

目 录

.....	1
.....	1
.....	2
J1-1	2
T1-1	4
T1-2	6
T1-3	8
T1-4	10
T1-5	12
T1-6	14
T1-7	16
T1-8	18
T1-9	20
T1-10	22
T1-11	24
T1-12	26
T1-13	28
T1-14	30
T1-15	32
.....	34
J1-2	34
T2-1	36
T2-2	38
T2-3	40
T2-4	42
T2-5	44
T2-6	46
T2-7	48
T2-8	50
T2-9	52
T2-10	54
T2-11	56
T2-12	58
T2-13	60
T2-14	62
T2-15	64
.....	66
.....	66
H1-1 STM32	66

T3-1	.....	68
T3-2	.....	70
T3-4	.....	73
T3-5	.....	75
T3-6	.....	77
T3-8	.....	80
T3-9	.....	82
T3-10	.....	84
	.....	85
H1-2 Android studio	.....	85
T4-1	.....	87
T4-2	.....	88
T4-3	.....	89
T4-4	.....	90
T4-5	.....	91
T4-6	.....	92
T4-7	.....	93
T4-8	.....	94
T4-9	.....	95
T4-10	.....	96

		J1-1	15 T1-1 T1-15
		J2-1	15 T2-1 T2-15
		H1-1STM32	10 T3-1 T3-10
		H2-1 AndroidStudio	10 T4-1 T4-10

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J1-1

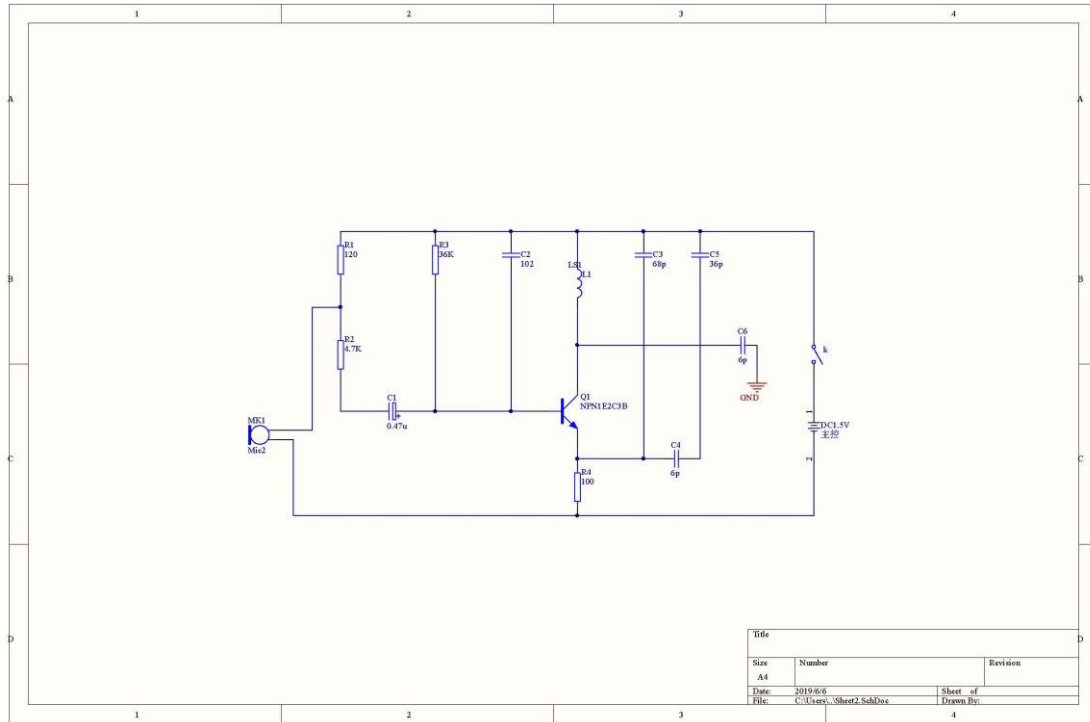
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T1-1

