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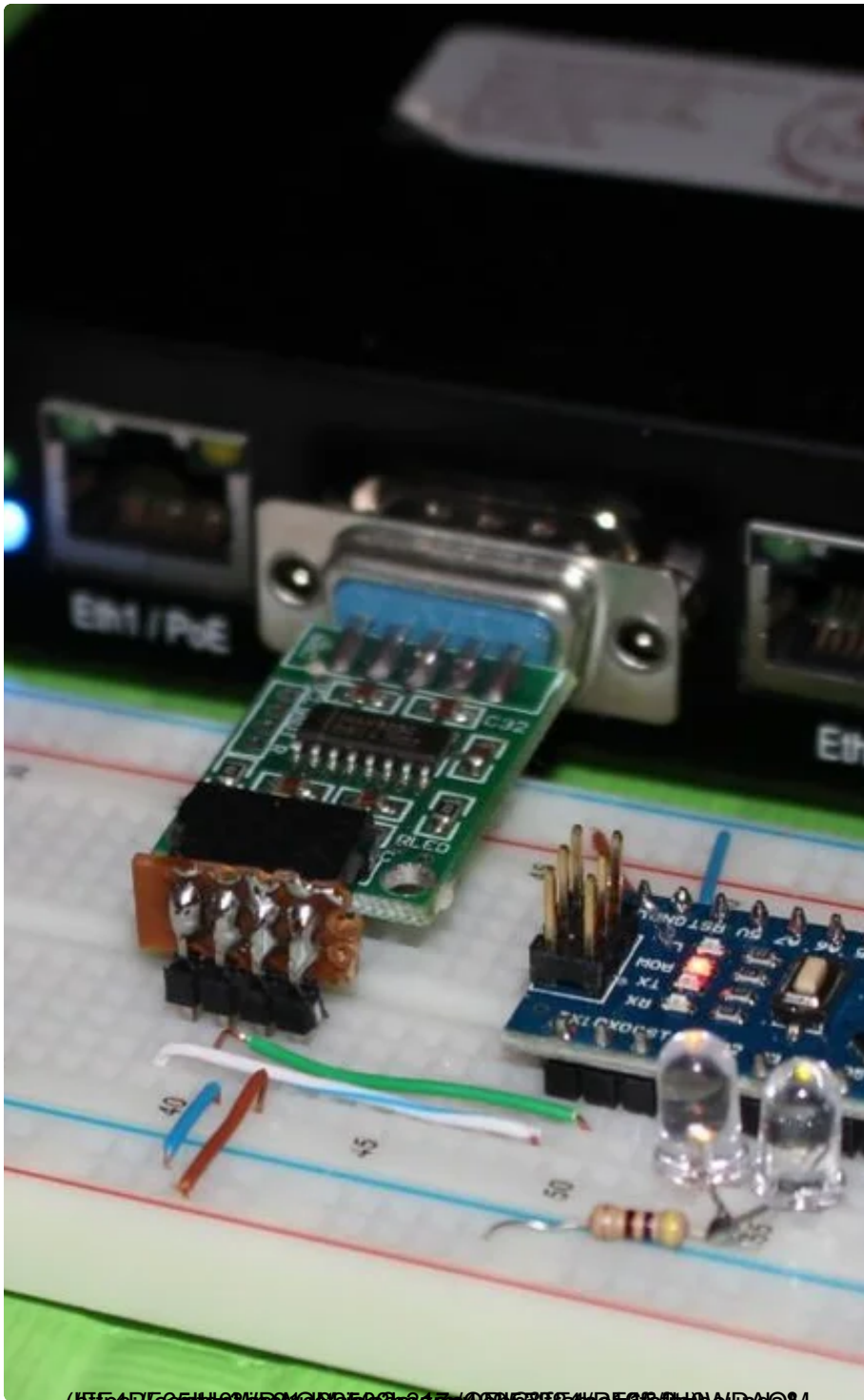| Projects (/circuits/projects/) | Contests (/contest/) | Let's Make... 🔍 |

Using MikroTik Router Board 433 & Arduino to Control Two LEDs

By Husham Samir (/member/Husham+Samir/) in Circuits (/circuits/) > Electronics (/circuits/electronics/projects/)

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In this tutorial I will explain how to control two LEDs using MikroTik router board and Arduino.

MikroTik 433 is a router board based on Linux kernel ,it contain 3 Ethernet port and 3 mini PCI port used to connect wireless cards as required and the most interesting thing for me that it contain serial port ,So I decide to control Arduino through this serial port.

the principle of this project is to send serial data from a laptop through WiFi by forwarding this data in TCP port to MikroTik router board then to arduino .

