

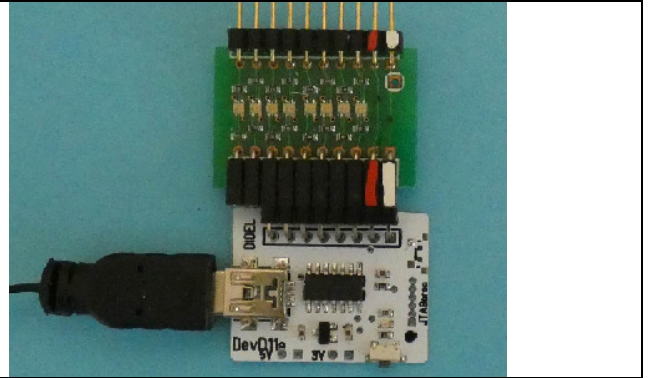


SAM D11 Modules (Arm-Cortex M0)

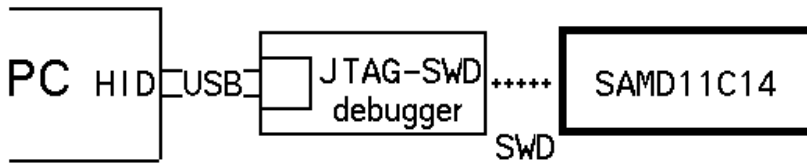
Temporary doc. First customers will get the more detailed explanations we are still working on with friends.

SAMD11C14 as an easy to implement microcontroller

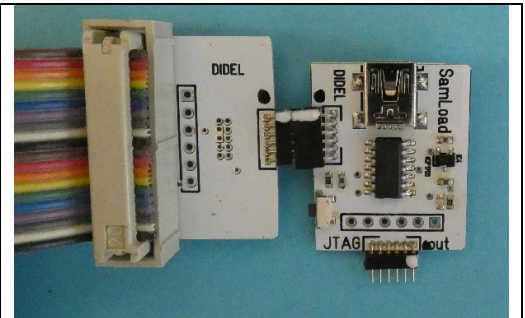
The SAMD11C14 is a cheap powerful processor in a SO14 package, that includes an USB interface. Many applications would be happy with an Arm-Cortex 10 I/O processor if as easy to program as an Arduino. The problem is the software is not yet available for the SAMD11C14. With larger packages, SAMC21E and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



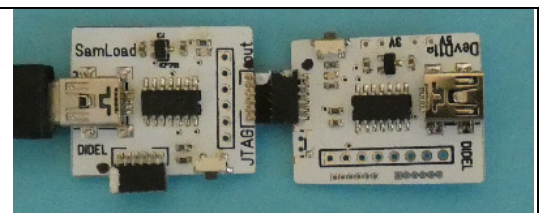
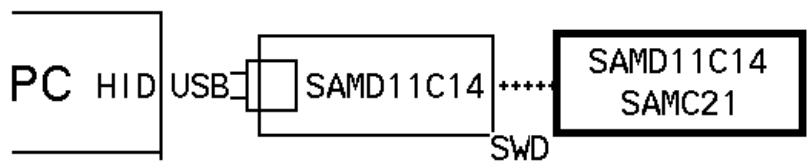
How to program now the SAMLoad



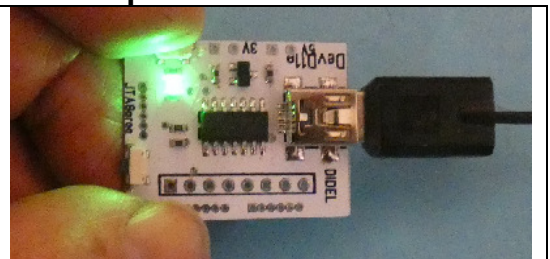
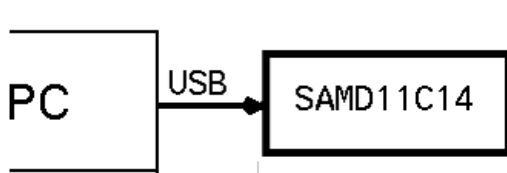
The SAM11C14 is programmed through a JTAG-SWD interface (Segger or similar). A first step is to program the JTAG-SWD protocol inside a SAMD11C14 and get a cheap equivalent to the Segger device, allowing to program all the ARM Cortex of the SAM family.



