ARDUINO

Tutorial 0
General Arduino Tips / Troubleshooting

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for STEMKRAF
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Arduino Uno – USB Chip

Arduino Uno cannot be detected / Unable to Upload

Most China Made Arduino Uno R3 Board uses the CH340 Chip for USB communication with the ATMEGA328P micro-controller chip.

Sometimes the **driver software** for the CH340 chip is not present on your development computer.

When this happens, you will not be able to upload your programs using the Arduino IDE Software or use the Serial Monitor function in your Arduino IDE Software.

You will need to download this driver from this website,

http://www.wch.cn/download/ch341ser_exe.html

and install it in your computer.

Arduino PWM Pins and Timers

Some Arduino Library function uses the micro-controller internal Timers in their codes and that can cause trouble to some PWM Pins operation because PWM also uses micro-controller internal Timers.

Arduino Uno has 6 PWM Pins (3, 5, 6, 9, 10 and 11) that uses Timers for PWM. Arduino Uno (ATMEGA328P) has 3 Timers (Timer 0, Timer 1 and Timer 2)

Timer 0 (PWM for Arduino Uno Pin 5, Atmega328 PD5)
Timer 0 (PWM for Arduino Uno Pin 6, Atmega328 PD6)

Timer 1 (PWM for Arduino Uno Pin 9, Atmega328 PB1)
Timer 1 (PWM for Arduino Uno Pin 10, Atmega328 PB2)

Timer 2 (PWM for Arduino Uno Pin 3, Atmega328 PD3)
Timer 2 (PWM for Arduino Uno Pin 11, Atmega328 PB3)

The following popular class/functions from the Arduino Library that uses the micro-controller internal Timers.

1. delay(), millis() and micros() uses Timer 0. May interfere with devices connected to Arduino Pin 5 and Pin 6 that uses PWM.

2. Servo Class uses Timer 1. It disables PWM for Arduino Uno Pin 9 and Pin 10

3. tone() function uses Timer 2. May interfere with devices connected to Arduino Uno Pin 3 and Pin 11 that uses PWM.