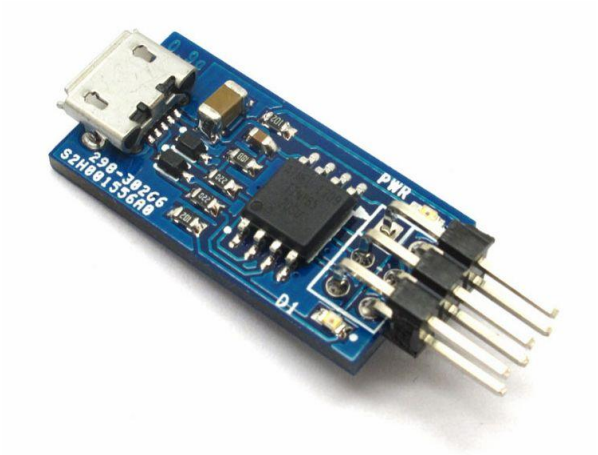
Iteaduino Tiny

Overview



Iteaduino Tiny is a mini development board based on Attiny85 master, which is cheap, compact and easy to use with low power consumption. The mainboard is a derivative board with reference to digispark design, and it supports use of specific Arduino IDE and uses Arduino syntax for programming which is quite convenient.

Feature

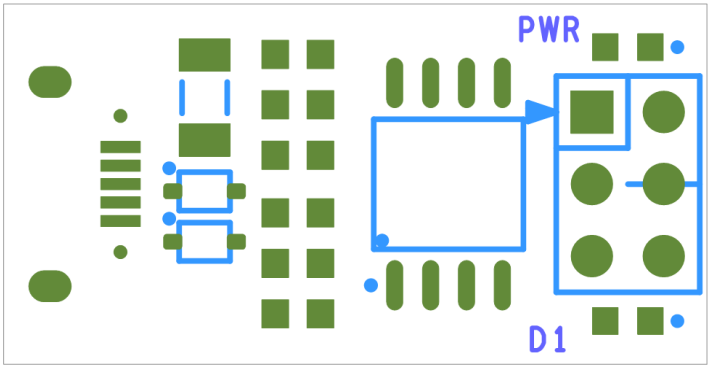
- Support for the Arduino IDE 1.0+ (Windows)
- Power via USB
- Built-in USB
- 4 I/O Pins
- 8k Flash Memory (about 6k after bootloader)
- I2C and SPI (vis USI)
- PWM on 3 pins (more possible with Software PWM)
- ADC on 4 pins
- Power LED and Test/Status LED

Specifications:

Microcontroller	Atmega85-20
Operating Voltage	5V
Digital IO pins	PB0, PB1, PB2, PB5
Analog Input pins(ADC)	PB2
Indicator	D1(PB1), PWR
DC Output current on per IO lines	40mA

Flash Memory	8 KB of which 2 KB used by bootloader
SRAM	512B
EEPROM	512B
Clock frequency	16 MHz
Dimension	24.89X12.7X1.6mm

Hardware



Pin Map

ISP Pin	Index of Digital Pin	Name of Attiny85
MISO	D1	PB1
VCC	-	-
SCK	D2	PB2
MOSI	D0	PB0
RST#	D5	PB5
GND	-	-