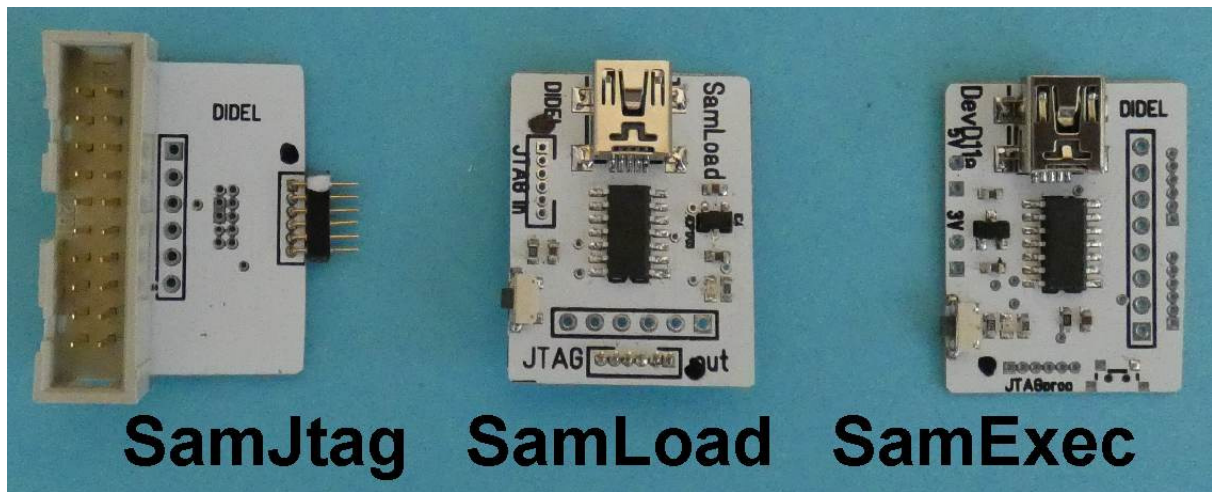
How to program now the SAMLoad and reprogram it



How we hope to see it sometime being programmed with a simple IDE



As visible on the pictures, three simple PCBs have been developed and a compact JTAG connector has been defined (SIL 1.25mm pich, 6 pins).



SamJtag SamLoad SamExec

SAMD11C14 is powered at 3.3V. An LDO convert the 5V from the USB.

As mentioned, a piece of software is missing to be able to program SamExec directly from USB. Work on a simple software for it and share your results.

Programming

The procedure to get a free-DAP into the SamLoad board is documented under <http://jmkikori.no-ip.org/jmk/wordpress-mirror/how-to-programm-free-dap-into-a-sam-d11-samload-board/index.html>

You will see a Raspberry can be used to do it in place of specialized tools.

Having the SamLoad ready, you can use the gnuC tool chain for programming.

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.

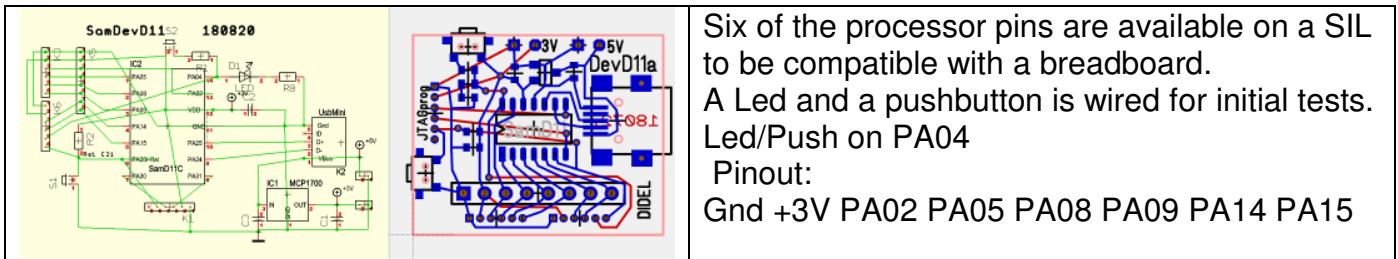
SamJTAG 24x30mm

		<p>To be connected to a JTAG probe (like Segger J-Link or a FTDI based adapter with OpenOCD) 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. Depending upon the probe, it may be required to provide power through the USB connector. 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.</p>
<p>Pinout :</p> <ul style="list-style-type: none"> Pin 1 Gnd Pin2 3.3V (reference) Pin3 SWDIO Pin4 SWCLK Pin5 nRz Pin6 (SWO) inutilisé 		

SamLoad SAMD11C14 24x30mm

		<p>Programmed to be a JTAG programmer The 6-pin connector includes power (3.3V) and signals Rst, PA30 (SWCLK) et PA31 (SWDIO)</p>
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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.
Led/Push on PA04
Pinout:
Gnd +3V PA02 PA05 PA08 PA09 PA14 PA15

Jdn 190103