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OSEPP™ Mega 2560 R3 Plus

OSEPP™ Mega 2560 R3 Plus

The MEGA 2560 is legacy hardware. Production for the MEGA 2560 has ceased as of June 2016. This page serves as reference material.

The OSEPP™ Mega 2560 R3 Plus is the bigger brother to the OSEPP™ Uno board with more flash memory, more SRAM, more EEPROM, and more pins. This board is perfect for projects that require a lot of inputs/outputs or that require more complex programs that cannot fit into the smaller memory of the ATmega328P.



New in R3:

- Added SCL/SDA pins next to AREF header
- Added IOREF pin to power header

"Plus" Features:

- Replaced USB-B connector with more popular mini-USB connector
- Added Molex connector for easy connect to OSEPP™ sensors and other I2C devices.

Specifications:

Microcontroller	ATmega2560
Clock Speed	16 MHz
Flash Memory	256 KB
SRAM	8 KB
EEPROM	4 KB
Operating Voltage	5 V

Input Voltage	6-12 V
Digital I/O Pin Count	54 (including 14 for PWM output)
Analog Input Pin Count	16
Other Connections	Mini-USB ICSP for ATmega2560 DC power connector 4-pin latchable Molex connector
Dimensions	4.23 x 2.13 x 0.61 inches (107.5 x 54.0 x 15.5 mm)
Power Source	USB or external DC power supply

Highlights:

- 8-bit AVR RISC-based microcontroller running at 16 MHz
- 8x more flash and 4x more SRAM and EEPROM than the Uno
- Connects to a computer via a standard USB cable
- Flexible power source (USB or DC power)
- ICSP header for programming microcontroller
- Compatible with existing Arduino software libraries
- Compatible with the Ethernet and Motor Controller Shields

Features:

The ATmega2560 comes with the Arduino bootloader preloaded. There is an ICSP (In-Circuit Serial Programming) header for the ATmega2560 to optionally replace the bootloader.

As an added precaution, the board comes with a resettable polyfuse on the USB connection path. To prevent damage to the computer's USB port, the fuse will trip when the current to the port exceeds 500 mA.

The input and/or output pins are brought out to headers which enable a convenient way to prototype projects without the need of soldering or desoldering.

Availability:

Stock Code	Product Name
MEG-03	OSEPP™ Mega 2560 R3 Plus

Notes:

This board is based off of the Arduino Mega 2560 designed by Arduino, and is released under the Creative Commons Attribution Share-Alike License. The original design can be found at <http://arduino.cc/en/Main/ArduinoBoardMega2560>

Downloads:

OSEPP™ Mega 2560 Schematic (PDF)



Learning Center:

What You Need

- Arduino Software (<http://arduino.cc/en/Main/Software>)
- USB-to-mini-USB
- PC/Mac with a USB port

Uploading Your First Sketch

1. Get the Arduino software if you have not already
 1. Download from <http://arduino.cc/en/Main/Software>
 2. Unzip the zip file to somewhere like C:\ (on Windows), so you will end up with a folder like C:\arduino-0022
2. Prepare for serial communication
 1. Connect the USB-B end of the cable into the board
 2. Connect the other end of the cable into a USB port on your PC/Mac
 3. If your computer prompts for drivers, point it to the “drivers\FTDI USB Drivers” subfolder of the Arduino software, e.g. “C:\arduino-0022\drivers\FTDI USB Drivers”
 4. You should now see the LED labeled ON near the reset button light up
3. Load the sketch
 1. Open the Arduino software
 2. Open the LED blink sketch: File menu > Examples > Basics > Blink
 3. Select the Mega 2560 board: Tools > Board > Arduino Mega 2560
 4. Select the serial port: Tools > Serial Port. This is the serial port for the board’s built-in FTDI. If you do not know which one this is, you can find out by going into Device Manager > Ports (COM & LPT), and look for a “USB Serial Port (COMx)”
 5. Upload the sketch: File > Upload to I/O Board
 6. Wait for the “Done uploading” message in the bottom blue status bar
4. The LED labeled L near pin 13 should now blink slowly
5. Congratulations! You have successfully uploaded your first sketch to your board.