Project testing

Authors:

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1. **Used equipmnet for testing:**

- 3 LED’s

- Battery

- 3 resistors 220 Ω

1. **LED’s connection.**

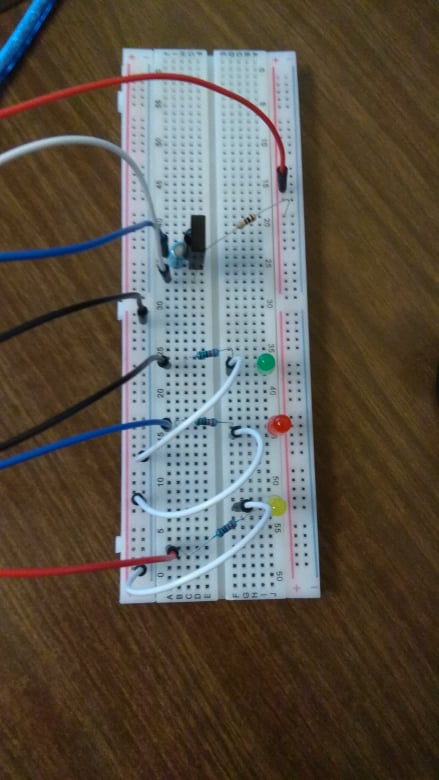


Photo nr. 1 – photo of connection

1. **Test LED’s switch on to check the program**

In this test we will check if led switch on and switch off after pressing a corresponding button.

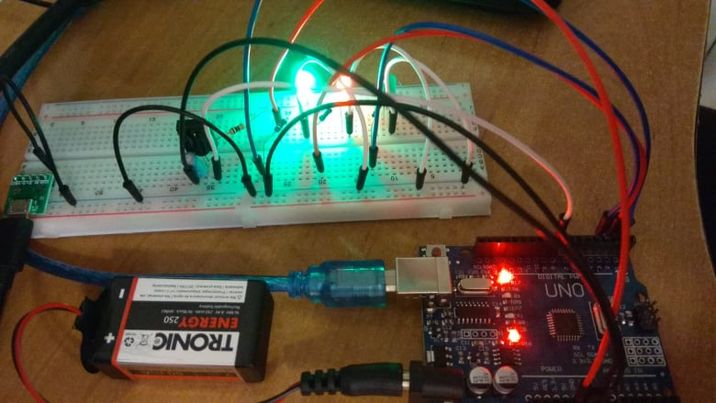


Photo nr. 2 – photo of the project during testing

1. **Test LED’s switching, with the help of oscilloscope attached to the receiver**

