

超声波悬浮驻波控制器制作套件 HU-070

Ultrasonic suspension standing wave controller fabrication kit



HU-070 超声波悬浮驻波控制器制作套件

关于售后服务:

1. 售后时间: 上午 10 点—12 点, 下午 13 点—18 点 (周一到周六)

2. 可通过微信扫一扫, 查看图文说明书 (带图片说明)

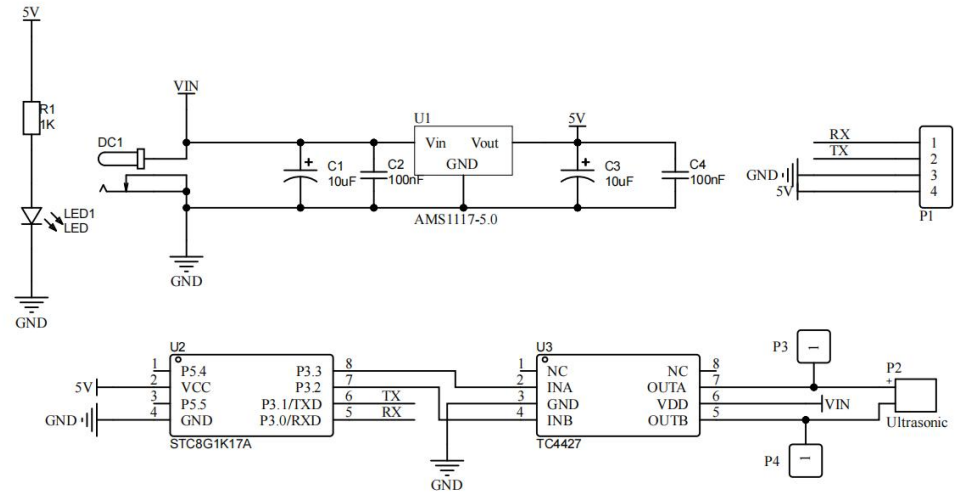
Detailed installation tutorial can be obtained by scanning QR code on mobile Phone.

I. 元件清单 BOM

序号	名称	Name	标号 /Label	数量 /Number	备注/Note
1	瓷片电容 0.1uF/104	ceramic capacitor 0.1uF/104	C2, C4	2	无极性 apolhability
2	直插电阻 1K	DIP resistor 1K	R1	1	
3	直插电解电容 10uF	DIP E-capacitor 10uF	C1, C3	2	长+短- Long + short
4	3mm 红发红直插 LED	3mm Red DIP LED	LED1	1	
5	超声波传感器 16mm/40KHz	Ultrasonic sensor 16mm/40KHz	P2	2	
6	AMS1117-5.0 线性稳压器	AMS1117-5.0 Linear voltage regulator	U1	1	
7	单片机 STC8G1K17A-361-DIP8	SCM STC8G1K17A-361-DIP8	U2	1	缺口方向 Notch direction
8	IC 座 IC 插座 直插 8P	DIP IC pedestal 8P	U2	1	
9	TC4427 芯片	TC4427 Chip	U3	1	
10	DC 电源插座	DC power socket	DC1	1	
11	悬浮泡沫	Suspended foam	-	-	
12	电路板 A/B	PCB A/B	PCB	1/1	
13	双通滚花铜柱 M2X23	Double knurled copper column M2X23	螺丝包 Screw bag	2	自由调节 高度 Free regulation Altitude
14	单通滚花铜柱 M2X20+4	Single-pass knurled copper column M2X20+4		2	
15	单通滚花铜柱 M2X5+3	Single-pass knurled copper column M2X5+3		6	
16	M2 螺母	M2 Nut		4	
17	M2 螺丝 M2X4	M2 Screw M2X4		4	

