EQKIT

Tools you need:
① Iron (30W)　④ Tweezers
② Solder wire
③ Multimeter　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

# ECL-1227　Electronic calendar kit instructions
### Rev. 1.0　　2017.11.05　　Produced by YiQi

Resistance distinguish:

|				
33 Ω ±1%	100R	330R	1.5K	10K
10K±1%	30K	100K	390K	470K
1M	NTC Thermistor	Diode 1N60 A+ -K	Diode 1N4007 A+ -K	Electrolytic capacitor : Long pin is the positive pole

1.Install RES and Thermistor: Contrast ECL-1227 Electronic calendar component list
Install resistors and thermistors on the circuit board
RT1=NTC thermistor,R23=10K±1% Precision resistor
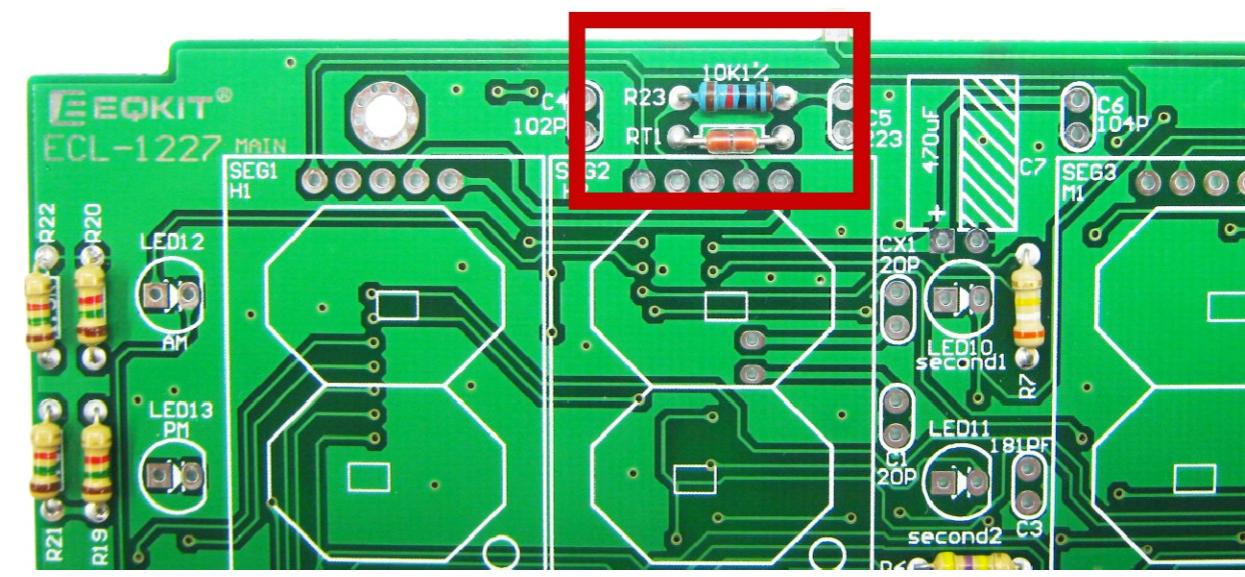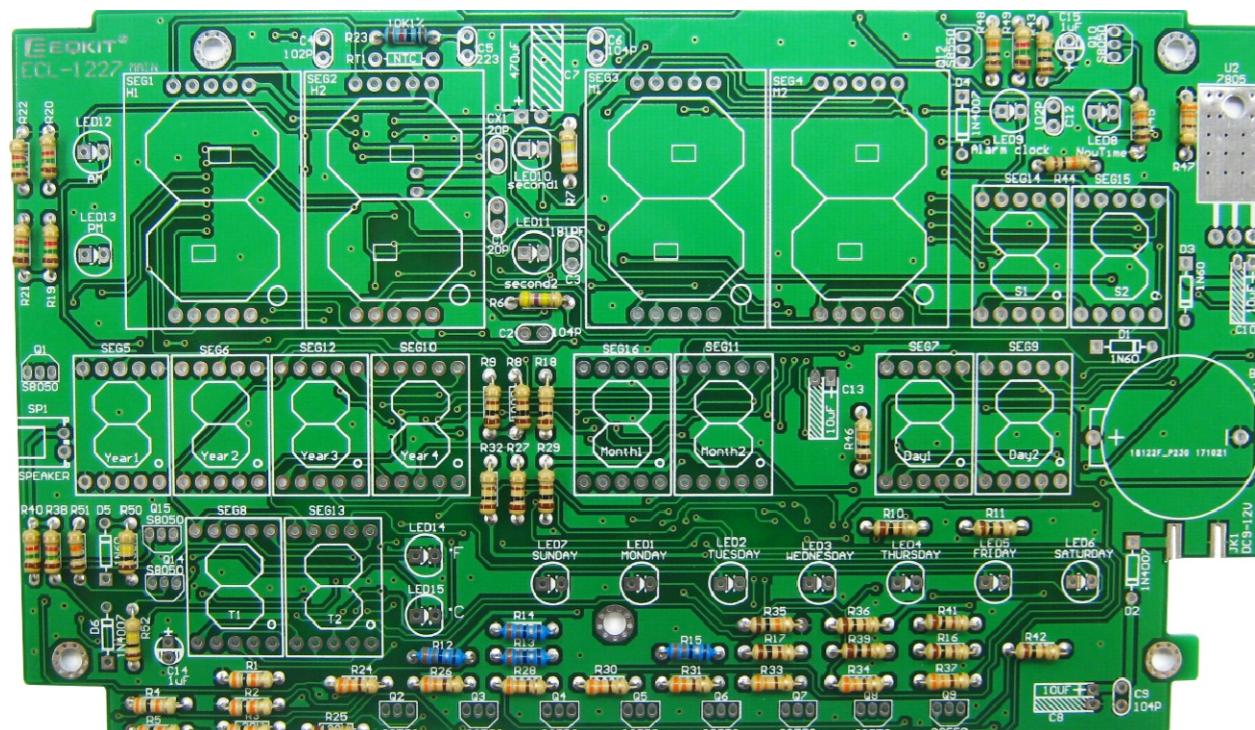
2.Install diode 1N60:D1 , D3 , D5＝1N60
Pay attention to installation direction
Cannot install reverse

1N60
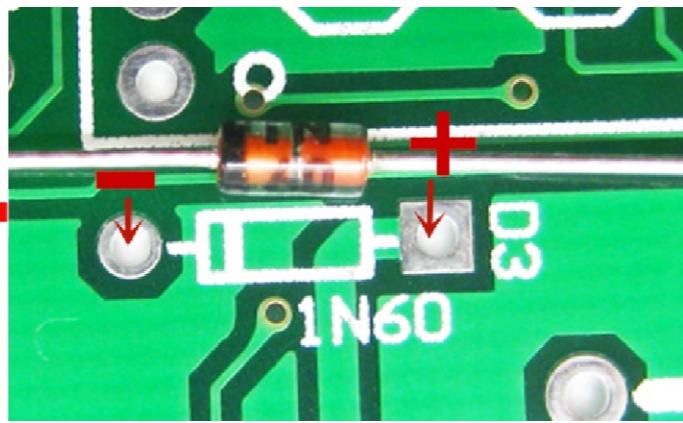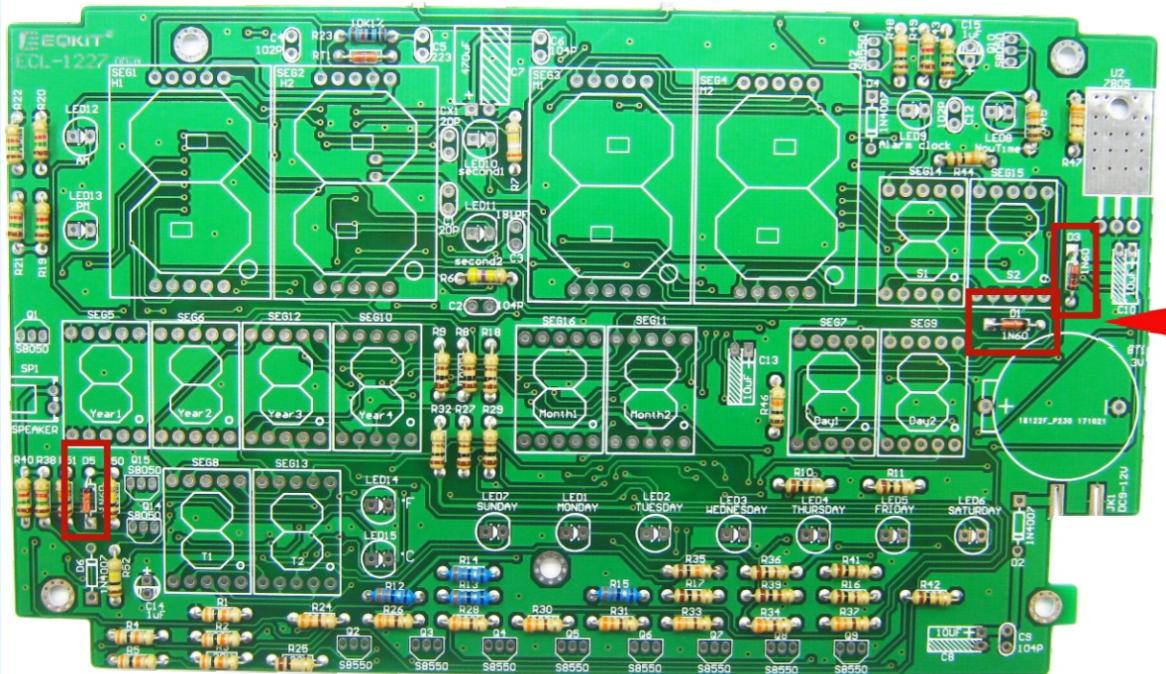
3.Install diode 1N4007:D2 , D4 , D6＝1N4007
Pay attention to installation direction
Cannot install reverse

1N4007

JK1
DC9-12V
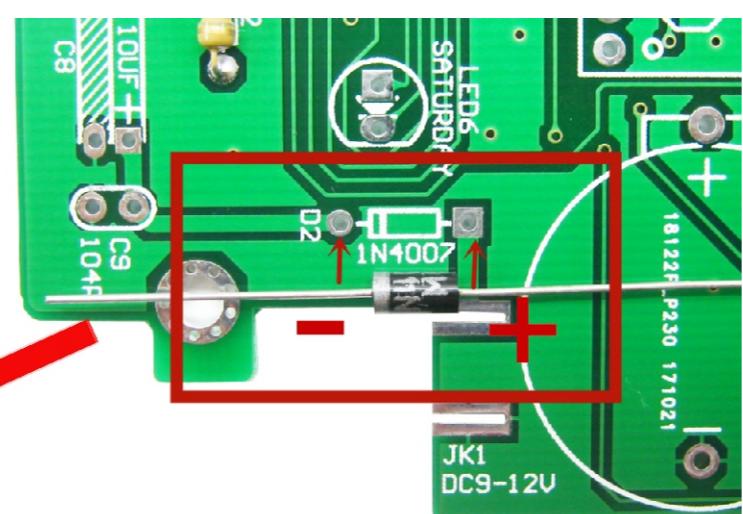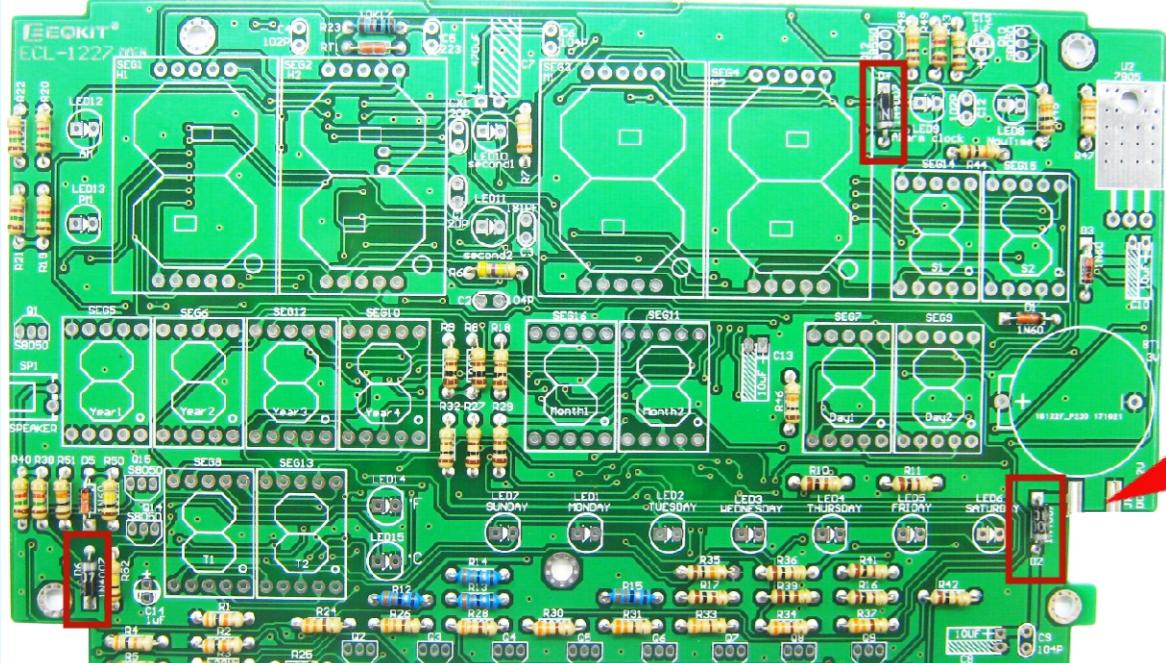
ECL-1227 Electronic calendar component list			
NO.	Name	Parameter	QTY
R12. R13. R14. R15	RES	33R	4
R8R9R10R11R16R17R18R25R27R29R32R36R39R41R42	RES	100R	15
R24. R26. R28. R30. R31. R33. R34. R37. R47	RES	330R	9
R19. R20. R21. R22. R38. R40. R48	RES	1.5K	7
R35. R44. R45. R46. R48. R51	RES	10K	6
R23	RES	10K±1%	1
R1. R2. R3. R4. R5	RES	30K	5
R50. R52	RSE	100K	2
R7	RES	390K	1
R6	RES	470K	1
R43	RES	1M	1
RT1	Thermistor	NTC10K	1
CX1. C1	CAP	20pF	2
C3	CAP	181PF	1
C4. C12	CAP	102PF	2
C5	CAP	223PF	1
C2. C6. C9	CAP	104PF	3
C14. C15	E. CAP	1uF	2
C8. C10. C13	E. CAP	10uF	3
C7	E. CAP	470UF	1
D1. D3. D5	Diode	1N60	3
D2. D4. D6	Diode	1N4007	3
LED1——LED15	LED	5mm	15+
Q1. Q10. Q14. Q15	Triode	S8050	4
Q2. Q3. Q4. Q5. Q6. Q7. Q8. Q9. Q12	Triode	S8550	9
SW1——SW7	Key	6*6*5	7
SEG1——SEG4	Digitron	1 inches	4
SEG5——SEG16	Digitron	0.5 inches	12
BAT1	Button cell	CR2025	1
BAT1	Battery holder	CR2025	1
SP1	2P Cable	2.54mm*150mm	1
SP1	Speaker socket	2.54mm*2P	1
SP1	Speaker	32Ω0.25W	1
U2	I.C	X7805	1
X1	XTAL	32768Hz	1
U1	I.C	T2518	1
JK1	Power socket	5.5mm	1
——	PCB	ECL-1227MAIN	1
——	PCB	ECL-1227SW	1
——	Shell	A total of ten pieces	1
——	Panel	188mm*125mm	1
——	Plastic column	5mm	5
——	Sponge	10*5*2mm	3
U2	Screw	M3*5 Black	1
U2	Nut	M3	1

4.Install CAP :

