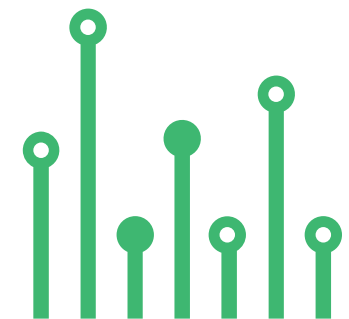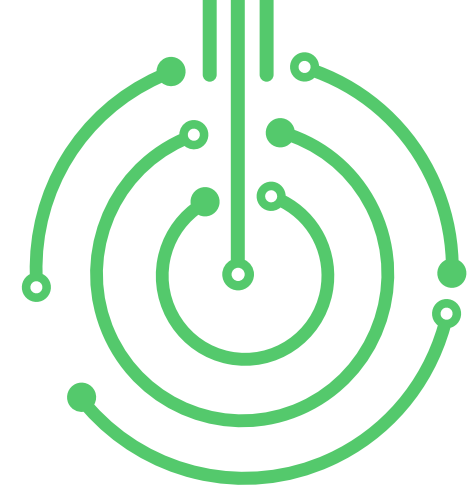THE

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Robotics Arm Controller using PS3 Wireless Remote

SKU: EL144188

# Robotics Arm Controller using Ps3 Wireless Remote

This project enables the user to control an RC servo-based robotics arm wirelessly. The board is based on ESP32-WROOM 32E Bluetooth/Wi-Fi module, thus PS3 or PS4 wireless remote can be paired. The project is built using ESP32 chip with Bluetooth and Wi-Fi connectivity, 4 potentiometers connected to analog pins, 8 x 3 pin header connectors for easy interface of RC servos, operating power supply range 4.8V to 6V DC, LM1117-3.3V U1 regulator provides 3.3V to ESP32 processor, DC supply capacitor C5 helps smooth operations of RC servos, use a shunt to close the jumper J1.

ESP32 can be programmed using ARDUNO IDE. Example code provided to test the project. The user will be able to drive one RC Servo connected to the GPIO15 pin of ESP32. Use the right-hand side joystick of PS3 to perform movement of the RC Servo. more details about the ESP32 and PS3 interface are available here:

https://dronebotworkshop.com/ps3-esp32/

Hardware Details

- ESP32-WROOM 32E Module
- 8 X 3 Pin Connectors for RC Servos (Can be used as I/O for other applications)
- 4 X Trimmer Potentiometer connected to Analog Pins
- Power LED
- 3.3V Regulator
- Programming Connector for Es32
- High Value Capacitor C5 on DC bus for smooth operation for Servo
- Screw Terminal for DC Power Supply (4.8V to 6V)
- Jumper for Internal or External 3.3V Power Selection for ESP32
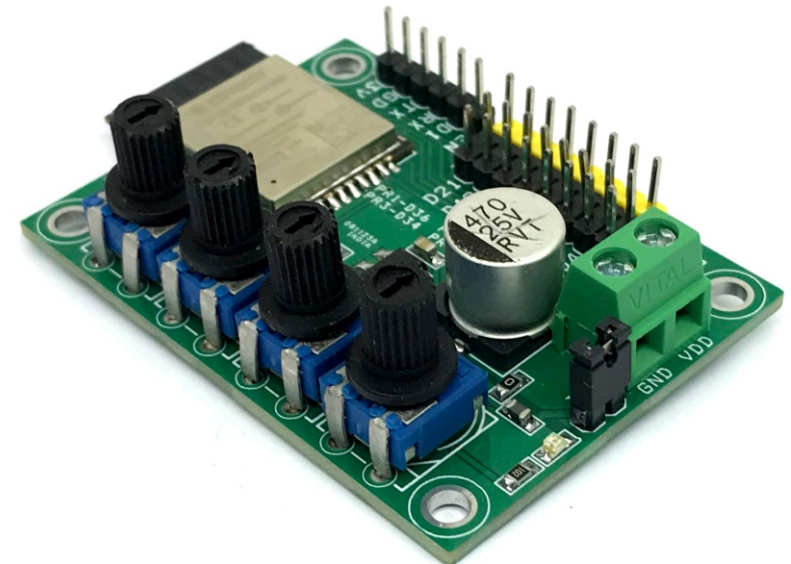
FEATURES

- Operating Power Supply 4.8V to 6V
- 8 RC Servo Interface
- 4 X Potentiometers
- On Board Power LED
- PCB Dimensions 57.15 X 40.96MM
- 4 X 3MM Mounting Holes