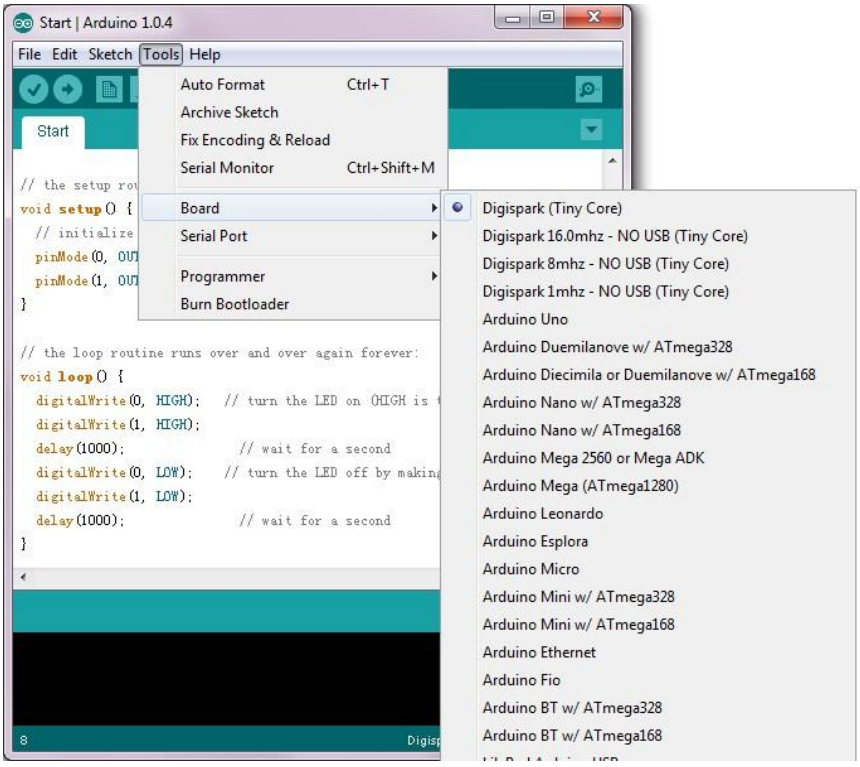
Software

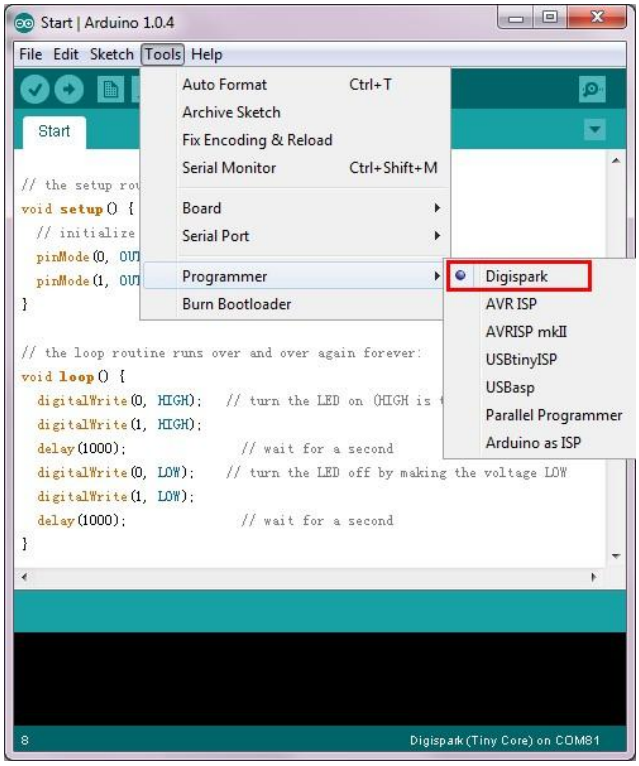
Let’ s take Windows7 operating system as an example, before we use Iteaduino Tiny, we need to install driver for it. First, download the modified Arduino IDE offered by Digispart in the following address: http://sourceforge.net/projects/digistump/files/.

We included Digispart USB driver files in the document, so we can execute the driver file （DigisparkArduino-Win32DigisparkWindowsDriverInstallDriver.exe)to install the driver in the system. Keep clicking "Next" till installation of the USB device is completed.