Laptop(GUI using Processing)--->Virtual Serial (VSPE)---->WiFi----->MikroTik Serial port---Arduino---->LED

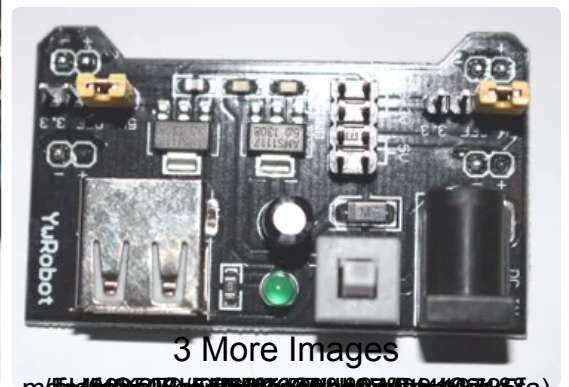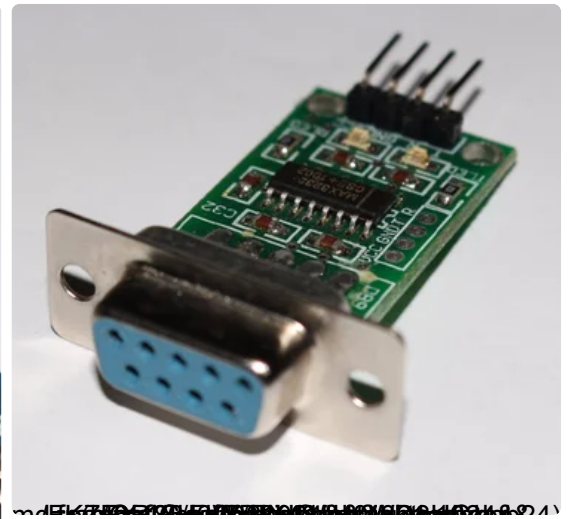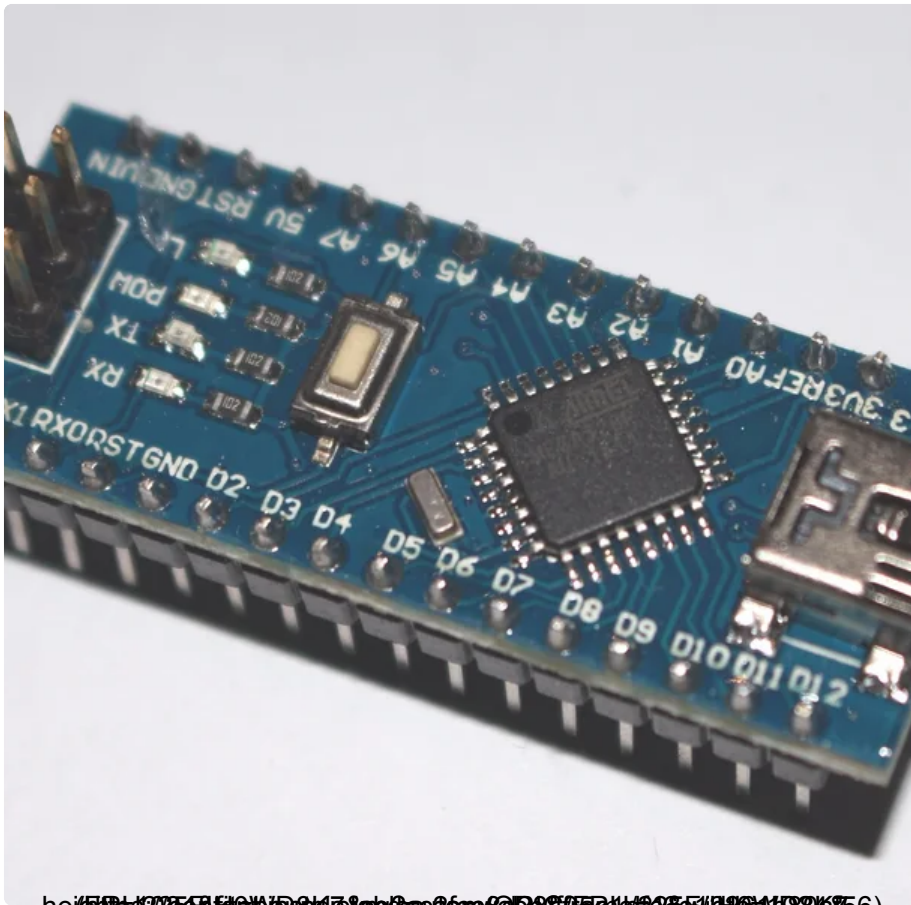Control 2 LED using MikroTik & Arduino

▶

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Step 1: List of the Materials

Hardware Parts :

1- Bread Board.

2- Arduino Nano.

3- 5V power supply module .

4- RS232-TTL Converter MAX232.

5- MikroTik Router Board 433 + Wireless Card + transformer.

6- 220 ohm resister.

7-SIP male & Fe-mail connectors with small piece of PCB as shown in the picture to make
L type connector.