Screen printing on the reference
circuit board Install capacitors
on the circuit board
CX1，C1=20pF.
C3=181P.　　C4,C12=102P
C5=223P.　　C2,C6,C9=104P
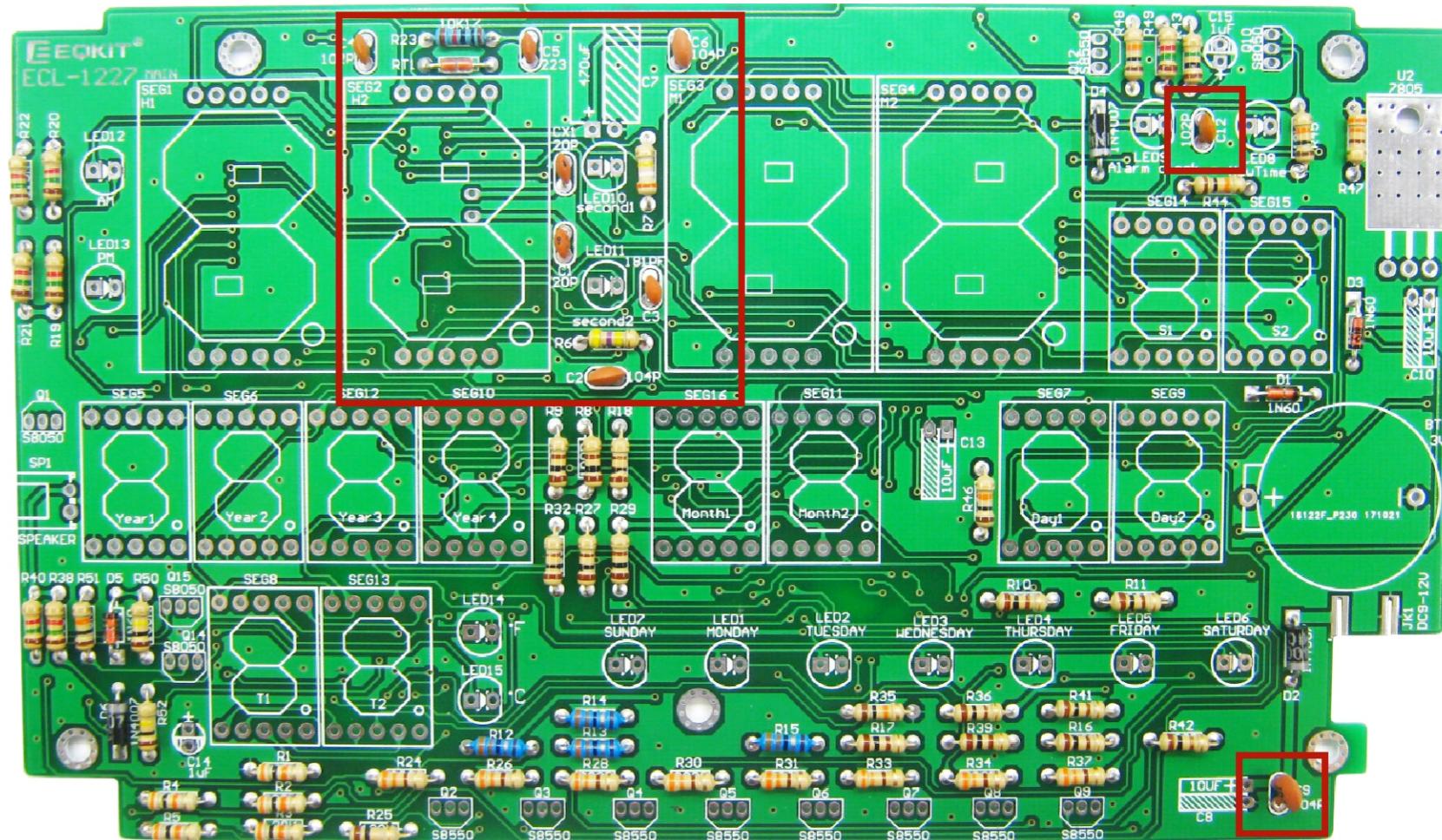
5.Install Electrolytic CAP : Pay attention to the difference between positive and negative electrodes during installation.The long pin is positive
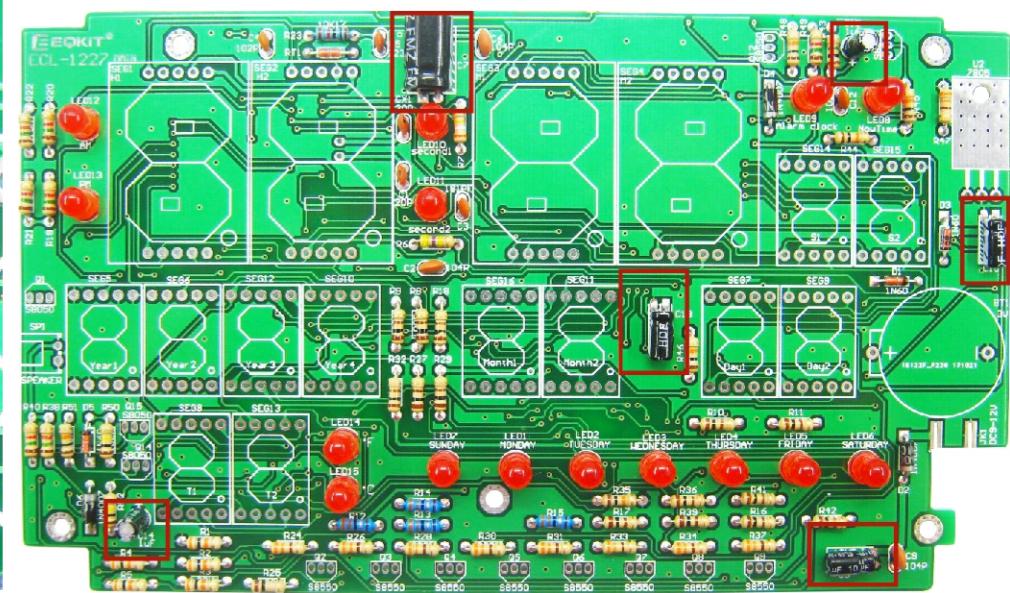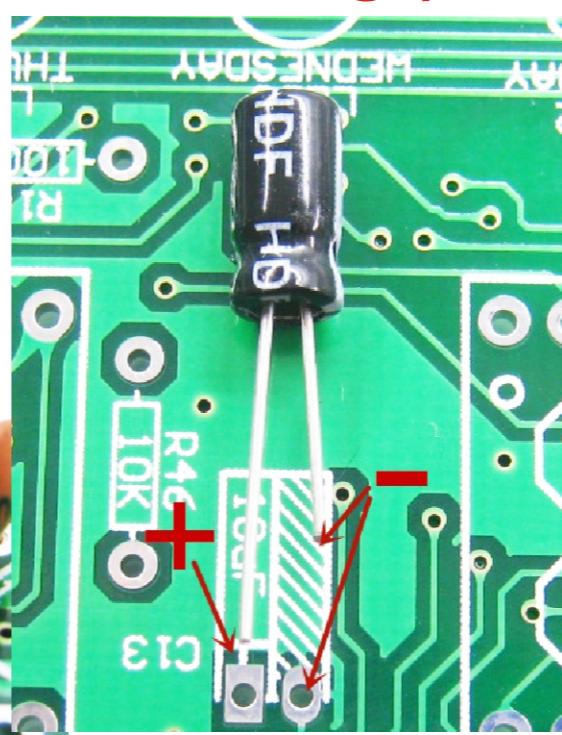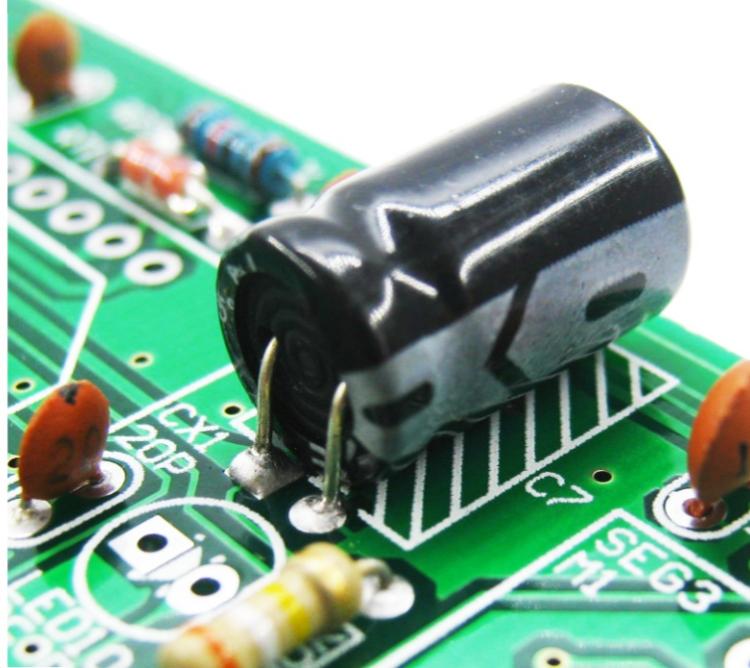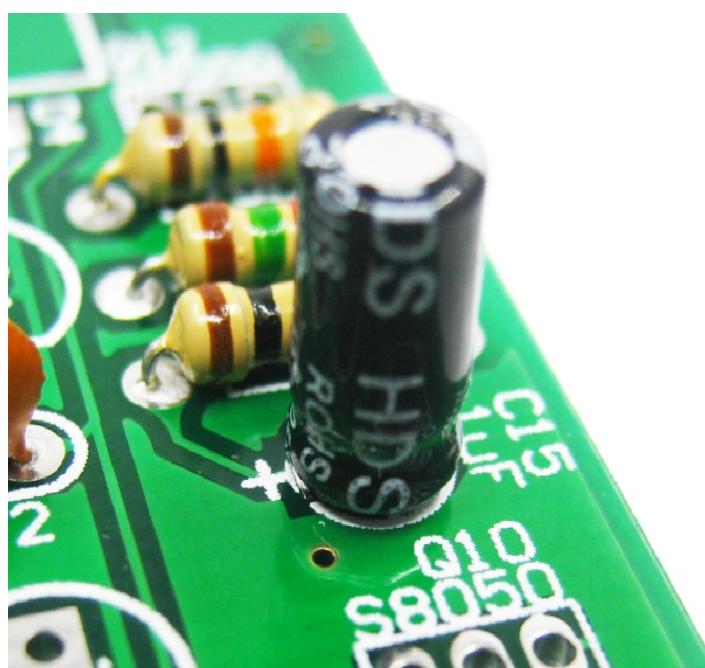
# 6.Install LED : Pay attention to distinguish the positive and negative pole of LED during installation

## LEDThe long pin of LED is positive Soldered to the square pad

−(K)

K(−)

A(+)
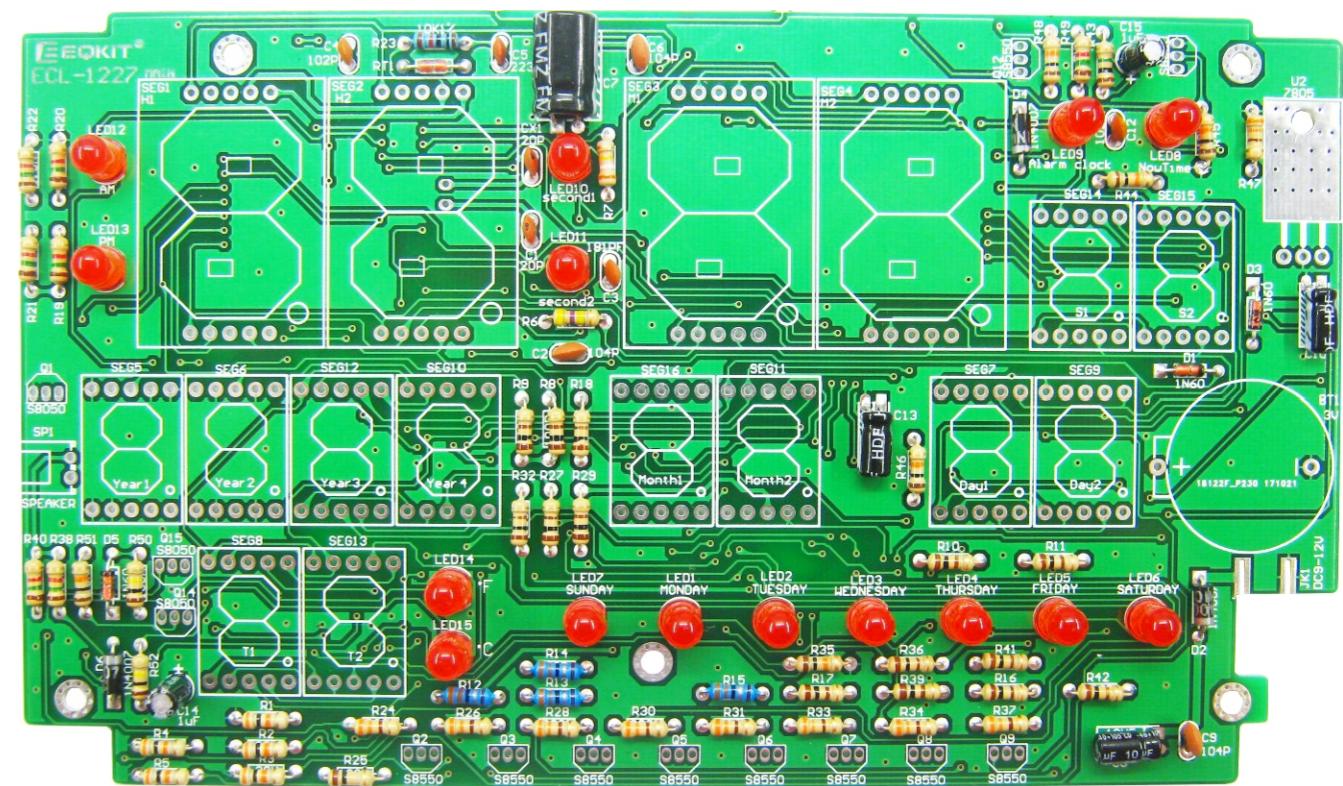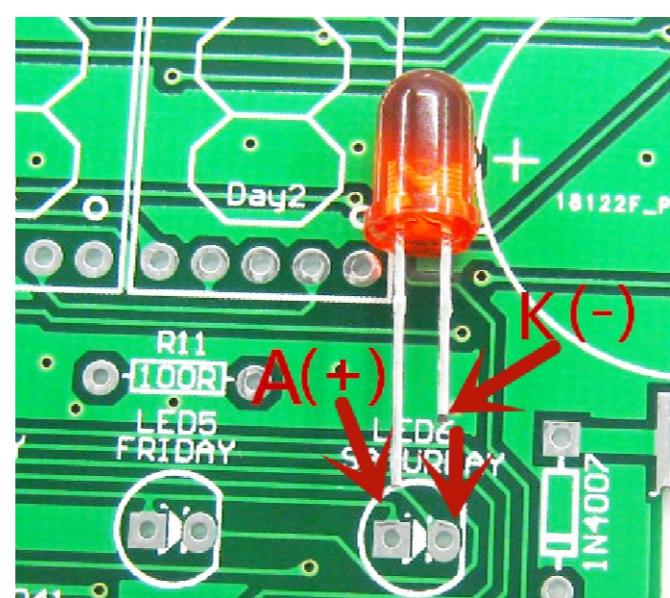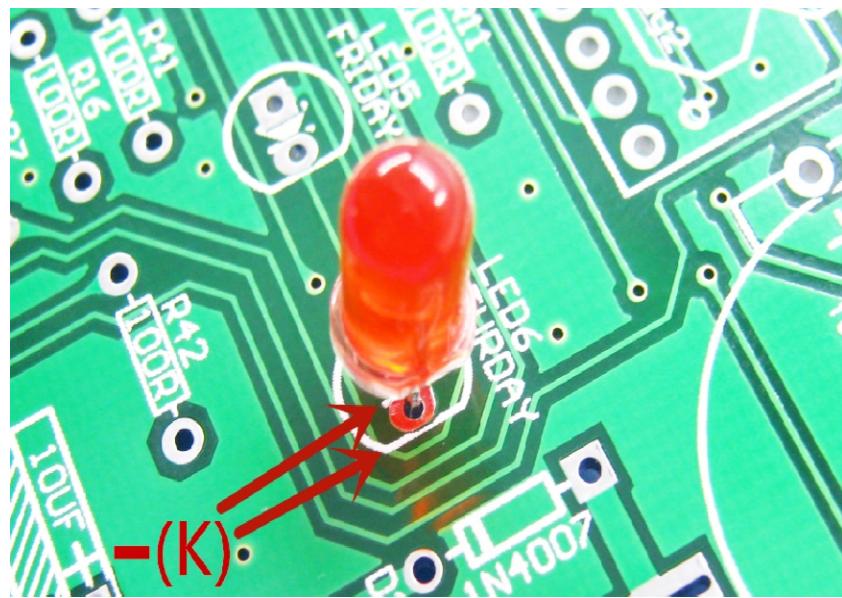
7.Install Triode : S8050 Welding to Q1.Q10.Q14.Q15.
S8550 Welding to Q2.Q3.Q4.Q5.Q6.Q7.Q8.Q9.Q12。
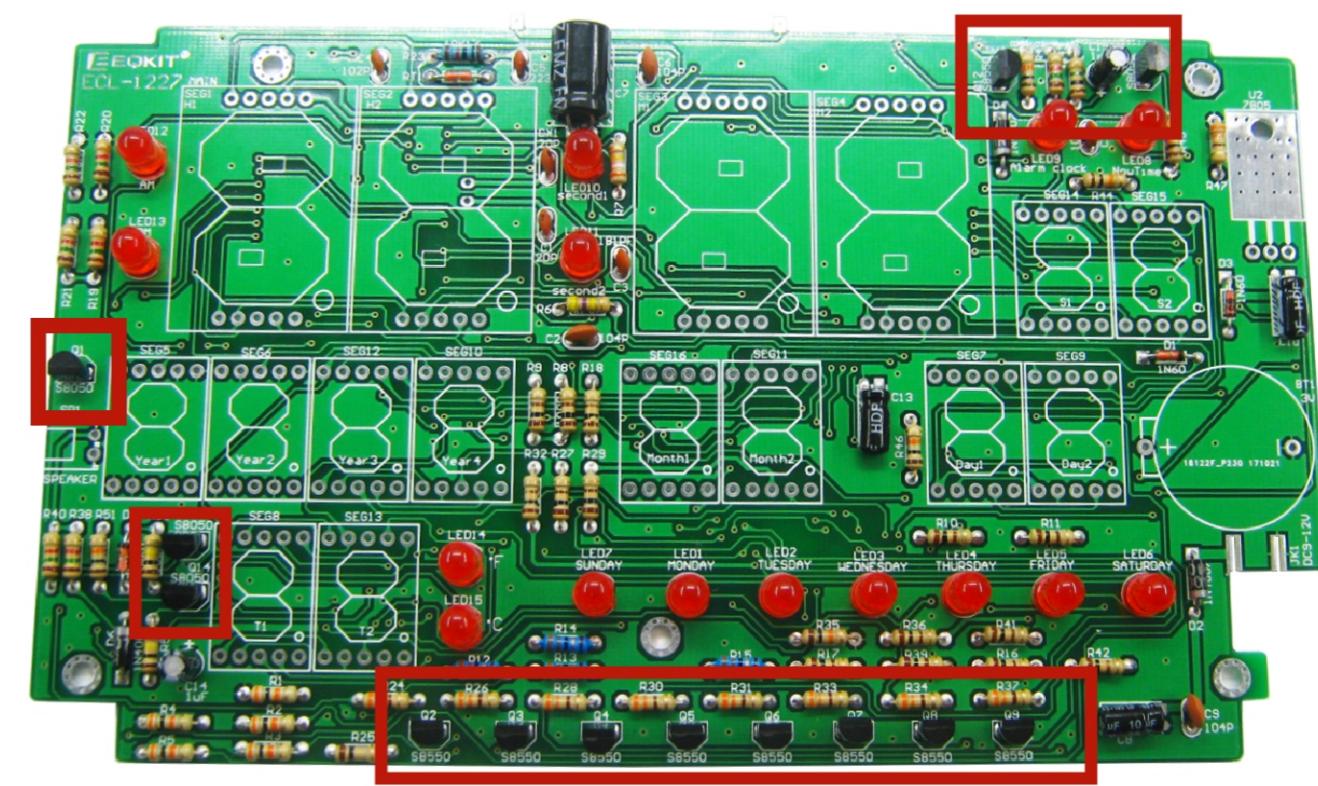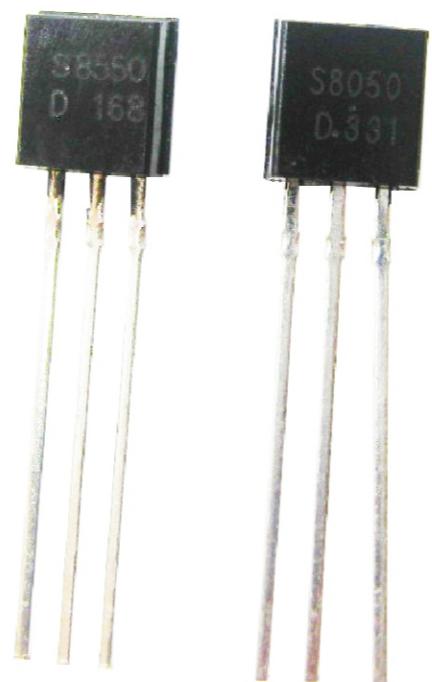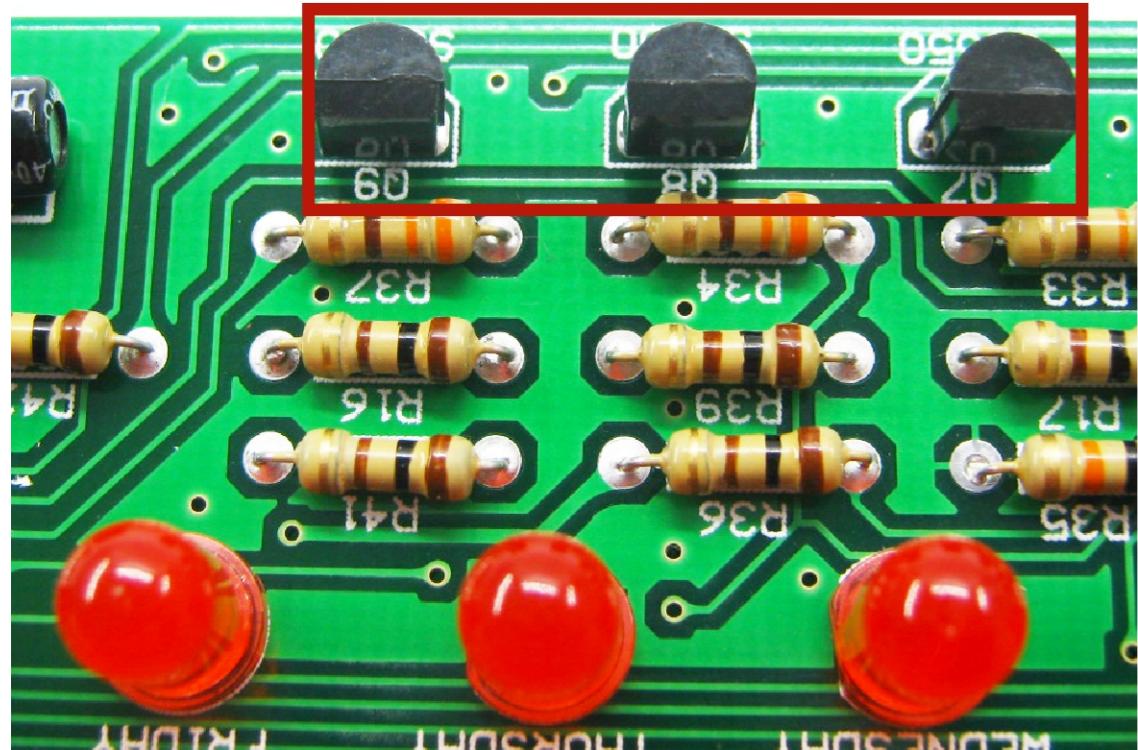
8.Install Power socket : Fix the DC input socked in the middle of the circuit board And then welding
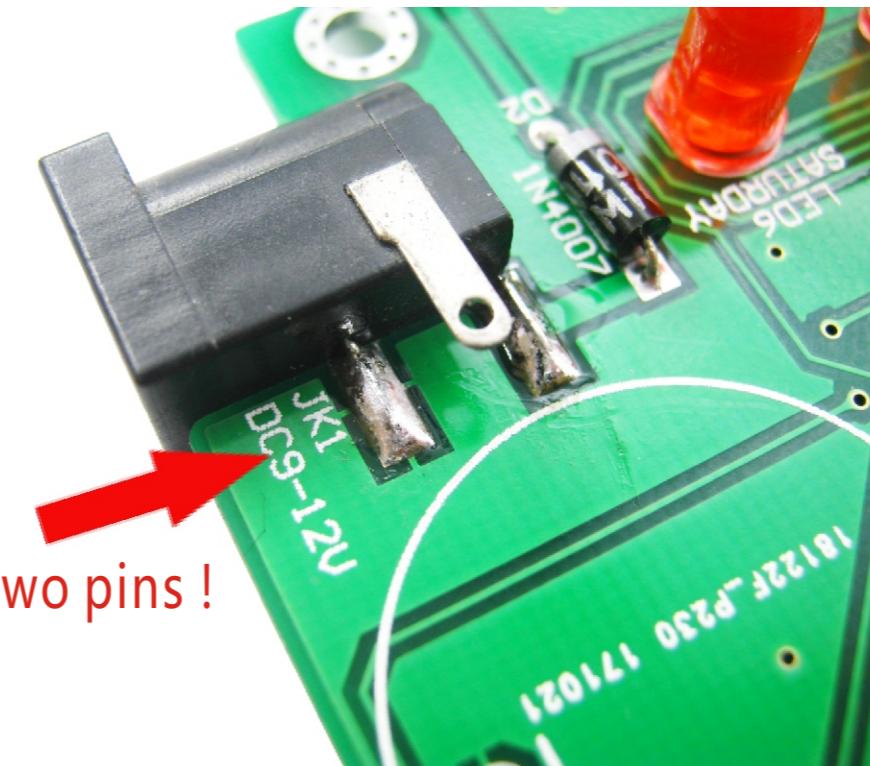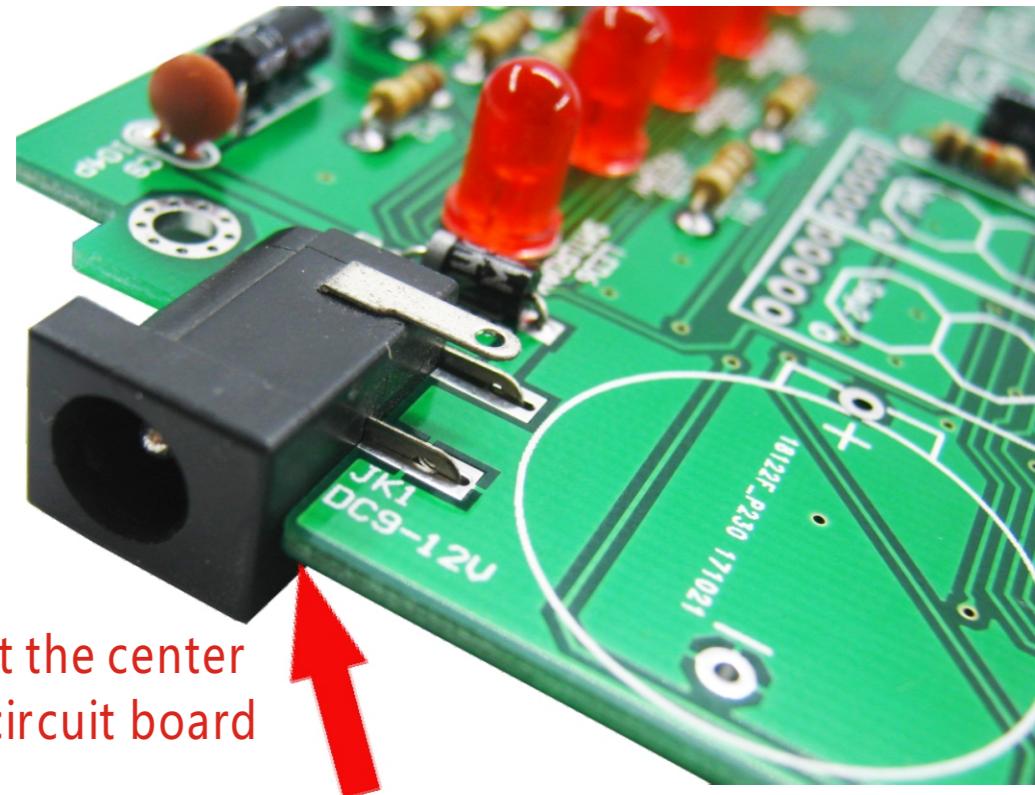