T1-2

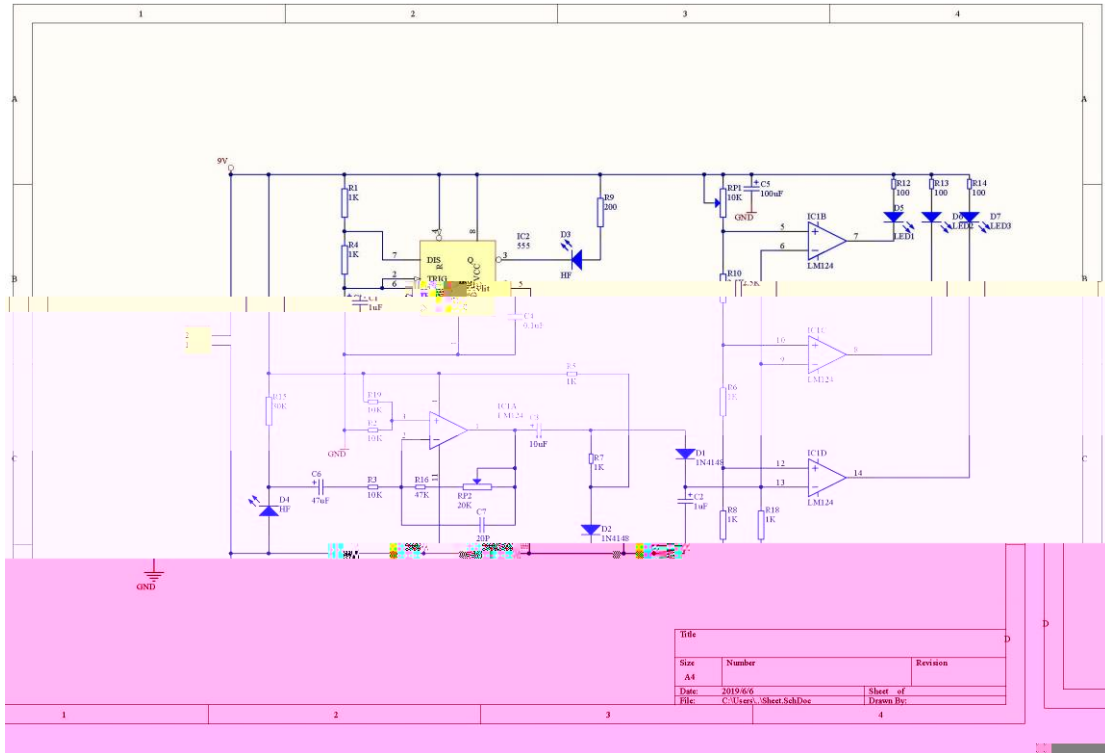
FM



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-Throw	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

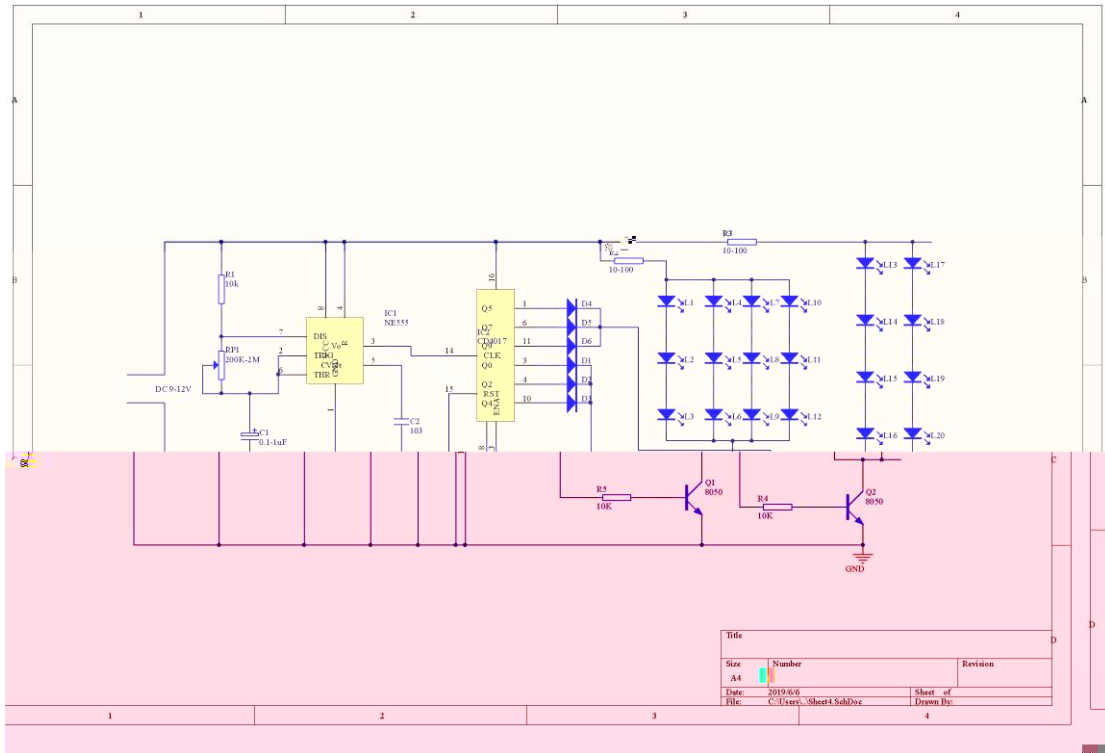
T1-4



Title		
Size	Number	Revision
A4		
Date	2019/6/6	Sheet of
File	C:\Users\... \Sheet Sch.Dwg	Drawn By:

Comment	Description	Designator	Footprint	LibRef	Quantity
1uF	Polarized Capacitor	C1, C2	POLAR0.8	Cap Pol2	2
10uF	Polarized Capacitor	C3	POLAR0.8	Cap Pol2	1
0.1uF		C4	C0.254	C0.254	1
100uF	Polarized Capacitor	C5	POLAR0.8	Cap Pol2	1
47uF	Polarized Capacitor	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

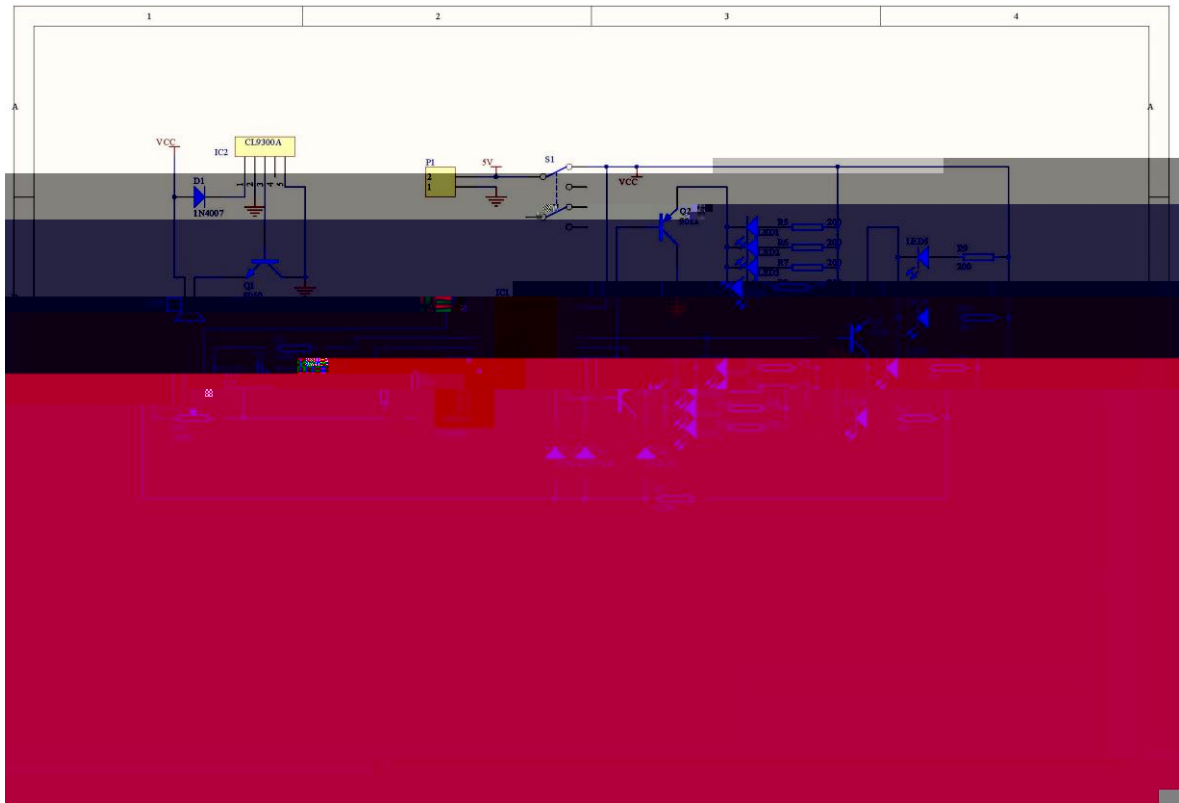
T1-5



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, D6	0805D	0805D	6
NE555		IC1	DIP-8N	Component_1	1
CD4017		IC2	DIP-16N	CD4017	1
LED0805		L1, L2, L3, L4, L5, L6, L7, L8, L9, L10	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

