4-Channel Remote Receiver Using NRF24L01 Radio Module - Arduino Compatible

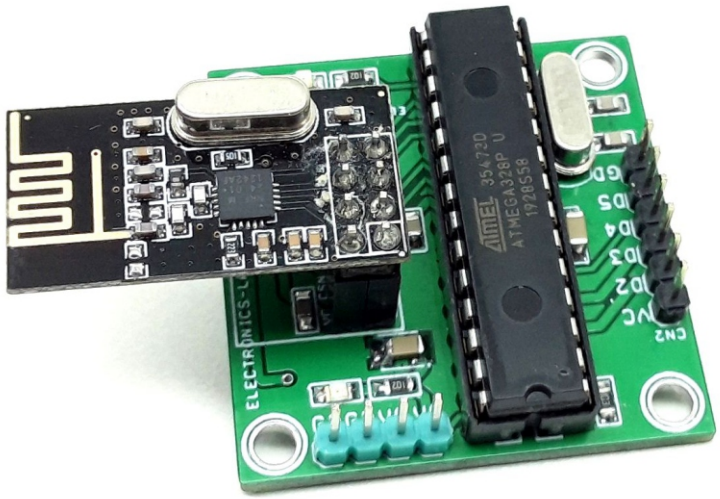
Controlling 4 devices using an RF remote is very easy with this project. This is an Arduino compatible project. NRF24L01 module, Atmega328 microcontroller, 3.3V regulator, and few other components are part of the project. Onboard power LED and an additional functional LED is provided. The project provides 4x TTL outputs that can be interfaced with a relay board, solid-state relay boards, motor drivers, and other projects. The circuit works with 5V DC and requires a few milliamps current. D2 Power LED, D1 optional function LED.

Compatible 4 Channel RF Transmitter

This receiver board is compatible with the **4 Channel RF Remote Transmitter using nRF24L01- Arduino Compatible** previously published on our website.
https://www.electronics-lab.com/project/4-channel-rf-remote-transmitter-using-nrf24l01-arduino-compatible/
Please refer to the example application diagram below to interface the receiver board with **Low Profile 2 Channel Solid State Relay for AC Loads** which helps you to drive 2x high voltage loads with 230V AC input. You can use 2x boards for 4 cha

Arduino Pins

- Output 1: Digital Pin D2
- Output 2: Digital Pin D3
- Output 3: Digital Pin D4
- Output 4: Digital Pin D5
- LED D1 >> Digital Pin D6



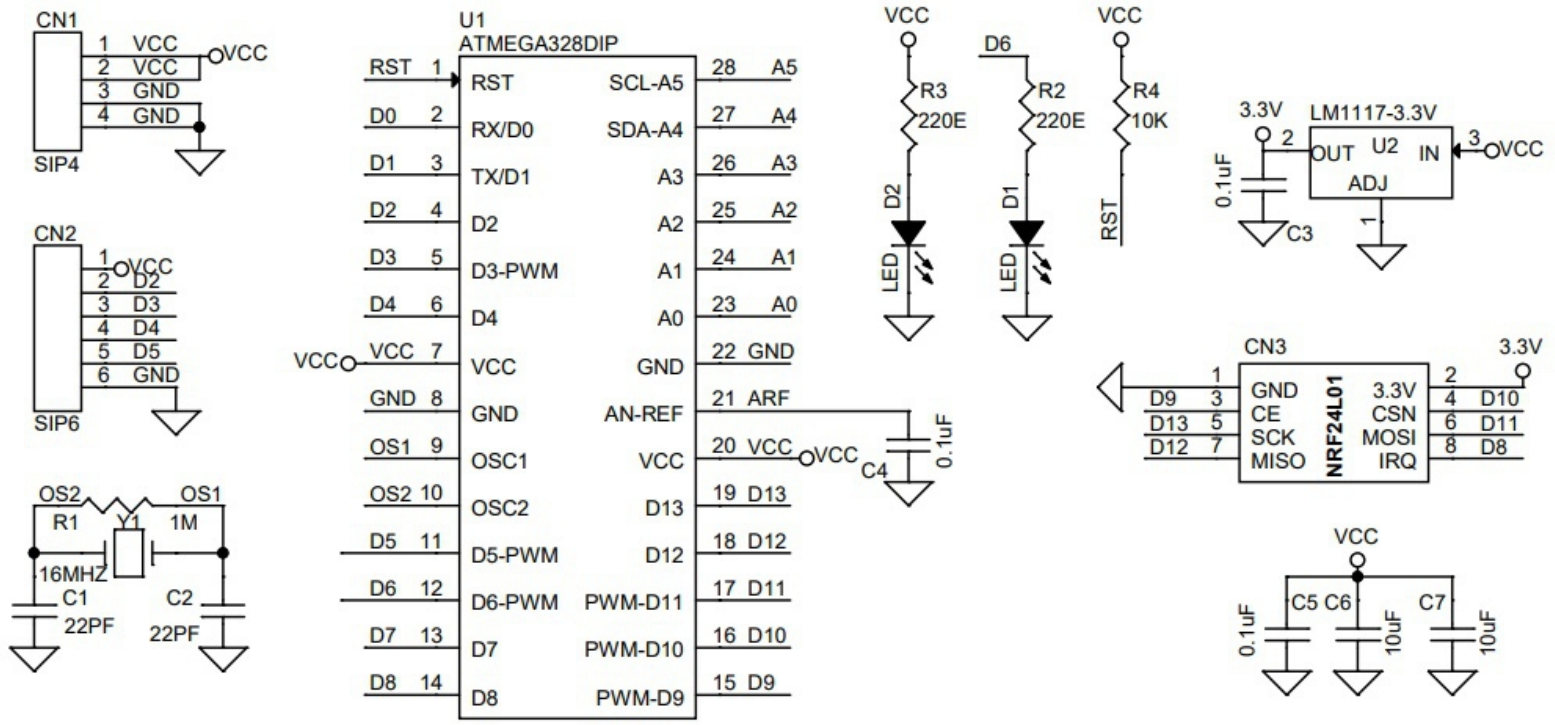
NDRF24L01 Transceiver Module

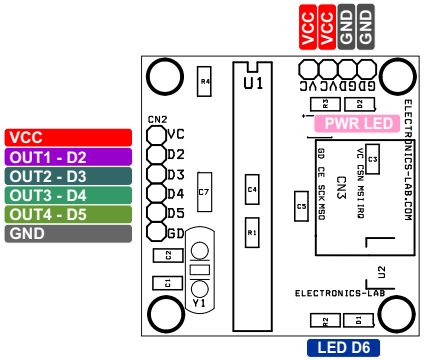
- CE>> Digital pin D9
- CSN>> Digital pin D10
- MOSI>> Digital pin D11
- MISO>> Digital pin D12
- SCK>> Digital pin D13
- IRQ>> Digital pin D8
- 3.3V and GND