Fixed at the center of the circuit board

Then weld two pins !

9.Install Button battery holder to BAT1
Pay attention to installation direction

Now can not install the battery

10.Install the cable seat to Sp1
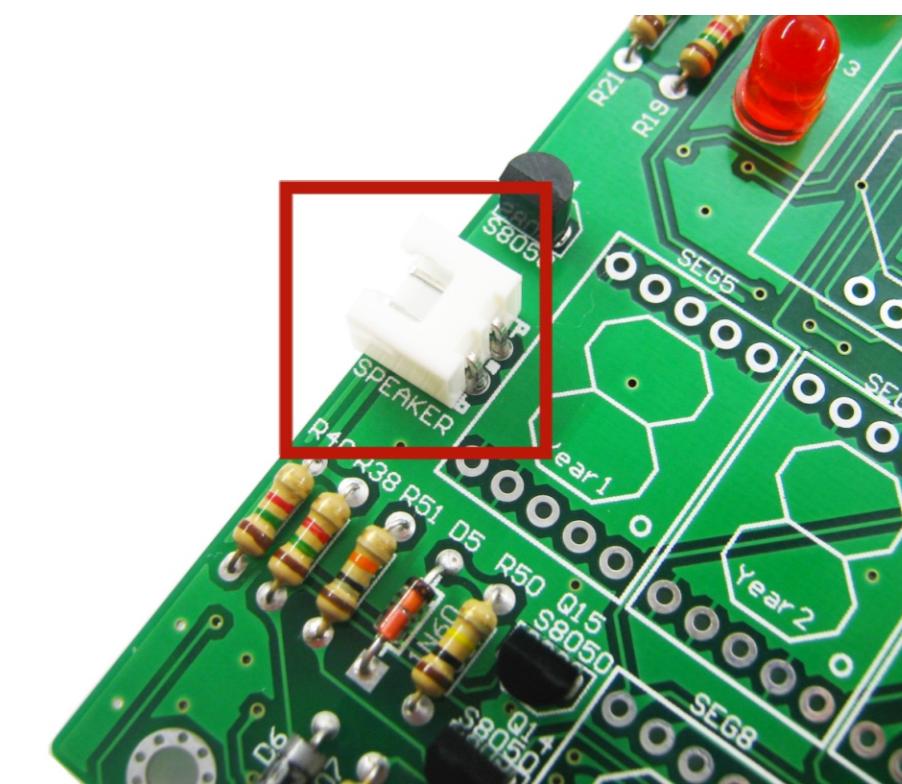
11.Installation of integrated regulator：Processing X7805.Install it on the U2 of the circuit board

① Bend the pin 90 degrees
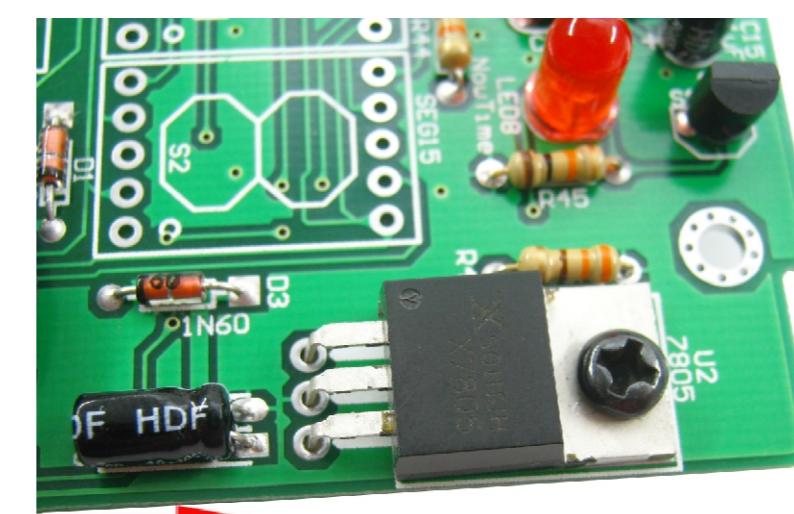
②Lock the integrated voltage stabilizing circuit to the circuit board
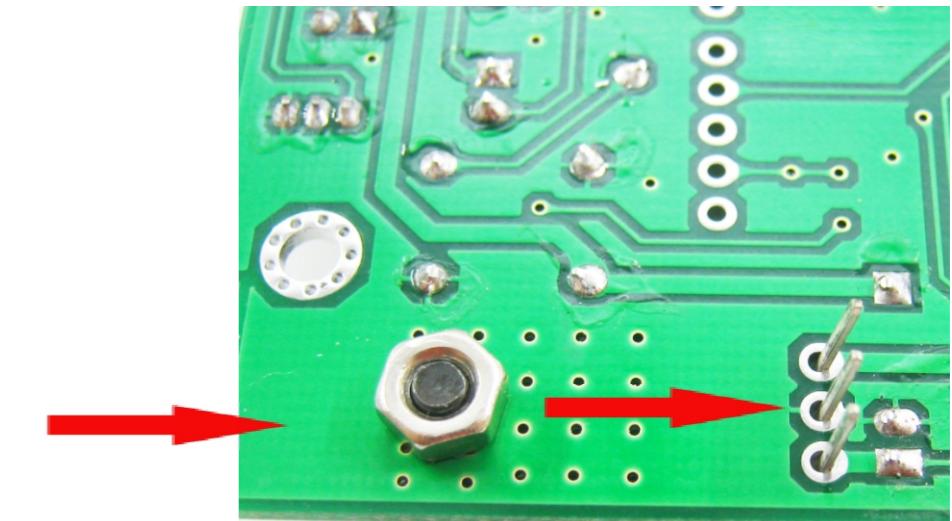
③Final weld pin！

