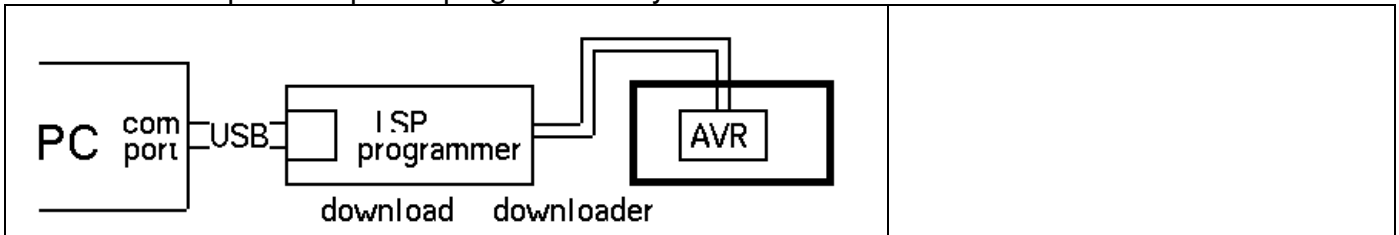




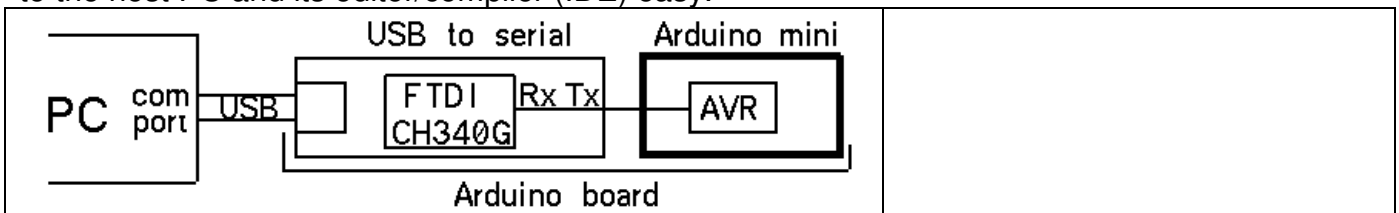
SAM Modules (Arm-Cortex M0)

Reminder

You are familiar with Arduino. AVR processors are initially loaded with a bootloader using six ISP dedicated pins. A special program on any micro download the HEX file.

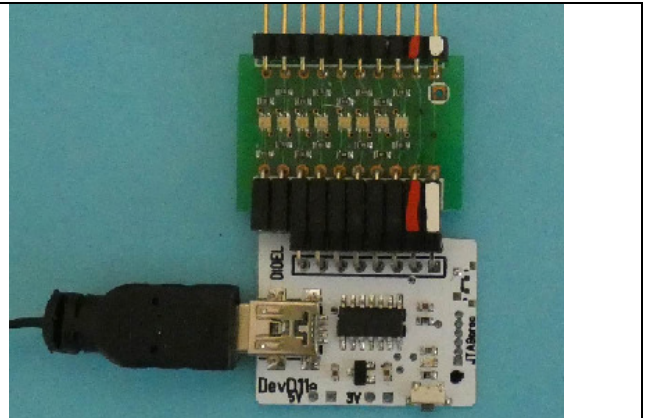


The downloader stay in a protected zone and allows to charge compiled programs using the Rx Tx and Reset pins. USB to serial circuits, possibly included in the micro, makes the connection to the host PC and its editor/compiler (IDE) easy.

