



Simple Arduino-based USB VID & PID tester

Created by lady ada



<https://learn.adafruit.com/simple-arduino-based-usb-vid-and-pid-tester>

Last updated on 2024-06-03 01:47:26 PM EDT

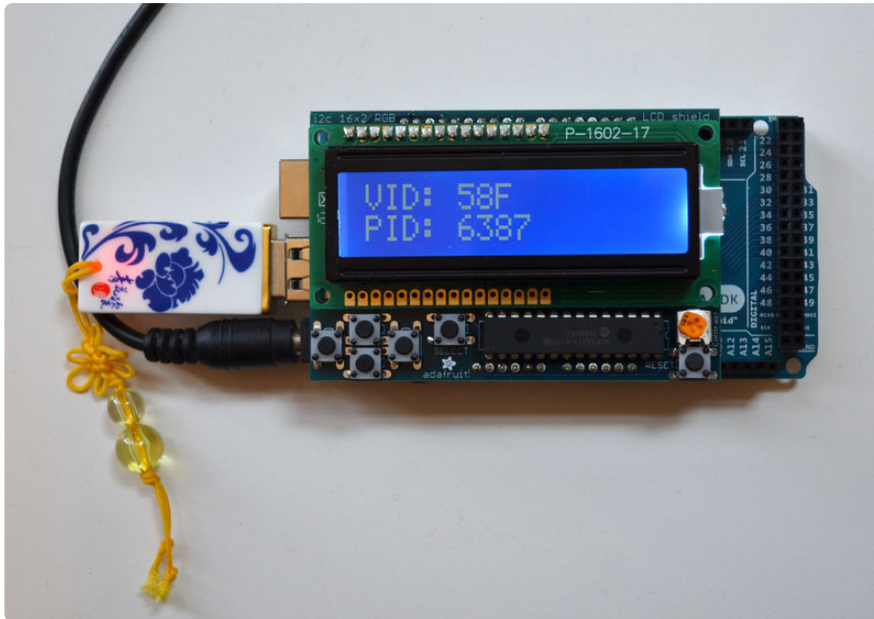
Table of Contents

Let's do this thing

3

- Ingredients
- Put it together, add code!

Let's do this thing

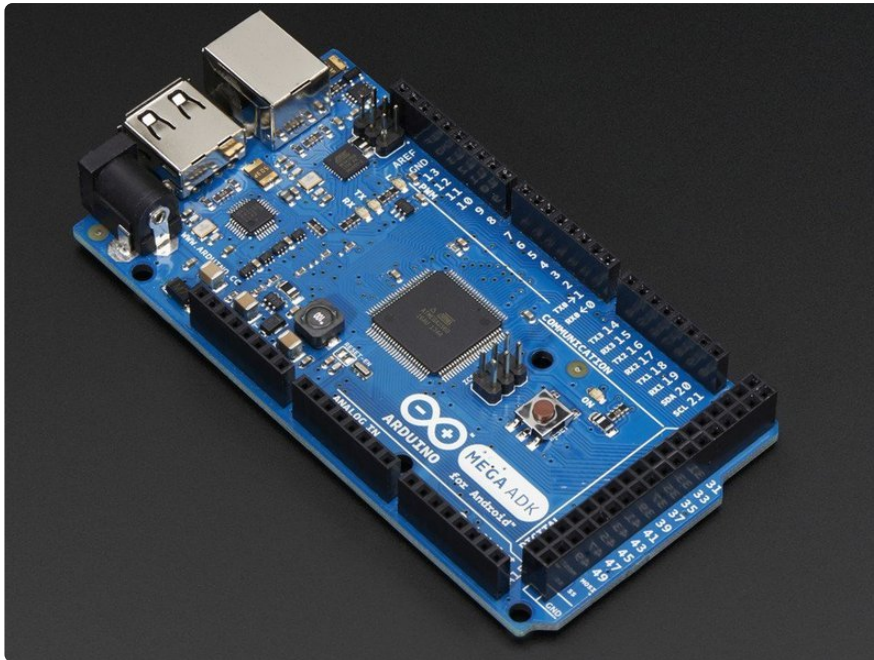


This is a project we use here at adafruit to check incoming goods as well as QC products out of manufacturing. If you have a USB device, the chip inside has a unique VID (vendor ID) and PID (product ID). For non-programmable parts, this pair is 'fixed' by the chipset itself. For programmable parts, like a microcontroller, the VID/PID is programmed in. Basically, you can use it to check chipsets and/or whether your Flora, say, has the right bootloader installed.