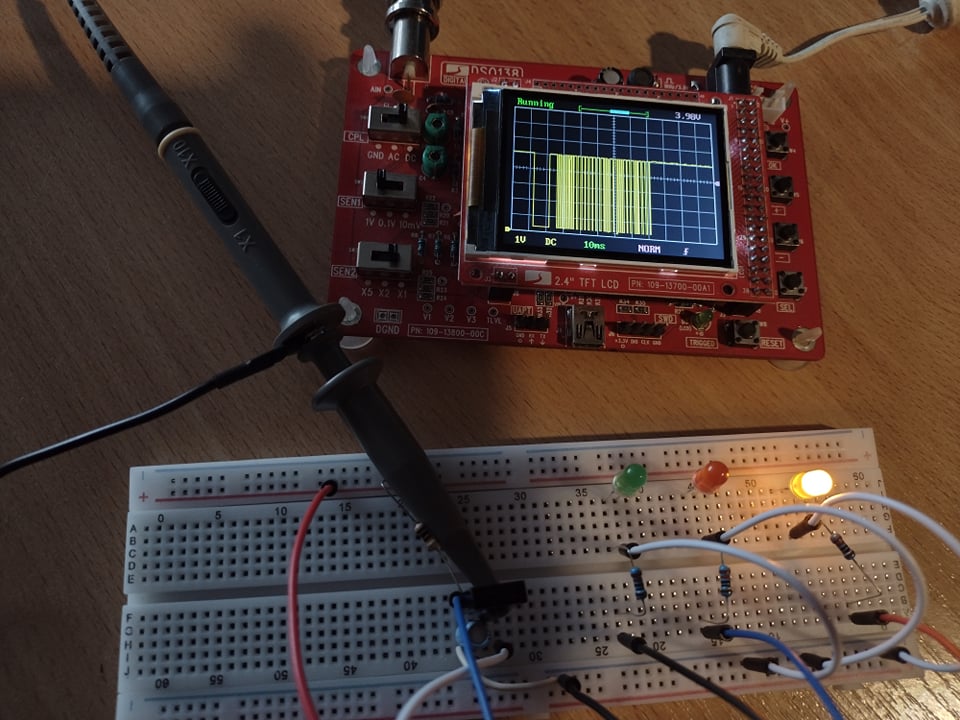


Photo nr. 3 – yellow diode switches on

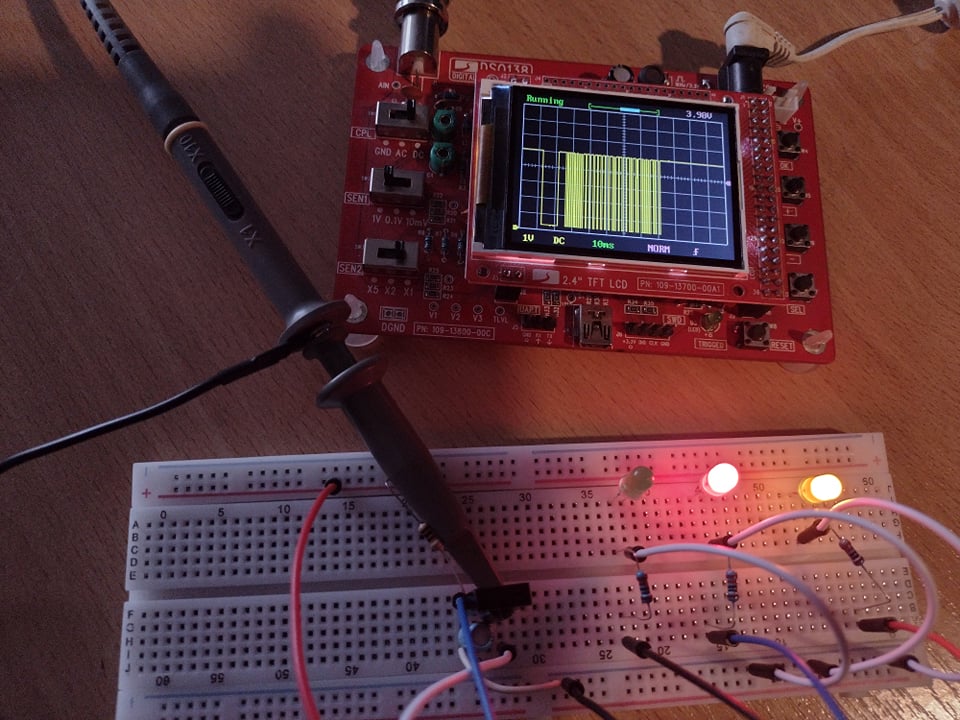


Photo nr. 4 – red diode switches on

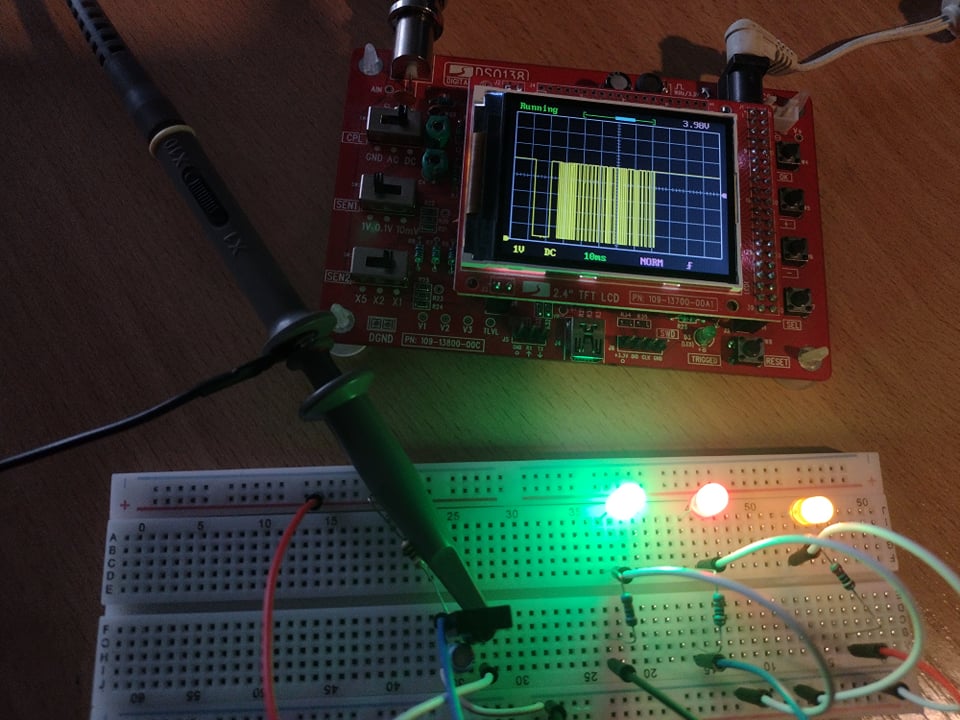


Photo nr. 5 – green diode switches on

As seen in the in the photos above, every diode was switched on by pressing different button on IR pilot. On oscilloscope display we see different waveform read from the IR receiver with each button. After holding the button led switch on or off depending on what condition it was in, and nothing more happen so it works correctly.

In case that 5 V DC power supply will be cut for a while, program will be restarted, and the relays setting will revert to the default.

In case that 230 V AC power supply will be cut off, devices will be turn off and after the power is restored, it will return to the state it was in before turning off or different if we press some buttons in this time.

We also test it in case, the receiver didn’t catch the whole signal. In this situation, we must press button again and for next pressing it will be working properly, so everything is correct.

1. **Final version after testing.**



Before connecting power supply, we checked if there are no unexpected circuit breaks, also everything was correct.

Now, we did a simple test with light bulb connected to the first power outlet.

Obraz zawierający łącznik, adapter

Opis wygenerowany automatycznie

Obraz zawierający wewnątrz

Opis wygenerowany automatycznie

After checking with other devices powered by 230 V other power outlet, control works also correctly.

1. **Measurements:**

Average current with all relays off is 25 mA

Average current with all relays on is 260 mA