STM32

Board: <http://wiki.stm32duino.com/index.php?title=STM32F103_boards>

<http://wiki.stm32duino.com/index.php?title=Blue_Pill>

an [STM32F103C8T6](http://www.st.com/content/st_com/en/products/microcontrollers/stm32-32-bit-arm-cortex-mcus/stm32f1-series/stm32f103/stm32f103c8.html) microcontroller compatible with the [NUCLEO-F103RB](https://developer.mbed.org/platforms/ST-Nucleo-F103RB/) platform

<http://www.stm32duino.com/viewforum.php?f=1&sid=85f77f51b5b62ee4880ae6d24b870697>

serial:

<http://www.stm32duino.com/viewtopic.php?t=864>

Tools -> Board -> Generic STM32F103C  
Tools -> Variant -> "STM32F103C8 (20k RAM. 64k Flash)"  
Tools -> Upload method -> "Serial"

‘**Board:** **Generic STM32F103C series**‘  
**‘Variant: STM32F103C8 (20k RAM, 64k Flash)’**

**Program / Run Jumper**

* Run mode: Both jumpers at "0"
* Program Mode: Jumper 0 (top) at "1"

With J0 set to "1", press "reset" just before hitting "upload" in Arduino to flash firmware. Program will run immediately after flashing, but won't run after power-cycle until you set Jumper 0 back to "0". (??)  
I have no idea what the bottom jumper is for.

# Links

* <http://wiki.piffa.net/index.php/BluePill>
* <https://hackaday.io/project/6050-tote/log/21027-cheap-chinese-stm32-boards>
* <http://www.stm32duino.com/viewtopic.php?t=117&start=10>

I2C

<http://grauonline.de/wordpress/?page_id=1004>

SERIAL

void setup() {  
 // initialize pins PC13, as an output.  
 pinMode(PC13, OUTPUT); //This set PC13 port, written in the board, in Output  
 Serial.begin(9600); //This initialize serial at 9600 baud  
 Serial1.begin(9600);  
 Serial2.begin(9600);  
 //Serial3.begin(9600);  
 Serial.println("Hello world this is Serial");  
 Serial1.println("Hello world this is Serial1");  
 Serial2.println("Hello world this is Serial2");  
 //Serial3.println("Hello world this is Serial3");  
}

<http://www.rogerclark.net/stm32f103-and-maple-maple-mini-with-arduino-1-5-x-ide/>

Serial

http://www.stm32duino.com/viewtopic.php?t=3

| **Serial Port** | **TX** | **RX** | **CK** | **CTS** | **RTS** |
| --- | --- | --- | --- | --- | --- |
| Serial1 | D26 | D25 | D27 | D24 | D23 |
| Serial2 | D9 | D8 | D7 | D11 | D10 |
| Serial3 | D1 | D0 | D31 | D30 | D29 |

UART1 TX pin PA9 and RX on PA10

HardwareSerial Serial(USART1,PA9,PA10);  
HardwareSerial Serial1(USART2,PA2,PA3);

**Storing data in flash memory**

Declare variables as const to put them into flash memory.

This old method (below) is deprecated

The \_\_FLASH\_\_ macro to store variables into the flash memory, instead of the RAM,   
example:  
uint32 array[] \_\_FLASH\_\_ = {0, 1, 2};

<http://wiki.piffa.net/index.php/BluePill>

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Pin** | **GPIO** | **ADC** | **Timer** | **I2C** | **UART** | **SPI** | **5 V** |
| D0 | PB11 | \* | \* | 2\_SDA | 3\_RX | \* | Yes |
| D1 | PB10 | \* | \* | 2\_SCL | 3\_TX | \* | Yes |
| D2 | PB2 | \* | \* | \* | \* | \* | Yes |
| D3 | PB0 | CH8 | 3\_CH3 | \* | \* | \* | \* |
| D4 | PA7 | CH7 | 3\_CH2 | \* | \* | 1\_MOSI | \* |
| D5 | PA6 | CH6 | 3\_CH1 | \* | \* | 1\_MISO | \* |
| D6 | PA5 | CH5 | \* | \* | \* | 1\_SCK | \* |
| D7 | PA4 | CH4 | \* | \* | 2\_CK | 1\_NSS | \* |
| D8 | PA3 | CH3 | 2\_CH4 | \* | 2\_RX | \* | \* |
| D9 | PA2 | CH2 | 2\_CH3 | \* | 2\_TX | \* | \* |
| D10 | PA1 | CH1 | 2\_CH2 | \* | 2\_RTS | \* | \* |
| D11 | PA0 | CH0 | 2\_CH1\_ETR | \* | 2\_CTS | \* | \* |
| D12 | PC15 | \* | \* | \* | \* | \* | \* |
| D13 | PC14 | \* | \* | \* | \* | \* | \* |
| D14 | PC13 | \* | \* | \* | \* | \* | \* |
| D15 | PB7 | \* | 4\_CH2 | 1\_SDA | \* | \* | Yes |
| D16 | PB6 | \* | 4\_CH1 | 2\_SCL | \* | \* | Yes |
| D17 | PB5 | \* | \* | 1\_SMBA | \* | \* | \* |
| D18 | PB4 | \* | \* | \* | \* | \* | Yes |
| D19 | PB3 | \* | \* | \* | \* | \* | Yes |
| D20 | PA15 | \* | \* | \* | \* | \* | Yes |
| D21 | PA14 | \* | \* | \* | \* | \* | Yes |
| D22 | PA13 | \* | \* | \* | \* | \* | Yes |
| D23 | PA12 | \* | 1\_ETR | \* | 1\_RTS | \* | Yes |
| D24 | PA11 | \* | 1\_CH4 | \* | 1\_CTS | \* | Yes |
| D25 | PA10 | \* | 1\_CH3 | \* | 1\_RX | \* | Yes |
| D26 | PA9 | \* | 1\_CH2 | \* | 1\_TX | \* | Yes |
| D27 | PA8 | \* | 1\_CH1 | \* | 1\_CK | \* | Yes |
| D28 | PB15 | \* | \* | \* | \* | 2\_MOSI | Yes |
| D29 | PB14 | \* | \* | \* | 3\_RTS | 2\_MISO | Yes |
| D30 | PB13 | \* | \* | \* | 3\_CTS | 2\_SCK | Yes |
| D31 | PB12 | \* | 1\_BKIN | 2\_SMBA | 3\_CK | 2\_NSS | Yes |
| D32 | PB8 | \* | 4\_CH3 | \* | \* | \* | Yes |