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50		20	IPC-A-610 1	
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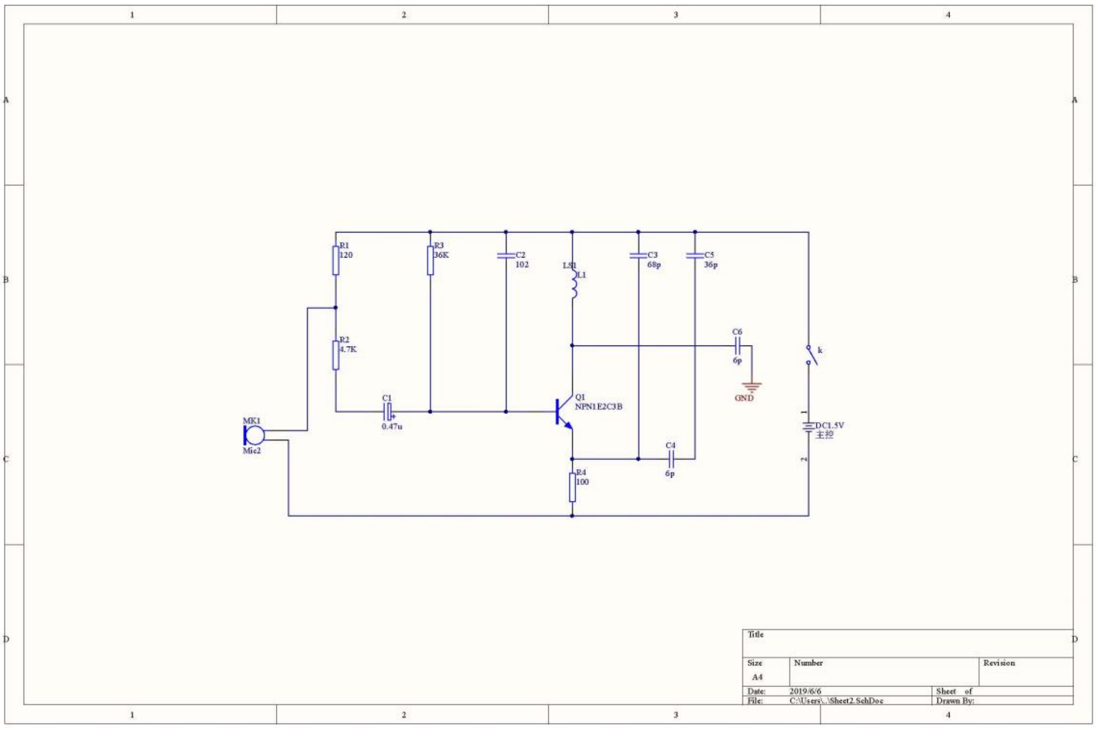
		10		

T1-1

T1-2

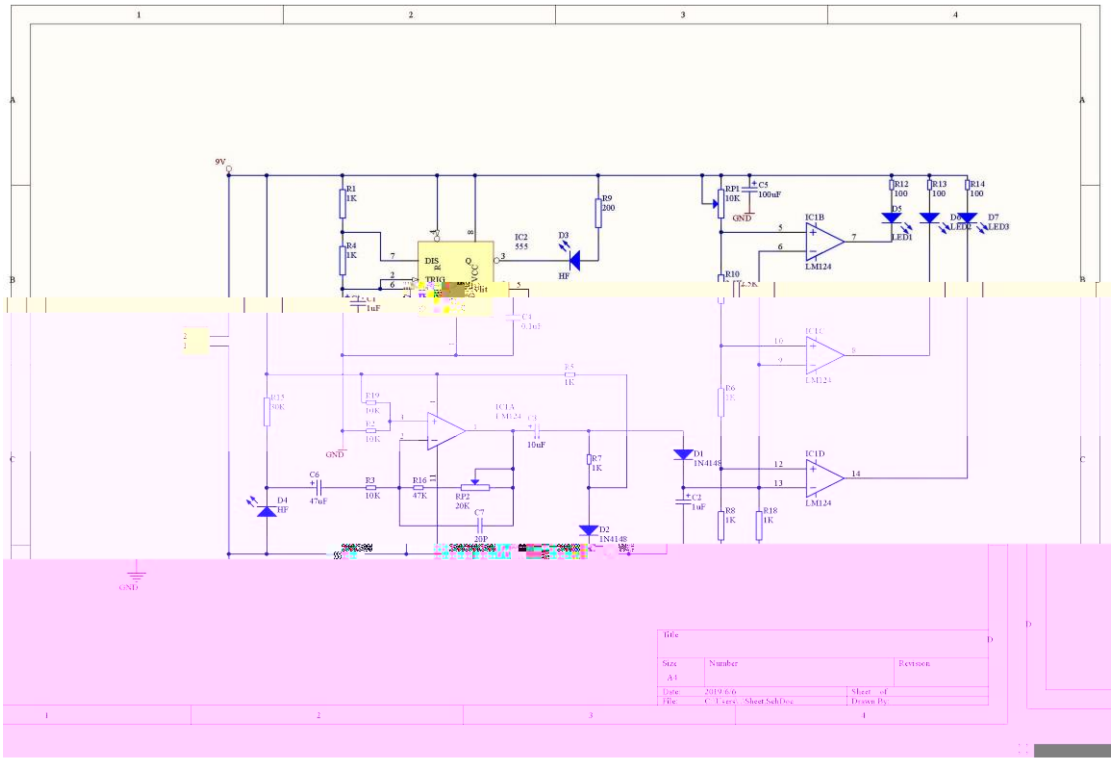
FM



Comment	Description	Designator	Footprint	LibRef	Quantity
0.47u		C1	RB1	CAP3	1
102		C2	RAD0.1	CAP1	1
68p		C3	RAD0.1	CAP1	1
6p		C4, C6	RAD0.1	CAP1	2
36p		C5	RAD0.1	CAP1	1
		DC1.5V	Battery_20	Battery_20	1
	Single-Pole, Single-Th	k	SPST-2	SW-SPST	1
LS1		L1		LS1	1
Mic2	Microphone	MK1	PIN2	Mic2	1
NPN1E2C3B		Q1	TO92A	NPN1E2C3B	1
120		R1	AXIAL0.3	RES	1
4.7K		R2	AXIAL0.3	RES	1
36K		R3	AXIAL0.3	RES	1
100		R4	AXIAL0.3	RES	1

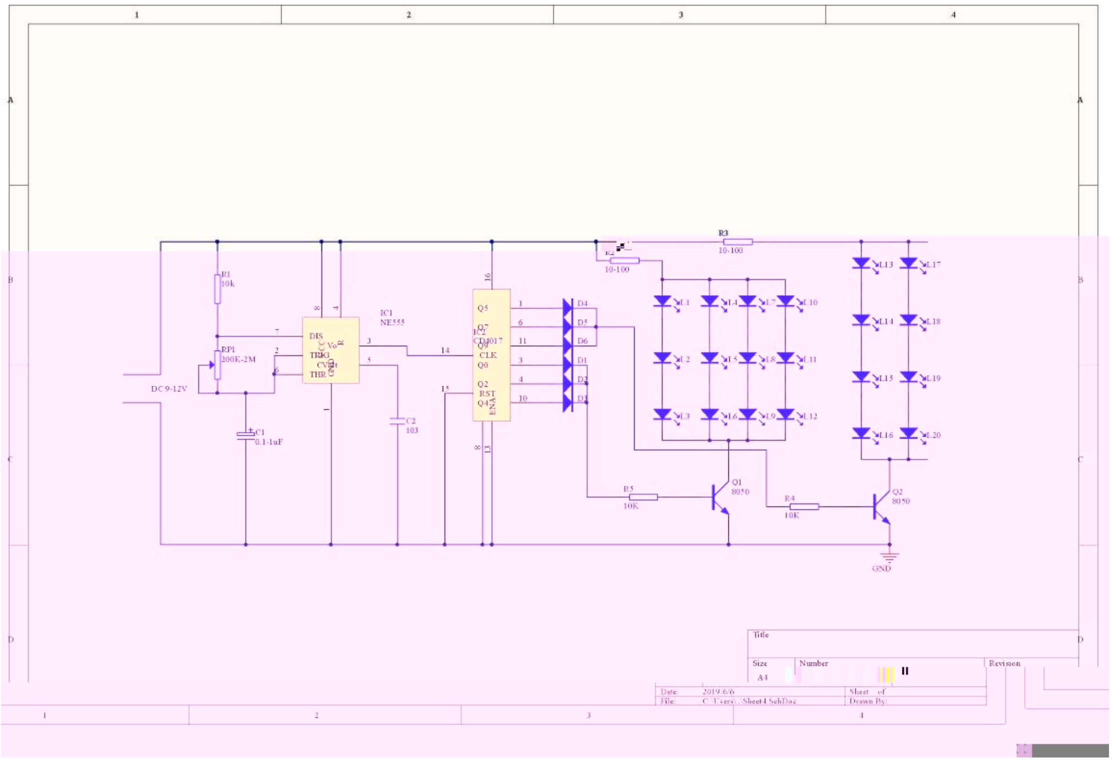
T1-3

T1-4



Comment	Description	Designator	Footprint	LibRef	Quantity
1uF	Polarized Capacitor (A	C1, C2	POLAR0.8	Cap Pol2	2
10uF	Polarized Capacitor (A	C3	POLAR0.8	Cap Pol2	1
0.1uF		C4	C0.254	C0.254	1
100uF	Polarized Capacitor (A	C5	POLAR0.8	Cap Pol2	1
47uF	Polarized Capacitor (A	C6	POLAR0.8	Cap Pol2	1
20P	Capacitor	C7	RAD-0.3	Cap	1
1N4148	High Conductance Fa	D1, D2	DO-35	Diode 1N4148	2
HF	Typical RED GaAs LED	D3, D4	LED-1	LED1	2
LED1	Typical RED GaAs LED	D5	LED-1	LED1	1
LED2	Typical RED GaAs LED	D6	LED-1	LED1	1
LED3	Typical RED GaAs LED	D7	LED-1	LED1	1
LM124		IC1	DIP-14	LM124	1
555		IC2	DIP-8N	Component_1	1
CON2	Header, 2-Pin	J1	HDR1X2	Header 2	1
1K		R1, R4, R6, R8, R18	AXIAL0.3	RES	5
10K		R2, R3, R19	7.6mm	7.6mm	3
1K		R5, R7	7.6mm	7.6mm	2
200		R9	AXIAL0.3	RES	1
2.5K		R10	AXIAL0.3	RES	1
100		R12, R13, R14	7.6mm	7.6mm	3
30K		R15	AXIAL0.3	RES	1
47K		R16	7.6mm	7.6mm	1
10K	Potentiometer	RP1	RVR-1	RPOT2	1
20K	Potentiometer	RP2	RVR-1	RPOT2	1

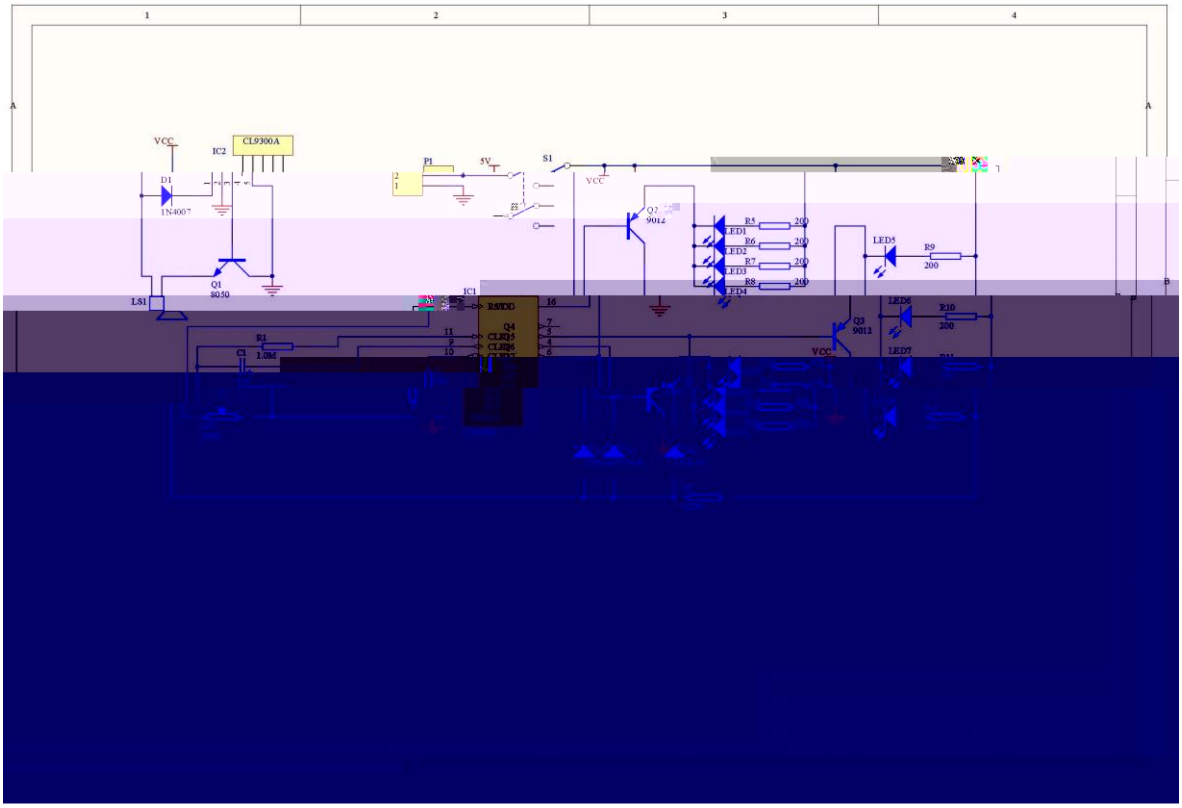
T1-5



Comment	Description	Designator	Footprint	LibRef	Quantity
0.1-1uF		C1	RB1	CAP3	1
103	SMD-CAP	C2	0603C	CAP-0.1UF	1
0805D		D1, D2, D3, D4, D5, D	0805D	0805D	6
NE555		IC1	DIP-8N	Component_1	1
CD4017		IC2	DIP-16N	CD4017	1
LED0805		L1, L2, L3, L4, L5, L6, L	LED0805	LED0805	20
8050	?	Q1, Q2	TO92A	NPN1E2C3B	2
10k		R1, R4, R5	AXIAL0.3	RES	3
10-100		R2, R3	AXIAL0.3	RES	2
200K-2M	Potentiometer	RP1	RVR-1	RPOT2	1