12.Install digital tube：Install 1 inch digital tube to SEG1 , SEG2 , SEG3 , SEG4 Pay attention to direction during installation
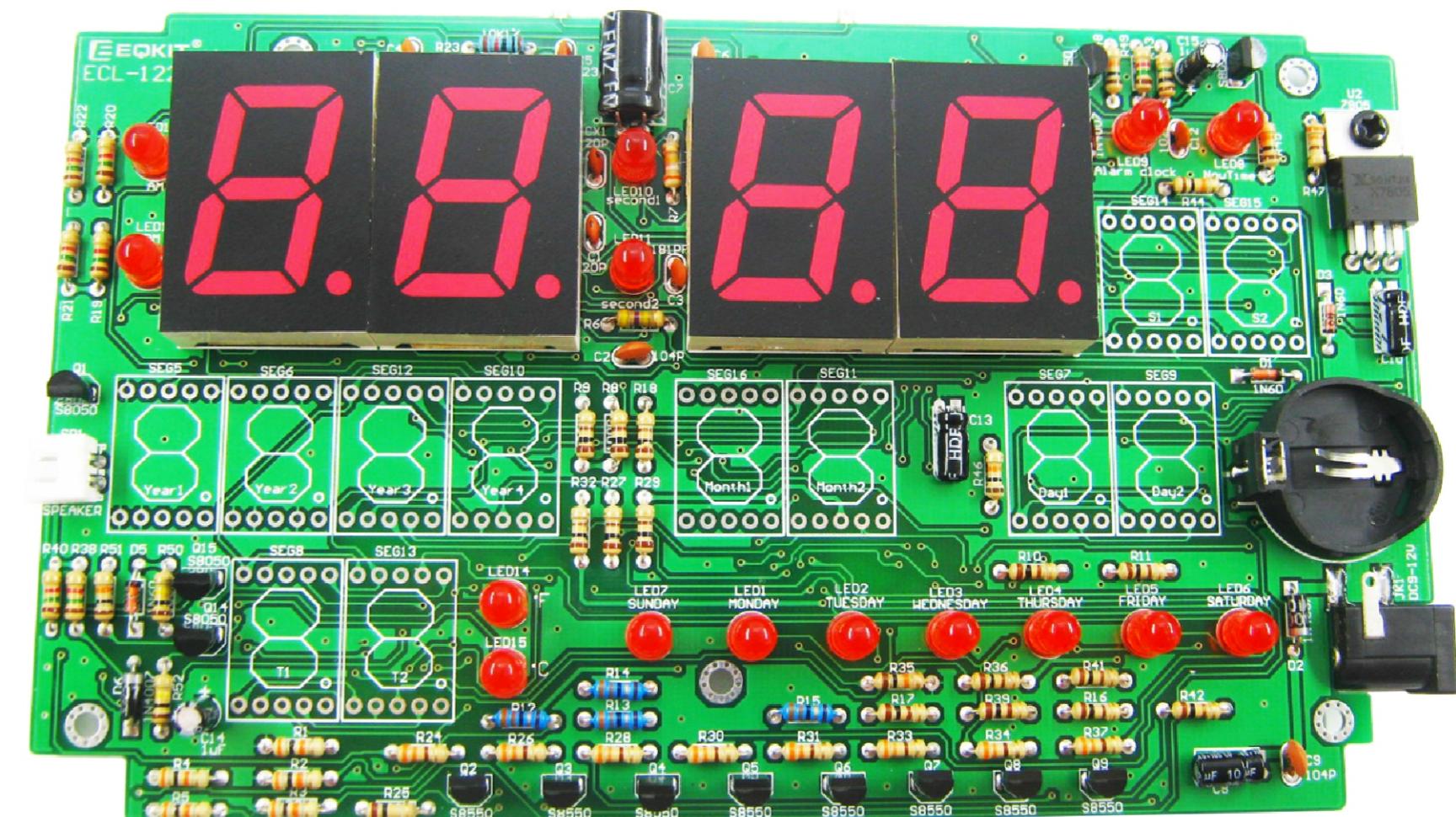
13.Install digital tube :
Install 0.5 inch digital tube to SEG5——SEG16
Pay attention to direction during installation
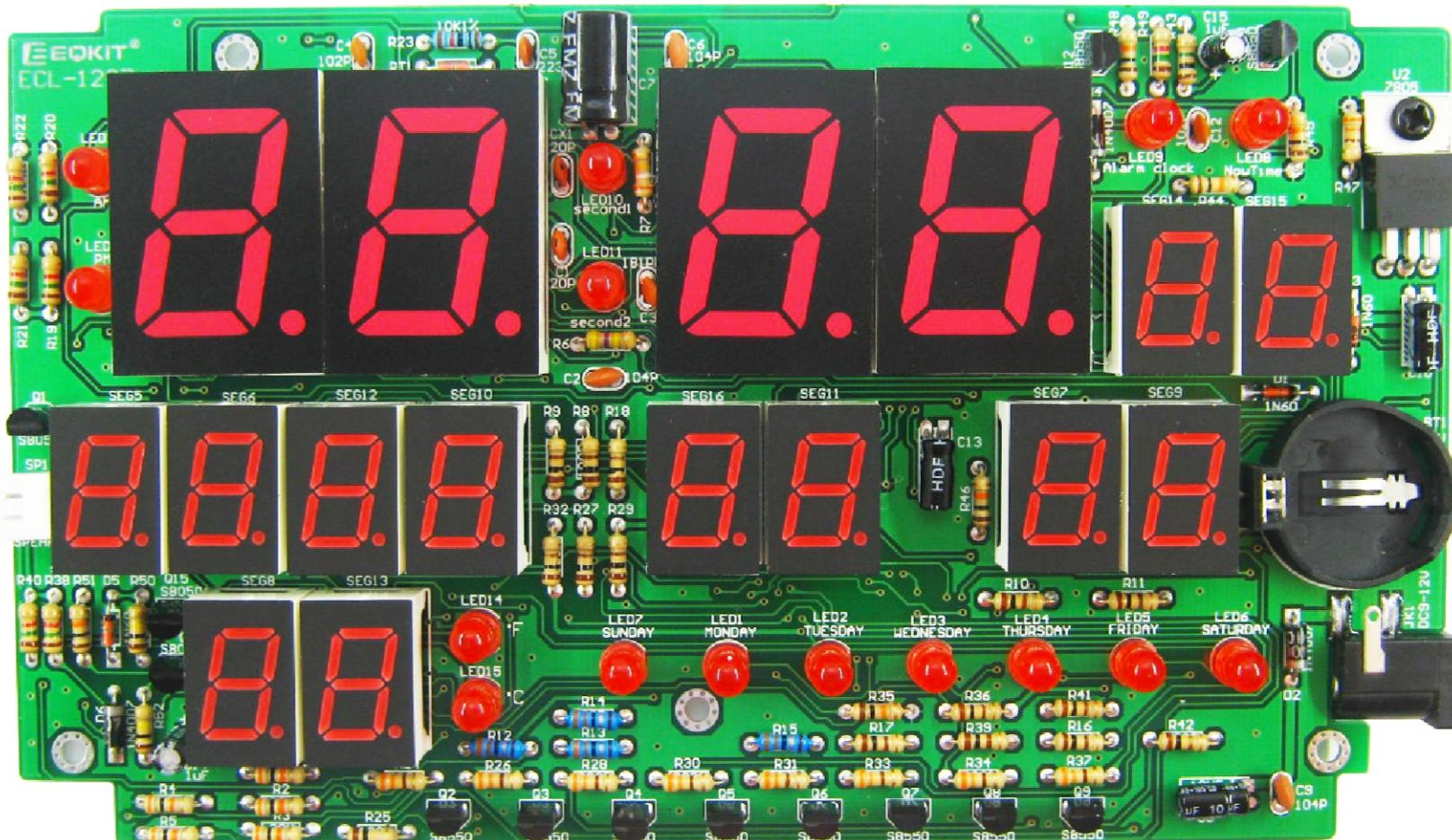
# 14.Install integrated circuit U1 :

①.Add solder on one pin of the pad
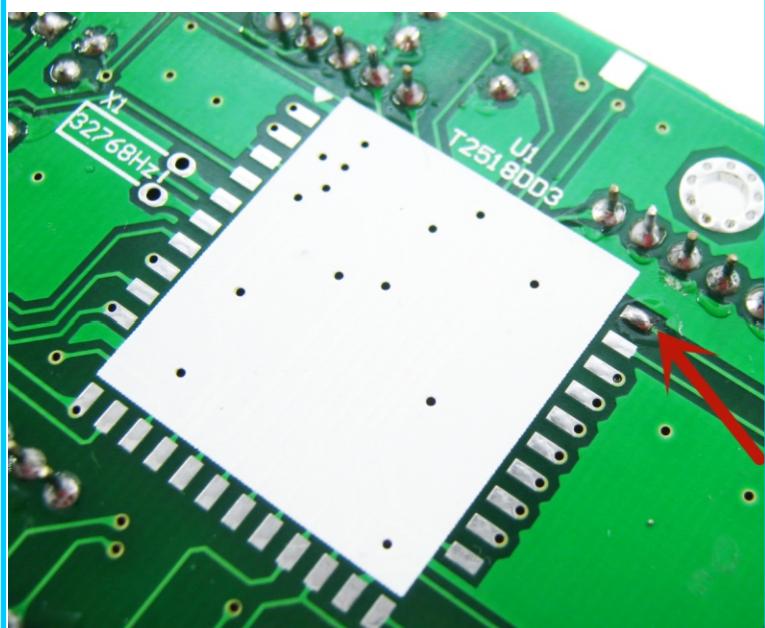
②.Align the integrated circuit to the pad.Then weld a pin.
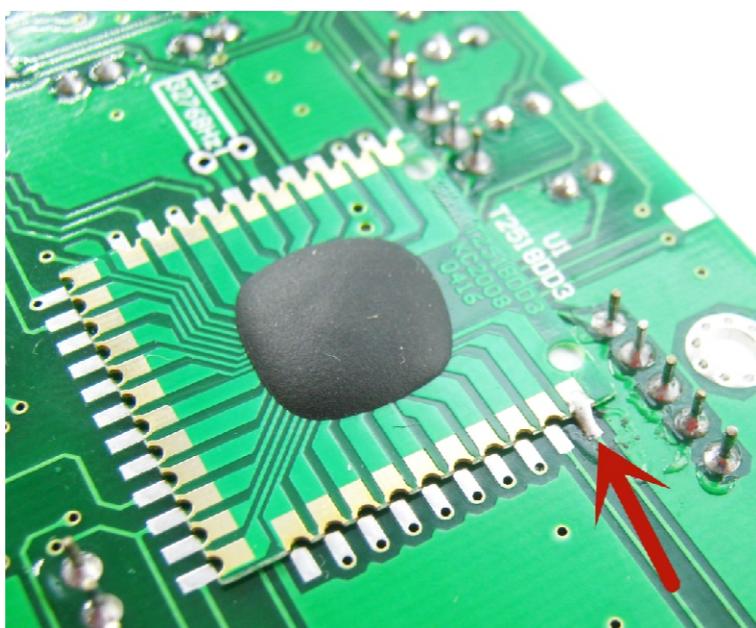
③.Ensure that IC does not offset Solder another pin
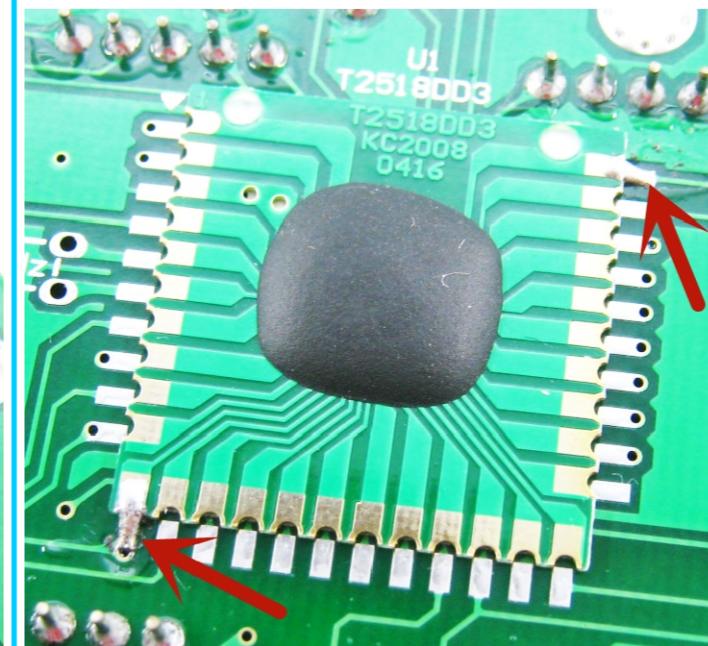
④.Finally, all the pins are soldered

15.Install quartz crystal to X1:   X1＝32.768KHz
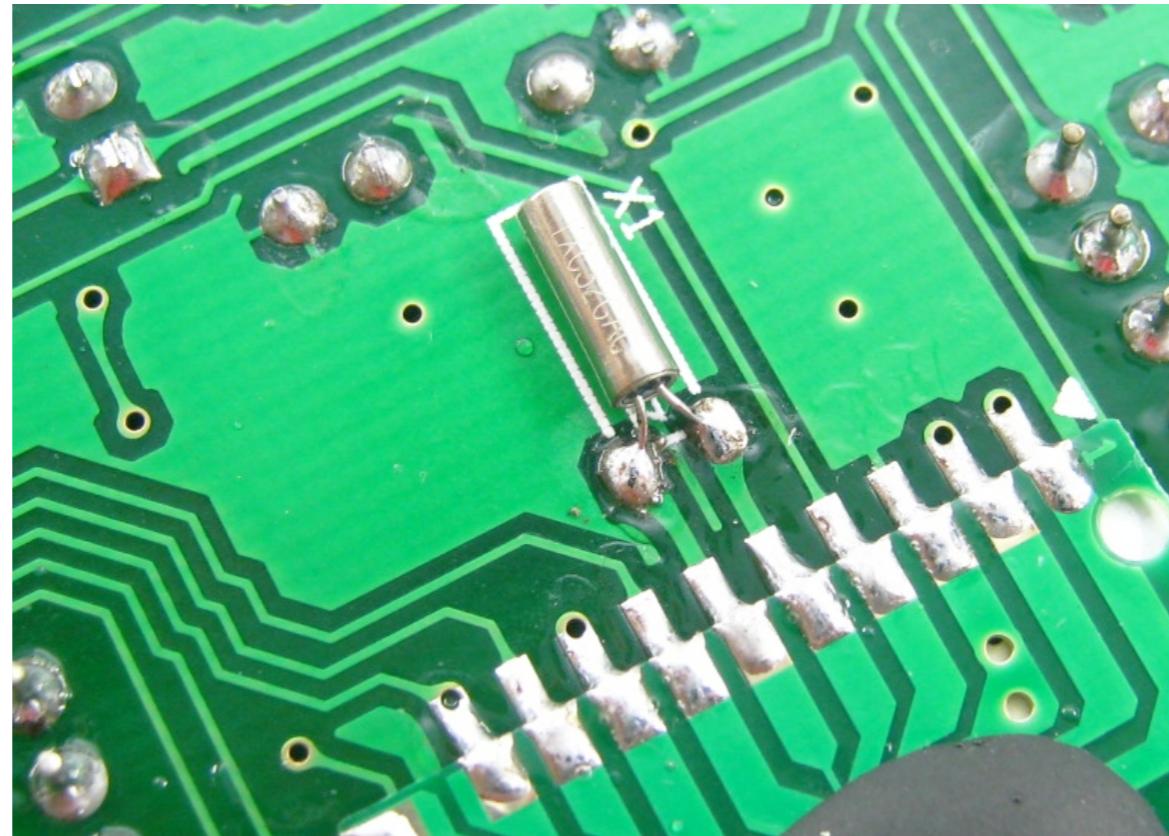
16.Install button switch To SW1—SW7，Attention should be paid to the direction
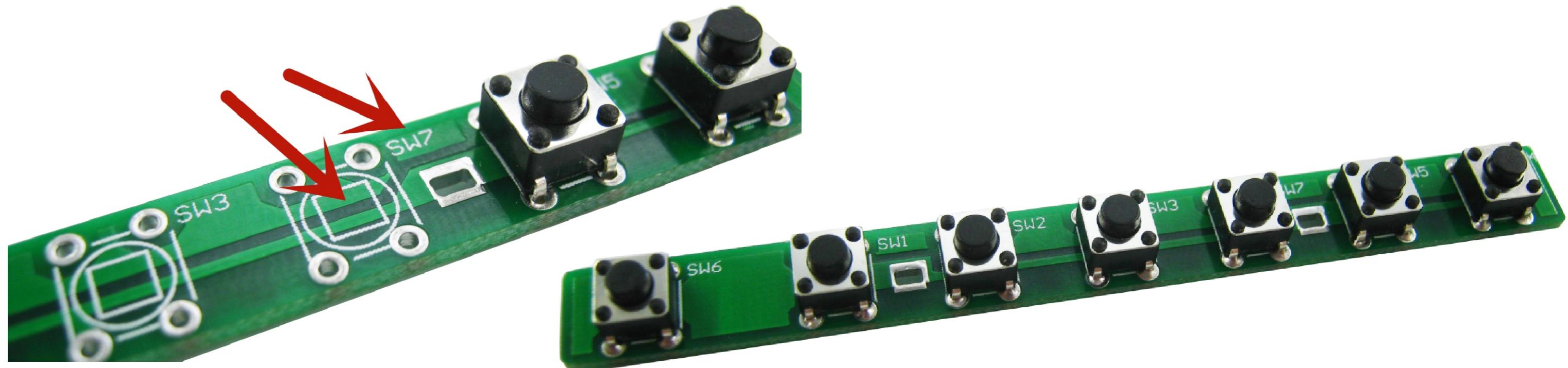
17.Splicing the motherboard and the key board

①.Install the key board into the main board
Pay special attention to solder joints and solder joints
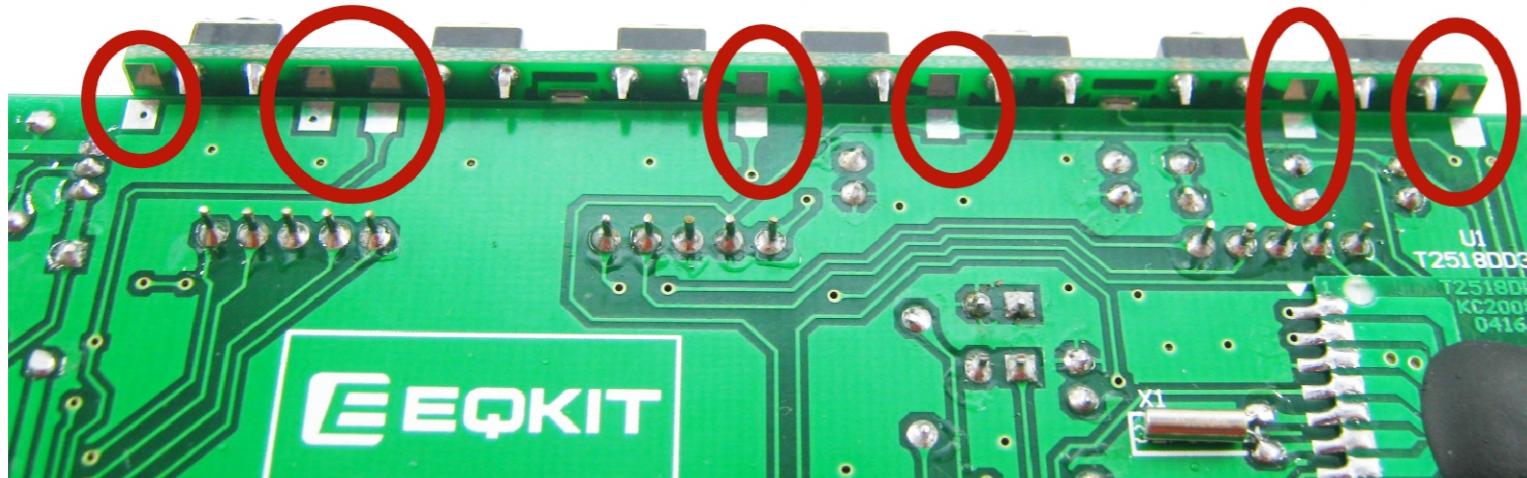
②.Keep the key board and motherboard 90 degrees

90°
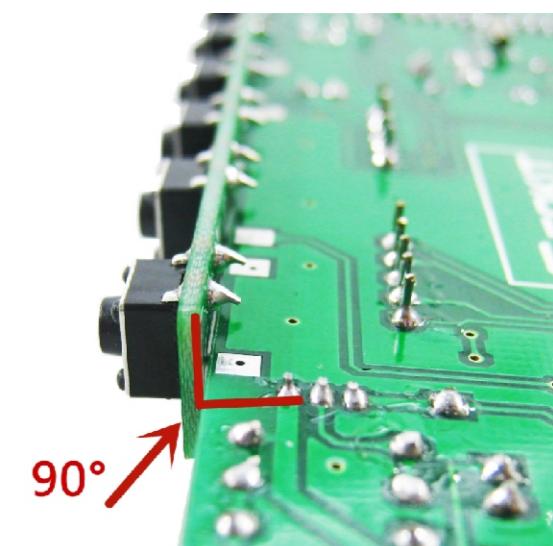
③.Two solder joints at the top of the weld，Notice that the two circuit boards keep 90 degrees