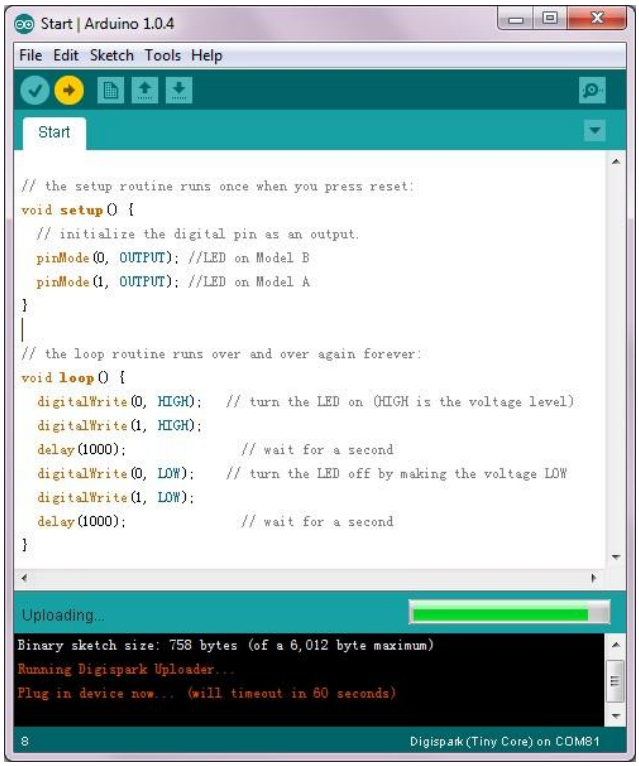
When Iteaduino Tiny is connected to a computer via USB at the first time, the system will find the new device and display installing Digispart bootloader,

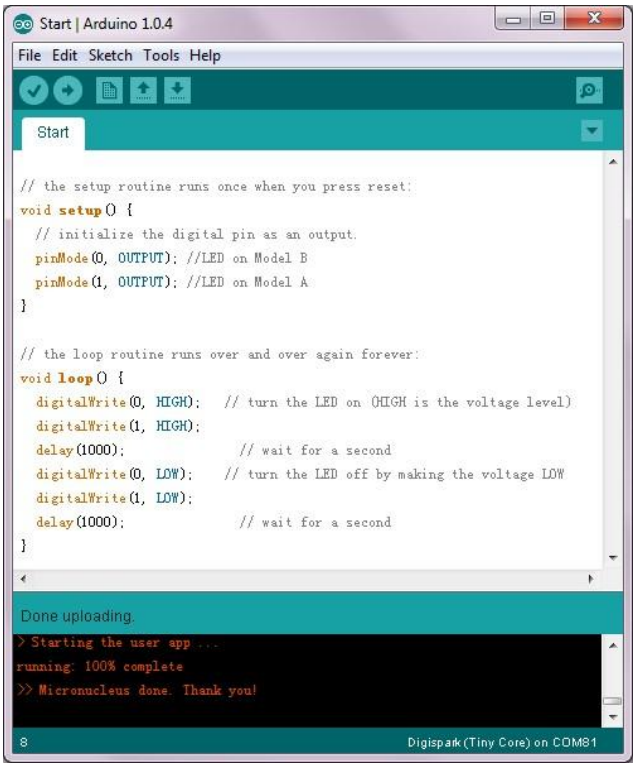
Next, you can run DigisparkArduino-Win32Digispark-Arduino-1.0.4arduino.exe, open the modified Arduino IDE, where we can write and compile our codes.
During downloading, you need to select the board type, browse and select Tool> Board> Digispark (Tiny Core) in sequence. Then choose Tools> programmer> Digispark.





Because there is no reset pin on Tinny85, before pressing the "upload" button to download codes onto Iteaduino Tiny, you need to unplug the USB cable on Iteaduino Tiny first to disconnect the USB connection. Then, press the "upload" button, after 'Plug in device now...' is displayed on IDE window, reconnect the USB cable, and then IDE will download the compiled data onto Iteaduino Tiny. For details about operating procedures, please refer to user manual for Iteaduino Tiny.




Start | Arduino 1.0.4
File Edit Sketch Tools Help
Start
// the setup routine runs once when you press reset:
void setup() {
// initialize the digital pin as an output.
pinMode(0, OUTPUT); //LED on Model B
pinMode(1, OUTPUT); //LED on Model A
}
// the loop routine runs over and over again forever:
void loop() {
digitalWrite(0, HIGH); // turn the LED on (HIGH is the voltage level)
digitalWrite(1, HIGH);
delay(1000); // wait for a second
digitalWrite(0, LOW); // turn the LED off by making the voltage LOW
digitalWrite(1, LOW);
delay(1000); // wait for a second
}
Done uploading.
> Starting the user app ...
running: 100% complete
>> Micronucleus done. Thank you!
8
Digispark (Tiny Core) on COM81