

## SAMD21 introduction

Since 2015, there is a new powerful microcontroller available which can be programmed by the Arduino platform: the SAMD21. It is a 48MHz 32-bit ARM Cortex M0+ low power processor. Since it is quite new, there is not so much information about it on the Internet.

## SAMD21G peripheral functions

There are 34 free pins available \*. The most important pin peripheral functions are indicated with letters in the schematic symbol:

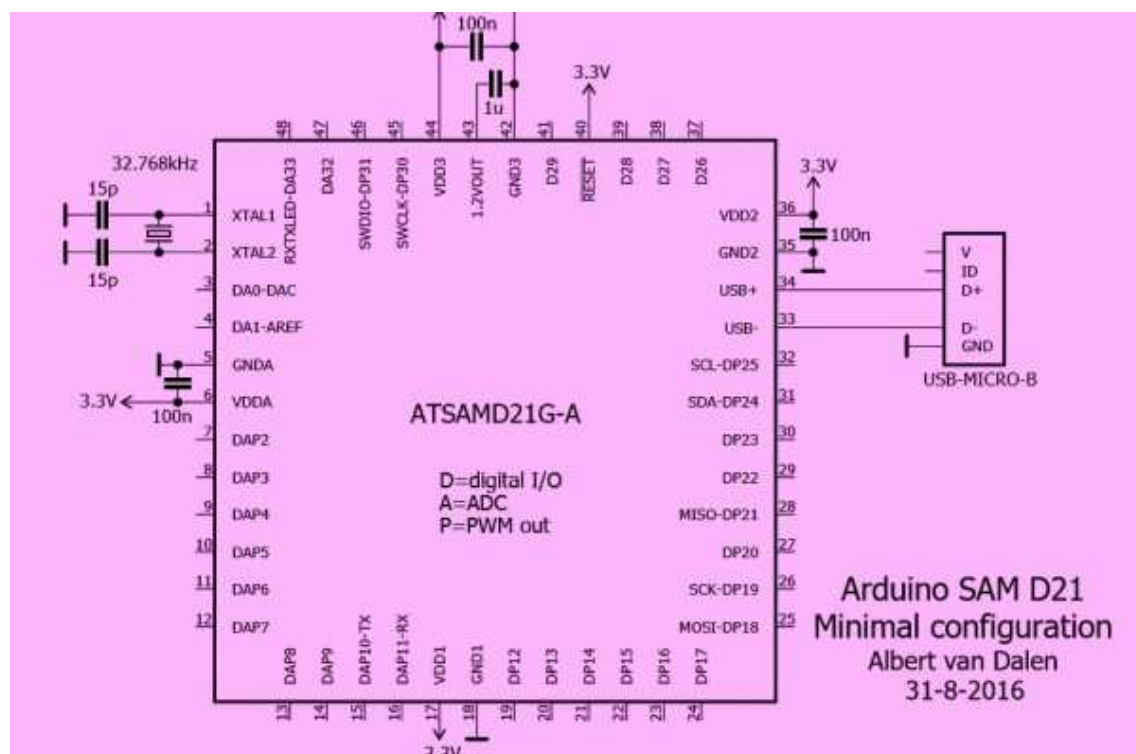
D = general purpose I/O, digitalWrite(), digitalWrite()

A = ADC analog input, analogRead()

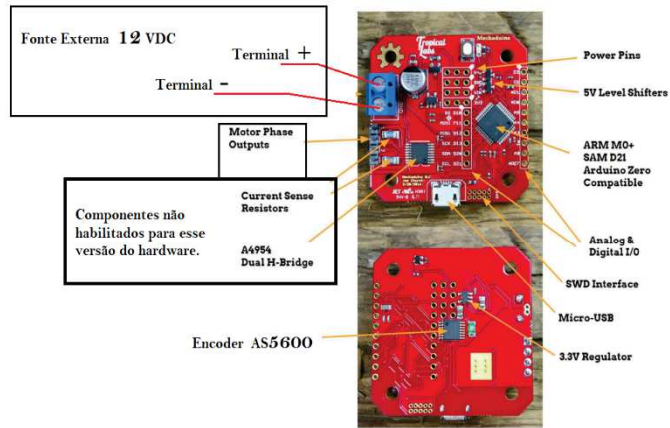
P = PWM output, analogWrite()

Pins may have many other peripheral functions, but in order not to lose overview, these are not indicated with a letter in the schematic symbol:

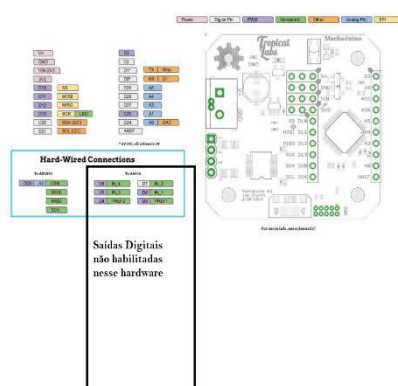
- External Interrupt
- Comparator Output
- Serial Communication
- External Voltage Reference
- Inter-IC Sound Controller
- Peripheral Touch Controller



## Board Layout



## Pin Diagram



## Power Connections

V+	Motor Power: Mechaduo 0.1 V+ = 4V / 5V Mechaduo 0.2 V+ = 4V / 5V
VIN (V+)	5V Logic Supply (See below)
VIN	3.3V Logic Supply, Regulated from VIN (V+)
GND	Ground (Logic and motor ground are tied at single point)

VIN can be supplied in a number of ways:  
- USB (integrated connector)  
- External supply connected to VIN  
- External 5V regulator soldered between  
V+ GND and VIN. We recommend a three terminal  
voltage regulator like the B-7025-0-05.

It is safe to connect the USB cable even when VIN is supplied  
externally. Mechaduo 0.1 only. If the Ardu MK+ is configured as a  
USB host, VIN will automatically switch to an external USB device.

For more info, see schematic