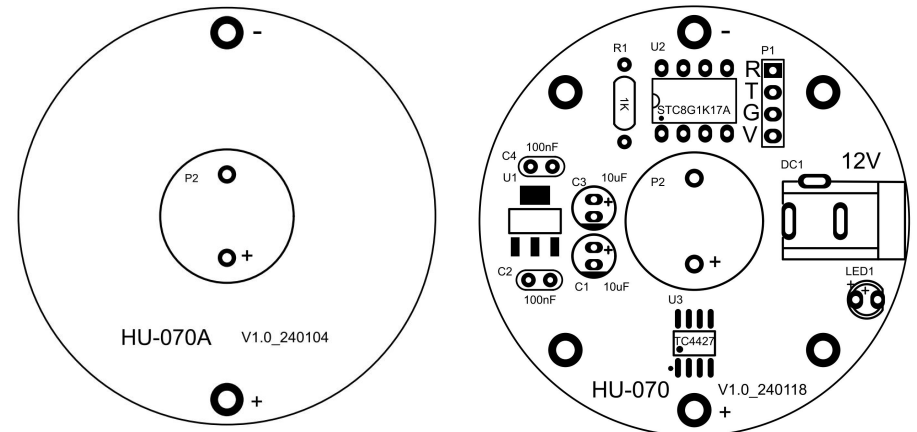
18	说明书	Specification	1	
19	12V 电源适配器	12V power adapter	1	选配/assorting

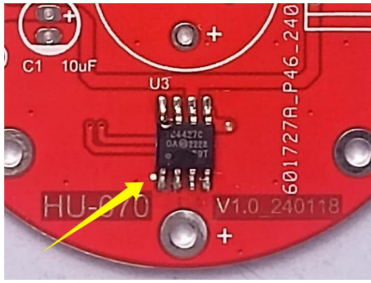
II. 电路原理&元件分布图 Schematic&Component map



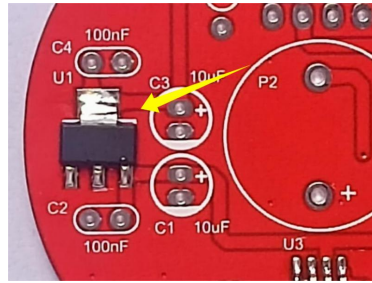
温馨提示: 为了便于美观和悬浮效果, 可以在安装过程中, 自由装卸“M2X5+3”的单通滚花铜柱, 用于调节超声波探头之间的距离, 从而达到更好的使用效果。

Tips: In order to facilitate the appearance and suspension effect, you can freely load and unload the "M2X5+3" single-pass knurled copper column during the installation process, which is used to adjust the distance between the ultrasonic probe, so as to achieve a better use effect.

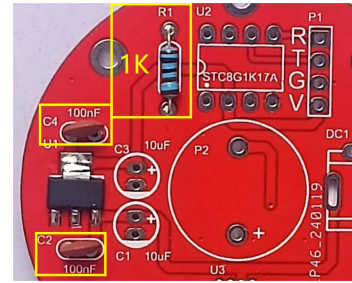




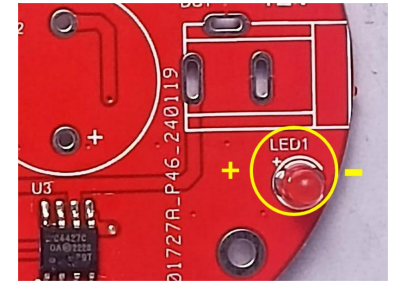
1、焊接 TC4427 芯片，注意芯片丝印与电路板丝印对齐（芯片丝印上的白点对应电路板丝印的白点）。 1. Weld the TC4427 chip, and align the chip screen with the circuit board screen (the white dots on the chip screen correspond to the white dots on the circuit board screen).



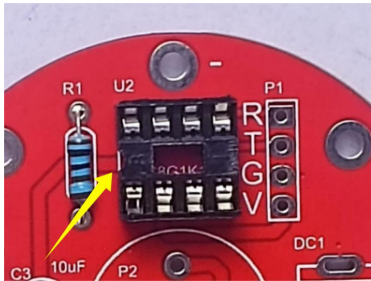
2、焊接 AMS-1117，与电路板丝印对齐，注意焊接时，引脚不要虚焊。 2. Weld AMS-1117, align with the screen printing of the circuit board, pay attention to the welding, do not weld the pin.



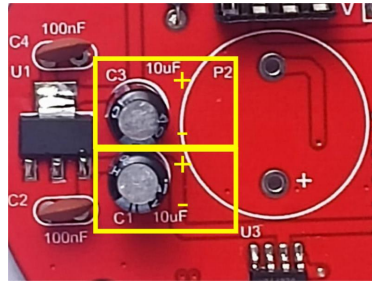
3、焊接 1K 电阻和 100nF 电容，电阻和电容不分正负极。 3, welding 1K resistance and 100nF capacitor, resistance and capacitance are not positive and negative.