APPLICATIONS

- 8 Channel RC Servo Driver
- 8 Channel RC Servo Driver Using Bluetooth
- 8 Channel RC Servo Driver Over Wi-Fi Network
- 4 Channel RC Servo Driver Using 4 On Board Trimmer Potentiometer
- 8 Channel RC Servo driver Using PS3 Remote
- RC Servo Based Robotics Arm Controller
- Robotics
- 8 RC Controller Using Bluetooth Smart-Phone/Laptop/Tab

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Schematic

Connections

**PS-3 REMOTE**

ESP 32 BOARD

8 X RC SERVO
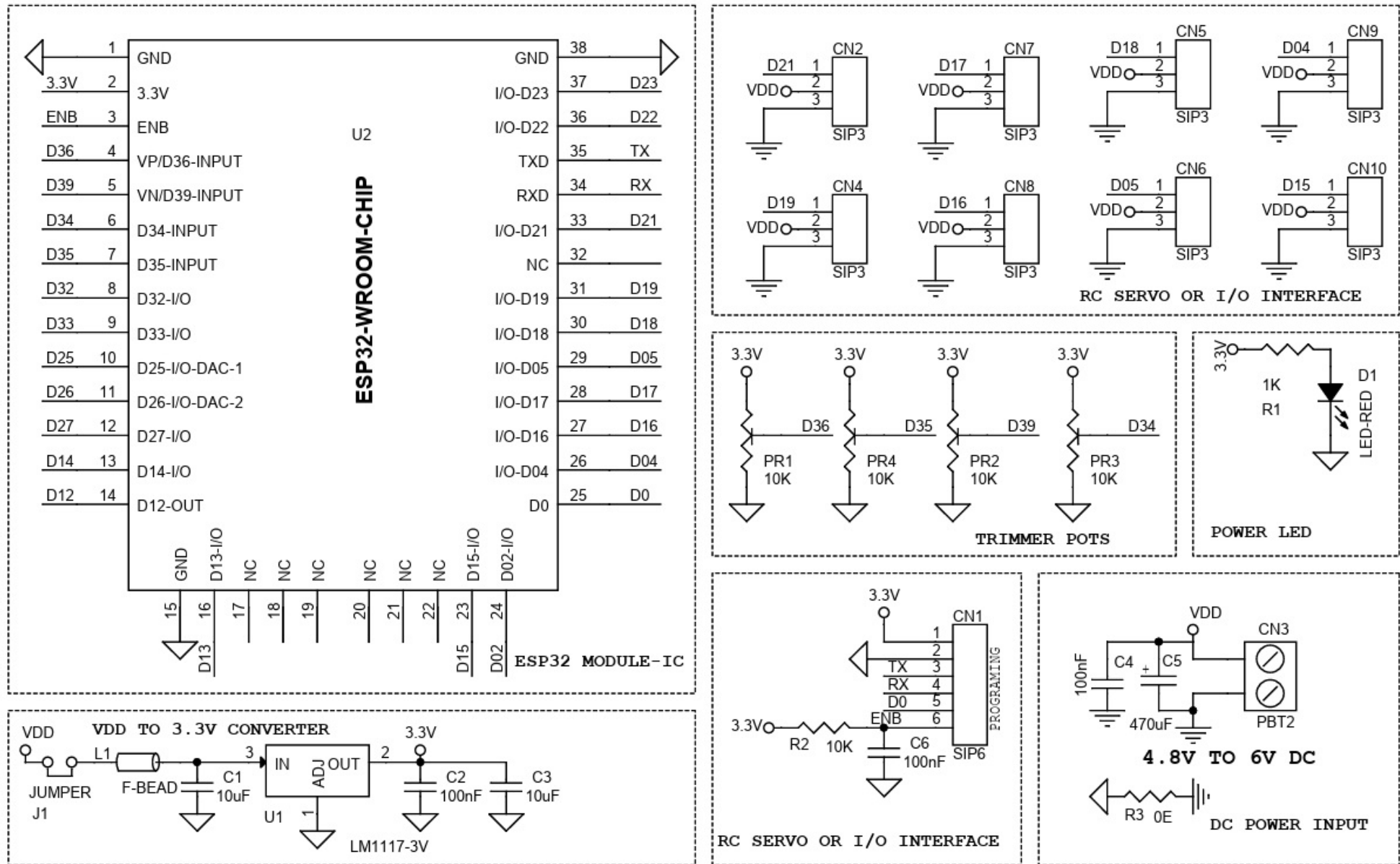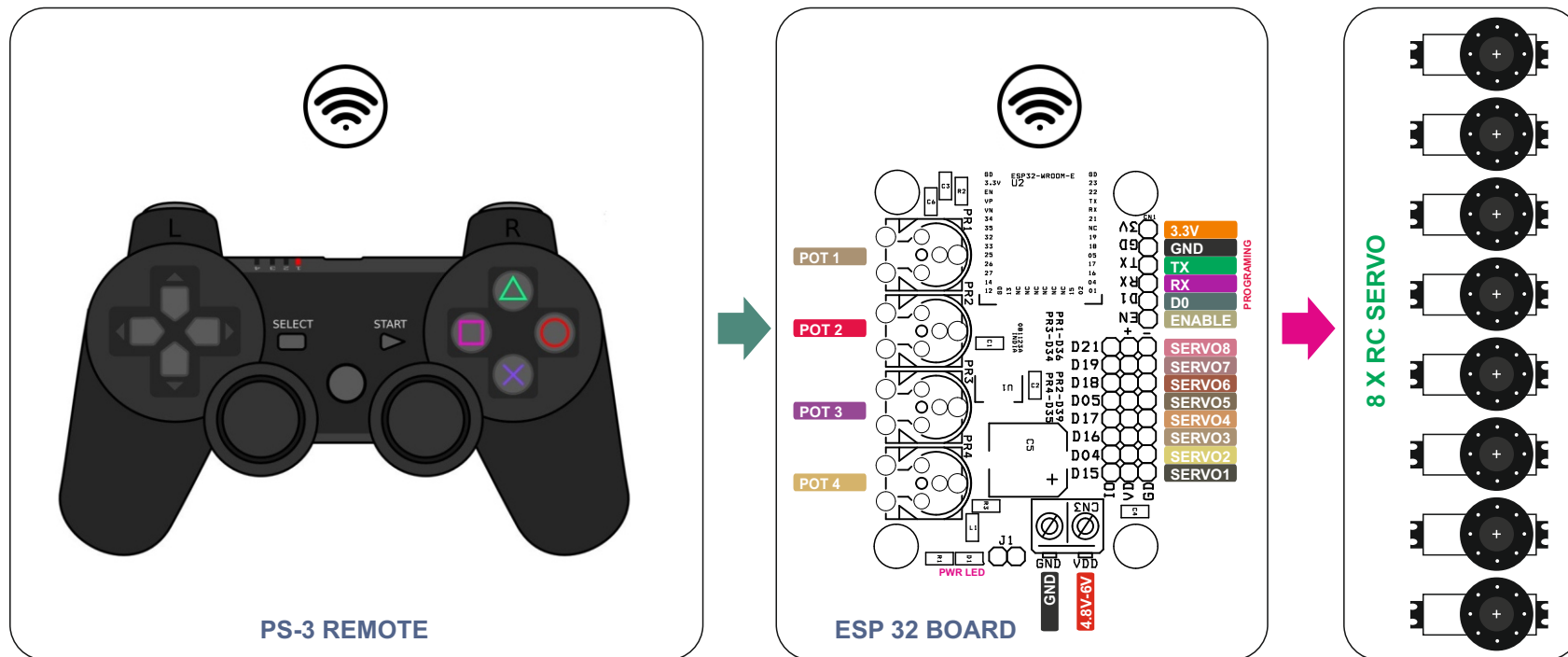
APPLICATION