T1-6

CD4060



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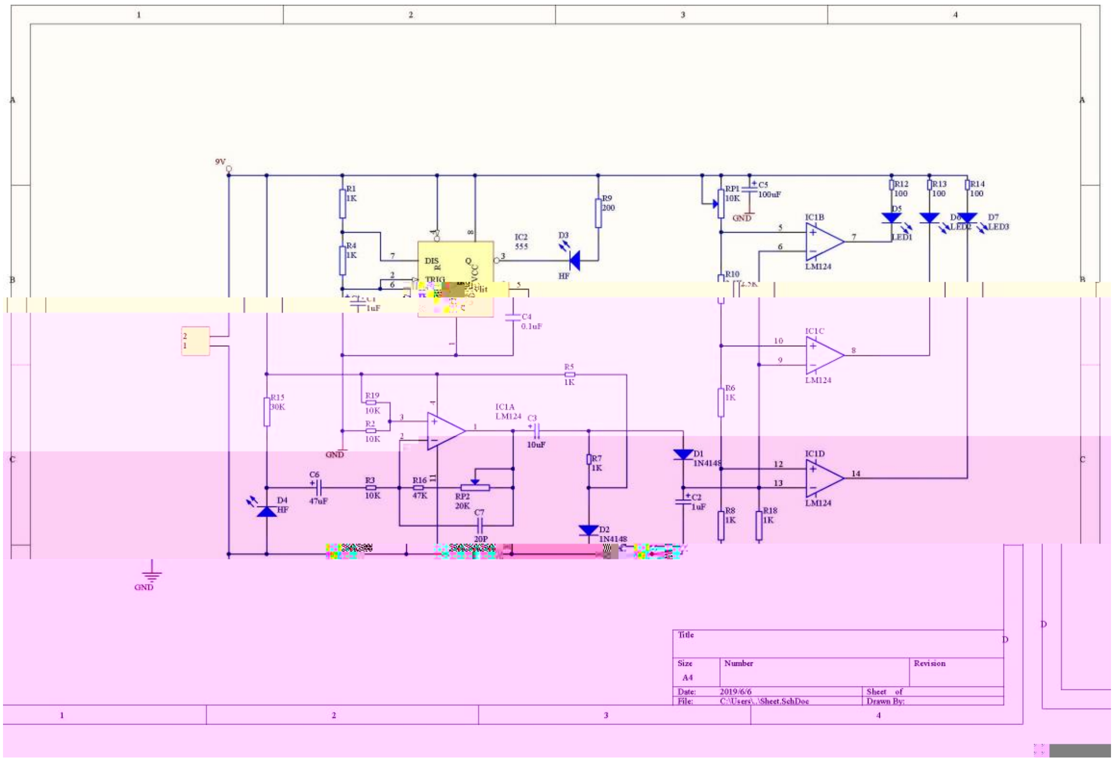
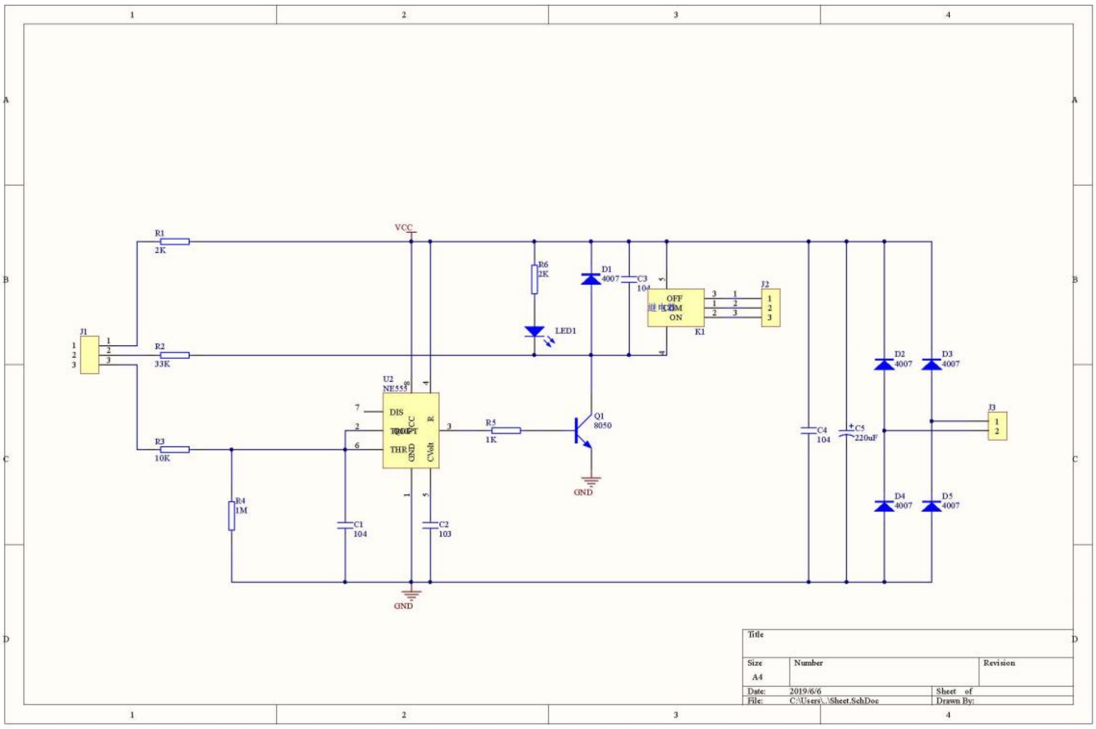
Comment	Description	Designator	Footprint	LibRef	Quantity
1uf	Polarized Capacitor (A	C1	POLAR0.8	Cap Pol2	1
1N4007	1 Amp General Purpo	D1	DO-41	Diode 1N4007	1
1N4148	High Conductance Fa	D2, D3, D4	DO-35	Diode 1N4148	3
CD4060		IC1	DIP-16N	CD4060	1
CL9300A		IC2	HDR1X5	CL9300A	1
LED1	Typical RED GaAs LED	LED1, LED2, LED3, LED	LED-1	LED1	12
Speaker	Loudspeaker	LS1	PIN2	Speaker	1
Header 2	Header, 2-Pin	P1	HDR1X2	Header 2	1
8050	?	Q1	TO92A	NPN1E2C3B	1
9012	?	Q2, Q3, Q4	TO92A	PNP1E2C3B	3
1.0M		R1	AXIAL0.3	RES	1
10K		R2	AXIAL0.3	RES	1
220K		R4	AXIAL0.3	RES	1
200		R5, R6, R7, R8, R9, R1	AXIAL0.3	RES	12
200K	Potentiometer	RP1	RVR-1	RPOT2	1
SW DPDT		S1		SW DPDT	1

T1-7



Comment	Description	Designator	Footprint	LibRef	Quantity
		B1	Battery_20	Battery_20	1
103		C1, C2	CAP0.5	CAP0.5	2
100u		C3	RB5/2	RB5/2	1
LED0	Typical INFRARED Ga	D1	LED-0	LED0	1
12K		R1, R7	AXIAL0.3	RES	2
100K		R2, R3, R8	AXIAL0.3	RES	3
1K		R4	AXIAL0.3	RES	1
82K		R5	AXIAL0.3	RES	1
30K		R6	AXIAL0.3	RES	1
50K	Potentiometer	RP1	RVR-1	RPOT2	1
50K		RT	AXIAL0.4		1
Ua741		U1	DIP-8	741	1
Ne555		U2		Component_1	1
Speaker	Loudspeaker	Y	PIN2	Speaker	1

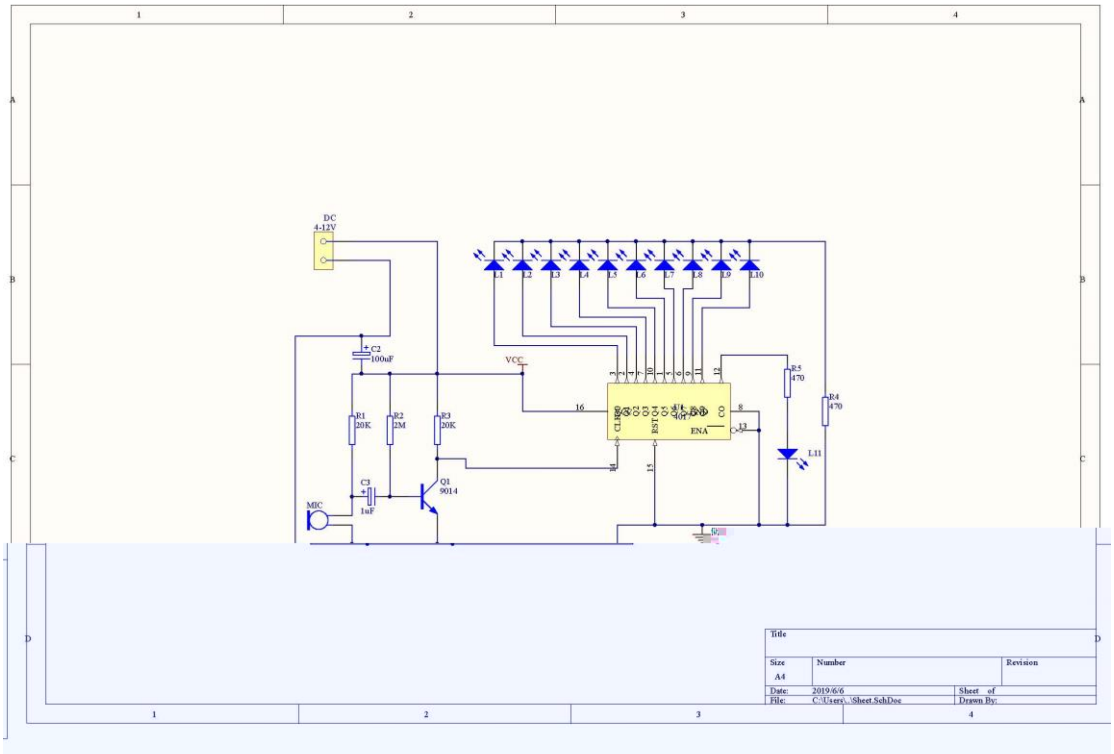
T1-8



Comment	Description	Designator	Footprint	LibRef	Quantity
104		C1, C3, C4	C0.254	C0.254	3
103		C2	C0.254	C0.254	1
220uF	Polarized Capacitor (F	C5	RB7.6-15	Cap Pol1	1
4007		D1, D2, D3, D4, D5	DO-41-2	DO-41	5
SIP3		J1, J2	SIP3.0-0.254	SIP3.0-0.254	2
SIP2		J3	SIP2-0.254	SIP2-0.254	1
K1		K1		K1	1
LED1	Typical RED GaAs LED	LED1	LED-1	LED1	1
8050		Q1	TO92A	NPN1E2C3B	1
2K		R1, R6	AXIAL0.3	RES	2
33K		R2	AXIAL0.3	RES	1
10K		R3	AXIAL0.3	RES	1
1M		R4	AXIAL0.3	RES	1
1K		R5	AXIAL0.3	RES	1
NE555		U2		NE555	1