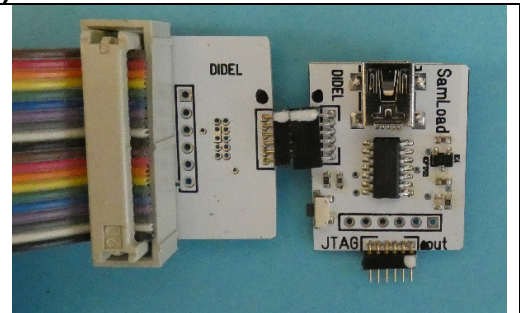
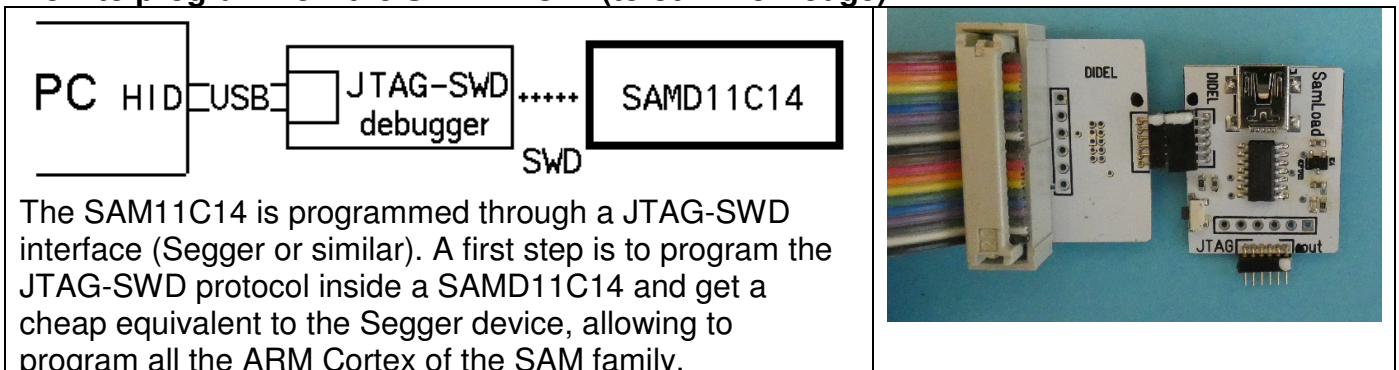


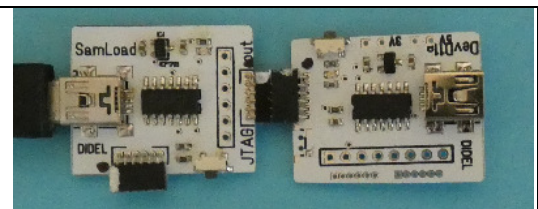
SAMD11C14 as an easy to implement microcontroller

The SAMD11C14 is a cheap powerful processor in a SO14 package, that includes an USB interface. Many applications would be happy with a Arm-Cortex 10-pin processor if as easy to program as an Arduino. The problem is the software is not yet available for the SAMD11C14. With larger packages, SAMC21E and others do not have an USB port and use a SAMD11C14 to play the role of the FTDI/CH340 on Arduino boards.



How to program now the SAMD11C14 (to our knowledge)





SamJtag **SamLoad** **SamExec**

As mentioned, a piece of softwas is missing to be able to program SamExec directly from USB.

DiXi

Soft:

<https://github.com/mattairtech/ArduinoCore-samd>

Other project:

<https://hackaday.io/project/88302-dixi-watch-samd11>

SamD21 family

<http://www.avdweb.nl/arduino/samd21/sam-d21>

A vendor

<https://www.mattairtech.com/index.php/development-boards/mt-d21e.html>

A link frequently mentioned

<https://github.com/ataradov/free-dap/issues/5> for a comment.



gnuC is adequate for programming. Until libraries are available, **start.atmel.com** is a good way to be guided to create a project on one of the many SAM models. Once the basic features are set, a Makefile is loaded on **arm_none_eabi_gcc**, and the software can be developed, downloaded with OpenOCD and tested.

<https://developer.arm.com/open-source/gnu-toolchain/gnu-rm/downloads>

Didel contribution

Didel Modules are available for free to interested developers who will propose free software. Additional modules can be developed on request for general purpose or dedicated applications, as long SO and TQFP packages are used.