8-Wires

Software :

1- Arduino Sketch I used Ver. 1.0.3 .

https://www.arduino.cc/en/Main/Software (https://www.arduino.cc/en/Main/Software)

2- processing-3.0

https://processing.org/download/ (https://processing.org/download/)

3- Winbox

http://www.mikrotik.com/download (http://www.mikrotik.com/download)

4- VSPE (Virtual Serial Emulator) Free for 32 Bit ,for 64 Bit you need to purchase the license.

http://www.eterlogic.com/Downloads.html (http://www.eterlogic.com/Downloads.html)

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Step 2: Arduino Code

```
SerialControl1 | Arduino 1.0.3
File Edit Sketch Tools Help

SerialControl1 §

void setup(){
  Serial.begin(19200);
  //Set all the pins we need to output pins
  pinMode(2, OUTPUT);
  pinMode(5, OUTPUT);
}
void loop (){
  if (Serial.available()) {

    char ser = Serial.read();  //read serial as a character

    switch (ser) {
      case '0':  //Turn OFF PIN 2&5
        digitalWrite(2, LOW);
        digitalWrite(5, LOW);
        break;
      case '1':  //PIN2 ON
        digitalWrite(2, HIGH);
        break;
      case '2': //PIN2 OFF
        digitalWrite(2, LOW);
        break;
      case '3':  //PIN5 ON
        digitalWrite(5, HIGH);
        break;
      case '4': //PIN5 OFF
        digitalWrite(5, LOW);
        break;
      case '5':  //Turn ON PIN 2&5
        digitalWrite(5, HIGH);
        digitalWrite(2, HIGH);
        break;
    }
  }
}

Done compiling.
```

Download the attached arduino code and upload it to arduino module.

Don't connect the the RS232-TTL converter in this step ,otherwise you will get error message and you will not able to upload the code.

SerialControl1.ino (https://content.instructables.com/ORIG/FXD/8ATN/IH3R337S Download (https://content.instructables.com/ORIG/FXD/8ATN/IH3R337S/FXD8ATNIH3R337S.ino) /FXD8ATNIH3R337S.ino)

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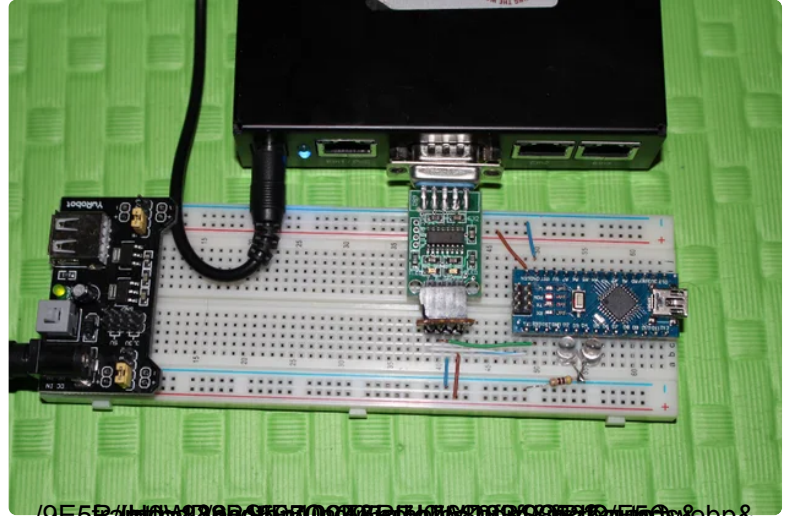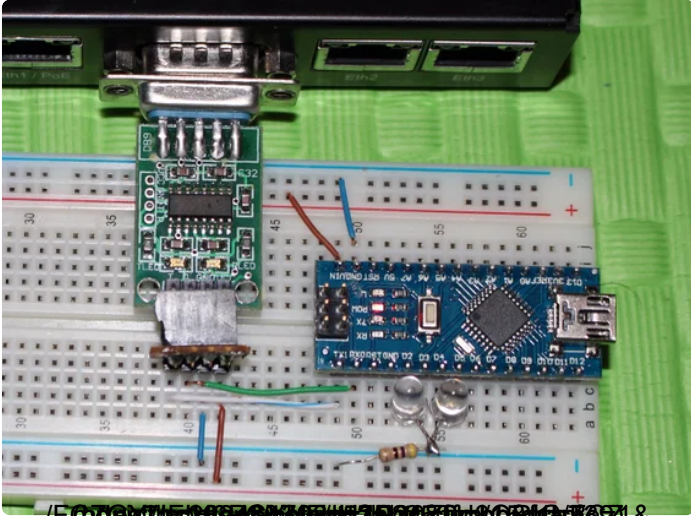
Step 3: Circuit Digram

Connect the wires as shown in the attached picture.

Arduino Vin ---> +5 Volt

Arduino GND ---> GND

Arduino TX ----> TX of TTL-RS232 (TX should connect to RX but in my case it look like they typed wrong label).

Arduino RX ----> RX of TTL-RS232 (RX should connect to TX but in my case it look like they typed wrong label).

Arduino Pin 2 ----> LED1 positive pin.

Arduino Pin 5----> LED2 positive pin.

LED1& LED2 negative pins connected together to 220 ohm pin and the other pin of this resister connected to GND.

RS232-TTL Converter VCC ---->+5 Volt.

RS232-TTL Converter GND ---->GND.