SW6   SW1   SW2   SW3   SW7   SW5   SW4
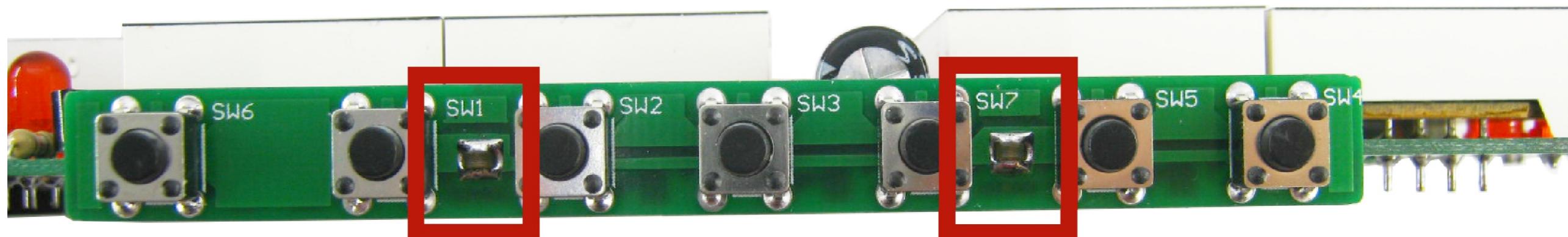
④.Finally, 7 pads are welded

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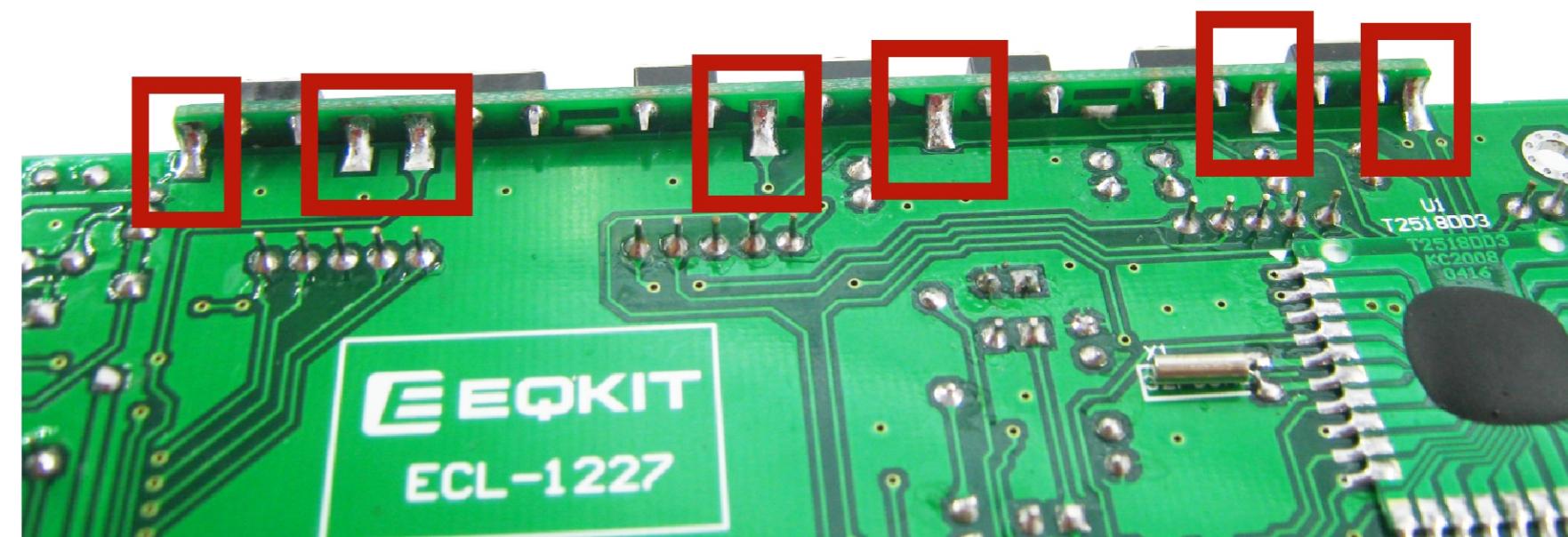
18.Welding loudspeaker, Then insert the speaker cable into the Sp1
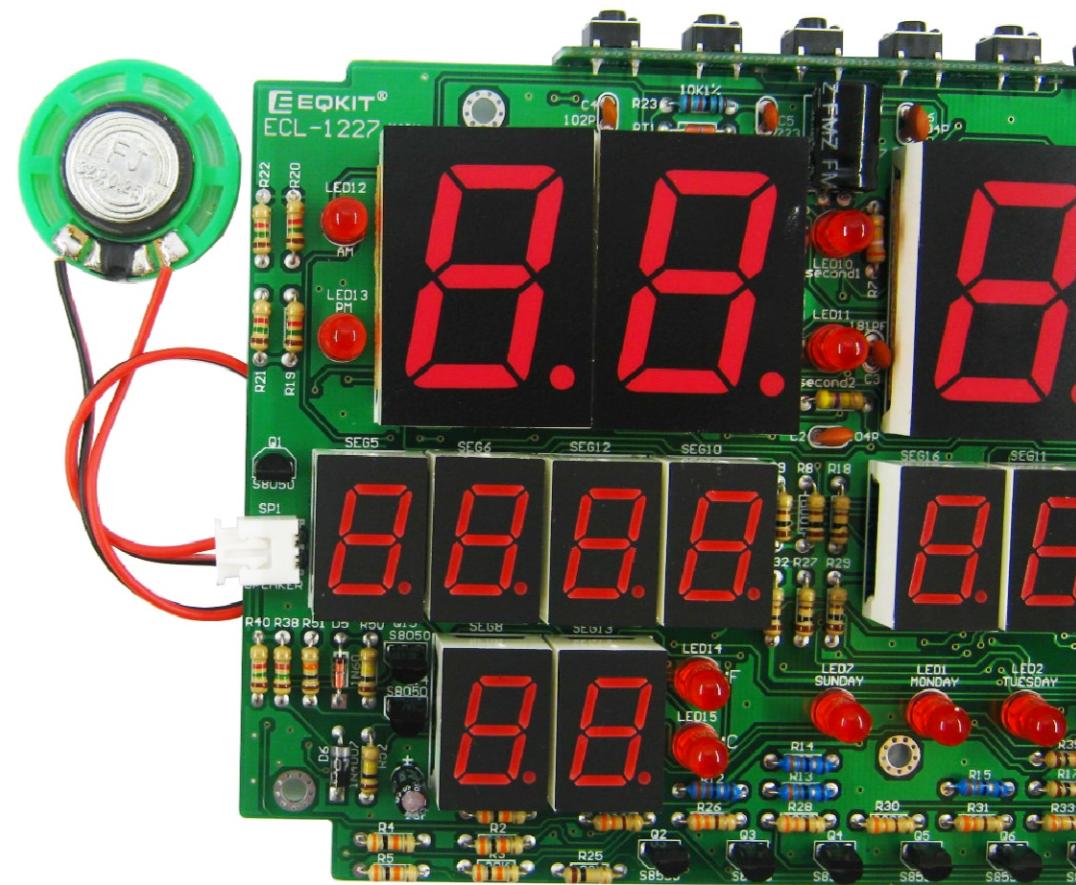
19.Display parameter adjustment：12H\24H.Centigrade and Fahrenheit degree Transformation

①.12H\24HTransformation:
Default solder joint
disconnect shows 24 hour system.
The solder joints are shorted
 to 12 hours
LED lighting of AM and PM
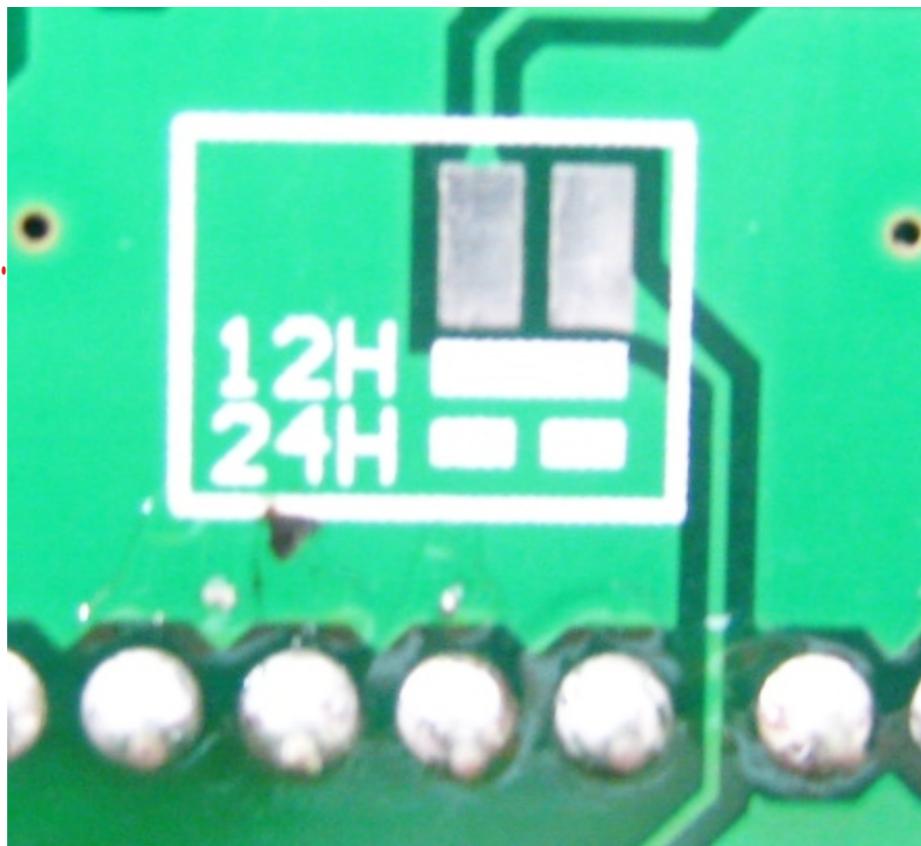
②.Centigrade and
Fahrenheit degree
Transformation:
Default solder joint
disconnect is centigrade
The short circuit of the
solder joint is Fahrenheit
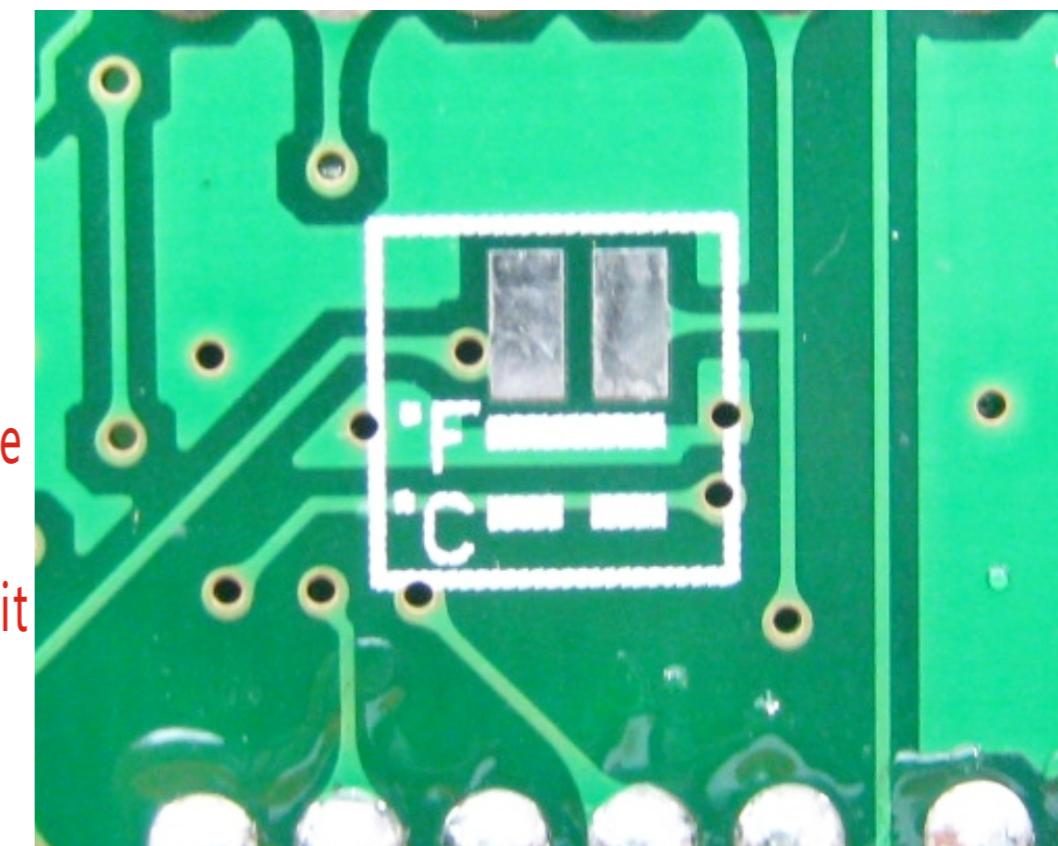
20.Visual inspection before power on:
Since.The welding work has been completed.But visual inspection before electrifying is essential.
Avoid circuit burnout due to welding errors.①Check the resistance value of each resistor. Whether the capacitance of the capacitor is installed correctly.②Check whether the direction of the LED is properly installed.Check the direction of each transistor \ model is correct.④Check whether the direction of each electrolytic capacitor is correctly installed.The installation of electrolytic capacitors will cause power supply short circuit explosion and other dangerous phenomena.
Set up your favorite 12\24 hour system.Celsius and Fahrenheit, Button batteries can be installed at this time.Install button battery to BAT1.Pay attention to the positive electrode of the battery
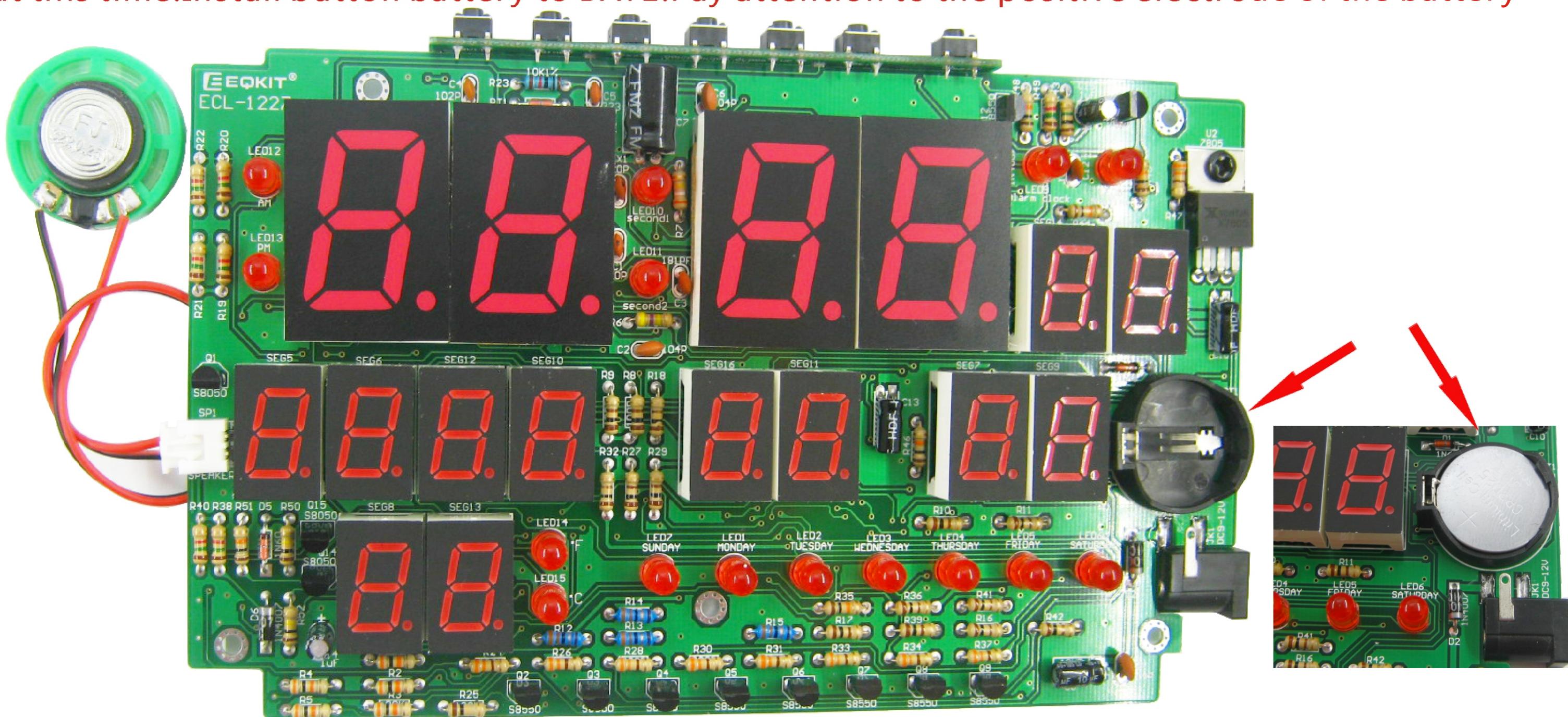
21.Energization test :

Power supply DC9V-12V。Access power supply , Turn on the power switch , If the installation is correct
there will be the following display , Press the corresponding button to make a simple adjustment
If the display is normal , Then the shell can be assembled