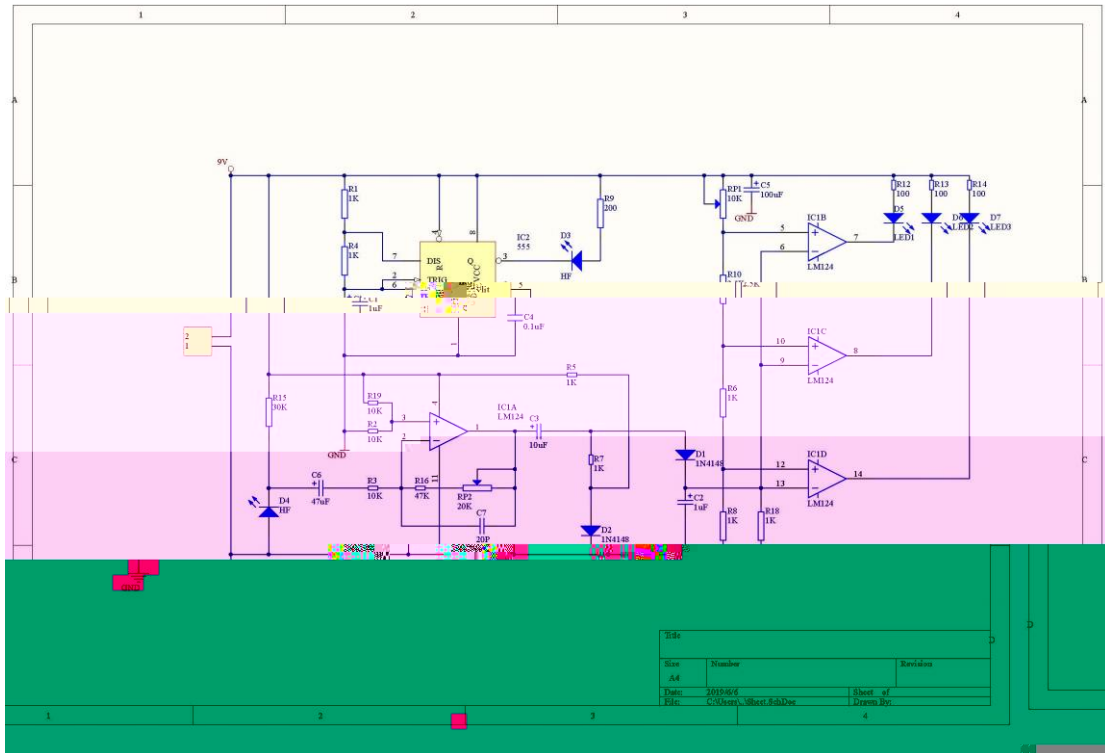
CD4060



2

Comment	Description	Designator	Footprint	LibRef	Quantity
1uf	Polarized Capacitor	C1	POLAR0.8	Cap Pol2	1
1N4007	1 Amp General Purpose Diode	D1	DO-41	Diode 1N4007	1
1N4148	High Conductance Fast Recovery Diode	D2, D3, D4	DO-35	Diode 1N4148	3
CD4060	16-Bit Counter/Divider	IC1	DIP-16N	CD4060	1
CL9300A	CMOS 3-Input NAND Gate	IC2	HDR1X5	CL9300A	1
LED1	Typical RED GaAs LED	LED1, LED2, LED3, LED4, LED5	LED-1	LED1	12
Speaker	Loudspeaker	LS1	PIN2	Speaker	1
Header 2	Header, 2-Pin	P1	HDR1X2	Header 2	1
8050	NPN Transistor	Q1	TO92A	NPN1E2C3B	1
9012	PNP Transistor	Q2, Q3, Q4	TO92A	PNP1E2C3B	3
1.0M	Resistor	R1	AXIAL0.3	RES	1
10K	Resistor	R2	AXIAL0.3	RES	1
220K	Resistor	R4	AXIAL0.3	RES	1
200	Resistor	R5, R6, R7, R8, R9, R10	AXIAL0.3	RES	12
200K	Potentiometer	RP1	RVR-1	RPOT2	1
SW DPDT	Double Pole Double Throw Switch	S1		SW DPDT	1

