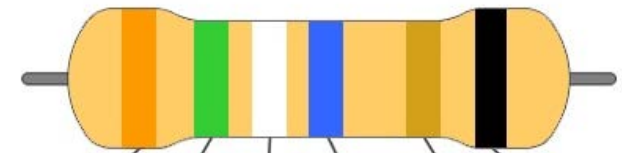
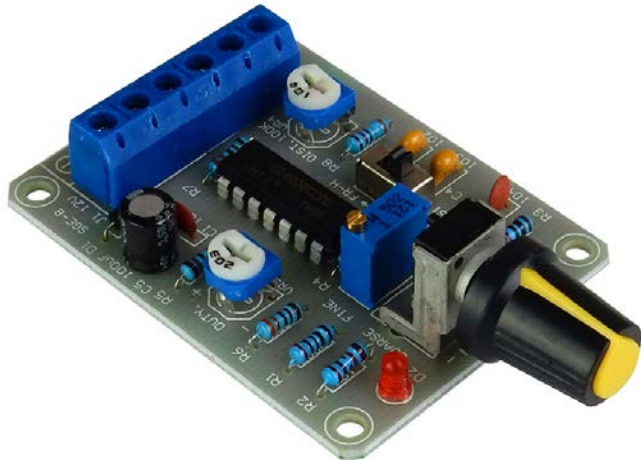


CAT# KT-SGM SIGNAL GENERATOR KIT NOTES AND INSTRUCTIONS



	1 st digit	2 nd digit	3 rd digit	multiply	tolerance	TCR (ppm/K)
Black	0	0	0	1	1% (F)	100
Brown	1	1	1	10	2% (G)	50
Red	2	2	2	100		15
Orange	3	3	3	1K		25
Yellow	4	4	4	10K		
Green	5	5	5	100K	0.5% (D)	
Blue	6	6	6	1M	0.25% (C)	10
Violet	7	7	7	10M	0.1% (B)	5
Gray	8	8	8	100M	0.05% (A)	
White	9	9	9	1G		
Gold				0.1	5% (J)	
Silver				0.01	10% (K)	
None					20% (M)	

Resistors R1-R8


Resistor Color Codes -- Read bands from left to right. Brown band furthest to right is tolerance 5%. Always check resistance with a multimeter before soldering.

10KΩ Brown (1), Black (0), Black (0), Red (00)

200Ω Red(2), Black (0), Black (0), Black (no 0)

33KΩ Orange (3), Orange (3), Black (0), Red (00)

Polarity and Orientation of parts

LED (Light Emitting Diode),  The short lead of the LED is the cathode (-) and should be inserted facing the line part of the symbol.

Diode,  The white line on the diode (cathode) faces the line on the symbol.

Electrolytic Capacitor, White line on side of capacitor is negative (-)

ICL8038, Integrated Circuit, Indentation in chip faces rear of board (terminal strip)

Terminal Strip – Insert with holes facing to the rear of the board.

Tools you need:

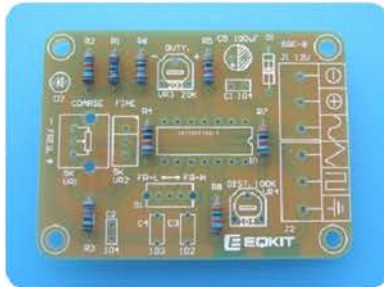
- ① Iron (30W)
- ② Solder wire
- ③ Multimeter
- ④ Tweezers
- ⑤ Wire cutters

Precautions:

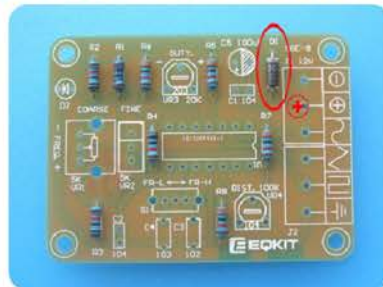
- ① Check part values & quantities against part list
- ② Always meter resistor values before soldering
- ③ Understand all part polarities and orientations