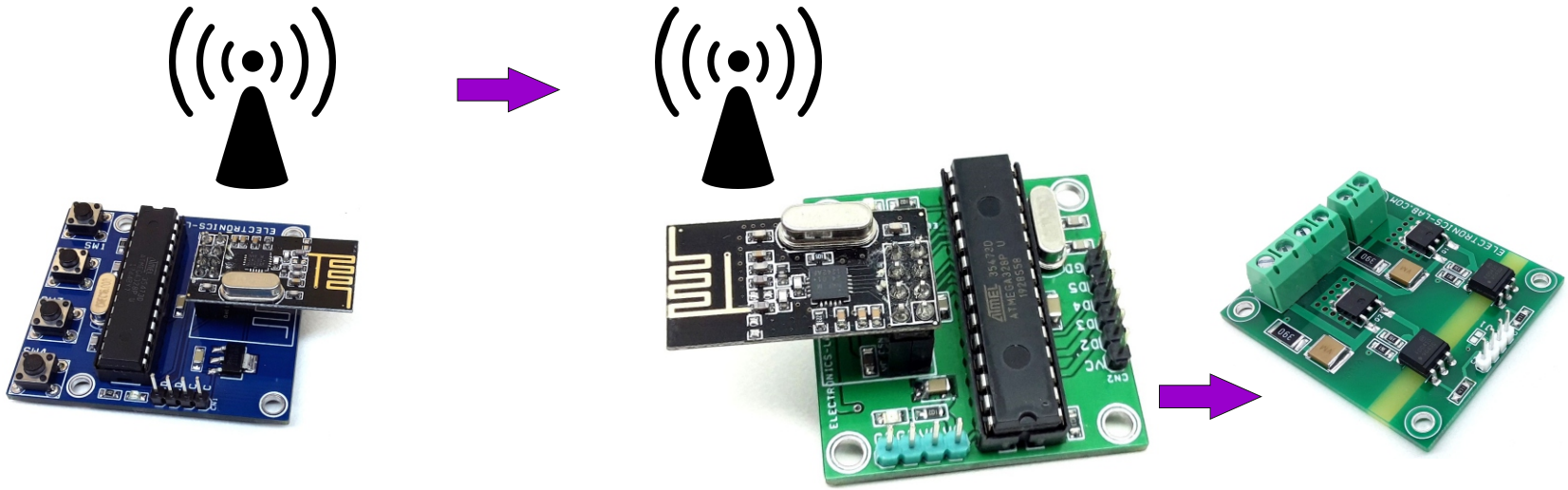
Features

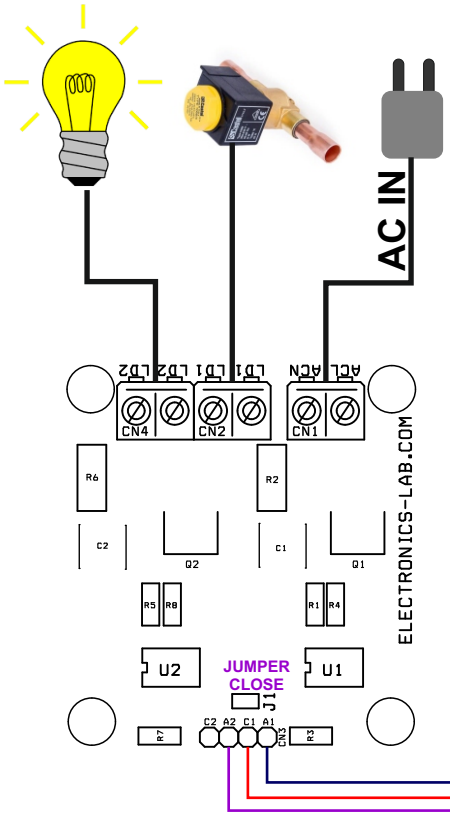
- Operating Supply 5V DC, Consumes 20mA Current
- 4 TTL Outputs, Easy Interface with Relay Board, Solid State Relay Board
- PCB Dimensions 37.47MM X 36.83MM
- Controlling Lights, Fans, Robots is very easy

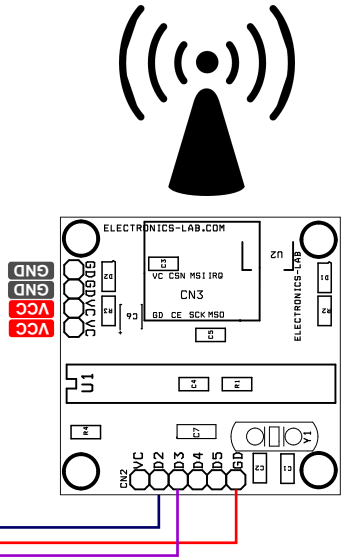
Arduino Code for Transmitter and Receiver available, download the code and dump in to ATmega328 micro-controller, more info available here
https://www.arduino.cc/en/Tutorial/BuiltInExamples/ArduinoToBreadboard
Compatible 4 Channel RF Transmitter
https://www.electronics-lab.com/project/4-channel-rf-remote-transmitter-using-nrf24l01-arduino-compatible/
Receiver board is compatible with following boards
AC Solid State Relay Board
https://www.electronics-lab.com/project/low-profile-2-channel-solid-state-relay-for-ac-loads/
https://www.electronics-lab.com/project/ac-solid-state-relay/
DC Solid State Relay Board
https://www.electronics-lab.com/project/dc-output-solid-state-relay/
Relay Board (This board has 12V Relay, replace with 5V Relay for single Supply 5V operation or use 5V for Receiver, 12V for Relay Boar)
https://www.electronics-lab.com/project/4-channel-relay-board/
https://www.electronics-lab.com/project/dual-relay-board-using-smd-components/
https://www.electronics-lab.com/project/single-channel-smd-relay-driver/