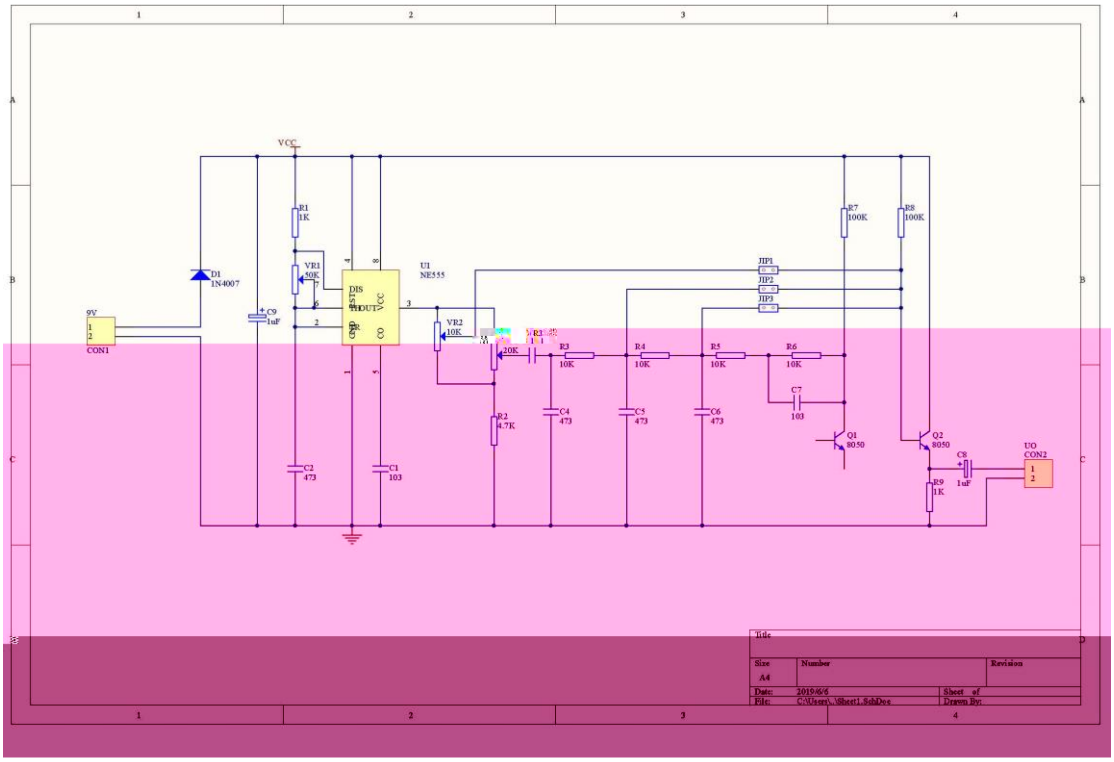
T1-9

LED



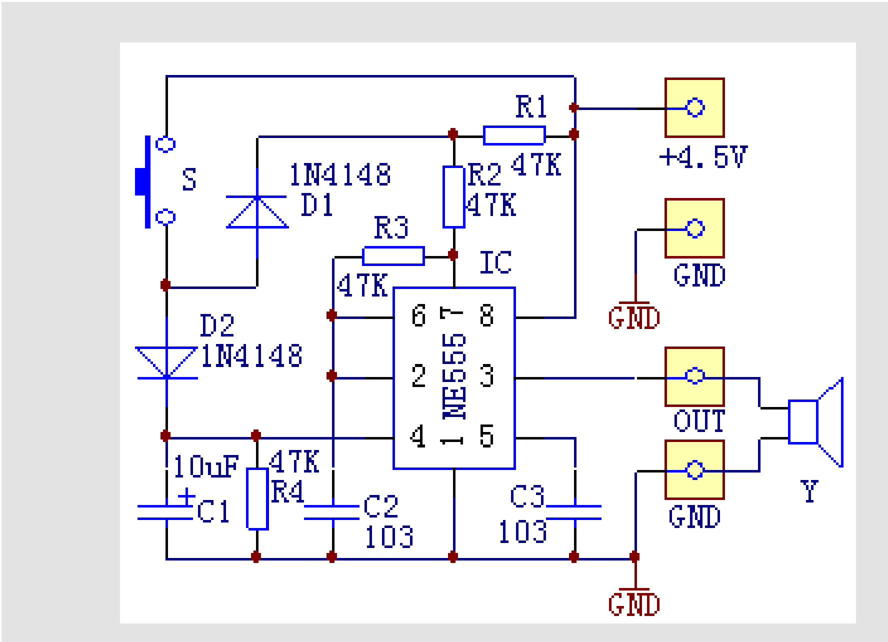
Comment	Description	Designator	Footprint	LibRef	Quantity
100uF		C2	RB5/2	RB5/2	1
1uF		C3	RB5/2	RB5/2	1
4-12V		DC	HDR1X2	DC	1
LED1	Typical RED GaAs LED	L1, L2, L3, L4, L5, L6, L	LED-1	LED1	11
Mic2	Microphone	MIC	PIN2	Mic2	1
9014		Q1	TO92A	NPN1E2C3B	1
20K		R1, R3	AXIAL0.3	RES	2
2M		R2	AXIAL0.3	RES	1
470		R4, R5	AXIAL0.3	RES	2
4017		U1	DIP-16	4017	1

T1-10



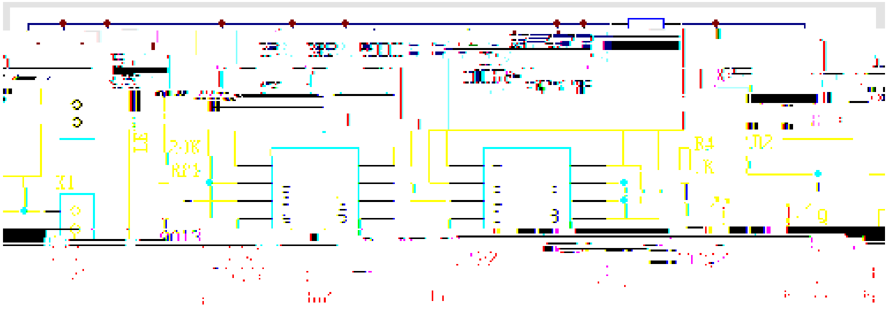
Comment	Description	Designator	Footprint	LibRef	Quantity
103		C1, C7	C0.254	C0.254	2
473		C2, C4, C5, C6	C0.254	C0.254	4
104		C3	C0.254	C0.254	1
1uF		C8, C9	RB5/2	RB5/2	2
9V	Header, 2-Pin	CON1	HDR1X2	Header 2	1
UO	Header, 2-Pin	CON2	HDR1X2	Header 2	1
1N4007	1 Amp General Purpo	D1	DO-41	Diode 1N4007	1
JIP		JIP1, JIP2, JIP3		JIP	3
8050	NPN General Purpose	Q1, Q2	TO-92A	2N3904	2
1K		R1, R9	AXIAL0.3	RES	2
4.7K		R2	AXIAL0.3	RES	1
10K		R3, R4, R5, R6	AXIAL0.3	RES	4
100K		R7, R8	AXIAL0.3	RES	2
NE555		U1		Component_1	1
50K	Potentiometer	VR1	RVR-1	RPOT2	1
10K	Potentiometer	VR2	RVR-1	RPOT2	1
20K	Potentiometer	VR3	RVR-1	RPOT2	1

T1-11



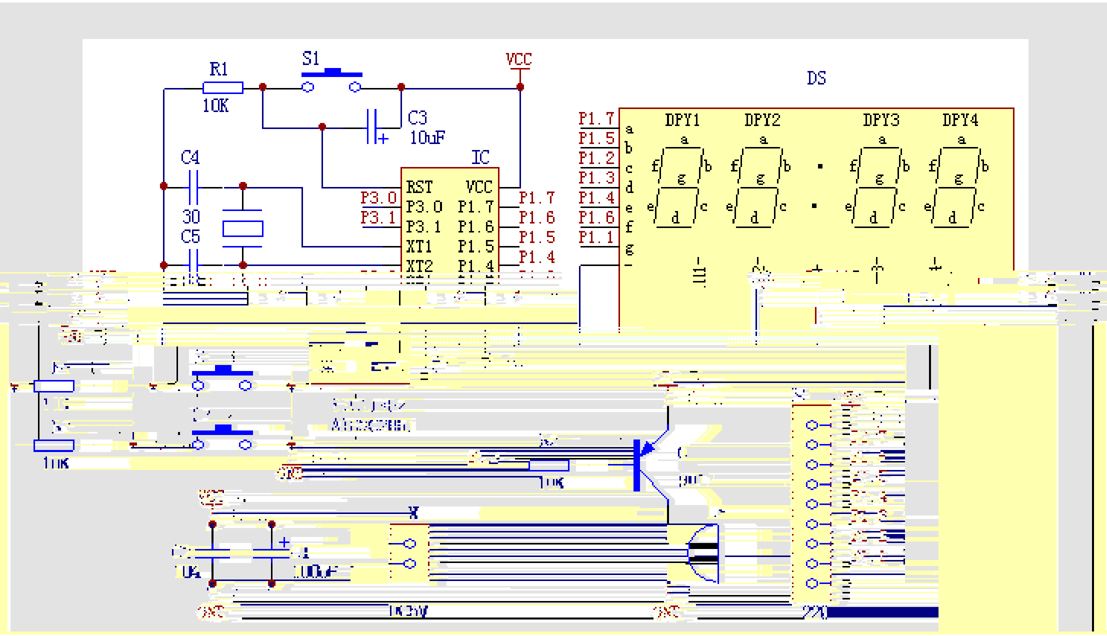
安装顺序	位号	名称	规格	数量
1	R1、R2、R3、R4	电阻	47K	4
	D1、D2	二极管	1N4148	2
2	S	轻触按键	6*6*5mm	1
	IC	集成电路	NE555	1
3	C2、C3	瓷片电容	103	2
4		细导线	6CM	5
5	C1	电解电容	10uF	1
6	Y	喇叭	29MM	1
7	S2	拨动开关	SS12F15	1
8	外壳附件	7 号电池弹簧	4 件套	1
		螺丝	PA2.3X5	3
		螺丝	PA2.3X8	1
		螺丝	PA2.3X10	1
		按钮帽		1
	外壳	前壳		1
		后壳		1
		电池盖		1
		PCB 板	29X37MM	1

T1-12



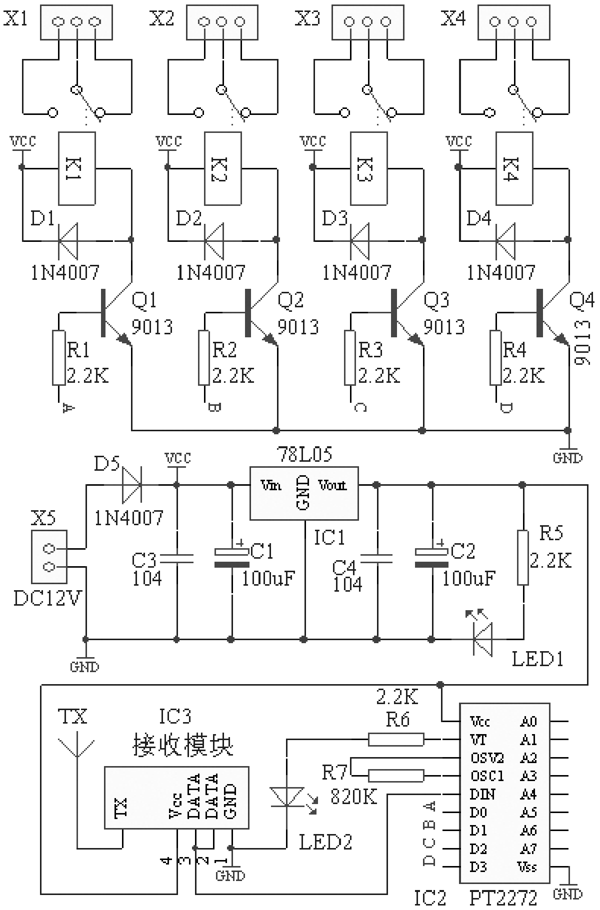
安装顺序	位号	名称	规格	数里
1	R1	电阻	470	1
	R2、R3、R4	电阻	1K	3
	R5、R6	电阻	47K	2
	R7	电阻	4.7 欧	1
	D2	二极管	1N4148	1
2	IC1	集成电路	LM393	1
	IC2	集成电路	NE555	1
	集成电路最后安装	集成电路插座	8P	2
3	RP1	可调电阻	B20K	1
	RP2	可调电阻	B500K	1
4	LED2	发光二极管	3mm 红发红	1
5	X1、X2	接线座	2P	2
6	C1、C2	电解电容	100uF/16V	2
	C3	电解电容	10uF	1
7	C4	瓷片电容	103	1
	Q	三极管	9013	1
8	D1	红外接收二极管	黑色	1
9	LED1	红外发射二极管	透明	1
10	K	继电器	5V	1
		PCB 板	35X80mm	1

T1-13



安装顺序	位号	名称	规格	数量
1	R1、R2、R3、R4	电阻	10K	4
2	Y	晶振	3.579M	1
3	C4、C5	瓷片电容	30P	2
4	R5	电阻排	A9-221	1
5	IC（单片机最后安装）	单片机	STC11F02	1
		IC 座	20P	1
6	S1、S2、S3	轻触按键	6*6*5mm	3
7	C1	电解电容	100uF	1
	C2	瓷片电容	104	1
	C3	电解电容	10uF	1
	Q	三极管	9012	1
8	LS	无源蜂鸣器	12*8.5mm	1
9	DS	时钟数码管	0.56 寸红色共阳	1
10	X	接线座	2P	1
		PCB 板	55*60mm	1