signal generator kit instructions

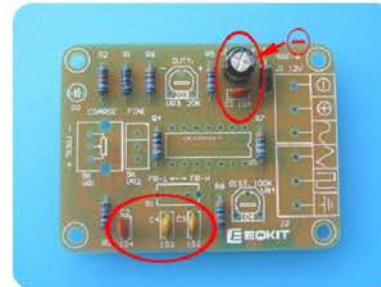
1. Resistors



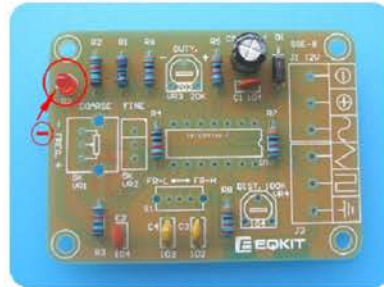
2. Diode (Attention direction)



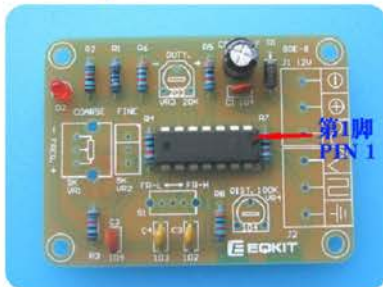
3. Capacitors (C5 Attention direction)



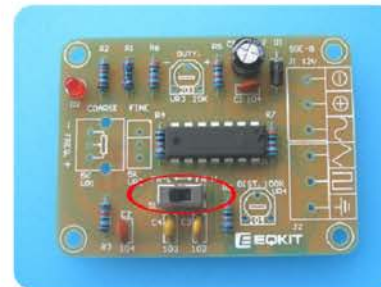
4. LED (Attention direction)



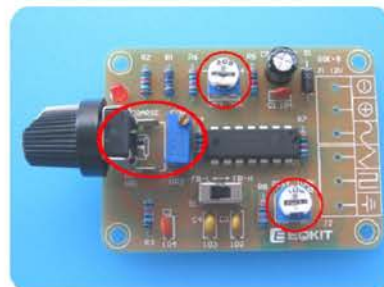
5. Chip (Attention direction)



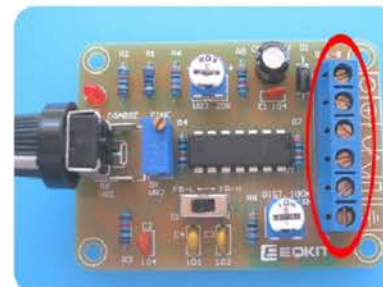
6. Switches



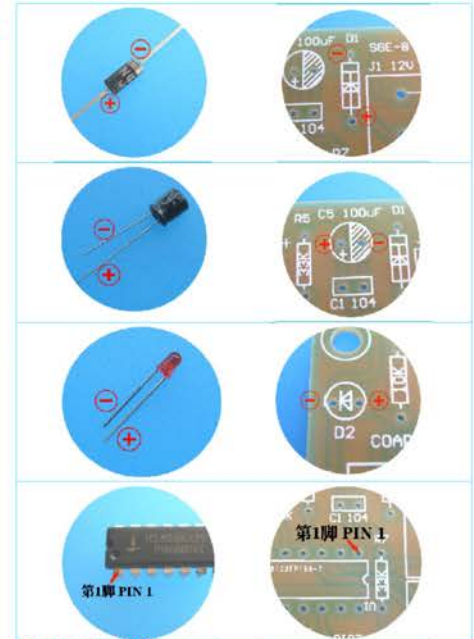
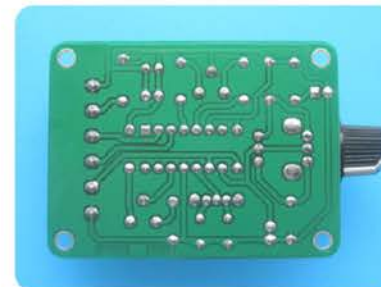
7. Potentiometer&Knob



