Description:

The ADIY Uno R3 CH340C ATmega328P Development Board is the low-cost version of the popular UNO R3 Arduino. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with an AC-to-DC adapter or battery to get started.

Features:

1. High performance
2. Advanced RISC architecture
3. most single clock cycle execution
4. Fully static operation
5. On-chip 2-cycle multiplier
6. High endurance non-volatile memory segments
7. In-system programming by on-chip boot program
8. Programming lock for software security
9. Temperature measurement
10. Six sleep modes: Idle, ADC noise reduction, power-save, power-down, standby
11. Low power consumption

Specifications:

- Board Name: ADIY UNO R3 CH340C
- Microcontroller: ATmega328P
- USB-Serial IC: CH340C
- USB connector: USB-B
- Pins:
  - > Built-in LED Pin: 13
  - > Digital I/O Pins: 14
  - > Analog input pins: 6
  - > PWM pins: 6
  - Communication:
    - > UART: Yes
    - > I2C: yes
    - > SPI: Yes
  - Power:
    - > I/O Voltage: 5V
    - > DC Jack input: 9V
    - > DC Current per I/O Pin: 40 mA

Pin Description:

VCC: Digital supply voltage.

GND: Ground.

Port B (PB7:0) XTAL1/XTAL2/TOSC1/TOSC2: Port B is an 8-bit bi-directional I/O port with internal pull-up resistors. The Port B output buffers have symmetrical drive characteristics with both high sink and source capability. As inputs, port B pins that are externally pulled low will source current if the pull-up resistors are activated. The Port B pins are tri-stated when a reset condition becomes active, even if the clock is not running. Depending on the clock selection fuse settings, PB6 can be used as input to the inverting oscillator amplifier and input to the internal clock operating circuit. Depending on the clock selection fuse settings, PB7 can be used as output from the inverting oscillator amplifier. If the internal calibrated RC oscillator is used as chip clock source, PB7..6 is used as TOSC2..1 input for the asynchronous Timer/Counter2 if the AS2 bit in ASSR is set.

Port C (PC5:0): Port C is a 7-bit bi-directional I/O port with internal pull-up resistors (selected for each bit). The PC5..0 output buffers have symmetrical drive characteristics with both high sink and source capability. As inputs, Port C pins that are externally pulled low will source current if

the pull-up resistors are activated. The port C pins are tri-stated when a reset condition becomes active, even if the clock is not running.

PC6/RESET: If the RSTDISBL fuse is programmed, PC6 is used as an input pin. If the RSTDISBL fuse is unprogrammed, PC6 is used as a reset input. A low level on this pin for longer than the minimum pulse length will generate a reset, even if the clock is not running.

How to work:

CH340 is a USB bus convert chip and it can realize USB convert to serial interface, USB convert to IrDA infrared or USB convert to printer interface.

In serial interface mode: CH340 supplies common MODEM liaison signal, used to enlarge asynchronous serial interface of computer or upgrade the common serial device to USB bus directly.

In infrared mode: add infrared transceiver to CH340 can compose USB infrared adapter, realize SIR infrared communication.
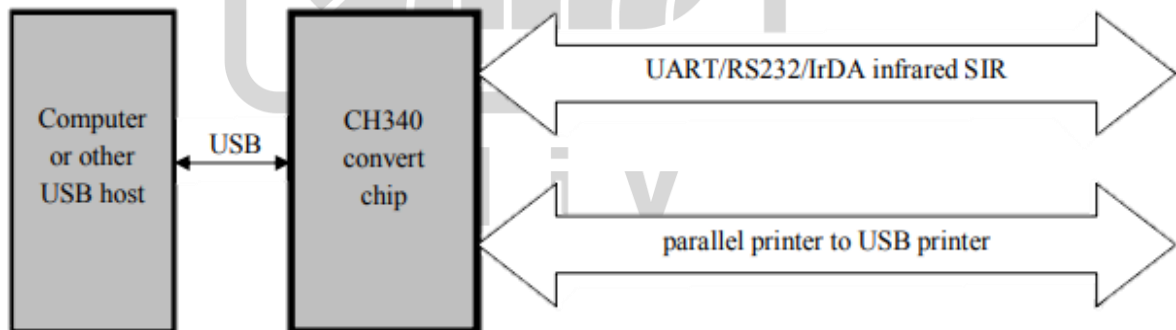
Applications:

- Robotics.

- Automation.

- Control system.

- Internet of things.

- DIY project prototyping.

- Developing varied varieties of projects that require code-based control.

- Automation System development.

- Learning AVR programming.