Quit

Flowing sounds, bird calls

No effect   Down   UP   Time Set

Power SW
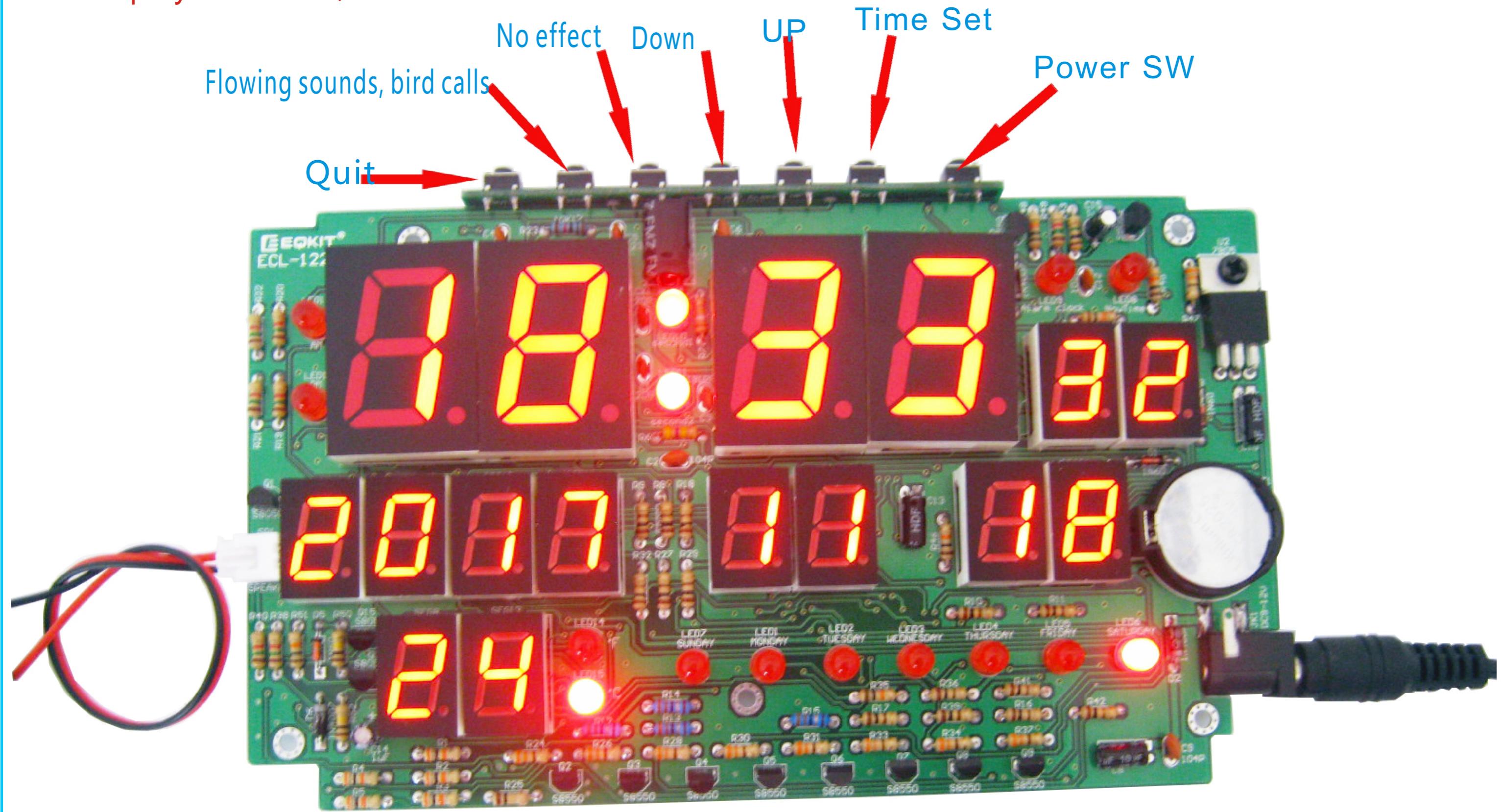
22.Machining and mounting shell :

①Install the black border logo ,
Then iron the two raised columns with a soldering iron。

23.Fit the brackets together in the following order,
Using 3 M1.7*4 screws to support locking Silver.

③

②

①
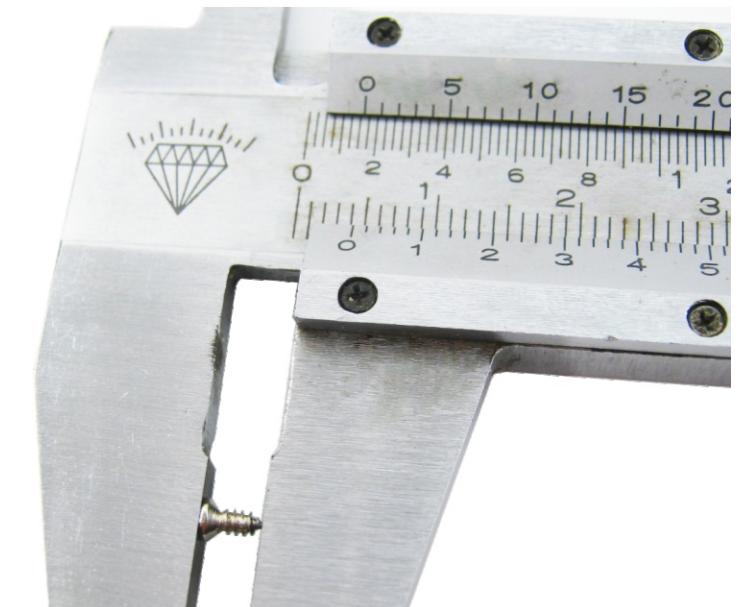
M1.7*4Silver screw

23-1.Pass the bracket through the round hole

23-2.Then put the support into the bottom shell :
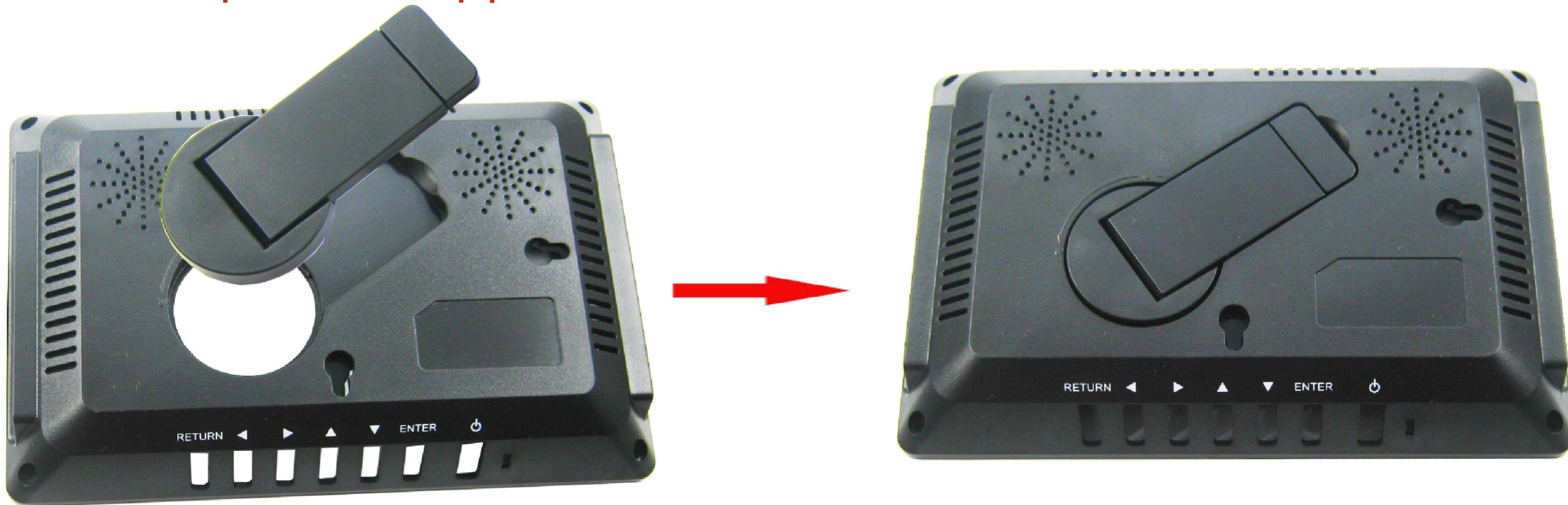
23-3.Loading bracket fixed seat,Then with 4 M2.3*6 silver screw locking.

M2.3*6 Silver screw
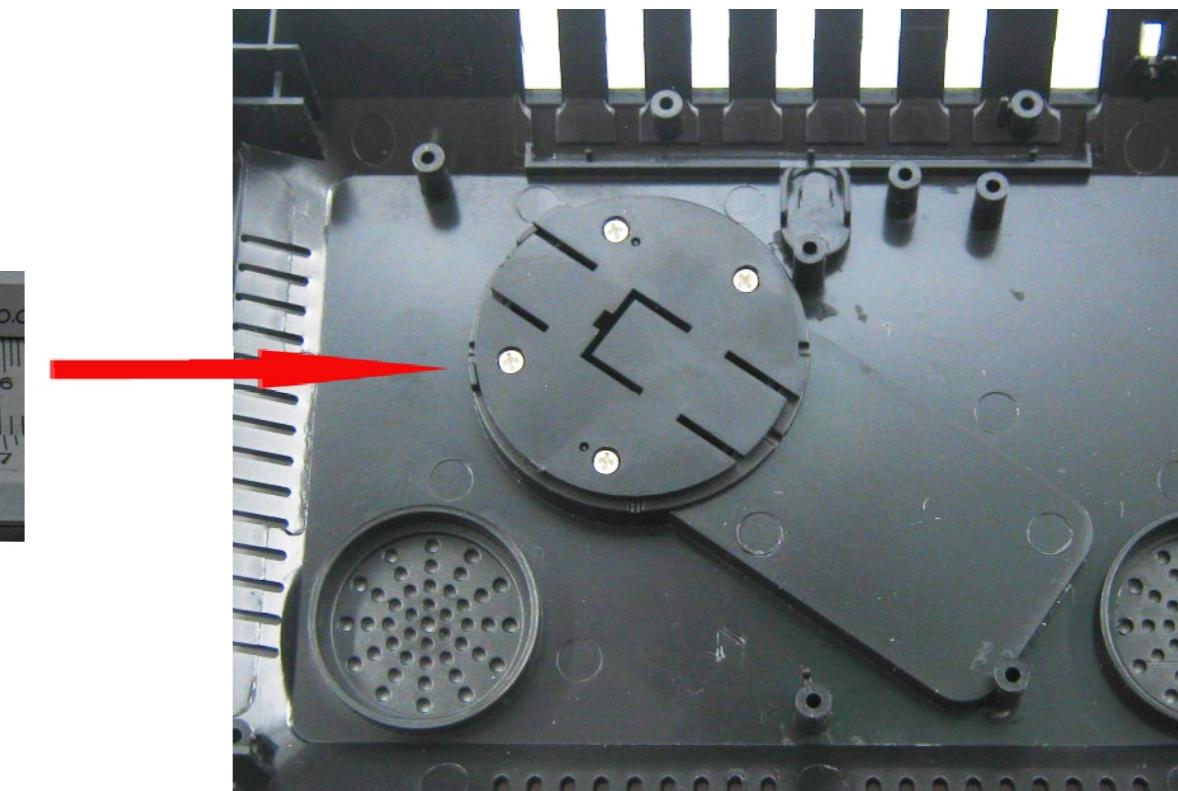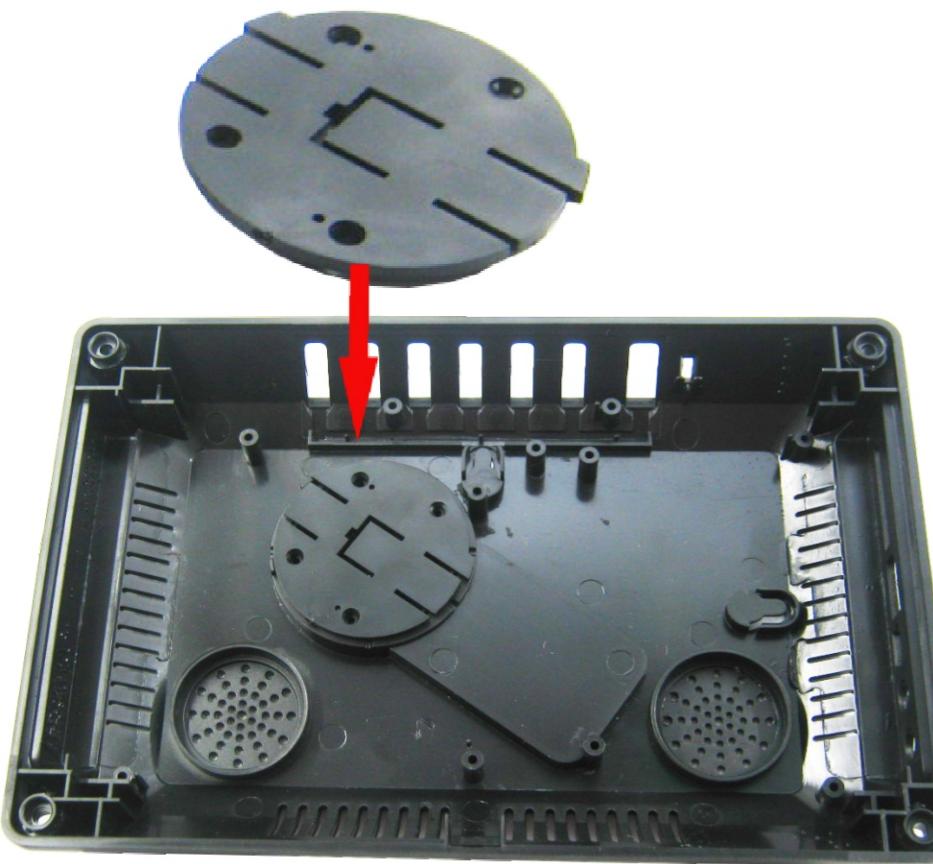
24.Install button cap : Install the button cap on the top of the shell
Then iron the three raised columns with a soldering iron