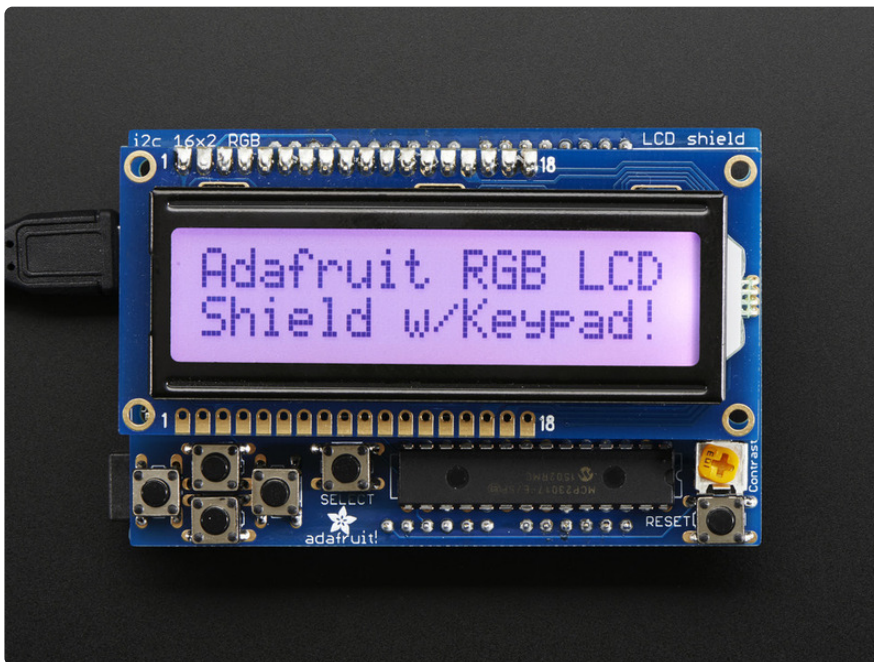
This is something we have to check a few times a day, so we made stand-alone tester!

Ingredients

- [You'll need an Arduino with a USB host shield, I just used an Arduino ADK. \(http://adafru.it/563\)](http://adafru.it/563)



You'll also want some sort of display, [such as a plain](http://adafru.it/772) (<http://adafru.it/772>) or [RGB 16x2 LCD shield](http://adafru.it/716) (<http://adafru.it/716>) kit. Be sure to follow the product tutorial to assemble



Put it together, add code!

OK not a lot going on here, put the LCD shield on top, install the Arduino library, upload the shield demo code & adjust the contrast potentiometer so you know it works. Then upload this code:

```
// include the library code:  
#include <Wire.h>;
```

```

#include <utility/Adafruit_MCP23017.h>;
#include <Adafruit_RGBLCDShield.h>;
#include <avrpins.h>;
#include <max3421e.h>;
#include <usbhost.h>;
#include <usb_ch9.h>;
#include <Usb.h>;
#include <usbhub.h>;
#include <address.h>;

USB    Usb;
Adafruit_RGBLCDShield lcd = Adafruit_RGBLCDShield();

void setup () {
  Serial.begin(9600);          /* Initialize serial for status msgs */
  Serial.println(F("\nVID PID tester"));

  lcd.begin(16, 2);
  lcd.setBacklight(0x7);
  lcd.print("USB VID/PID Test");
  lcd.setCursor(0,1);
  lcd.print("Waiting for USB");
}

void loop (void) {

  // initialize USB
  Serial.println("USB Start");

  if (Usb.Init() == -1) {
    Serial.println("OSC did not start.");
    while (1);
  }
  Serial.println("Waiting for connection...");

  while (1) {
    Usb.Task();

    if( Usb.getUsbTaskState() == USB_STATE_RUNNING ) break;
  }
  uint8_t rcode = 0;
  byte num_conf = 0;

  USB_DEVICE_DESCRIPTOR buf;
  rcode = Usb.getDevDescr(1, 0, 0x12, ( uint8_t *)&buf );
  if( rcode ) {
    Serial.print("USB ERROR: "); Serial.println( rcode );
    while (1);
  }
  Serial.print("VID: 0x"); Serial.print(buf.idVendor, HEX);
  Serial.print(" PID: 0x"); Serial.println(buf.idProduct, HEX);

  lcd.clear();
  lcd.print("VID: "); lcd.print(buf.idVendor, HEX);
  lcd.setCursor(0,1);
  lcd.print("PID: "); lcd.print(buf.idProduct, HEX);

  Serial.println("***Done!***");

  while (1);
}

```

That's it! When the ADK is powered it will display:



Plug in something that will enumerate, into the USB port, and you'll see the HEX code for VID and PID

