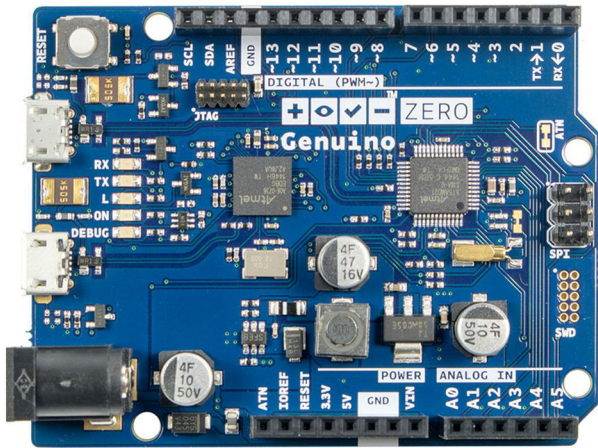# GENUINO ZERO (GBX00003)

Express your creative potential, from music to robotics, with the most versatile Genuino board based on a 32-bit ARM processor: Genuino Zero!

Overview

Genuino Zero sets a new standard in processing power for Genuino boards, with a 32-bit ARM processor running at three times the speed of the Uno. The Genuino Zero offers everything you need to release your creative potential: advanced audio and analog processing capabilities, low power consumption, and a real-time clock, all at a convenient price.
Internet of Things, robotics applications, art installations, and other sophisticated projects will also benefit from the Zero's capabilities.

Technology

The Genuino Zero is powered by Atmel's SAMD21 MCU, which features a 32-bit ARM Cortex® M0+ core, clocked at 48MHz. This board has six analog inputs that can be configured for 10 or 12 bit sampling and also offers a Digital to Analog Converter (DAC) with 10 bit resolution for true analog signal output. Using Genuino Zero with Atmel Studio, you can use Atmel's Embedded Debugger (EDBG), which provides a full debug interface without the need for additional hardware, making it significantly easier to debug software. EDBG also supports a virtual COM port that can be used for device and bootloader programming. To compare this board to the current, past or outdated boards see the Comparison Page.

Specifications

Microcontroller	ATSAMD21G18, 32-Bit ARM Cortex M0+
Operating Voltage	3.3V
Digital I/O Pins	20
PWM Pins	12
USB	2 x B-Micro (Native and Programming)
Analog Input Pins	6 x 12-bit ADC channels
Analog Output Pins	1 x 10-bit DAC
External Interrupts	All pins except pin 4
DC Current per I/O Pin	7 mA
Flash Memory	256 KB
SRAM	32 KB
EEPROM	None. See documentation
Clock Speed	48 MHz
Features	Real-time clock, Native USB communication
Length	68.6 mm
Width	53.4 mm
Weight	23 gr

Documentation

Genuino Zero is open-source hardware! These are the relevant files:
Schematics - Reference Design

If you want more information about programming and hardware interfacing about Genuino ZERO or how to interface hardware with it, please go to the Product Page.
Genuino Zero is programmed, as all the other Genuino boards with the Software (IDE) that you can download for free, with the addition of the SAMD core to download with Board Manager.
To find inspiration for what you can do with the Genuino ZERO, please visit the Genuino.cc Tutorials Page and take part in the community the lively discussions on the Forum.