25.Sticking foam : Tear off protective paper , Put three pieces of foam on the plastic shell
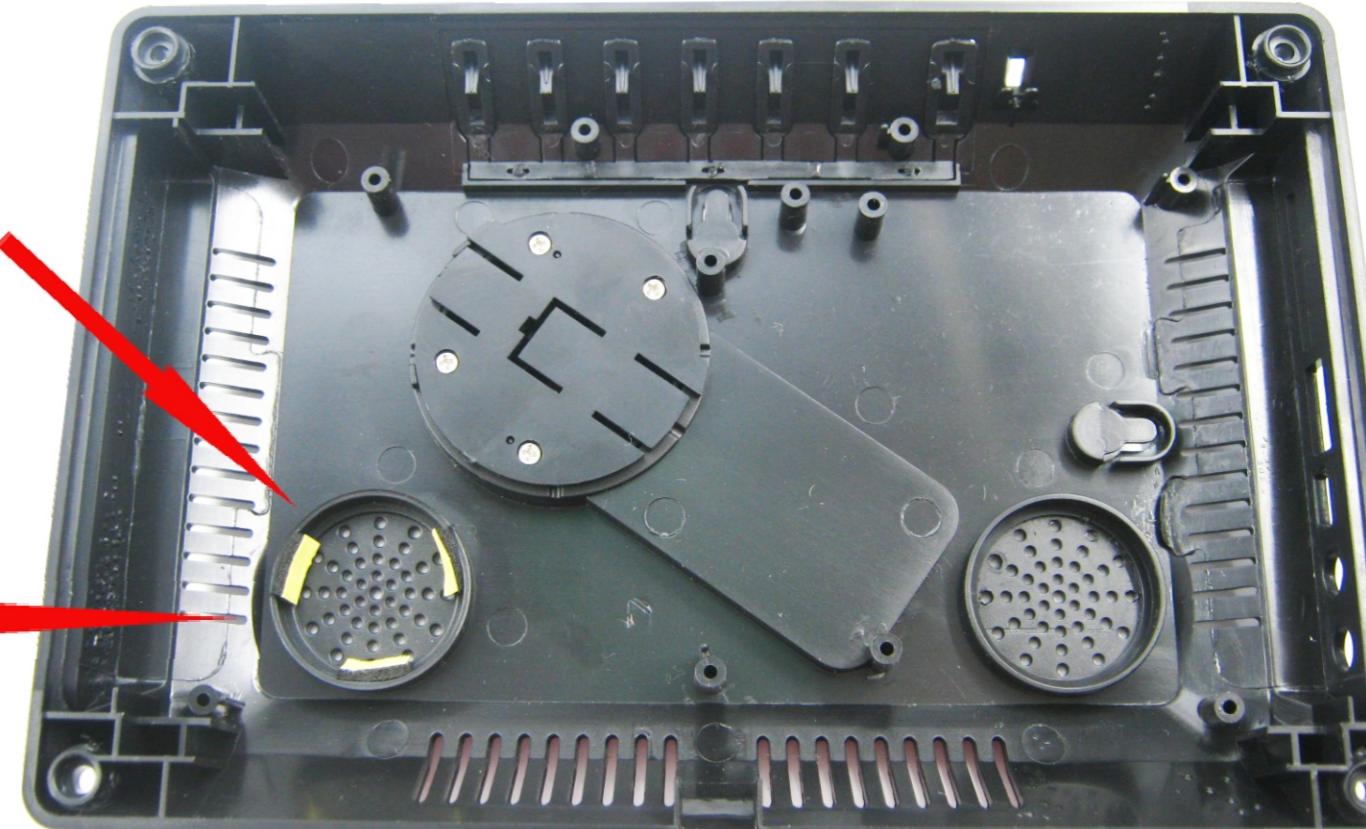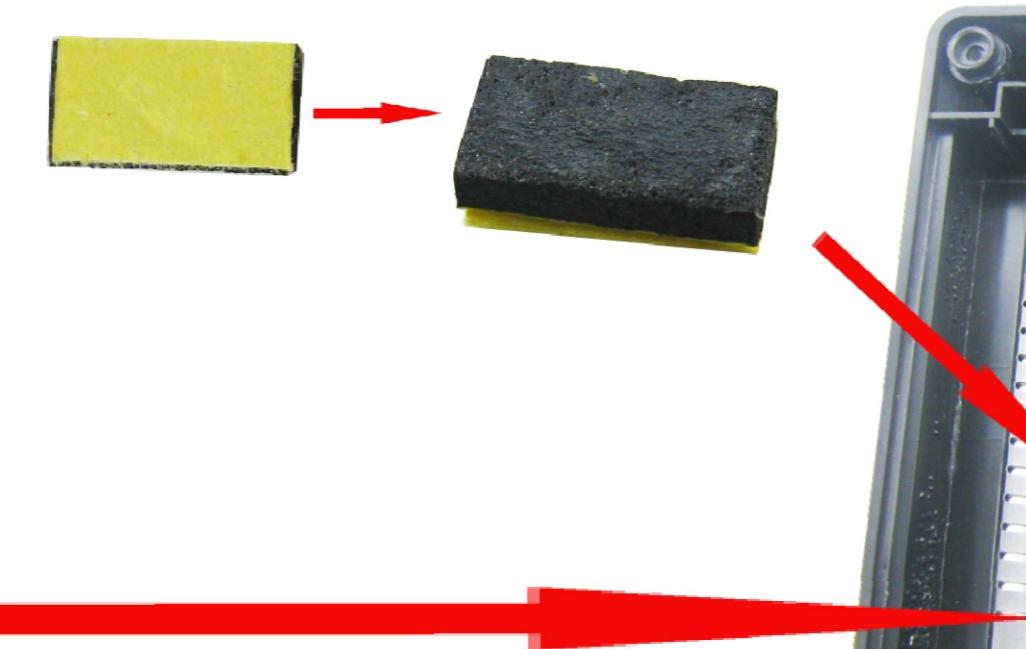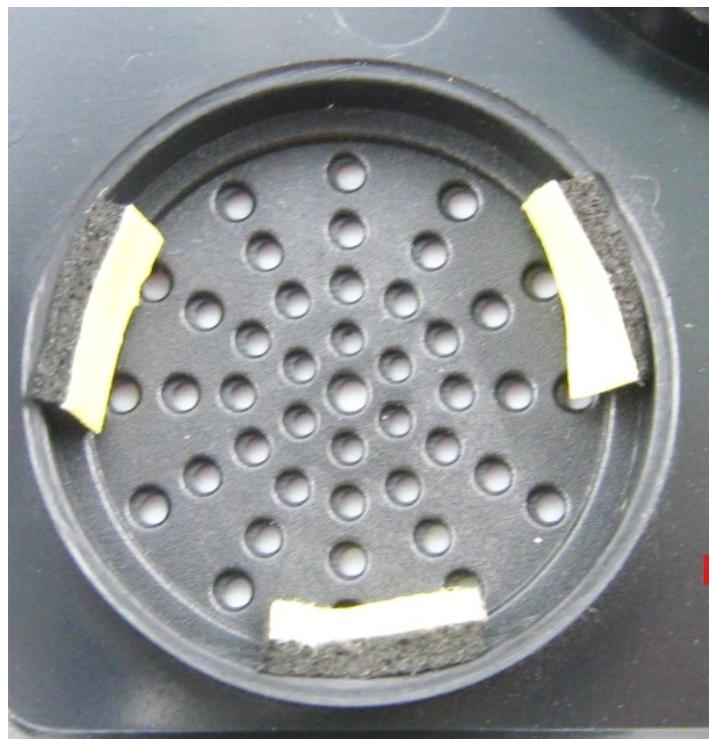
26.Cut off the unwanted plastic on the column in the red circle
Be careful not to cut off the column
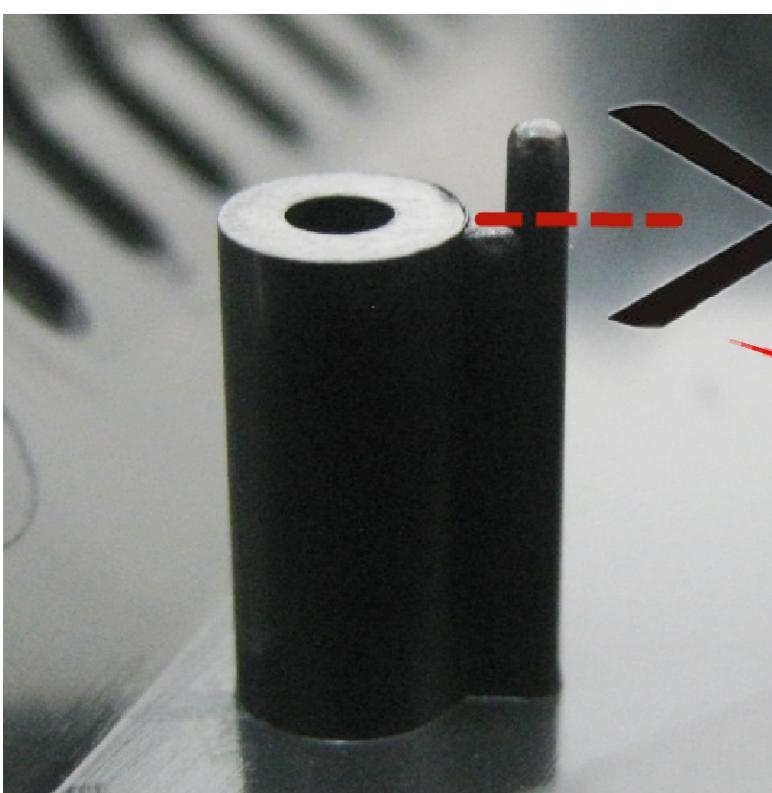
Cut off the excess plastic
from the dotted line
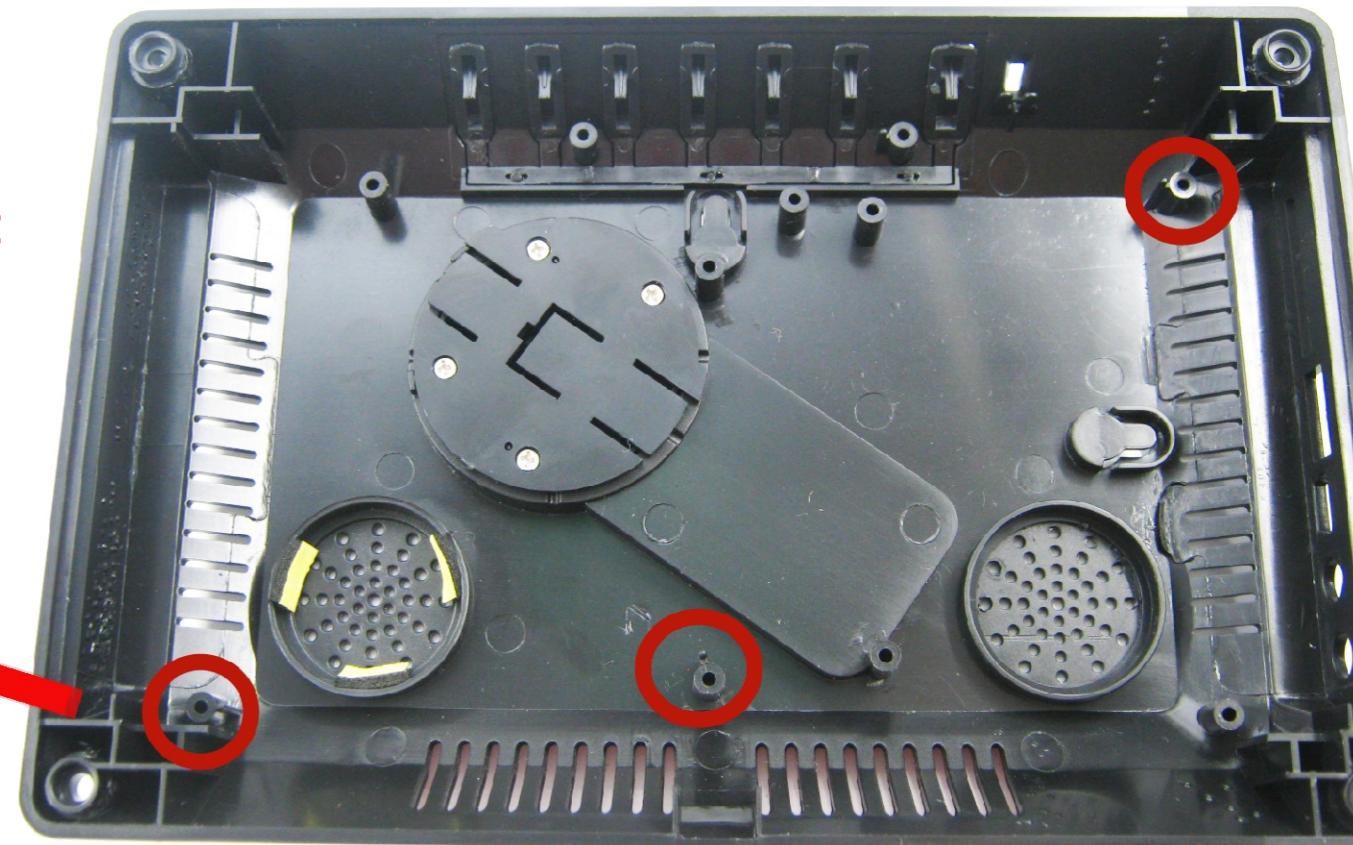
27.Tear off protective paper,Install horn:
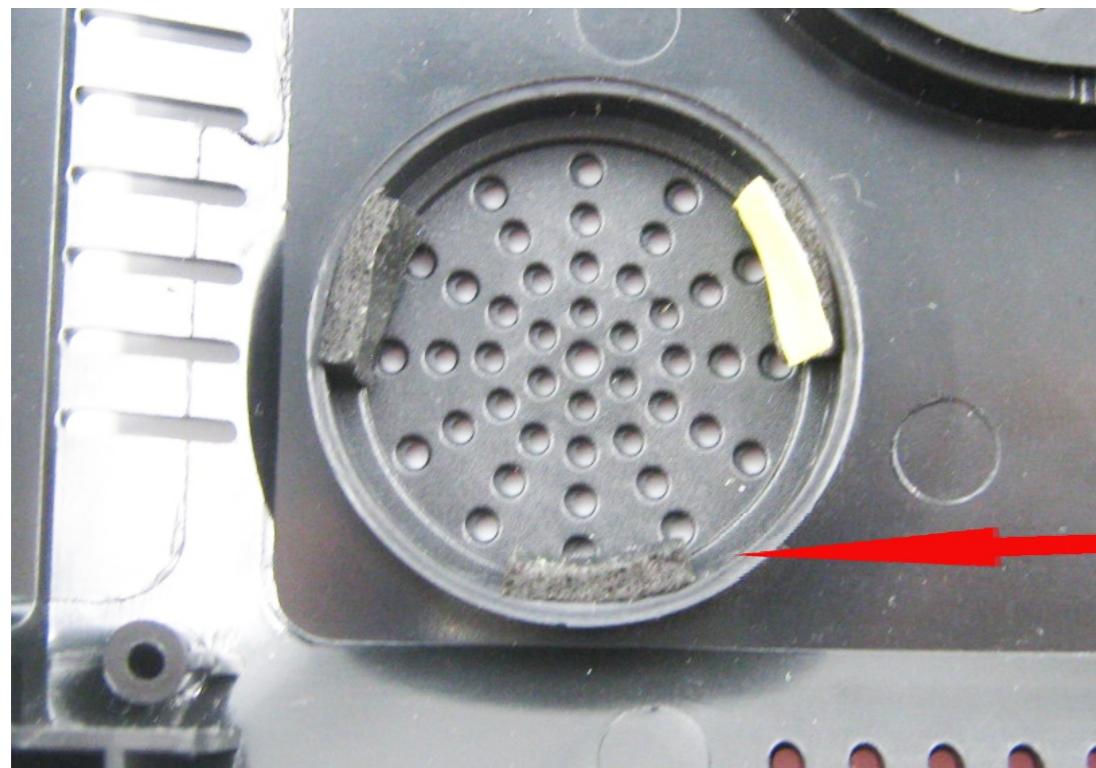
②Install horn
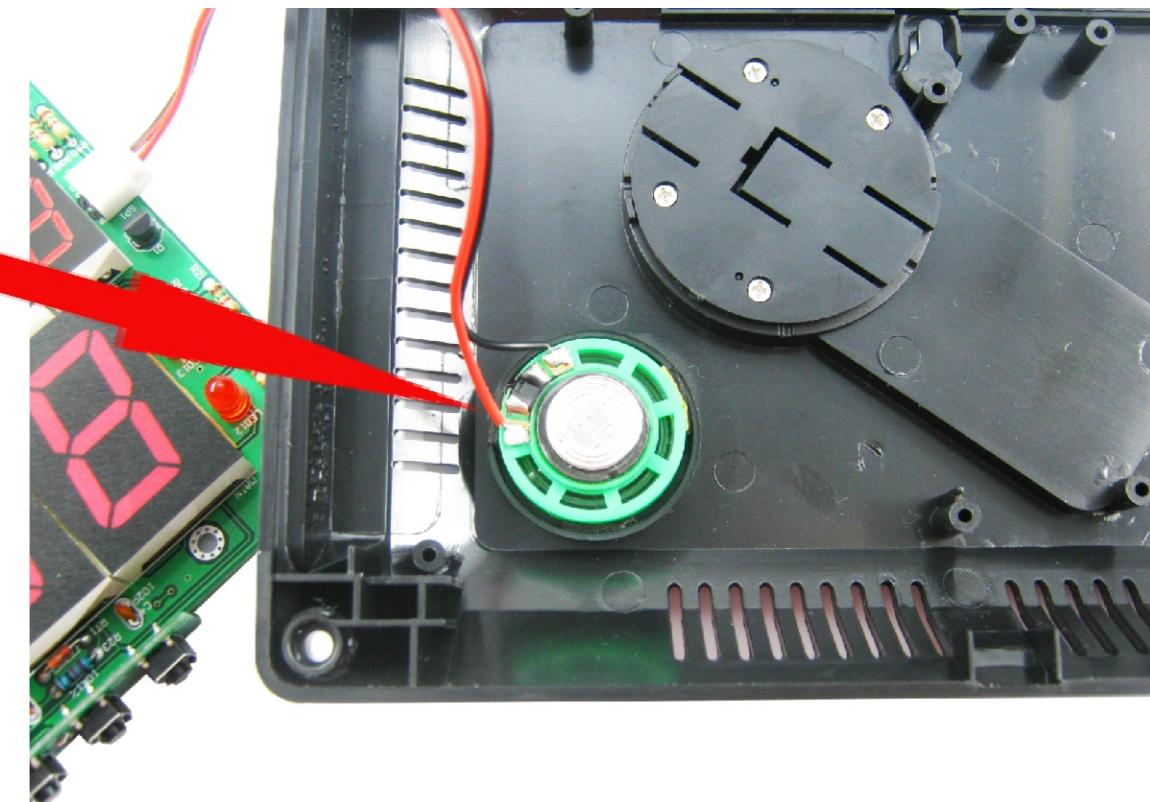
①Tear off protective paper