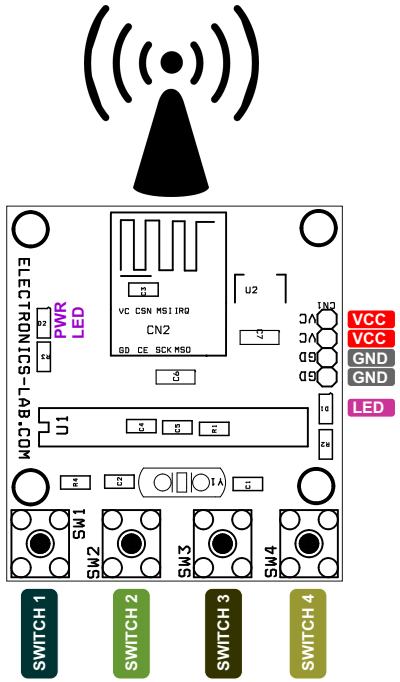



VCC
VCC
GND
GND
VCC
OUT1 - D2
OUT2 - D3
OUT3 - D4
OUT4 - D5
GND
CN2
VC
D2
D3
D4
D5
GD
U1
PWR LED
CN3
ELECTRONICS-LAB
LED D6





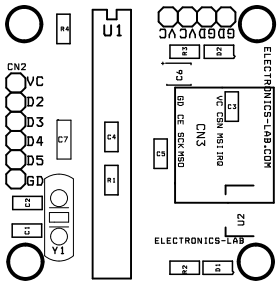




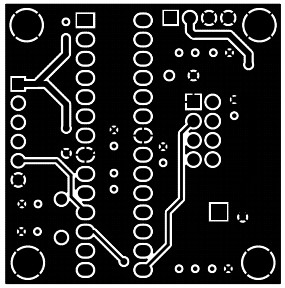
SSR BOARD

NRF24L01 RECEIVER BOARD

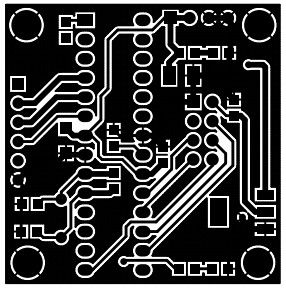
4 CHANNEL NRF24L01 TRANSMITTER



SILK SCREEN TOP



BOTTOM LAYER



TOP LAYER

PCB DIMENSIONS 37.47MM X 36.83MM

BOM						
NO.	**QNTY.**	**REF.**	**DESC**	**MANUFACTURER**	**SUPPLIER**	**SUPPLIER PART NO**
1	1	CN1	4 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5317-ND
2	1	CN2	6 MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5319-ND
3	1	CN3	NRF24L01	SEEDSTUDIO	DIGIKEY	1597-1352-ND
4	2	C1,C2	22PF/50V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
5	3	C3,C4,C5	0.1uF/50V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
6	2	C6,C7	10uF/16V SMD SIZE 1206	MURATA/YAGEO	DIGIKEY	
7	2	D1,D2	LED RED SMD SIZE 0805	OSRAM	DIGIKEY	475-1278-1-ND
8	1	R1	1M 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
9	2	R2,R3	220E 5% SMD SIZE	MURATA/YAGEO	DIGIKEY	
10	1	R4	10K 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
11	1	U1	ATMEGA328	MICROCHIP	DIGIKEY	ATMEGA328-PU-ND
12	1	U2	LM1117-3.3V	TI	DIGIKEY	LM1117MP-3.3/NOPBCT-ND
13	1	Y1	16MHZ	ECS INC	DIGIKEY	X1103-ND