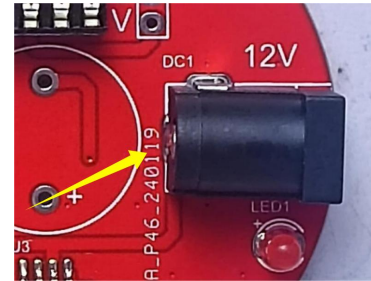
4. 焊接红色 LED 灯，注意灯的引脚，长正短负，与电路板丝印对齐后进行焊接。 4. Weld the red LED light, pay attention to the pin of the light, long positive and short negative, align with the screen printing of the circuit board before welding.



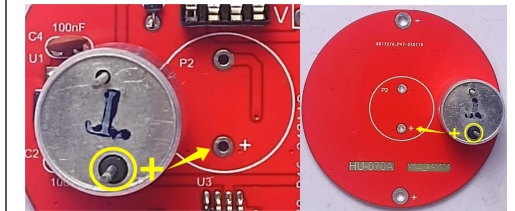
5、焊接 8 脚 IC 插座，注意缺口方向与电路板丝印对齐。 5. Weld the 8-pin IC socket, and note that the notch direction is aligned with the screen printing of the circuit board.



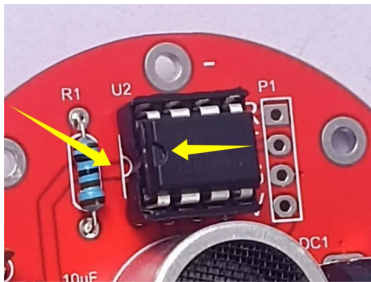
6、分别焊接电容容值为 10uF 的 C1、C3 电解电容，注意电解电容正负极。 6. Weld C1 and C3 electrolytic capacitors with capacitance of 10uF respectively, paying attention to the positive and negative electrodes of the electrolytic capacitors.



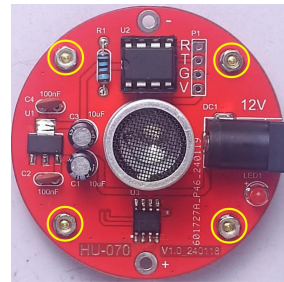
7、焊接 DC 电源插座，注意孔位。 7. Weld the DC power socket and pay attention to the hole positions.



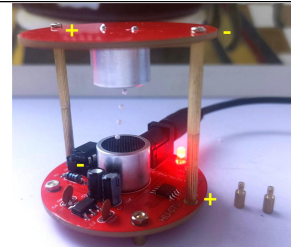
8、焊接两个超声波传感器，注意正负极（超声波传感器上有黑色圆圈的为正极）。 8. Weld two ultrasonic sensors, paying attention to the positive and negative poles (the one with black circle on the ultrasonic sensor is positive).



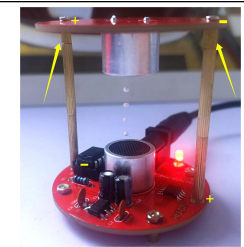
9、把芯片插入 IC 插座里面，注意芯片缺口方向与电路板丝印对应。 9. Insert the chip into the IC socket, and note that the direction of the chip gap corresponds to the screen printing of the circuit board.



10、把 M2 螺母和 M2X5+3 单通铜柱锁在一起，注意图中螺丝孔位。 10. Lock the M2 nut and M2X5+3 single-pass copper post together, paying attention to the screw hole position in the picture.



11、方案一：用 M2X23，M2X20+4 和 M2X4 螺丝进行固定两个电路板，电路板的正极对应负极，负极对应正极。（悬浮效果强，实用性更高） 11, Scheme 1: Use M2X23, M2X20+4 and M2X4 screws to fix the two circuit boards, the positive pole corresponds to the negative pole, and the negative pole corresponds to the positive pole. (Strong suspension effect, higher practicality)



12、方案二：在方案一的基础上增加两个 M2X5+3 的铜柱。（更加美观，但是悬浮效果较差，建议使用方案一） 12. Scheme 2: Add two M2X5+3 copper columns on the basis of Scheme 1. (More beautiful, but the suspension effect is poor, it is recommended to use Scheme 1)