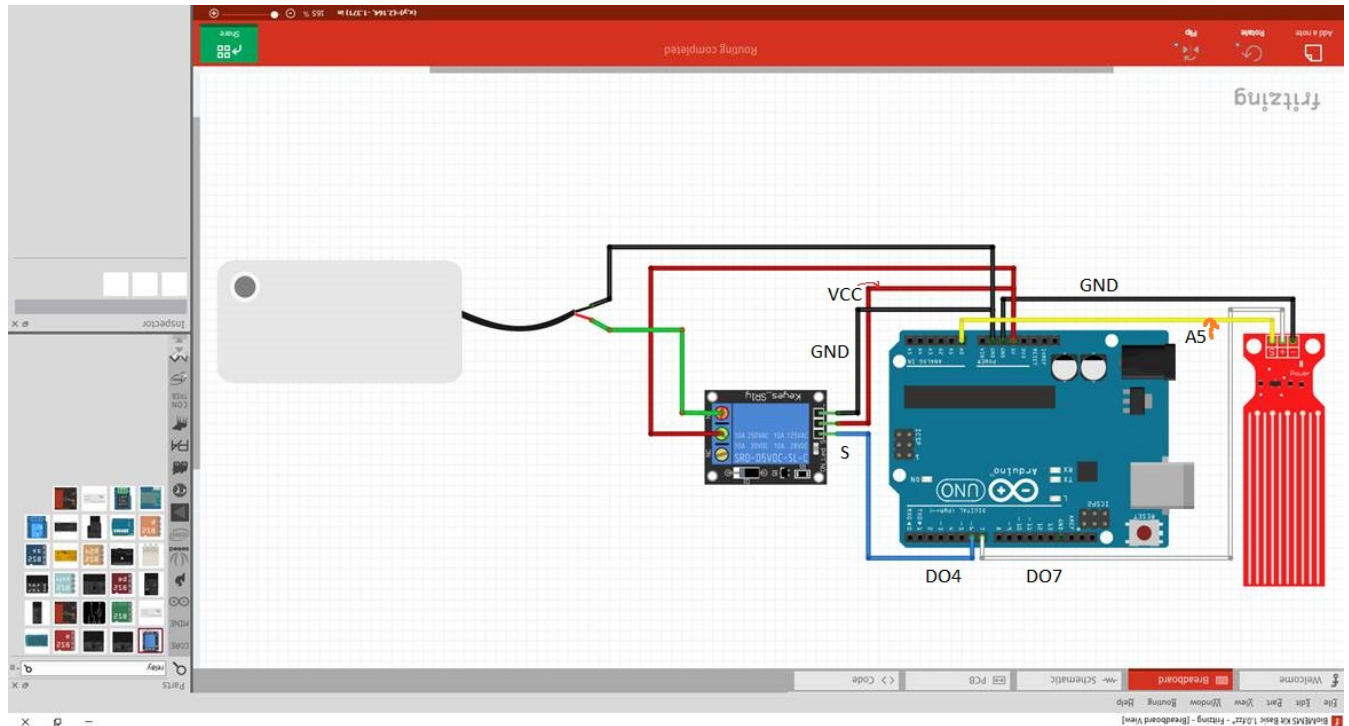
Can NI VISA Serial Print? Yes

Experimenting with LIFA (Labview Interface For Arduino) :

<https://www.youtube.com/watch?v=RGRhIQneO6w>

Wasn't able to recreate either, serial communication error

I used Labview 2020 and this circuit for Arduino interfacing



Two Arduinos HC-05 Wireless Interfacing sample project files

In this folder:

<https://drive.google.com/drive/folders/1sPaw3e8UGgkNQWcc2Edel-OoT9xx8mPy?usp=sharing>

HiLetgo 315Mhz RF Transmitter and Receiver

Found a resource where the receiver is being treated as an analog input.

<https://arduinobasics.blogspot.com/2014/06/433-mhz-rf-module-with-arduino-tutorial.html>

According to this article,

When a HIGH signal is transmitted to the other Arduino, It will produce an AnalogRead = 0.

When a LOW signal is transmitted, it will produce an AnalogRead = 400.

This may vary depending on on your module, and voltage used.

HC-05 Programming:

<https://www.quora.com/What-could-be-the-reason-behind-the-HC-05-Bluetooth-module-not-discoverable-by-either-a-laptop-or-a-smartphone-while-the-LED-on-HC-05-is-still-blinking>

Finally,

I was able to re-create this project: <https://www.youtube.com/watch?v=Kw4eOkq1B4k>

But failing to recreate this one: <https://www.youtube.com/watch?v=vqr7M266u6U>