28.Place the white spacer:Refer to the picture below , Place the 5 white columns in the red circle And then put the circuit board on top , This time column can not fall off
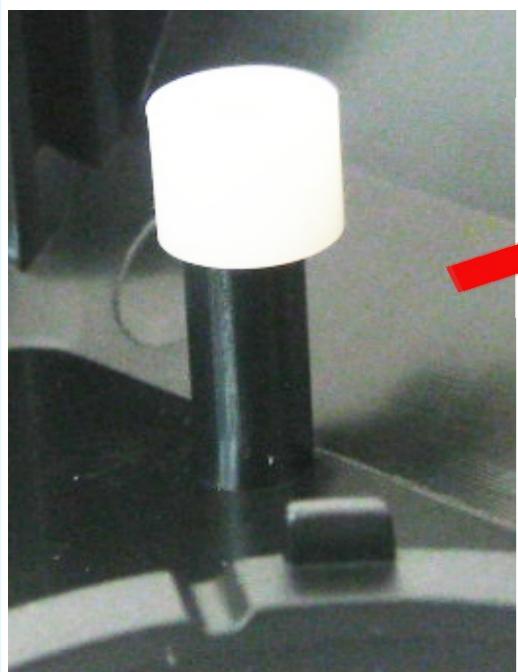
①Put 5 spacer columns on the screw column
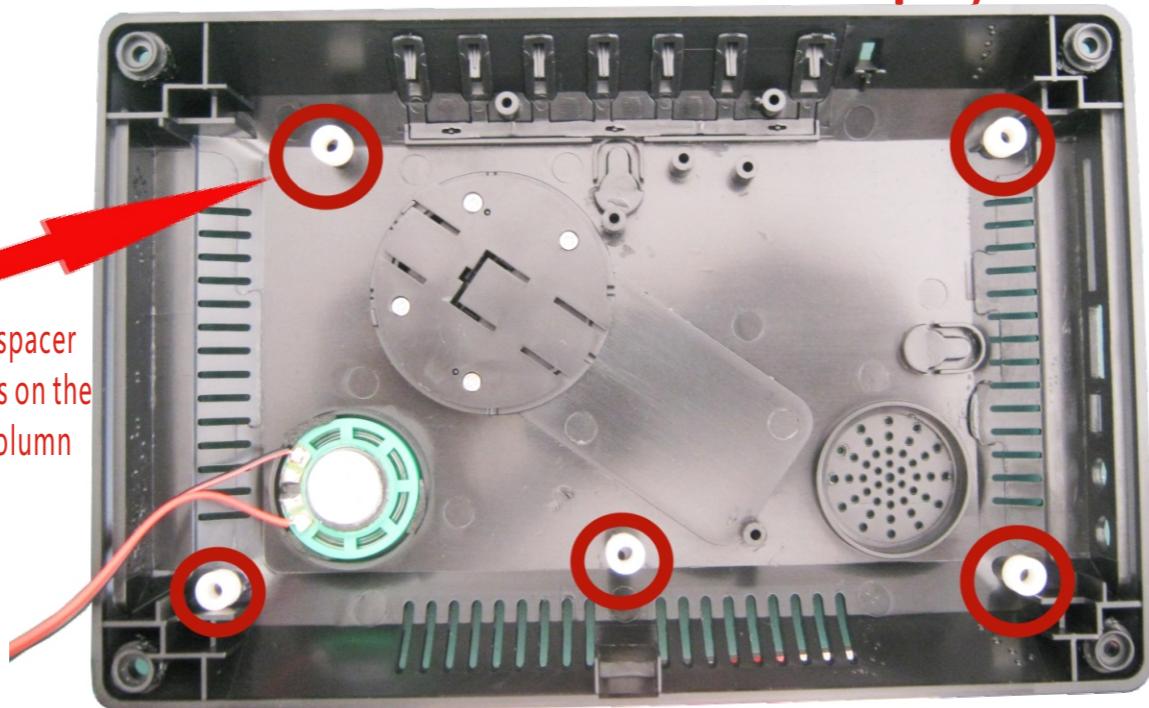
②Loading circuit board
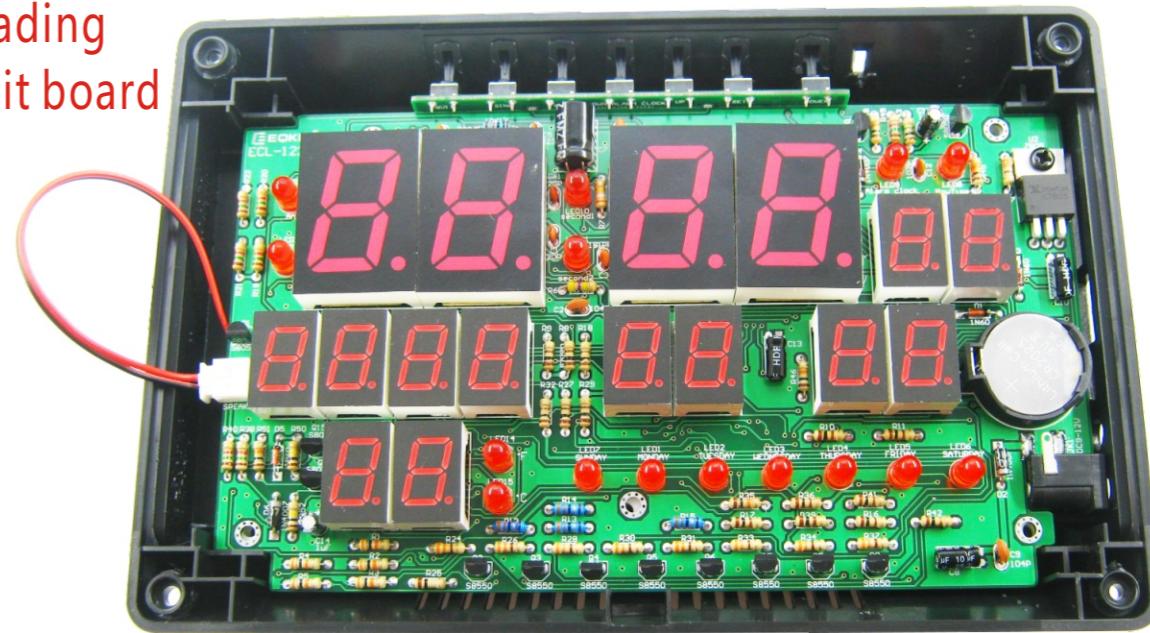
29.Lock circuit board screw : The 5 M2.6*12 silver screw lock into the screw hole in the red circle in Figure :
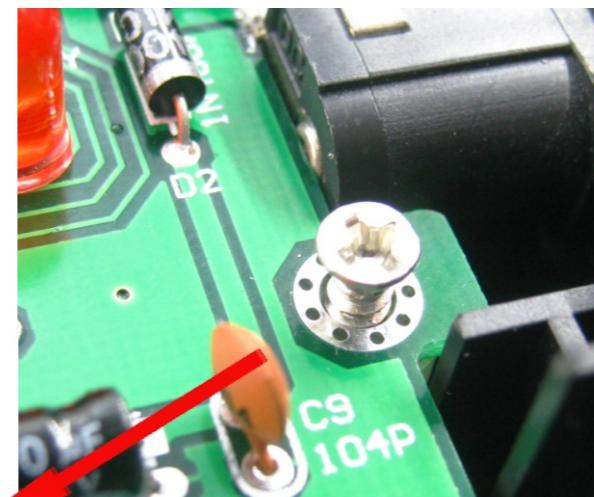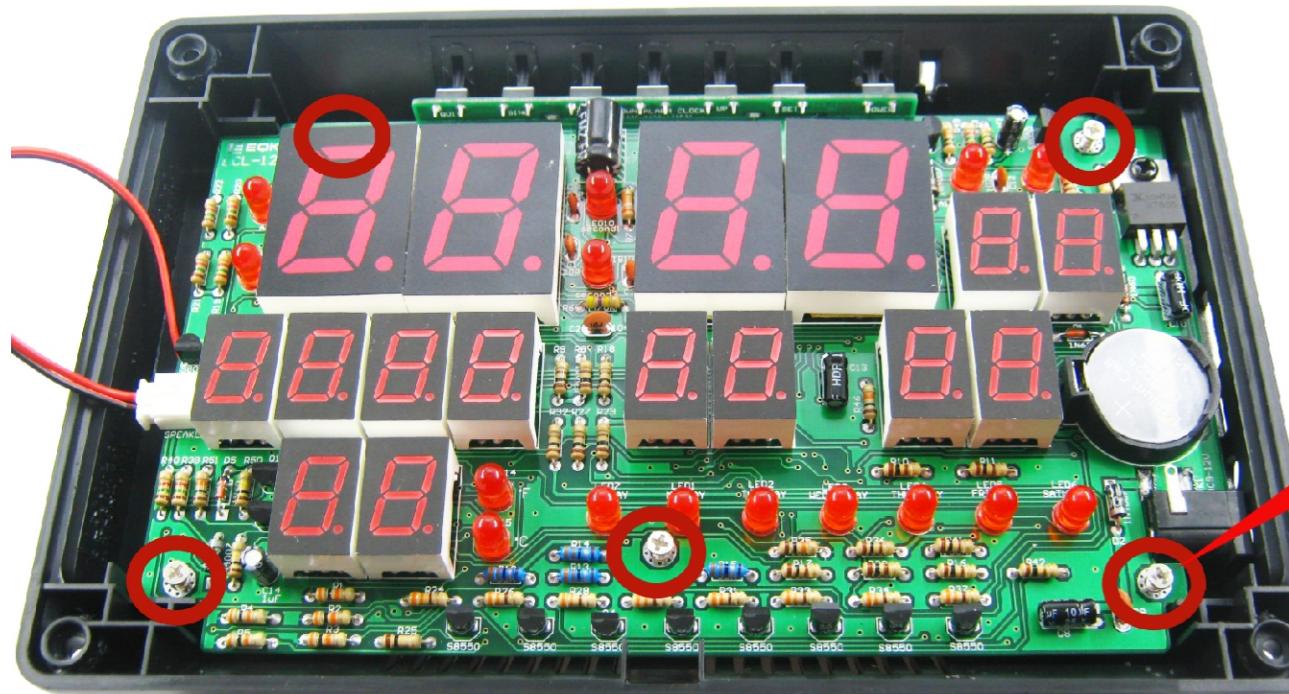
Check whether the keys are flexible,
Whether the input line of the power supply can be inserted normally
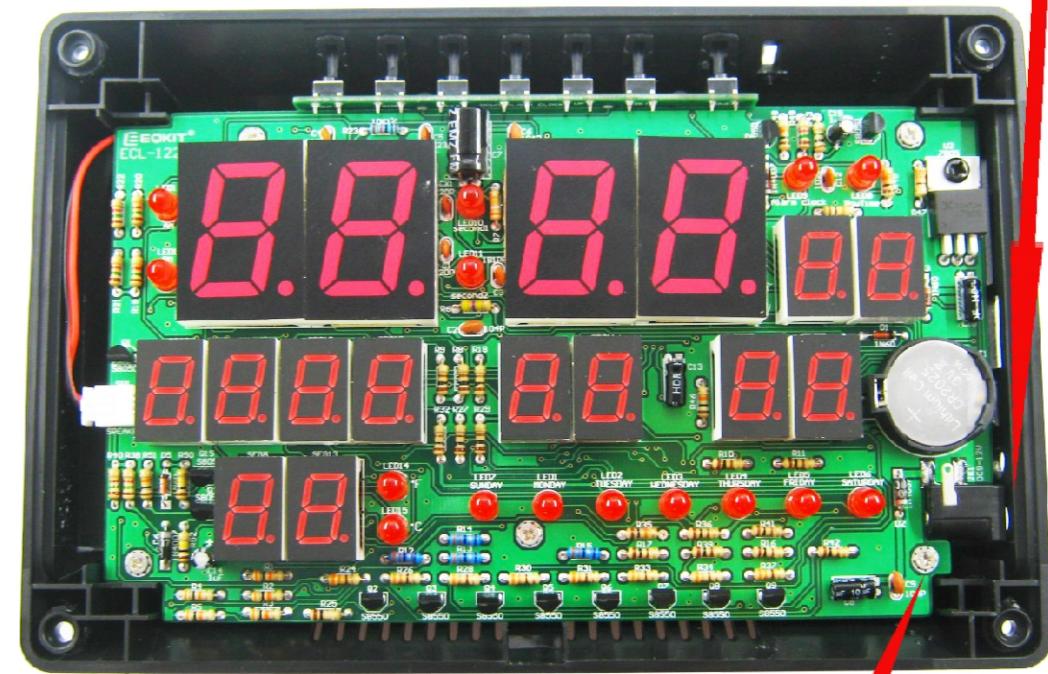
30.Tear off the protective film on the back of the panel ，And then in accordance with the order of the following picture assembly installation

①Tear off the protective film
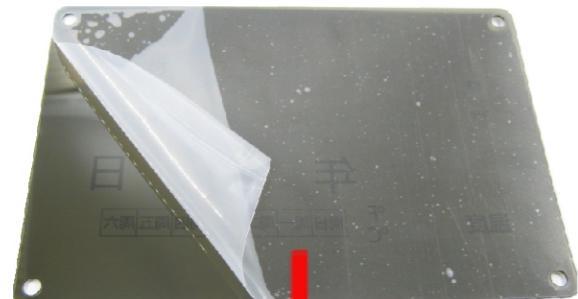
②And then put it on a plastic shell

③Place a transparent plastic border

④Place the black border

M2.6*12 silver screw

31.Lock the 4 **M2.3*12** Silver screws in the red circle
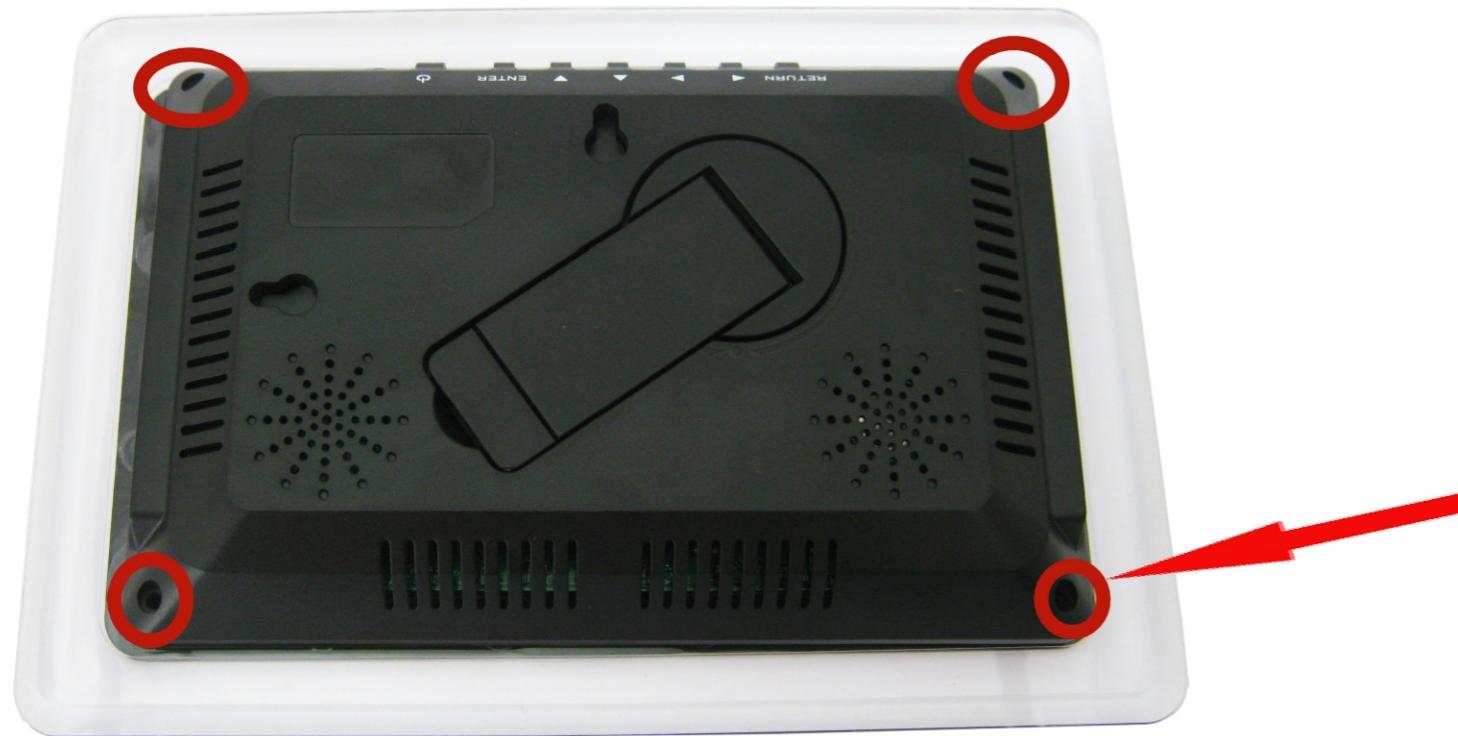
M2.3*12 Silver screws
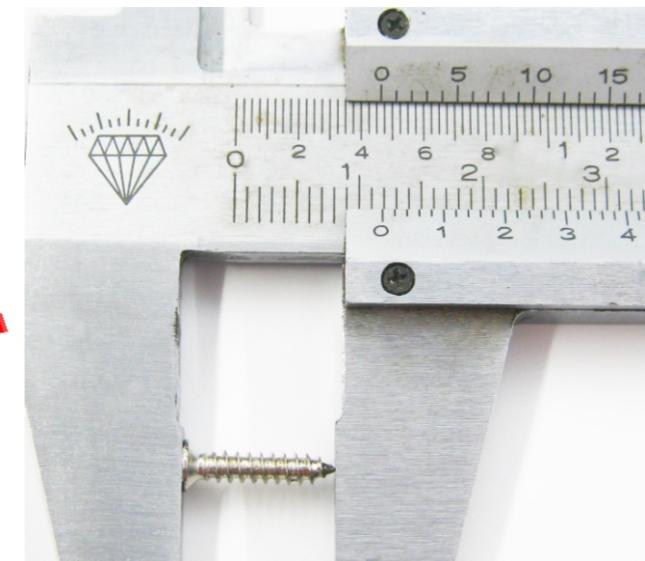
32.Insertion power supply,Turn on the power switch , Setting adjustment time parameters :

Alarm switch Indicator light
Light up for the alarm clock

NowTime Indicator light

上午
下午

19:35 *35*

2017年11月18日

温度27°F

周日 周一 周二 周三 周四 周五 周六

Power input

UP\
NowTime

No effect

DOWN\
Alarm setting

Time Set

Power switch

Flowing water and bird calls

Quit

RETURN ◄ ► ▲ ▼ ENTER ⏻

All circuit diagram

SEG5 Year1 SEG6 Year2 SEG7 Day1 SEG9 Day2 SEG1 H1 SEG2 H2 SEG3 M1 SEG4 M2 SEG14 S1 SEG15 S2 SEG16 Month1

R8 100R R9 100R COM5
R10 100R COM6 R11 100R COM7 R12 33R COM1 R13 33R COM2 R14 33R COM3 R15 33R COM4 R16 100R COM8 R17 100R COM5 R18 100R COM1

P16 P17 P24 P25 P26 P23 P8

P24 P12 P16 P20 P26
R1 R2 R3 R4 R5
30K 30K 30K 30K 30K

VDD
D1 1N60
R6 470K R7 390K
BT1 3V
C2 104P C3 181PF
X1 32768Hz
CX1 20P
C11 20P

U1
VDD P32
P2 P31
GND P30
P4 P29
P5 P28
P6 P27
P7 P26
P8 P25
P9 P24
P10 P23
P11 P22
P12 P21
P13 P20
P14 P19
P15 P18
P16 P17
T2518DD3

32 P32
31 P31
30 P30
29 P29
28 P28
27 P27
26 P26
25 P25
24 P24
23 P23
22 P22
21 P21
20 P20
19 P19
18 P18
17 P17

SEG8 T1 SEG10 Year4 SEG11 Month2 SEG12 Year3 SEG13 T2
R25 100R COM1 R27 100R COM2 R29 100R COM3 R32 100R COM5 R36 100R COM7

P12 P19 P10 P22 P20

VCC
Q2 S8550 COM1 Q3 S8550 COM2 Q4 S8550 COM3 Q5 S8550 COM4 Q6 S8550 COM5 Q7 S8550 COM6 Q8 S8550 COM7 Q9 S8550 COM8
R24 330R R26 330R R28 330R R30 330R R31 330R R33 330R R34 330R R37 330R
P27 P28 P14 P29 P13 P30 P21 P7

LED7 Sunday LED5 Monday LED3 Tuesday LED1 Wednesday Thursday Friday Saturday

LED8 NowTime Alarm clock second second AM PM

R41 100R COM8
R39 100R COM6
R42 100R COM8

SP1 VCC
SPEAKER
Q1 S8050

P15 SW1 SET P12
SW2 UP P11
SW3 Alarm clock/down P17
SW4 Quit P19
SW5 Running water P20

R19 1.5K R21 1.5K R20 1.5K R22 1.5K
P31 P32

P17 P18
RT1 10K R23 10K 1%
C5 223
C4 102P

VDD
C6 104P C7 470uF
D3 1N60
U2 78L05
IK1 DC9-12V
D2 1N4007
C8 10uF C9 104P C10 10uF
R47 330R R48 10K
Q12 8550
R46 10K
R49 1.5K
R43 1M SW6 POWER
Q10 8050
C15 1UF C12 102P R45 10K
R44 10K D4 1N4007 C13 10uF VCC

VCC
R38 1.5K R40 1.5K
D6 R52 100K
Q14 Q15 8050
P12 D5 1N60 R50 100K R51 10K
Q13 8050 C14 1uF
LED14 LED15

Title
Size A3 Number Revision
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