- Cn1: Pin 1 = 3.3V, Pin 2 = GND, Pin 3 = TX, Pin 4 = RX, Pin 5 = D0, Pin 6 = Enable (ESP32 Programming)
- CN2=GPIO21, CN4=GPIO19, CN7=GPIO17, CN8=GPIO16, CN5=GPIO18, CN6=GPIO05, CN9=GPIO04, CN10=GPIO15: (Pin 1 = RC Signal/IO, Pin 2 = VDD 4.8V-6V, Pin 3 = GND)
- CN3: Pin 1 VDD 4.8V to 6V Power Input, Pin 2 = GND
- D1: Power LED
- Trimmer Potentiometer PR1 = GPIO36/ESP32, PR2 = GPIO39/ESP32, PR3 = GPIO34/ESP32, PR4 = GPIO35/ESP32
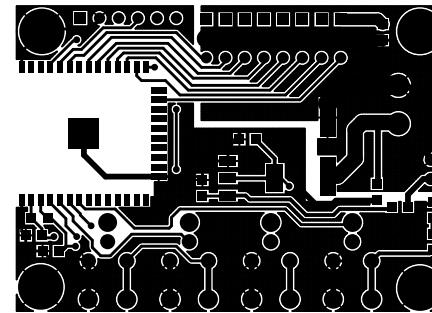- JUMPER J1 = Internal or External 3.3V Power Selection for ESP32

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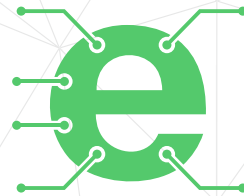# PCB