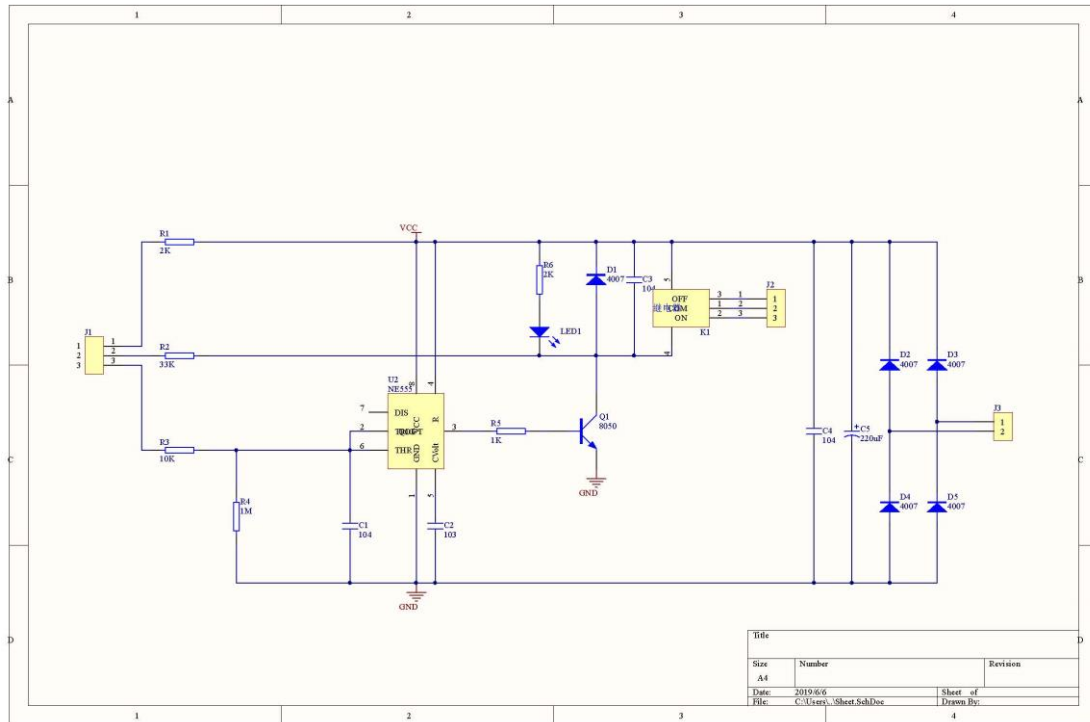
T1-7



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

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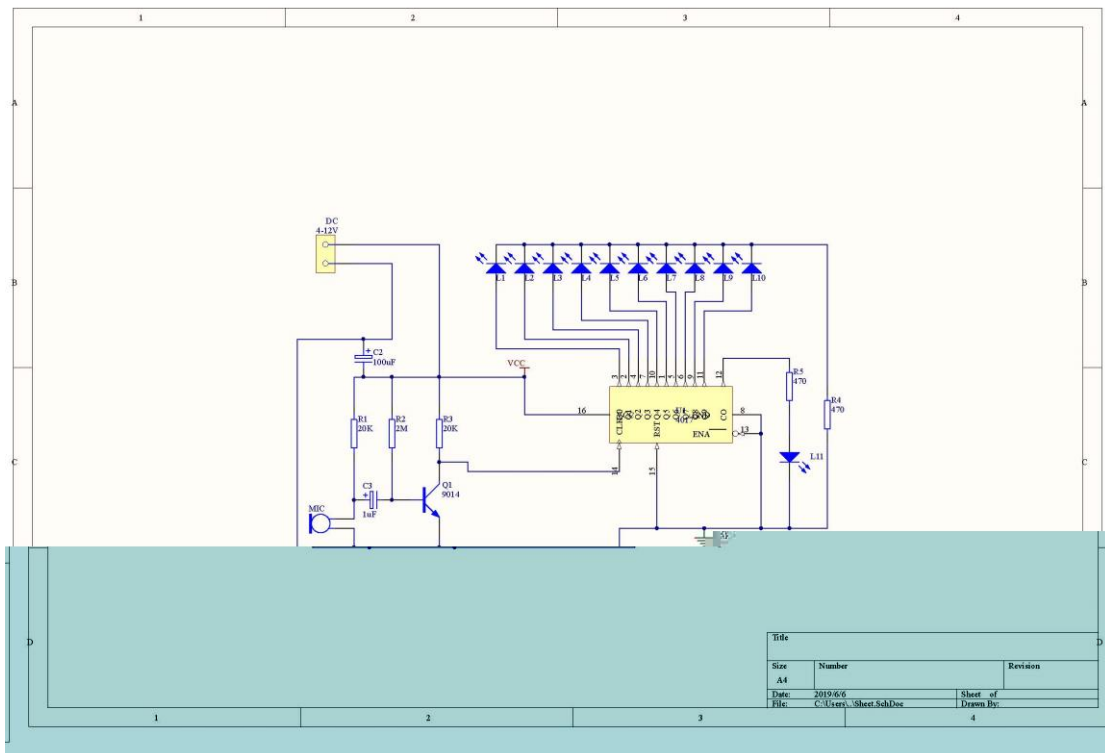
T1-8



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 (H	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

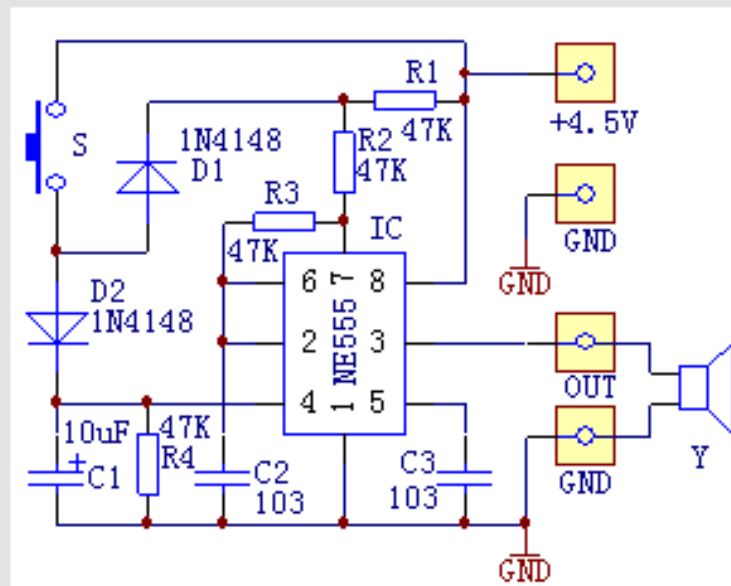
LED



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, L7, L8, L9, L10	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

