FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

INFRARED REMOTE CONTROL 50' 2CH.
CODE 412 (LEVEL 2)

This infrared remote circuit can be easily used for 2 electrical home appliance (300W maximum) controlling independently.

Technical specifications:

- power supply: 9VDC.(TX), 12VDC.(RX)
- consumption: 25mA max.(TX), 100mA max.(RX)
- maximum load: 10A@125VAC and 5A@220VAC
- PCB dimensions : 1.59 x 2.73 inches.(TX)
  4.03 x 2.10 inches.(RX)

How to works:

There are 2 major functions as per following:

TRANSMITTER : incharge for 1st frequency generator. IC3/2 incharges for 2nd frequency generator and IC3/3 and IC3/4 incharge for 40KHz frequency generator. This frequency is controlled by IC3/1 and IC3/2 according to 1st or 2nd switch pressing. The controlled frequency is transferred to TR1 for amplifying and unseenably sent to LED infrared.

RECEIVER : receiver comprises of 3 functional ares which are Part 1. Module-incharges for infrared detector and send tone signal to "OUT" Part 2 : IC1 is working when tone frequency from channel 1 is sending, and IC2 is working when 2nd channel send the frequency. Part 3 : Relay control acts as flip-flop or start and stop according to TR2, TR3 and relay switch pressing. It controls 1ST channel by having LED1 as display device, TR4, TR5 and relay control 2nd channel by having LED2 as display device.

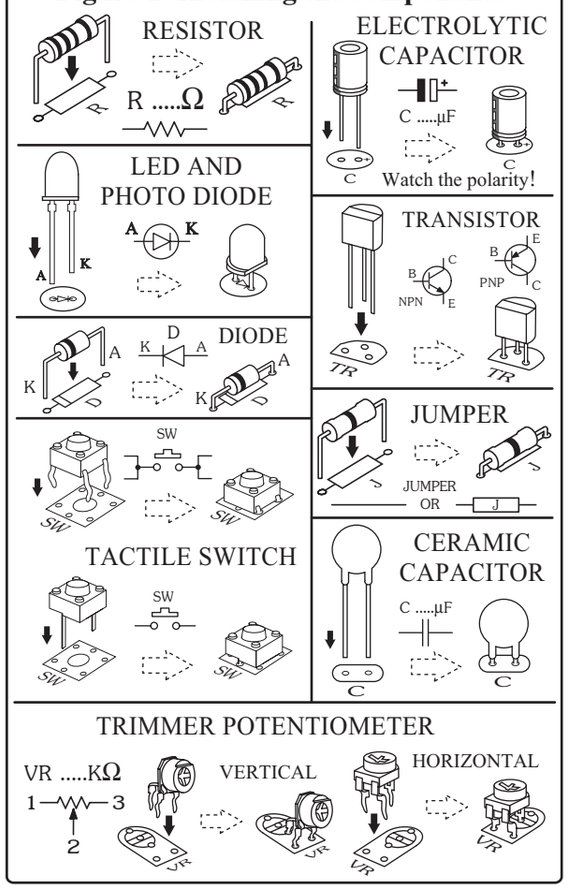
PCB assembly:

Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the correct way around. The LED has a flat spot on the body which lines up with the line on the overlay. Now check that you really did mount them all the right way round!

Testing:

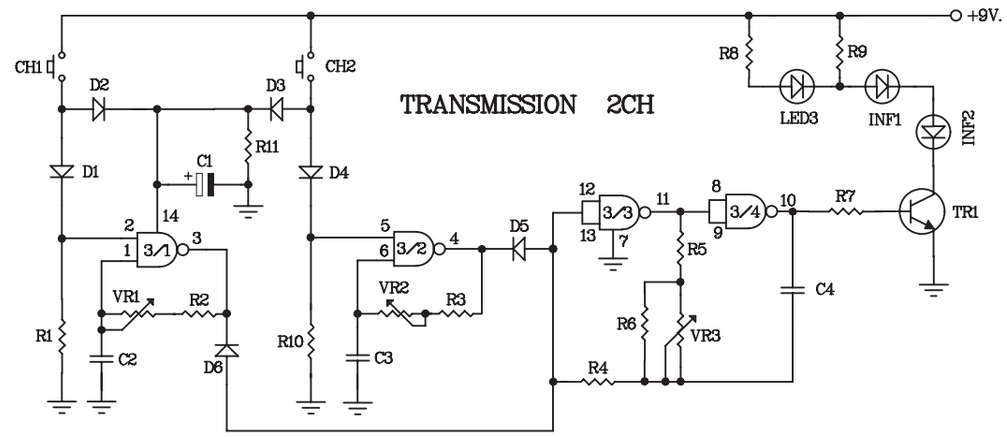
Connect the circuit according to figure 3. Do not giving 220V to "IN 220V". Press SW1, LED1 will display. Turn LED infrared toward module and adjust VR3 to the middle. Adjust VR1 till LED1 is display, then press on SW1 one time, LED1 will stop displaying, once pressing SW1, LED1 will again display. Testing with SW2 according to the above testing procedure. Additionally, adjust trimmer potentiometer VR2. As you satisfy with both channels testing, walk far away from the circuit bit by bit while adjust VR3 in order to adjust the receiving distance maximum for 10-15 meters. As you satisfy the test, connect 220V at "IN". "OUT1" and "OUT2" with 2 home appliances. Do not necessary to put on all 3 lens if the distance is lesser then 8 meters or it is not put in the box.