PCB GERBER FILES AVAILABLE
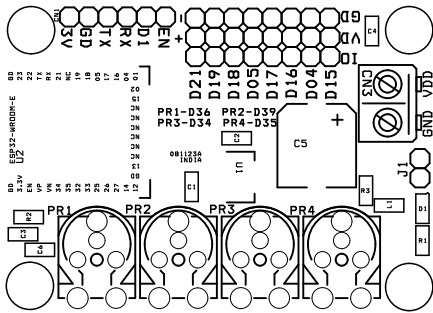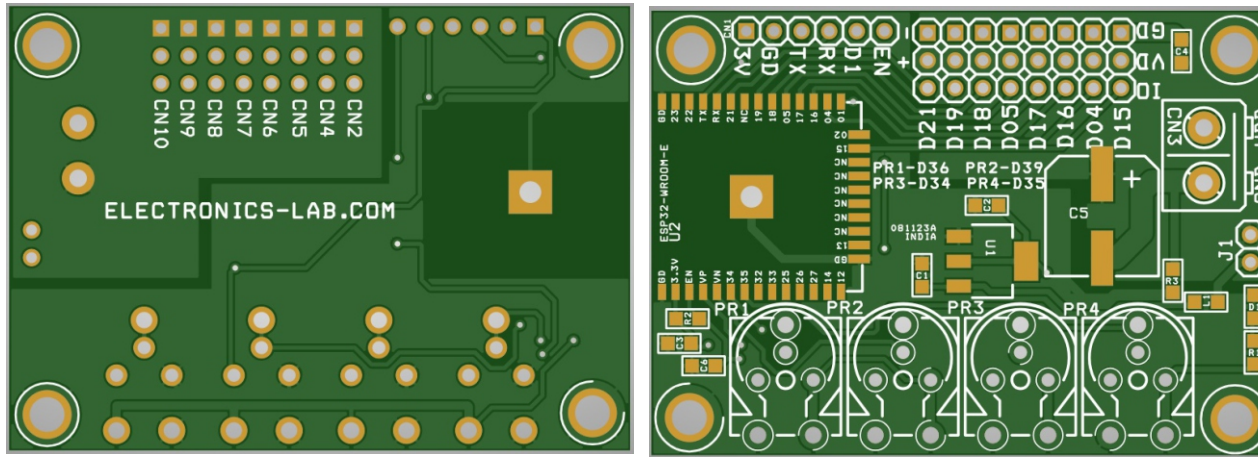
SILK SCREEN TOP
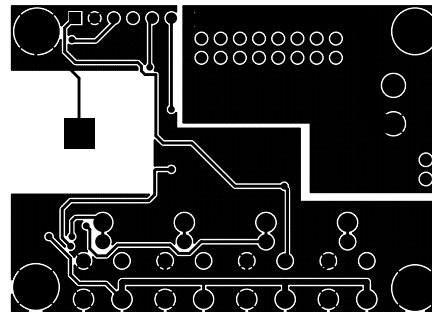
BOTTOM LAYER

TOP LAYER

PCB DIMENSIONS 57.15 X 40.96MM

Parts List

NO	QNTY	REF.	DESC	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
			BOM			
1	1	CN1	6 PIN MALE HEADER PITCH 2.54MM	WURTH		732-5319-ND
2	8	CN2,CN4,CN5,CN6,CN7,CN8,CN9,CN10	3 PIN MALE HEADER PITCH 2.54MM	WURTH		732-5316-ND
3	1	CN3	2 PIN SCREW TERMINAL PITCH 5.08MM	PHOENIX		277-1247-ND
4	2	C1,C3	10uF/10V CERAMIC SMD SIZE 0805	YAGEO/MURATA		
5	3	C2,C4,C6	100nF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA		
6	1	C5	470uF/16V OR 25V ELECTROLYTIC	NICHICON		493-2280-1-ND
7	1	D1	LED-RED SMD SIZE 0805	OSRAM		475-1278-1-ND
8	1	J1	JUMPER 2 PIN MALE HEADER PITCH 2.54MM	WURTH		732-5315-ND
9	1	L1	FERRITE BEAD 600-OHMS/100MHZ	LAIRD		240-2399-1-ND
10	4	PR1,PR2,PR3,PR4	10K TRIMMER POTENTIOMETER	PIHER		1993-1116-ND
11	1	R1	1K 5% SMD SIZE 0805	YAGEO/MURATA		
12	1	R3	0E SMD SIZE 0805	YAGEO/MURATA		
13	1	U1	LM1117-3V SOT223	TI		LM1117MP-3.3/NOPBCT-ND
14	1	U2	ESP32-WROOM-CHIP	ESP		1965-ESP32-WROOM-32E-H4TR-ND
15	1	SHUNT	SHUNT FOR JUMPER	SULLINS CONNECT		S9001-ND
16	1	R2	10K 5% SMD SIZE 0805	YAGEO/MURATA		

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Notes

APP

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Android App

DOWNLOAD

Android App launched in 2017 and has 100k+ downloads - rated with 4.5 stars.

SCAN QR CODE

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