SamJTAG 24x30mm

	To be connected to a Segger J-Link in order to initialize the Sam via the Didel JTAG connector (6 pins, pitch 2.54 or 1.27) or the 10 poles JTAG connector.
Pinout : Pin 1 Gnd Pin2 3.3V Pin3 SWDIO Pin4 SWCLK Pin5 nRz Pin6 (SWO) inutilisé	Male or female strips, straight or 90 degrees. are used , Note that the set of 6 holes pitch 1.27mm are usable female connectors. Inclination and light effort guarantee good contacts. If hold by hand, programming lasts only few seconds.

SamLoad SAMD11C14 24x30mm

	Programmed to be a JTAG programmer The 6-pin connector includes power (3.3V) and signals Rst, PA30 (SW) et PA31 (SDQ)
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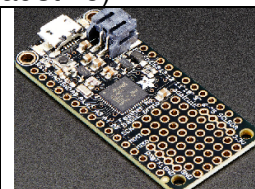
SAMExec SAMD11C14 24x30mm

	Six of the processor pins are available on a SIL to be compatible with a breadboard. A LED and a pushbutton is wired for initial tests.
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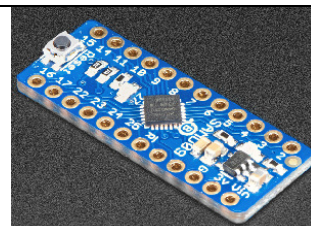
Several SAM circuits with a different scope (Oct 2018, not exhaustive)

Adafruit Feather M0 Basic Proto - ATSAMD21
ATSAMD21G18

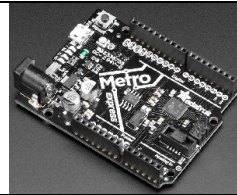
Introduction guide to CircuitPython on ATSAMD21



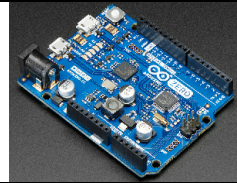
Adafruit ATSAMD09 Breakout with seesaw
<https://www.adafruit.com/product/3657>
ATSAMD09D14
The board does not come with a bootloader ...



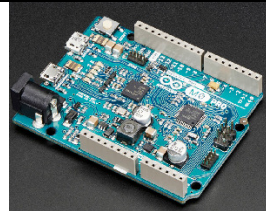
Adafruit METRO M0 Express - designed for CircuitPython -
ATSAMD21G18



Arduino Zero - 32 bit Cortex M0 Arduino with Debug Interface

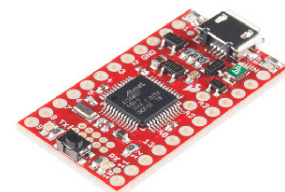


Arduino M0 Pro - 32 bit Cortex M0 with Debug Interface



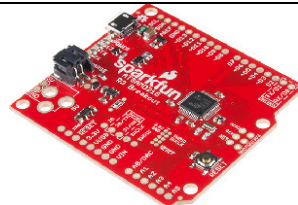
STM Nucleo

SparkFun SAMD21 Mini Breakout

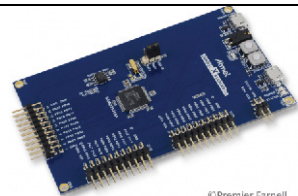


SparkFun SAMD21 Dev Breakout

Discontinued ?

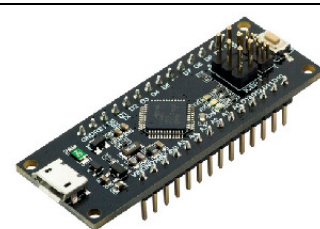


SAM D21 Xplained Pro Evaluation Kit



©Premier Farnell

RobotDyn SAMD21 M0-Mini.



SAM 15x15 Arduino Zero compatible
SamD21G18

