eVIVE

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Technical Specifications

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Physical	**Dimensions:** 116mm x 140mm x 32mm **Weight:** 320g
Microcontroller	Arduino MEGA 2560 R3
Internal Battery	Li-ion battery: 3.7V, 2600mAh, 18650 type Battery Life: Upto 6.5 hours on single charge
External Power Input	**USB type B:** Upto 1M Baud Rate **DC Jack:** 5V-30V input with reverse polarity, overcurrent & overvoltage protection **Male Headers:** Same as DC Jack
Power Output	**Stabilized V_{in}:** Stabilized output equal to input voltage **Variable Out:** 1.25V to V_{in}-1V, up to 3A Potentiometer controlled **5V Out:** Up to 3A **3.3V Out:** Up to 800mA
Power Switch	Internal Battery Powered - OFF - Externally Powered
Power Panel	Power LED Charging LED RESET Button
Hardware Interaction	**Slide Switches:** Two SPST three position slide switches **Potentiometers:** Two B103 potentiometers **Tactile Switches:** Two push buttons **Joystick:** 5-way navigation key
Touch Sensors	12 Capacitive touch sensor inputs (MPR121QR2)
Display	1.8" SPI based TFT, 160X128px, 18-bit colour
Buzzer	2kHz to 10kHz beeps, tones, alerts and melodies

Storage	**SD Card Slot:** 2GB to 32GB micro SD card
Communication	**Wi-Fi Adapter:** ESP-12E (ESP8266) compatible **Bluetooth Adapter:** HC05 compatible **XBee Adapter:** S1, S2, PRO etc. compatible
Plug & Play Interface	**M1-M2:** Two motor channels via inbuilt motor driver 1A per channel with thermal shutdown capability for motors, relays, pneumatics, steppers etc. **S1-S2:** Two servo motor channels **MD1-MD2:** Two motor driver channels
Sensing Channels	**Probe I/V:** I sensing: up to 3A, 3mA accuracy, upto 75kHz V sensing: -5V to +5V, 3mV accuracy, upto 75kHz **Probe V:** -30V to +30V, 10mV accuracy, up to 75kHz **ADCs:** Two 24 bit analog to digital converters (ADE7912)
Data Acquisition Channels	Two male headers, each connected to Sensing Channel
Magic Lid	**Mini Breadboard:** 170 pin solderless **Shield Stack Space:** Arduino UNO Pinout Compatible **Arduino GPIO:** 14+14 Digital I/O Pins, 12+3 PWM Output Pins, 6+4 Analog Input Pins, 6 Interrupt, 4 Serial, IIC, SPI
Status Indicators	**Rx0-Tx0:** Bi-directional LED **Pin 13:** Unidirectional LED **Actuator Directions:** Two bi-directional LEDs for M1-M2 etc.
Jumpers	**Sensing Selector:** Toggle between V or I sensing on Probe I/V **Motor Power Selector:** Toggle between V_{in} or V_{var} for plug & play devices
DAC	**Function Generator:** Sine, Square, Sawtooth, Triangular Waves 12 Bit IIC controlled digital to analog converter, 0-5V
Real Time Clock	I^2C interface, Calendar function: YYMMDD, Day, hh:mm:ss, Alarm
I/O 3.3V	Two 5V-3.3V bi-directional digital logic level shifters
Others	**Vents:** Heat dissipation vents **Breadboard Mounting Holes:** Two holes to connect breadboards **Mounting Holes:** Two 4mm holes to mount evive on robots