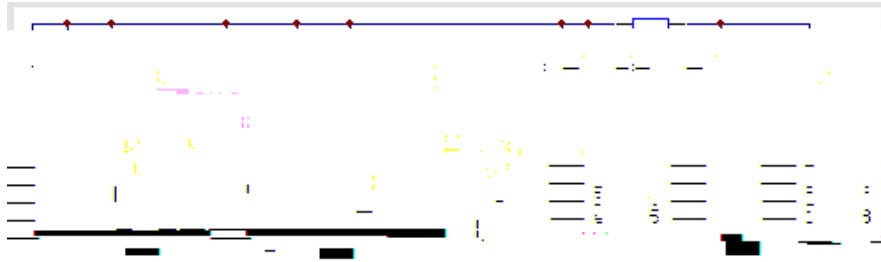
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T1-11



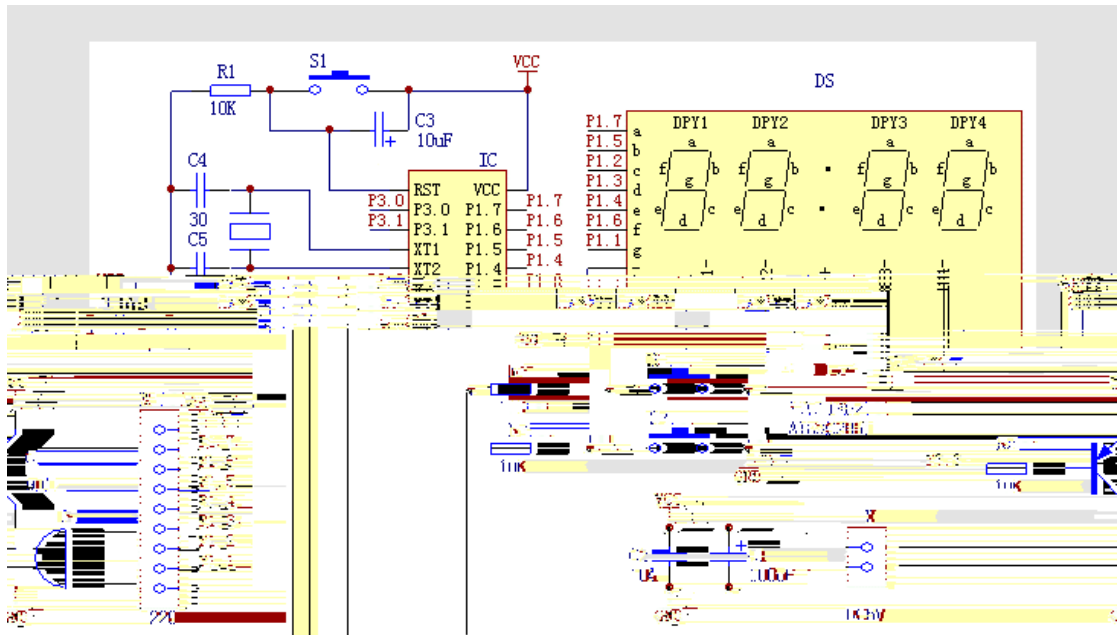
安装顺序	位号	名称	规格	数量
1	R1、R2、R3、R4	电阻	47K	4
	D1、D2	二极管	1N4148	2
2	S	轻触按键	6*6*5mm	1
	IC	集成电路	NE555	1
3	C2、C3	瓷片电容	103	2
4		细导线	6CM	5
5	C1	电解电容	10uF	1
6	Y	喇叭	29MM	1
7	S2	拨动开关	SS12F15	1
8	外壳附件	7号电池弹簧	4件套	1
		螺丝	PA2. 3X5	3
		螺丝	PA2. 3X8	1
		螺丝	PA2. 3X10	1
	外壳	按钮帽		1
		前壳		1
		后壳		1
		电池盖		1
	PCB板	29X37MM	1	