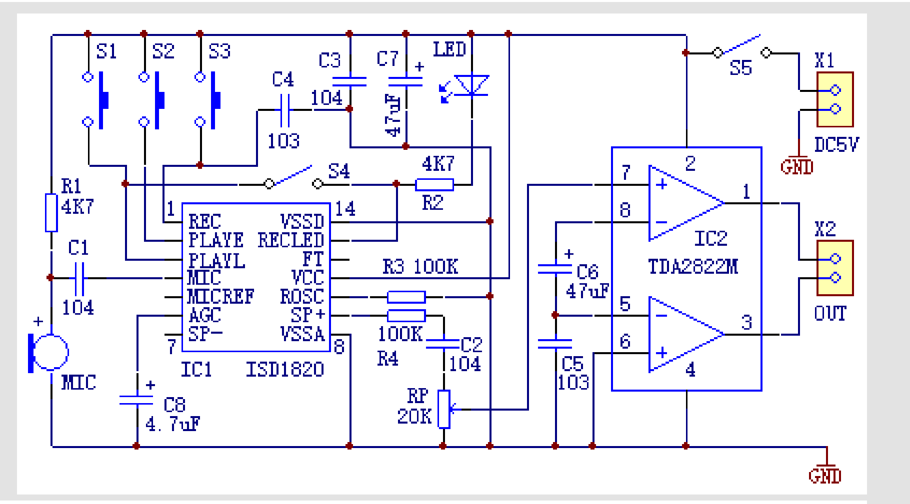
T1-14



X1
X2
X3
X4
VCC
K1
K2
K3
K4
D1
D2
D3
D4
1N4007
Q1
Q2
Q3
Q4
9013
R1
R2
R3
R4
2.2K
A
B
C
D
GND
D5
78L05
Vin
GND
Vout
IC1
X5
C3
104
C1
100uF
C4
C2
R5
DC12V
LED1
TX
IC3
接收模块
Vcc
DATA
GND
R6
R7
820K
LED2
Vcc
VT
OSC2
OSC1
DIN
D0
D1
D2
D3
A0
A1
A2
A3
A4
A5
A6
A7
Vss
IC2
PT2272

T1-15

10



安装顺序	位号	名称	规格	数量
1	R1、R2	电阻	4K7	2
	R3、R4		100K	2
2	IC1	IC 座	14P	1
	集成电路最后安装	集成电路	ISD1820	1
	IC2	IC 座	8P	1
	集成电路最后安装	集成电路	TDA2822M	1
3	LED	发光二级管	3mm 红发红	1
4	C1、C2、C3	瓷片电容	104	3
	C4、C5		103	2
5	S4	拨动开关	SS12D00	1
6	MIC	驻极体话筒	9*7mm	1
7	RP	可调电阻	B20K	1
	C6、C7		47uF/16V	2

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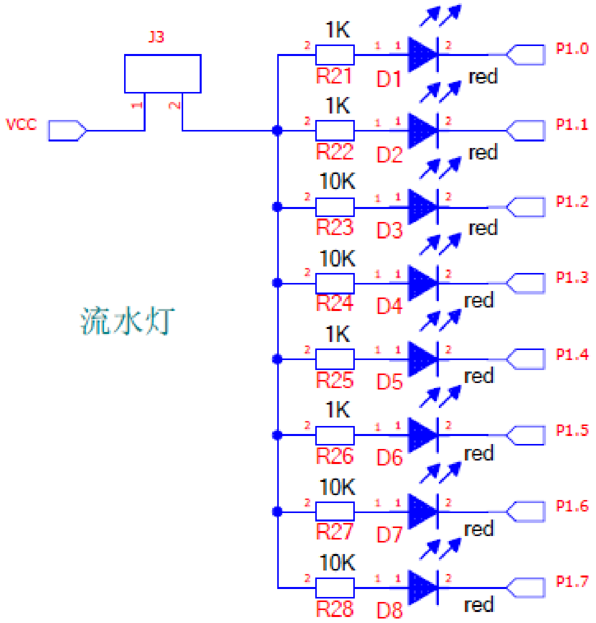
J1-2

T2-1

1

T2-2

1

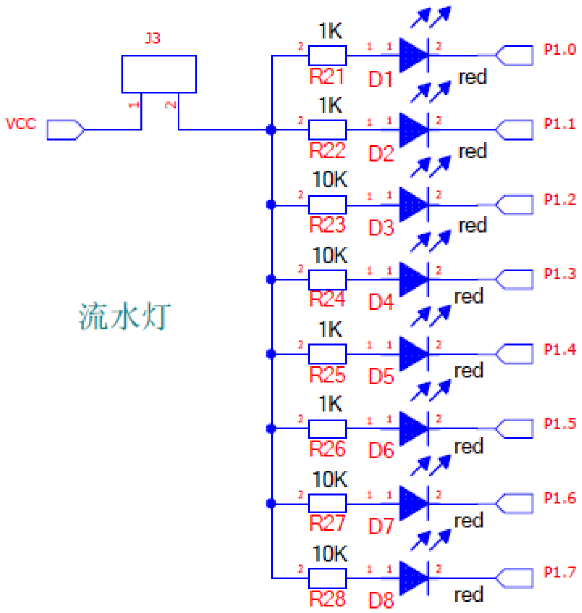


J3
VCC
流水灯
1K
R21
D1
red
P1.0
1K
R22
D2
red
P1.1
10K
R23
D3
red
P1.2
10K
R24
D4
red
P1.3
1K
R25
D5
red
P1.4
1K
R26
D6
red
P1.5
10K
R27
D7
red
P1.6
10K
R28
D8
red
P1.7

2

T2-3

1


J3
VCC
流水灯
1K
R21
D1
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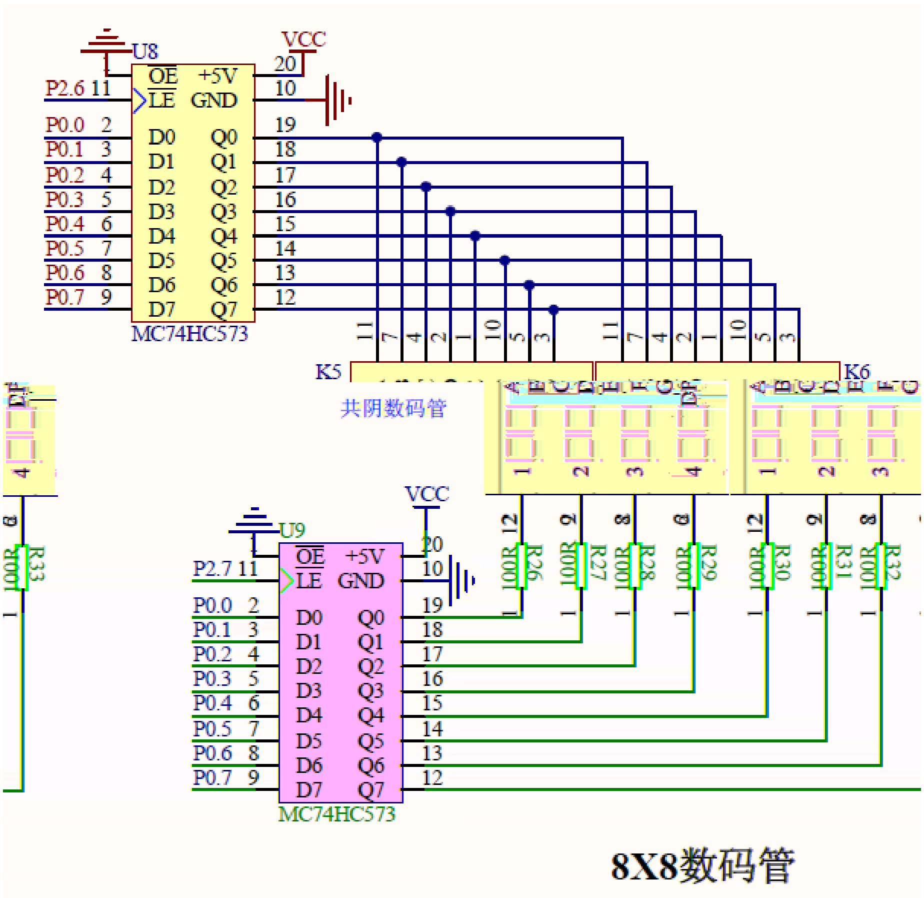
P1.0
1K
R22
D2
red
P1.1
10K
R23
D3
red
P1.2
10K
R24
D4
red
P1.3
1K
R25
D5
red
P1.4
1K
R26
D6
red
P1.5
10K
R27
D7
red
P1.6
10K
R28
D8
red
P1.7

2

T2-4

1


U8
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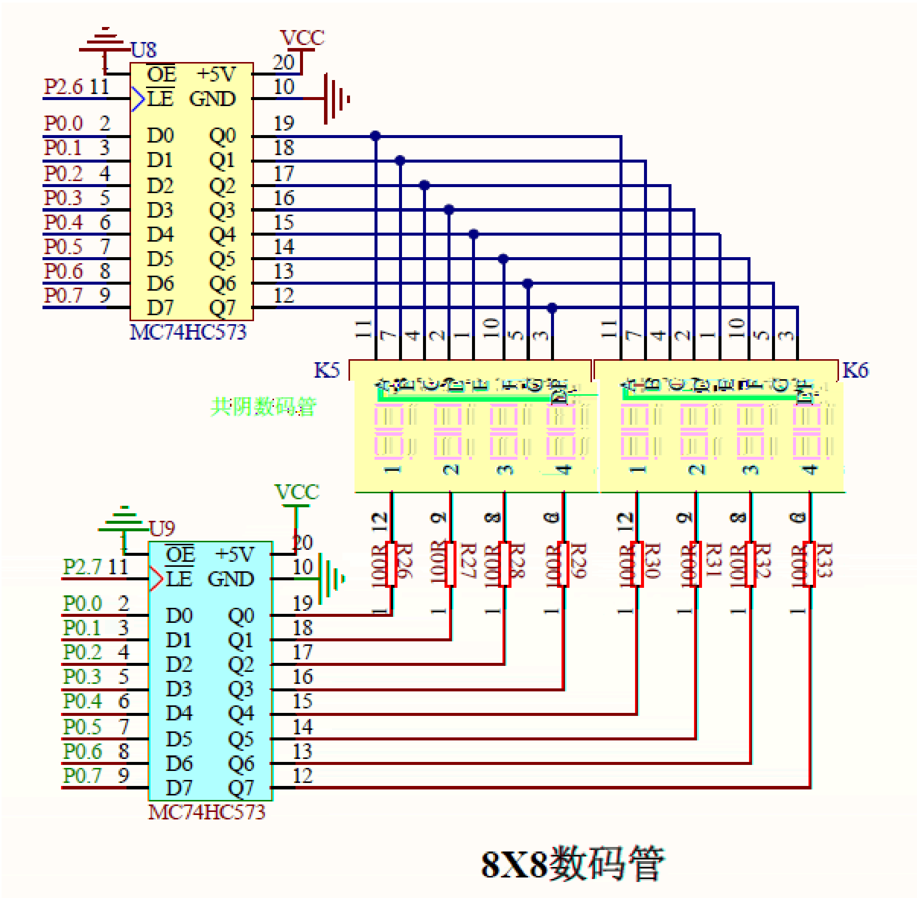
P2.6
OE
LE
+5V
GND
P0.0
P0.1
P0.2
P0.3
P0.4
P0.5
P0.6
P0.7
D0
D1
D2
D3
D4
D5
D6
D7
Q0
Q1
Q2
Q3
Q4
Q5
Q6
Q7
MC74HC573
K5
K6
共阴数码管
U9
P2.7
R26
R27
R28
R29
R30
R31
R32
R33
100R
8X8数码管

2

T2-5

1



U8
VCC
P2.6 11
OE +5V
LE GND
P0.0 2
P0.1 3
P0.2 4
P0.3 5
P0.4 6
P0.5 7
P0.6 8
P0.7 9
D0 Q0
D1 Q1
D2 Q2
D3 Q3
D4 Q4
D5 Q5
D6 Q6
D7 Q7
MC74HC573
K5
K6
共阴数码管
U9
VCC
P2.7 11
R26
R27
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R29
R30
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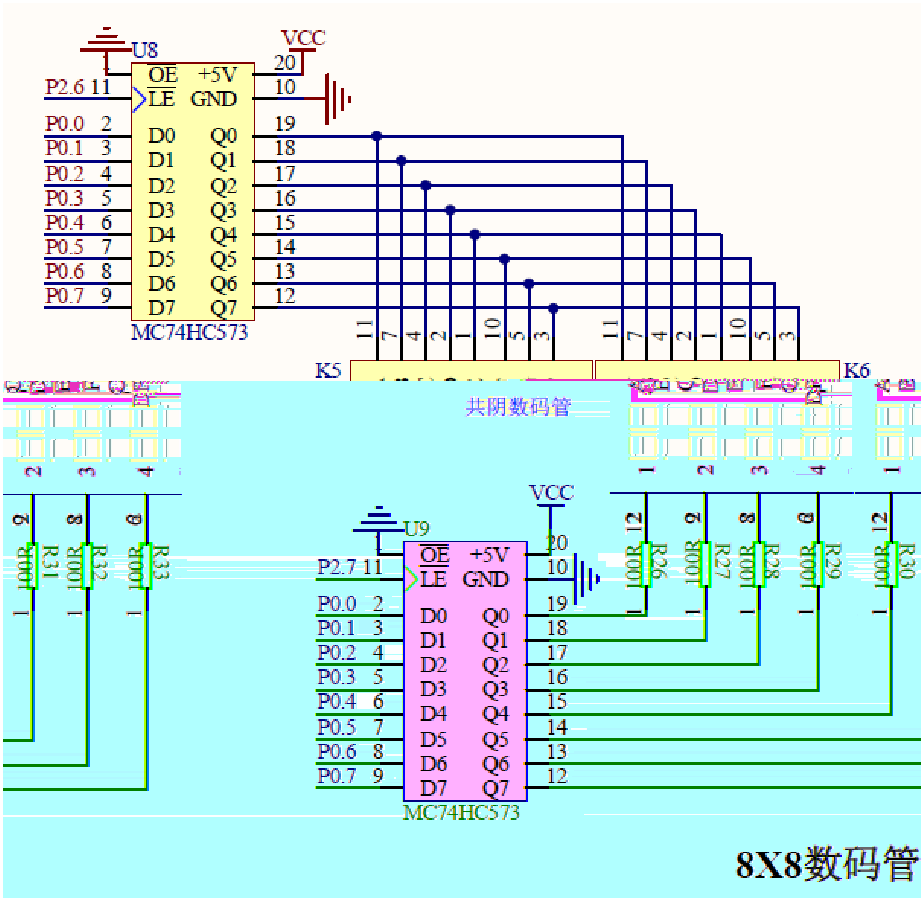
8X8数码管

2

T2-6

1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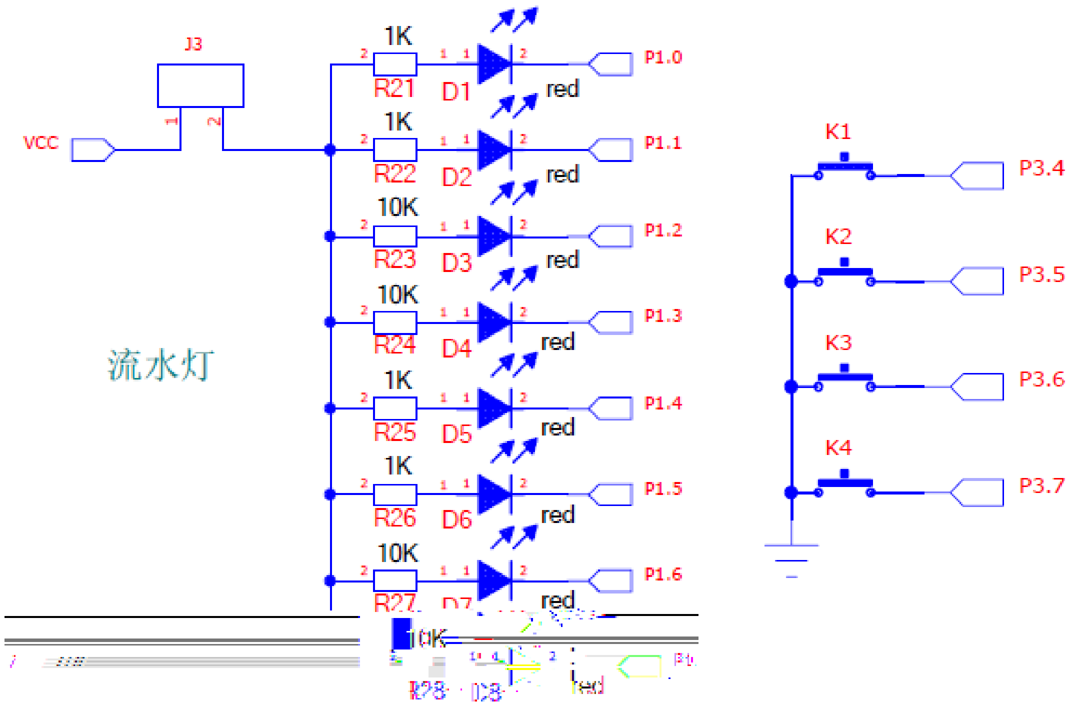
VCC
OE
LE
+5V
GND
P2.6 11
P0.0 2
P0.1 3
P0.2 4
P0.3 5
P0.4 6
P0.5 7
P0.6 8
P0.7 9
D0 D1 D2 D3 D4 D5 D6 D7
Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7
20 10 19 18 17 16 15 14 13 12
MC74HC573
K5
K6
共阴数码管
U9
P2.7 11
R26 R27 R28 R29 R30 R31 R32 R33
100R
MC74HC573
8X8数码管

2

T2-7

1

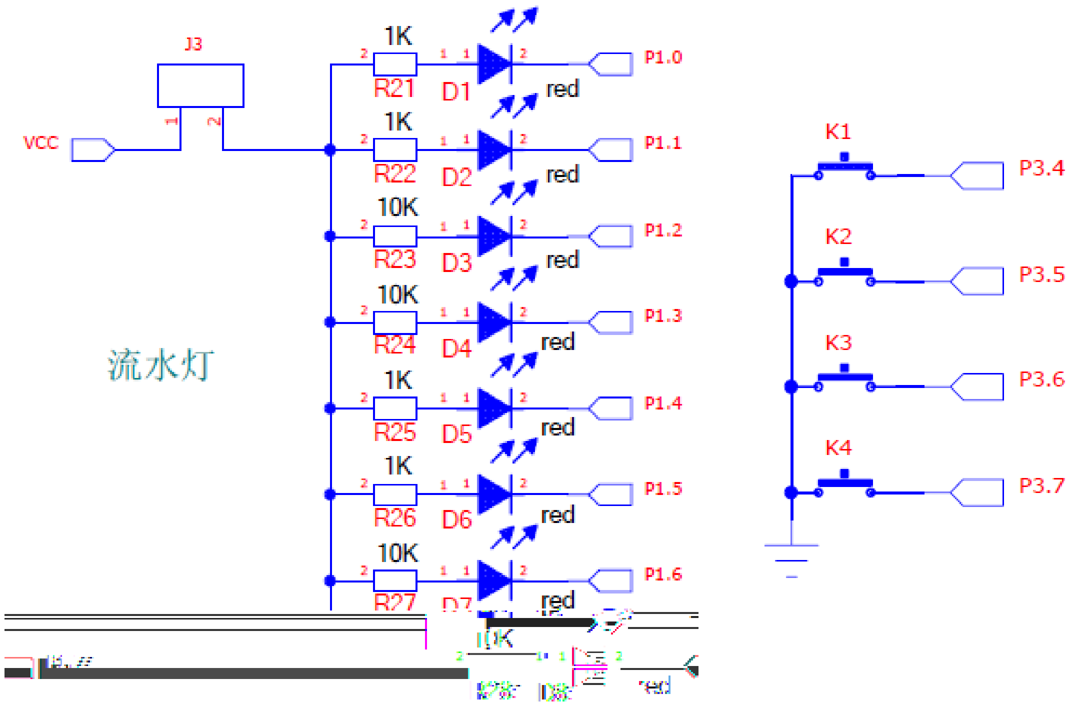


J3
VCC
1K
R21
D1
red
P1.0
1K
R22
D2
red
P1.1
10K
R23
D3
red
P1.2
10K
R24
D4
red
P1.3
1K
R25
D5
red
P1.4
1K
R26
D6
red
P1.5
10K
R27
red
P1.6
流水灯
K1
P3.4
K2
P3.5
K3
P3.6
K4
P3.7

2

T2-8

1

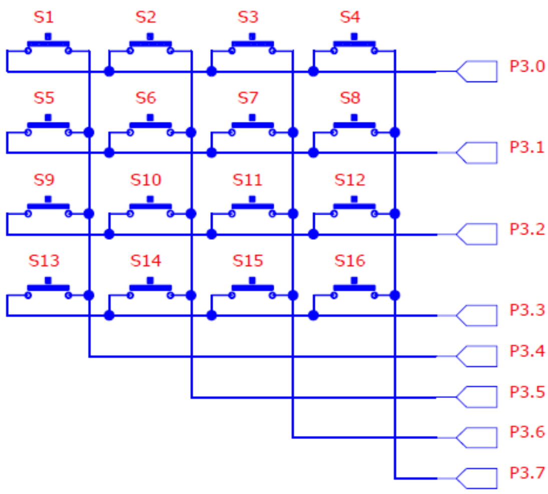


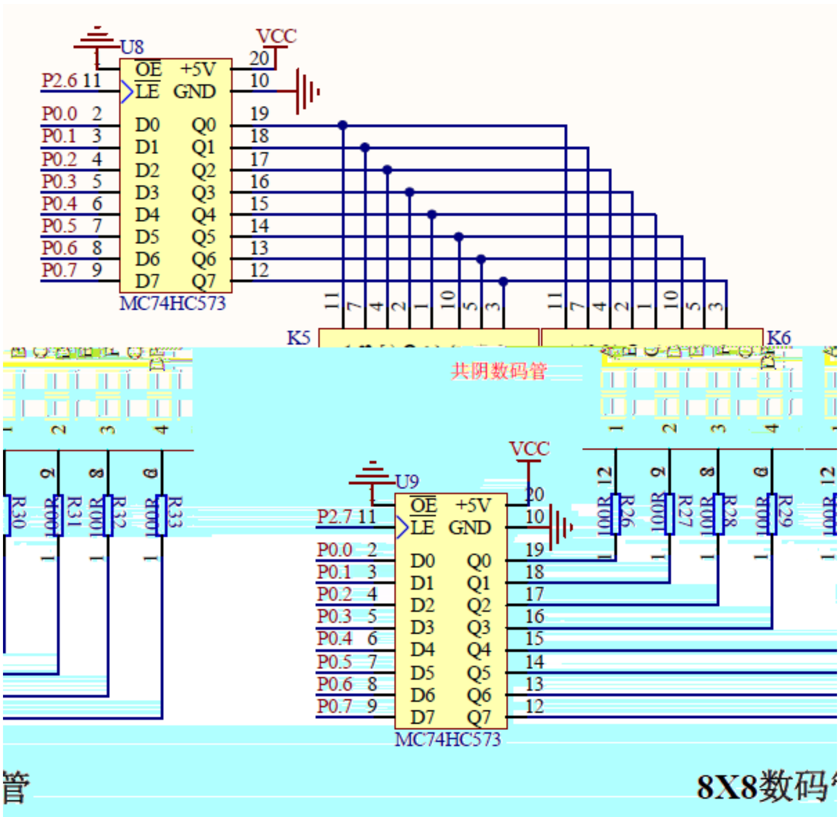
J3
VCC
1K
R21
D1
red
P1.0
1K
R22
D2
red
P1.1
10K
R23
D3
red
P1.2
10K
R24
D4
red
P1.3
流水灯
1K
R25
D5
red
P1.4
1K
R26
D6
red
P1.5
10K
R27
red
P1.6
K1
P3.4
K2
P3.5
K3
P3.6
K4
P3.7

2

T2-9

1

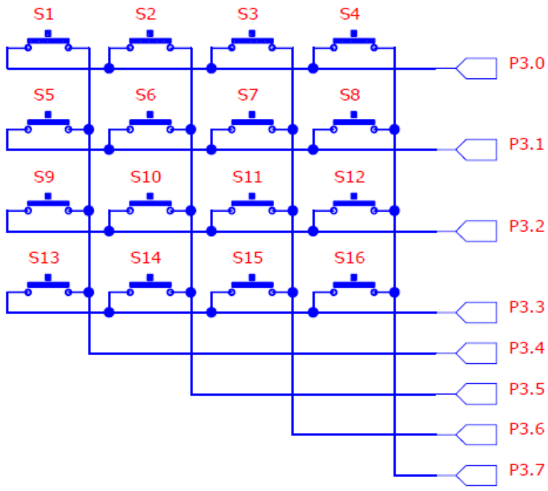

S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
P3.0
P3.1
P3.2
P3.3
P3.4
P3.5
P3.6
P3.7

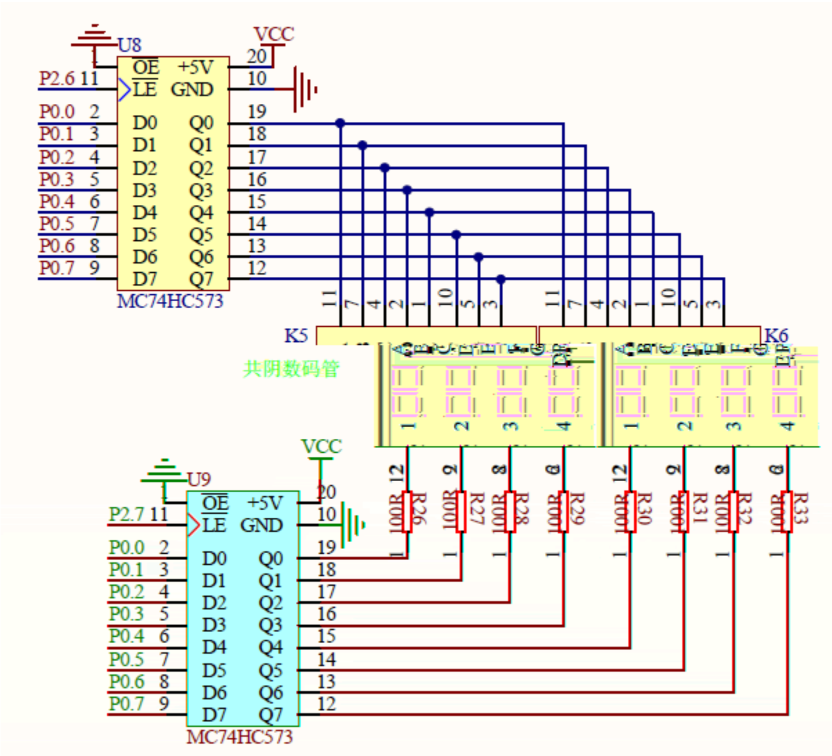

U8
VCC
P2.6
OE
LE
+5V
GND
D0 D1 D2 D3 D4 D5 D6 D7
Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7
P0.0 P0.1 P0.2 P0.3 P0.4 P0.5 P0.6 P0.7
MC74HC573
K5
K6
共阴数码管
U9
P2.7
MC74HC573
R30 R31 R32 R33
R26 R27 R28 R29
100R
管
8X8数码

2

T2-10

1





8X8数码管

2

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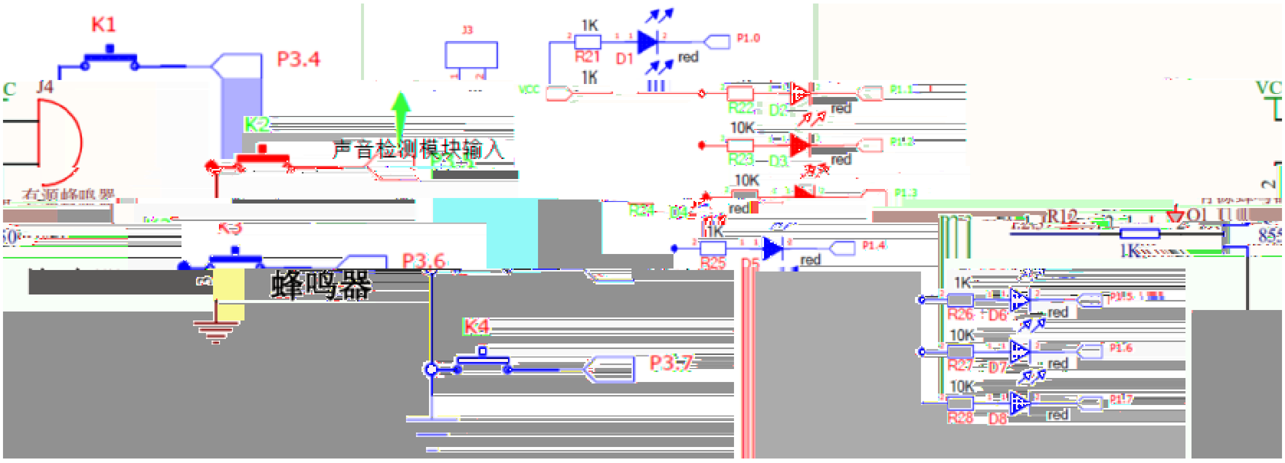
T2-11

1

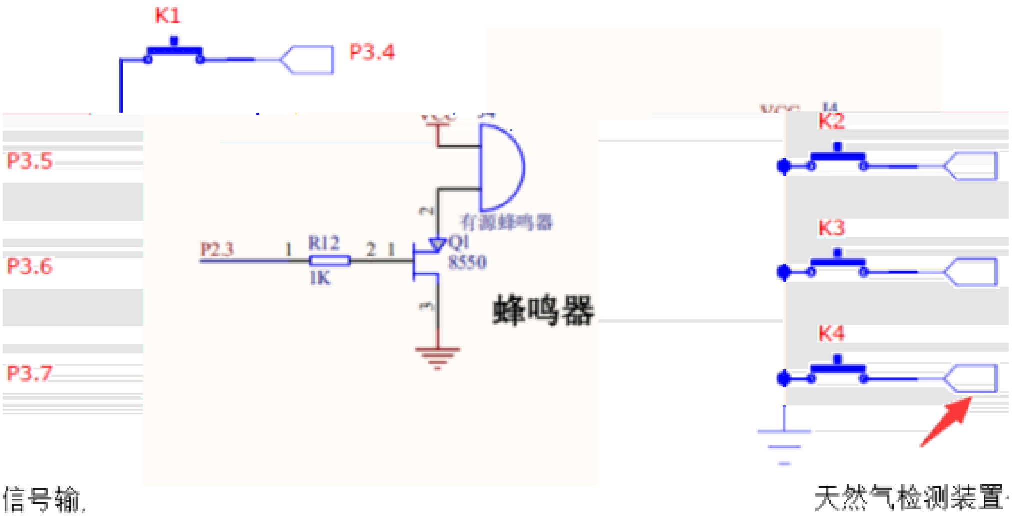

K1
P3.4
J4
K2
声音检测模块输入
K3
蜂鸣器
P3.6
K4
P3.7
P1.0
red
R21
D1
1K
10K
P1.4
R25
D5
R26
D6
R27
D7
R28
D8
P1.6
P1.7
R12

1

2

T2-12

1


K1
P3.4
P3.5
P3.6
P3.7
信号输
P2.3
R12
1K
Q1
8550
有源蜂鸣器
蜂鸣器
K2
K3
K4
天然气检测装置

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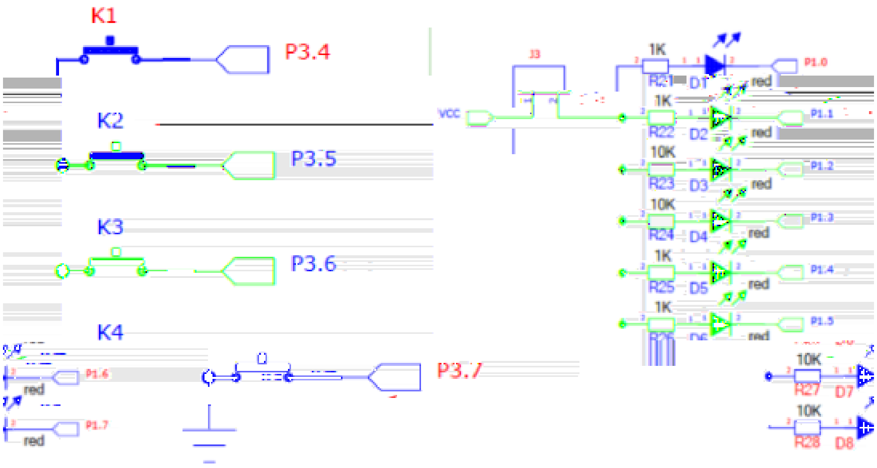
2

T2-13

1


K1
P3.4
K2
P3.5
K3
P3.6
K4
P3.7
VCC
J3
1K
R21
D1
red
P1.0
R22
D2
P1.1
10K
R23
D3
P1.2
R24
D4
P1.3
R25
D5
P1.4
P1.5
P1.6
P1.7
R27
D7
R28
D8

1

2

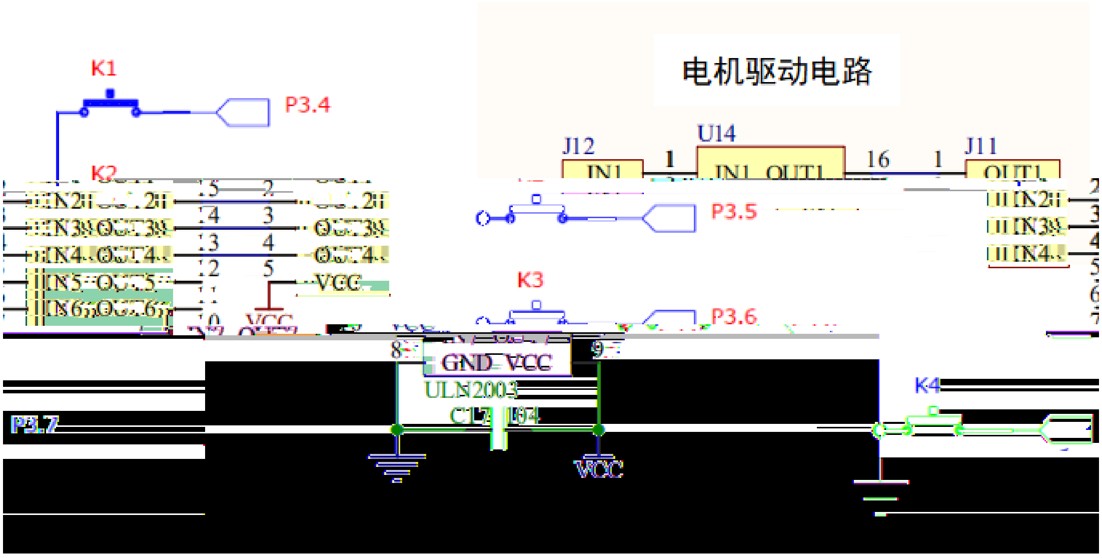
T2-14

1

2

T2-15

1


电机驱动电路
K1
P3.4
K2
J12
U14
J11
P3.5
K3
P3.6
GND VCC
ULN2003
VCC
P3.7
K4

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H1-1 STM32

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Keil ARM

MCU

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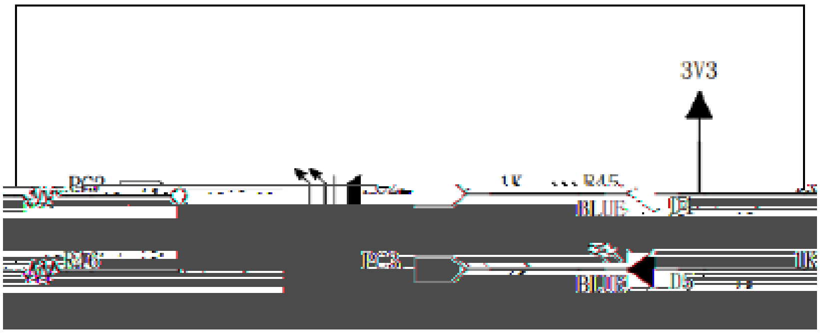
Fire-Debugger DAP

T3-2

1

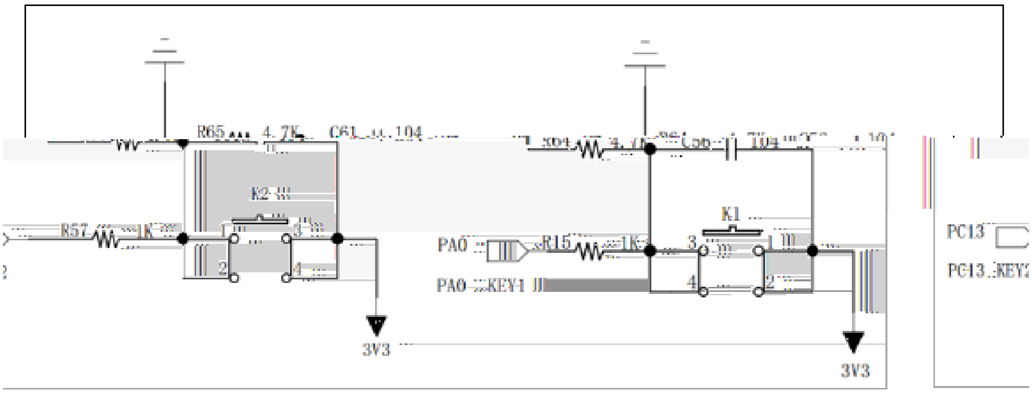


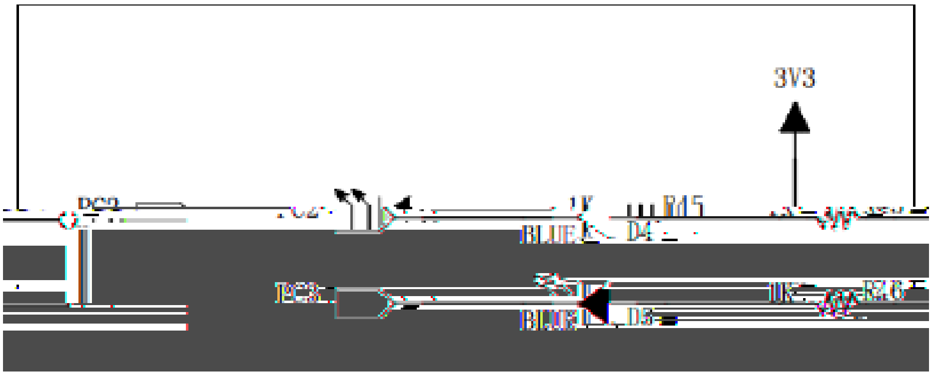
2

Fire-Debugger DAP

T3-3

1


R65
4.7K
C61
104
K2
R57
1K
3V3
PA0
R15
1K
PA0 KEY1
K1
104
3V3
PC13
PC13 KEY2

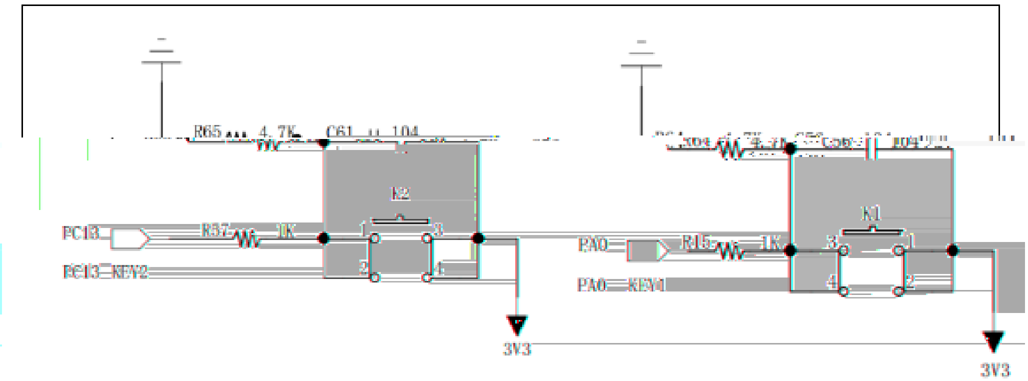

3V3
R45
BLUE
D4
PC2
BLUE
D3
1K
R46

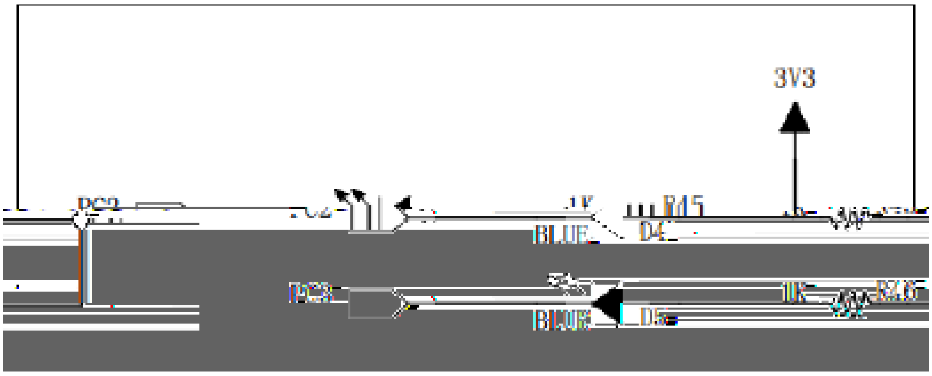
2

Fire-Debugger DAP

T3-4

1


R65
4.7K
C61
104
K2
PC13
R37
1K
PC13_KEY2
3V3
PA0
R15
1K
K1
PA0_KEY1
3V3

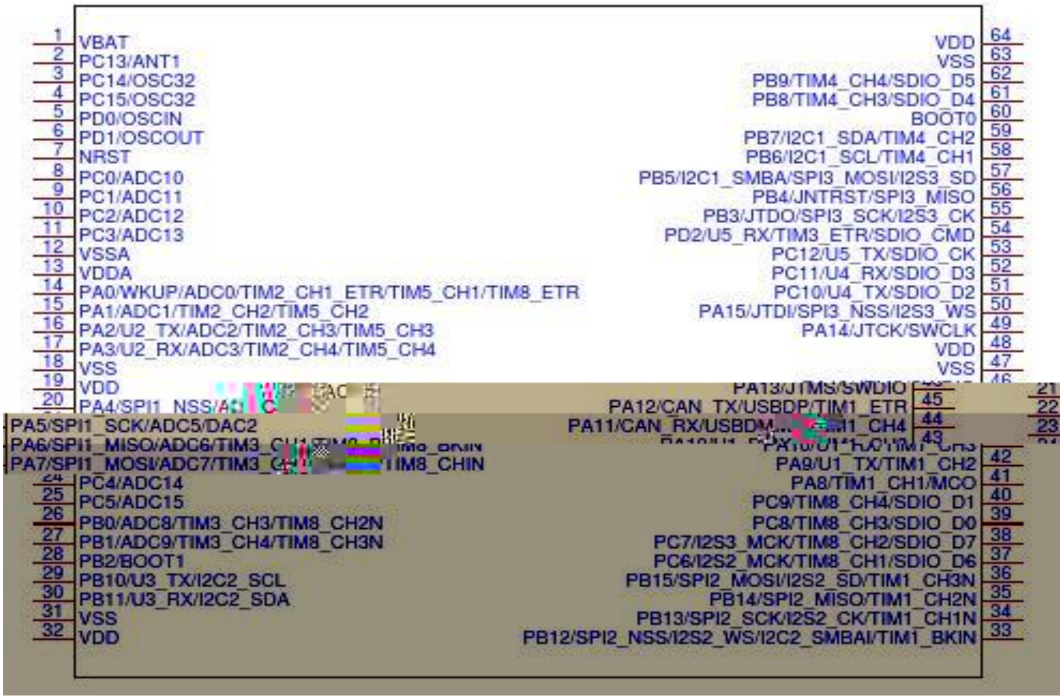

3V3
R45
BLUE
D4
BLUE
D5
1K
R46

2

Fire-Debugger DAP

T3-5

1



1 VBAT
2 PC13/ANT1
3 PC14/OSC32
4 PC15/OSC32
5 PD0/OSCIN
6 PD1/OSCOUT
7 NRST
8 PC0/ADC10
9 PC1/ADC11
10 PC2/ADC12
11 PC3/ADC13
12 VSSA
13 VDDA
14 PA0/WKUP/ADC0/TIM2_CH1_ETR/TIM5_CH1/TIM8_ETR
15 PA1/ADC1/TIM2_CH2/TIM5_CH2
16 PA2/U2_TX/ADC2/TIM2_CH3/TIM5_CH3
17 PA3/U2_RX/ADC3/TIM2_CH4/TIM5_CH4
18 VSS
19 VDD
20 PA4/SPI1_NSS
PA5/SPI1_SCK/ADC5/DAC2
PA6/SPI1_MISO/ADC6/TIM3
PA7/SPI1_MOSI/ADC7/TIM3
PC4/ADC14
25 PC5/ADC15
26 PB0/ADC8/TIM3_CH3/TIM8_CH2N
27 PB1/ADC9/TIM3_CH4/TIM8_CH3N
28 PB2/BOOT1
29 PB10/U3_TX/I2C2_SCL
30 PB11/U3_RX/I2C2_SDA
31 VSS
32 VDD
VDD 64
VSS 63
PB9/TIM4_CH4/SDIO_D5 62
PB8/TIM4_CH3/SDIO_D4 61
BOOT0 60
PB7/I2C1_SDA/TIM4_CH2 59
PB6/I2C1_SCL/TIM4_CH1 58
PB5/I2C1_SMBA/SPI3_MOSI/I2S3_SD 57
PB4/JNTRST/SPI3_MISO 56
PB3/JTDO/SPI3_SCK/I2S3_CK 55
PD2/U5_RX/TIM3_ETR/SDIO_CMD 54
PC12/U5_TX/SDIO_CK 53
PC11/U4_RX/SDIO_D3 52
PC10/U4_TX/SDIO_D2 51
PA15/JTDI/SPI3_NSS/I2S3_WS 50
PA14/JTCK/SWCLK 49
VDD 48
VSS 47
PA13/JTMS/SWDIO
PA12/CAN_TX/USBDP/TIM1_ETR 45
PA11/CAN_RX/USBDM 44
43
PA9/U1_TX/TIM1_CH2 42
PA8/TIM1_CH1/MCO 41
PC9/TIM8_CH4/SDIO_D1 40
PC8/TIM8_CH3/SDIO_D0 39
PC7/I2S3_MCK/TIM8_CH2/SDIO_D7 38
PC6/I2S2_MCK/TIM8_CH1/SDIO_D6 37
PB15/SPI2_MOSI/I2S2_SD/TIM1_CH3N 36
PB14/SPI2_MISO/TIM1_CH2N 35
PB13/SPI2_SCK/I2S2_CK/TIM1_CH1N 34
PB12/SPI2_NSS/I2S2_WS/I2C2_SMBAI/TIM1_BKIN 33
21
22
23

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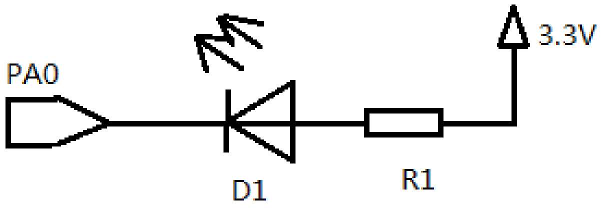
Fire-Debugger DAP

T3-6

1

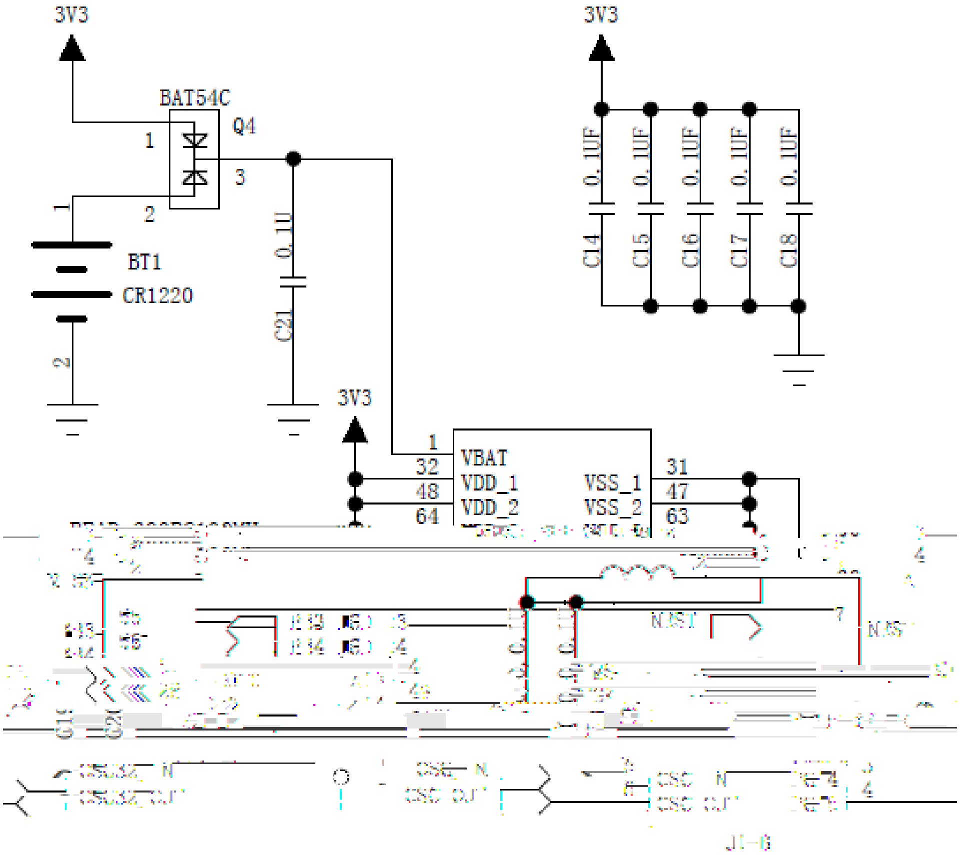


2

Fire-Debugger DAP

T3-7

1


3V3
BAT54C
Q4
1
3
2
1
BT1
CR1220
2
0.1U
C21
3V3
3V3
0.1UF
0.1UF
0.1UF
0.1UF
0.1UF
C14
C15
C16
C17
C18
1
VBAT
32
VDD_1
48
VDD_2
64
31
VSS_1
47
VSS_2
63

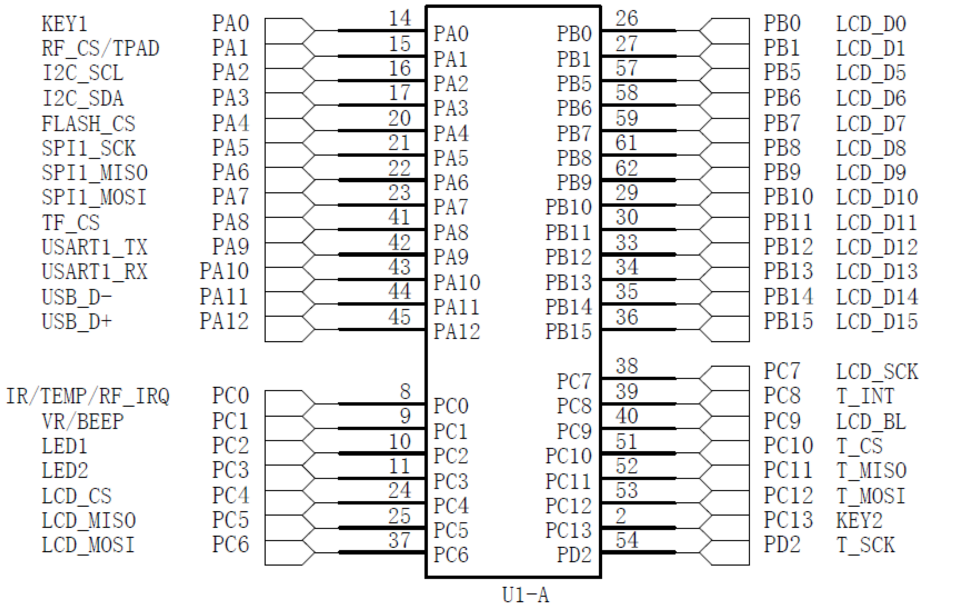
2

Fire-Debugger DAP

T3-8

1


HC-SR04
T
R
Vcc
Trig
Echo
Gnd


KEY1 PA0 14 PA0
RF_CS/TPAD PA1 15 PA1
I2C_SCL PA2 16 PA2
I2C_SDA PA3 17 PA3
FLASH_CS PA4 20 PA4
SPI1_SCK PA5 21 PA5
SPI1_MISO PA6 22 PA6
SPI1_MOSI PA7 23 PA7
TF_CS PA8 41 PA8
USART1_TX PA9 42 PA9
USART1_RX PA10 43 PA10
USB_D- PA11 44 PA11
USB_D+ PA12 45 PA12
IR/TEMP/RF_IRQ PC0 8 PC0
VR/BEEP PC1 9 PC1
LED1 PC2 10 PC2
LED2 PC3 11 PC3
LCD_CS PC4 24 PC4
LCD_MISO PC5 25 PC5
LCD_MOSI PC6 37 PC6
PB0 26 PB0 LCD_D0
PB1 27 PB1 LCD_D1
PB5 57 PB5 LCD_D5
PB6 58 PB6 LCD_D6
PB7 59 PB7 LCD_D7
PB8 61 PB8 LCD_D8
PB9 62 PB9 LCD_D9
PB10 29 PB10 LCD_D10
PB11 30 PB11 LCD_D11
PB12 33 PB12 LCD_D12
PB13 34 PB13 LCD_D13
PB14 35 PB14 LCD_D14
PB15 36 PB15 LCD_D15
PC7 38 PC7 LCD_SCK
PC8 39 PC8 T_INT
PC9 40 PC9 LCD_BL
PC10 51 PC10 T_CS
PC11 52 PC11 T_MISO
PC12 53 PC12 T_MOSI
PC13 2 PC13 KEY2
PD2 54 PD2 T_SCK
U1-A

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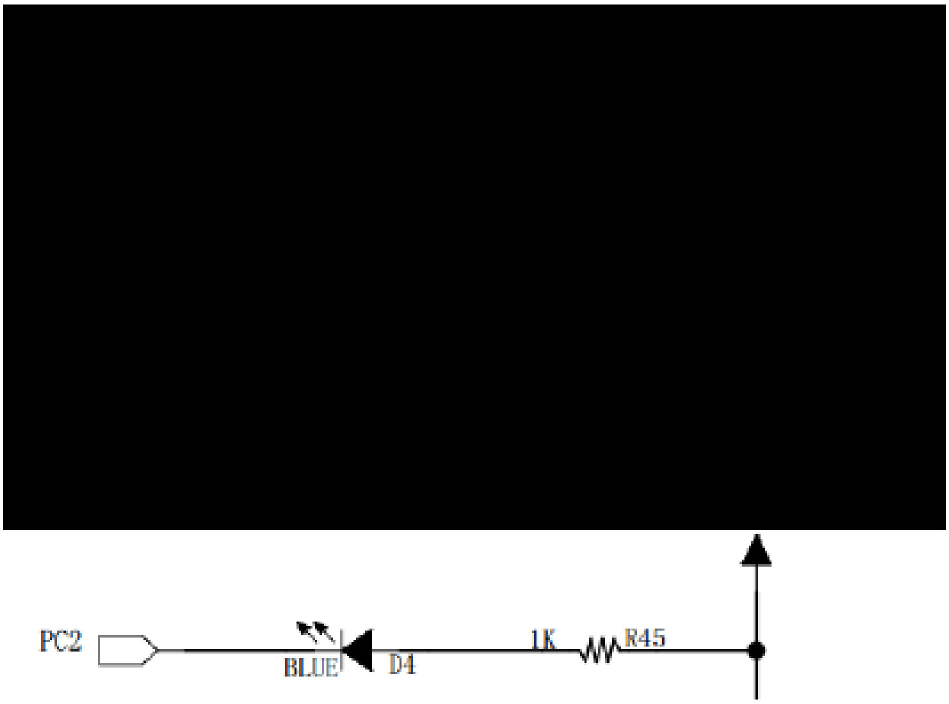
Fire-

T3-9



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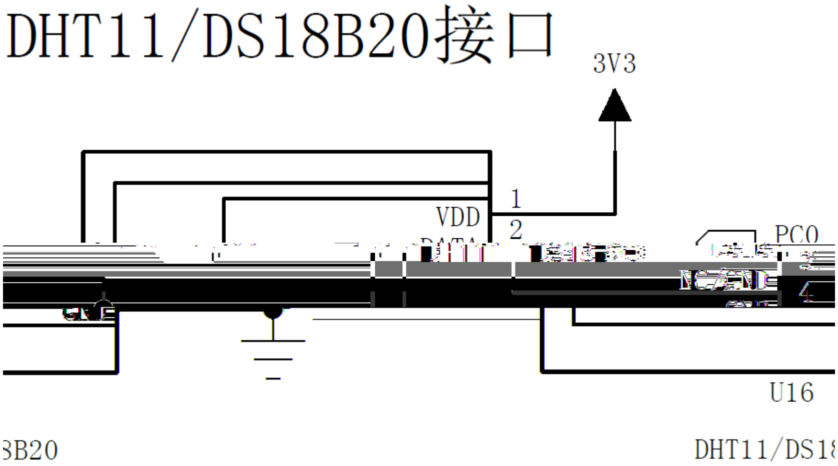
Fire-Debugger DAP

T3-10

1



2

Fire-Debugger DAP

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H1-2 Android studio

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Android studio

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AndroidStudio2.2 [illegible]

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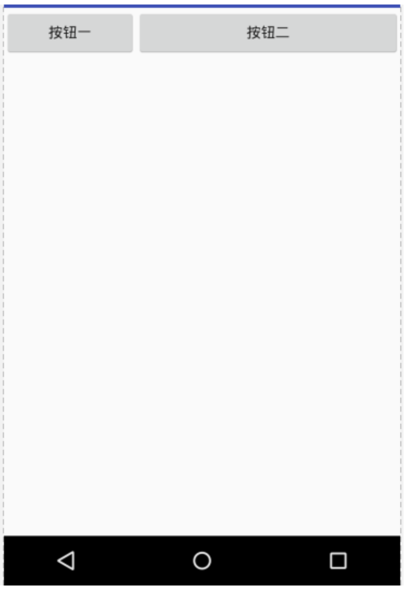
	Android			

T4-1

1



T4-2

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T4-3

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T4-4

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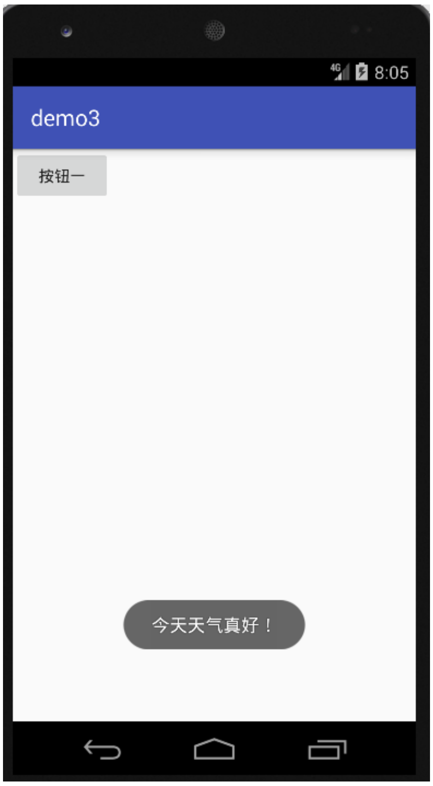
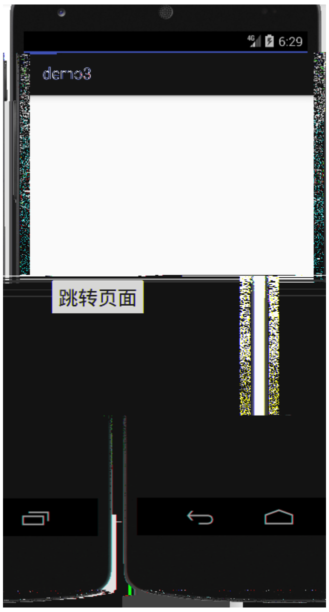
T4-5

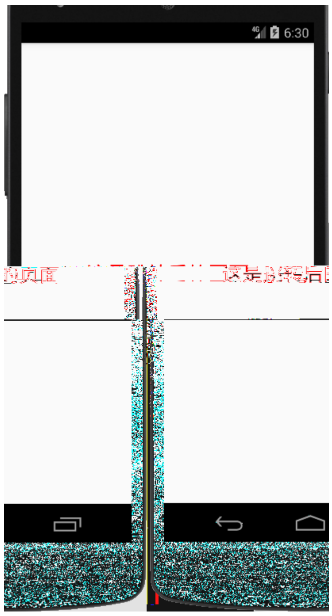
1



T4-6

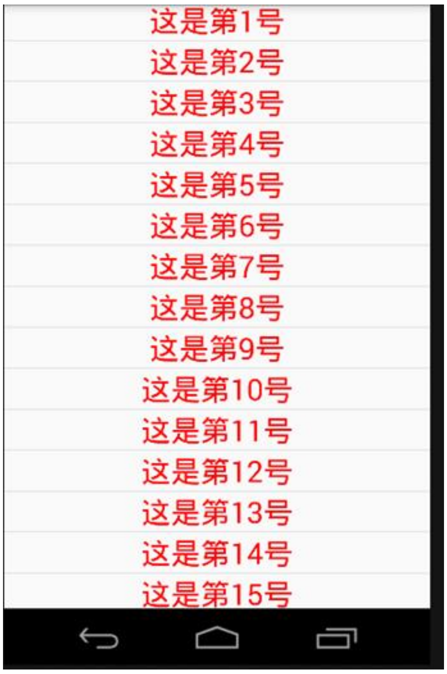
1





T4-7

1



这是第1号
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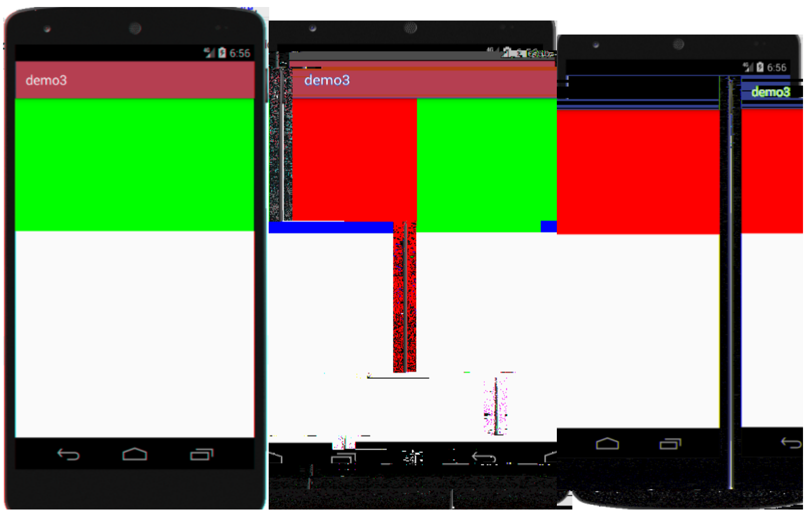
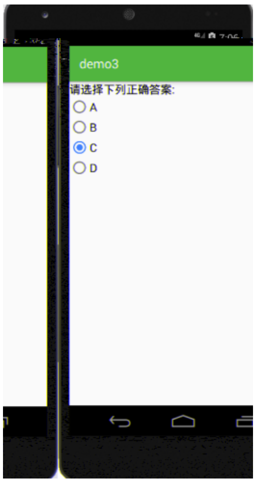
T4-8

1



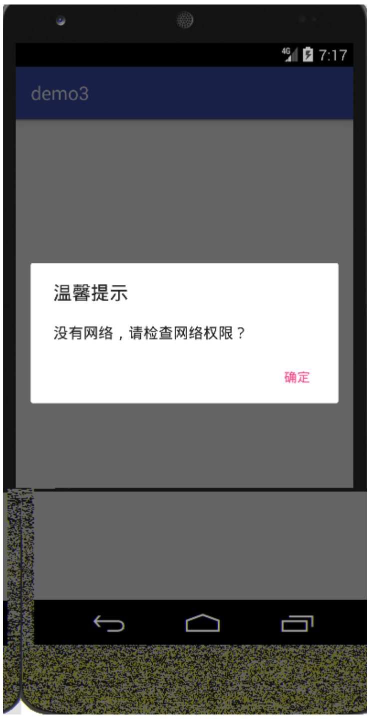
T4-9

1



T4-10

1


7:17
demo3
温馨提示
没有网络，请检查网络权限？
确定