Figure 1. Installing the componants



Troubleshooting:

The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted in the wrong places. Make sure that all the polarised components have been soldered the right way round.



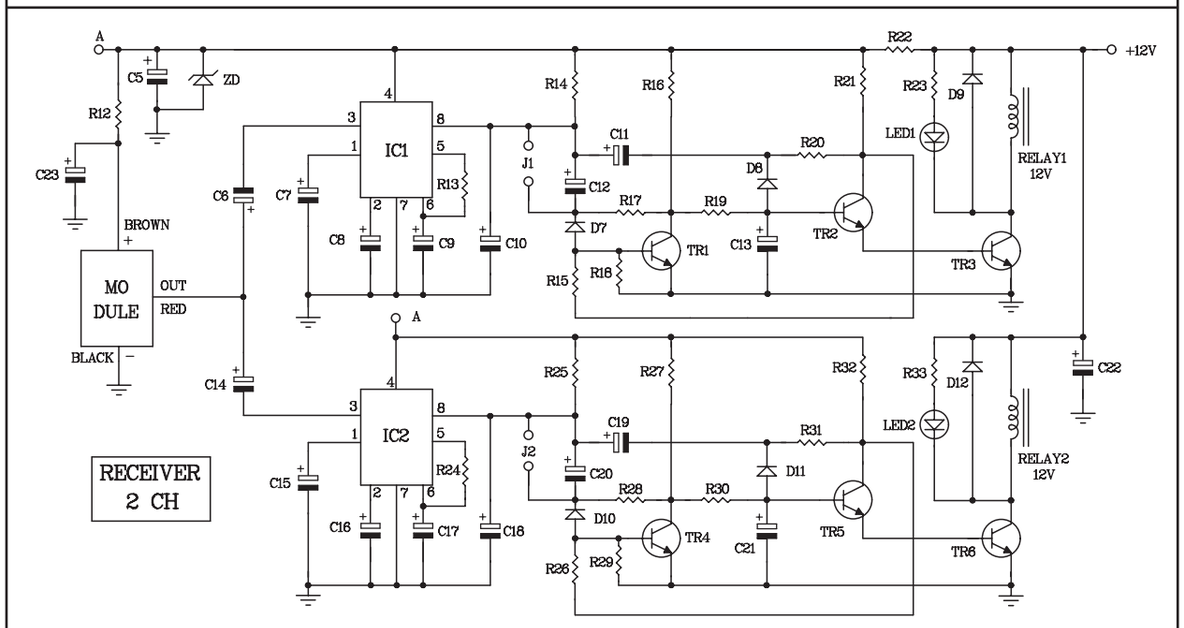
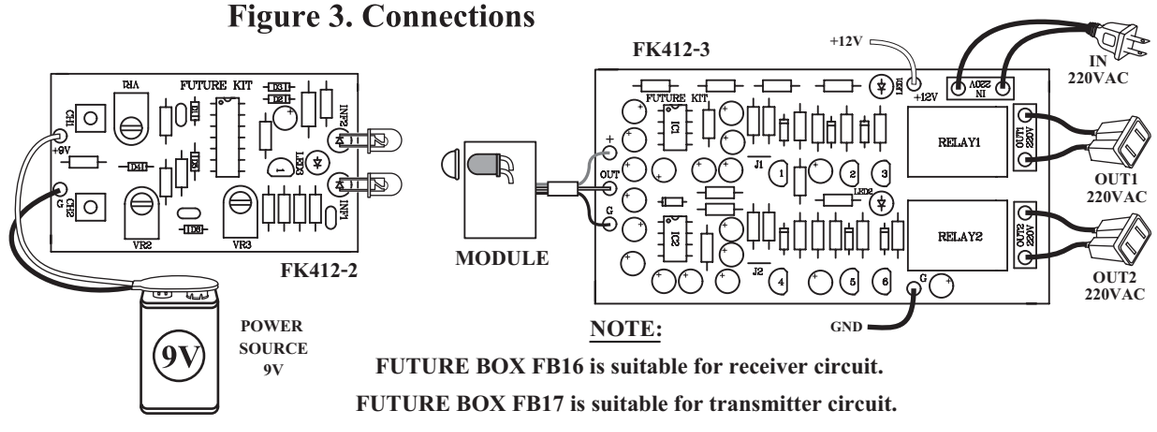


Figure 2. The infrared remote control 50' 2 ch. circuit

Figure 3. Connections



NOTE:

FUTURE BOX FB16 is suitable for receiver circuit.

FUTURE BOX FB17 is suitable for transmitter circuit.