T1-12



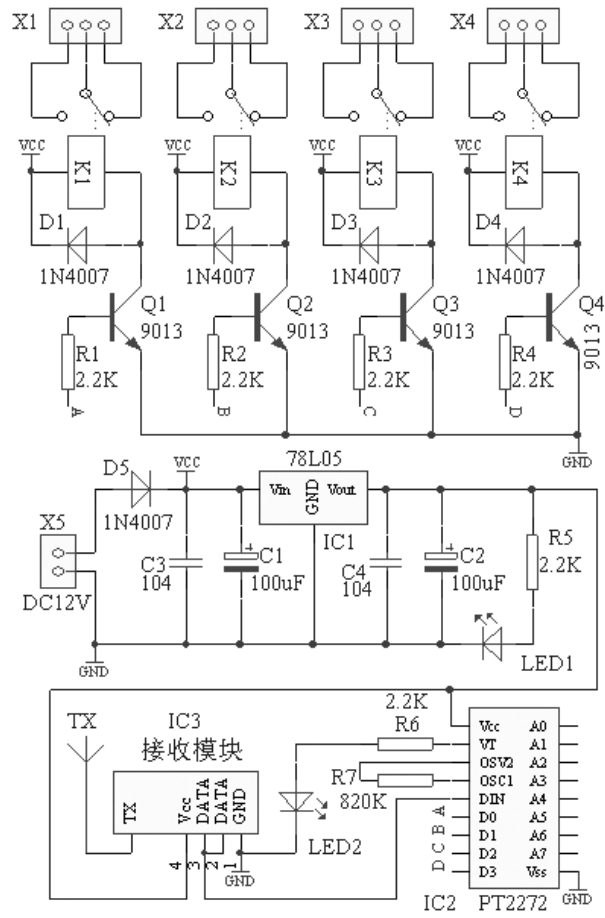
安装顺序	位号	名称	规格	数量
1	R1	电阻	470	1
	R2、R3、R4	电阻	1K	3
	R5、R6	电阻	47K	2
	R7	电阻	4.7 欧	1
	D2	二极管	1N4148	1
2	IC1	集成电路	LM393	1
	IC2	集成电路	NE555	1
	集成电路最后安装	集成电路插座	8P	2
3	RP1	可调电阻	B20K	1
	RP2	可调电阻	B500K	1
4	LED2	发光二极管	3mm 红发红	1
5	X1、X2	接线座	2P	2
6	C1、C2	电解电容	100uF/16V	2
	C3	电解电容	10uF	1
	C4	瓷片电容	103	1
7	Q	三极管	9013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

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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

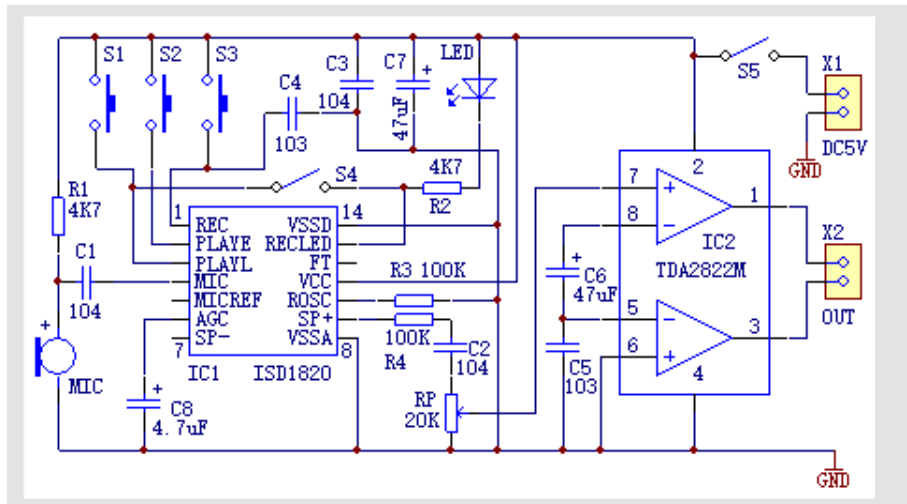
T1-14



安装顺序	位号	名称	规格	数量
1	R1-R6	电阻	2.2K	6
	R7	电阻	820K	1
	D1-D5	二极管	1N4007	5
2	IC1	集成电路插座	18P	1
	集成电路最后安装	集成电路	2272-M4/L4/T4	1
3	LED1、LED2	发光二极管	3mm 红发红	2
4	C3、C4	瓷片电容	104	2
5	C1、C2	电解电容	100uF	2
6	Q1、Q2、Q3、Q4	三极管	9013	4
	IC1	稳压集成电路	78L05	1
7	X1、X2、X3、X4	接线座	3P	4
8	X5	接线座	2P	1
9	V1、R2、V3、V4	继电器	12V-E 4P	1

模块	315MHz	1
	螺旋导线	1
器	315MHz	1
	96X80X28mm	1
	圆头 PA3X6	4
	85X71mm	1

10	IC3	无线接收
	TX	天线
		四键遥控
		外壳
		螺丝
		PCB 板



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	发光二极管	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		47-μF (16V)	2