8. Terminals (Attention direction)

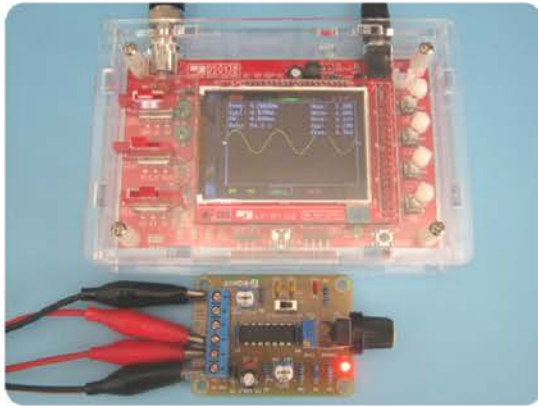


Finished creation

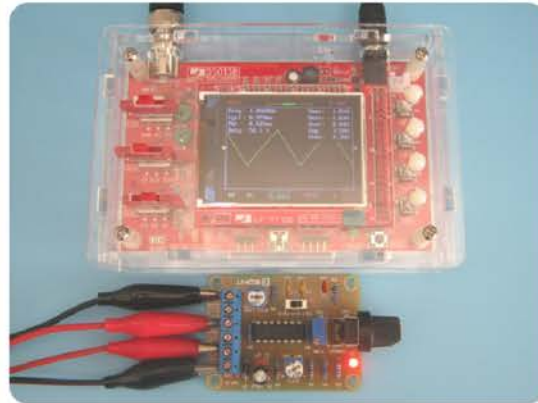


Component list:

Name	Model	Number	QTY
Res	200R	R1	1
	10K	R2 R3 R4	3
	33K	R5--R8	4
	104P	C1 C2	2
MCer Cap	102P	C4	1
	103P	C3	1
	220uF/16V	C5	1
Diode	1N4007	D1	1
LED	3mm red	D2	1
Poten	5K	VR1	1
	5K	VR2	1
	20K	VR3	1
	100K	VR4	1
Swith	1P2T	S1	1
Chip	ICL8038	U1	1
Terminal	301-3P	J1 J2	2
Knob	Black	1	1
PCB	58.4*47.3mm	1	1



Sine wave
 Freq range: 50Hz--7.5KHz
 Vmax: 1.28V
 Vmin: -1.00V
 Vavr: 0.12V
 Vpp: 2.29V
 Vrms: 0.76V
 Duty: 48%--56%



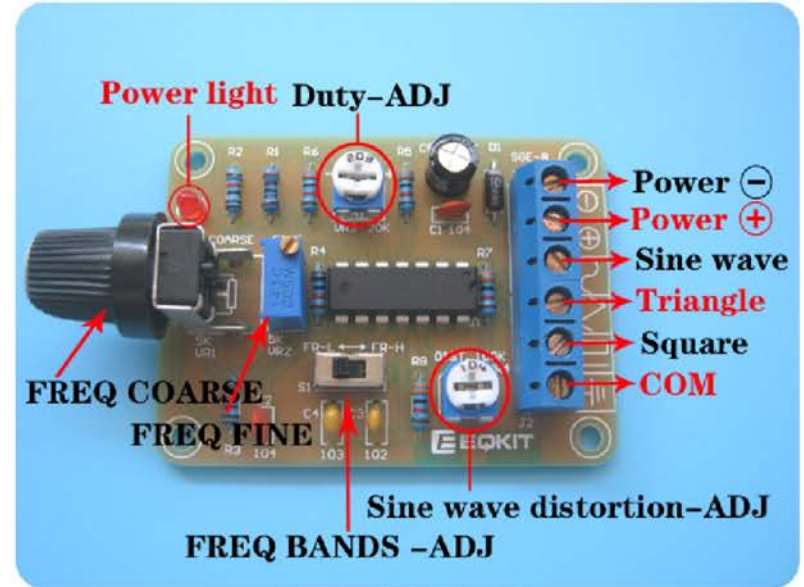
Triangle wave
 Freq range: 50Hz--7.5KHz
 Vmax: 1.81V
 Vmin: -1.69V
 Vavr: 0.04V
 Vpp: 3.50V
 Vrms: 0.96V
 Duty: 49%--55%



Square wave
 Freq range: 50Hz--7.5KHz
 Vmax: 5.55V
 Vmin: 5.63V
 Vavr: 0V
 Vpp: 11.19V
 Vrms: 5.39V
 Duty: 27%--63%

All the data listed are typical values for your reference only.

How to Use: (Voltage=DC12V)



Schematic:

