# SS TECH
# ATmega2560 / Arduino Mega 2560 R3 I/O Extension Board

INSTRUCTION SHEET | Model: SSS_2560_EXT_V1

**IMPORTANT COMPATIBILITY NOTICE**
**For use only with Arduino Mega 2560 R3 boards whose Berg strip header arrangement matches this extension board. Not confirmed for Mega 2560 Pro, Mini or other variants. The Mega 2560 R3 controller is NOT INCLUDED.**

## 1. Product overview

This extension board brings the Mega 2560 R3 controller connections out to screw-terminal blocks for convenient wiring of sensors, switches, displays, relay modules and other low-voltage project circuits. It is a passive I/O breakout/extension board; it does not contain a microcontroller or provide independent processing functionality.

## 2. Installation

| Step | Instruction |
|---|---|
| 1 | Switch OFF and disconnect USB and all external power sources from the Mega 2560 R3. |
| 2 | Check that the controller is a Mega 2560 R3 with the matching Berg strip/header layout. |
| 3 | Align the controller headers with the matching headers on the extension board. Check the USB and DC power-jack orientation against the board layout. |
| 4 | Press the boards together evenly. Do not force the connectors. If any pin is misaligned, remove the controller and realign it. |
| 5 | After installation, check that no pins are bent and that the controller is seated evenly before connecting wires. |

## 3. Terminal identification

| Terminal marking | Connection / use |
|---|---|
| D0–D53 | Digital I/O connections. D0/RX0 and D1/TX0 are the controller's primary hardware serial pins. |
| A0–A15 | Analog input connections. |
| PWM-capable pins | PWM-capable Mega 2560 pins are D2–D13 and D44–D46. PWM operation depends on the controller and sketch. |
| TX1 / RX1 | Serial1: D18/TX1 and D19/RX1. |
| TX2 / RX2 | Serial2: D16/TX2 and D17/RX2. |
| TX3 / RX3 | Serial3: D14/TX3 and D15/RX3. |
| SDA / SCL | I²C connections. Also available on the corresponding Mega 2560 pins D20 (SDA) and D21 (SCL). |
| AREF / GND | Analog reference connection and ground. Use AREF only in accordance with the Mega 2560 documentation and sketch configuration. |
| VIN / GND | VIN and ground pass-through terminals. Confirm the controller's power-input requirements before applying an external supply. |
| 3.3V / +5V / GND | Controller supply rails brought out to terminals. These are not high-current power outputs; observe the controller board's current limits. |

## 4. Wiring and operation

1) Turn OFF power before inserting or removing wires. 2) Strip only enough insulation to fit inside each terminal. 3) Insert the conductor fully and tighten the screw; gently check that it is secure. 4) Check polarity and terminal labels before powering the circuit. 5) Upload and run your program on the Mega 2560 R3 as usual.

## 5. Safety precautions

• Use this board for low-voltage electronics only. Do not connect mains AC or hazardous voltages to the screw terminals.

• Never exceed the Mega 2560 controller's pin voltage, current, or total power limits. Do not connect motors, solenoids or other high-current loads directly to I/O pins.

• Use suitable driver circuits, relay modules, flyback protection and external power supplies where required.

• Avoid short circuits between adjacent terminals. Verify wiring before applying power.

• Do not connect or disconnect the extension board while powered. Disconnect USB and external supplies first.

• The 3.3V, 5V and GND terminals are taken from the controller board; available current depends on the controller and its power source.

## 6. Package contents

**1 × SS TECH ATmega2560 R3 I/O Extension Board.**
Arduino Mega 2560 R3 controller, USB cable, wires, sensors, modules and power supply are not included.

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**Support:** Contact the seller through your Amazon order page for product-related assistance. Keep this instruction sheet for future reference.