电阻
 电容
 二极管
 三极管
 集成电路
 可调电阻
 开关
 话筒
 LED
 电源

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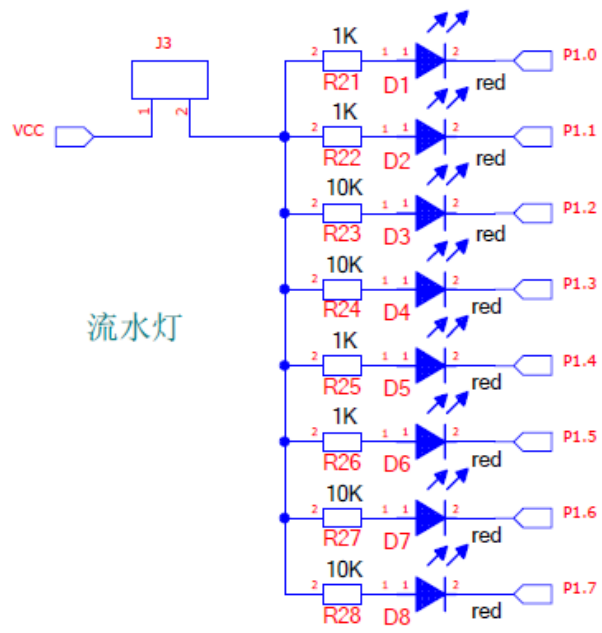
J1-2

T2-1

1

T2-2

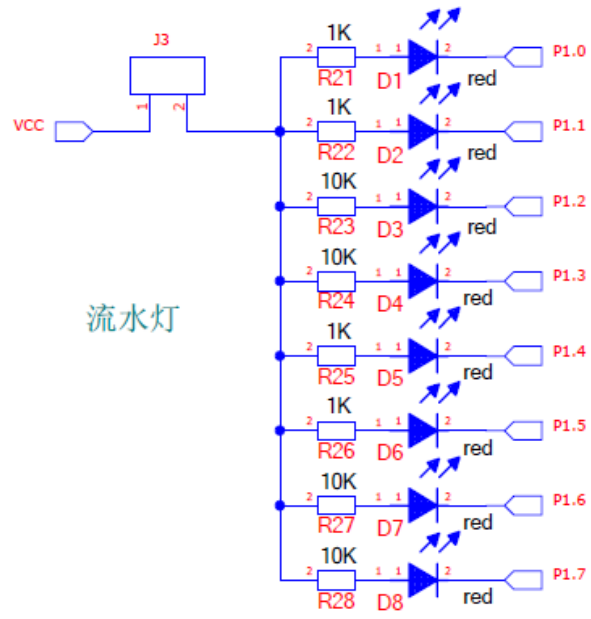
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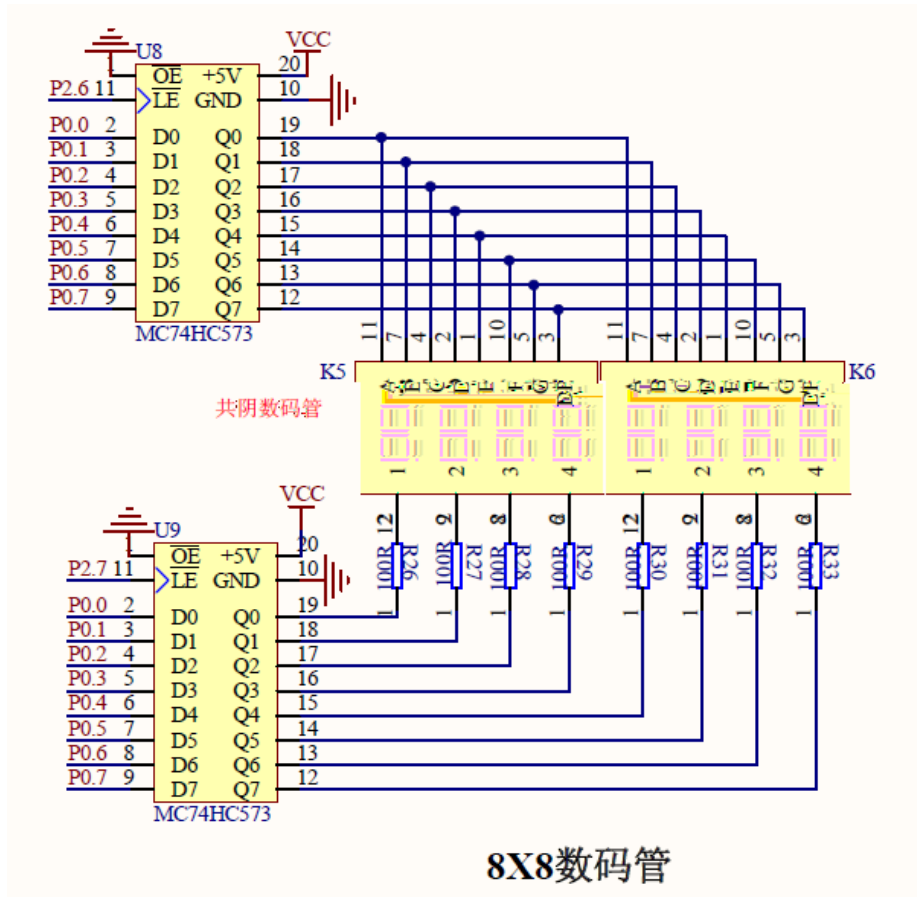
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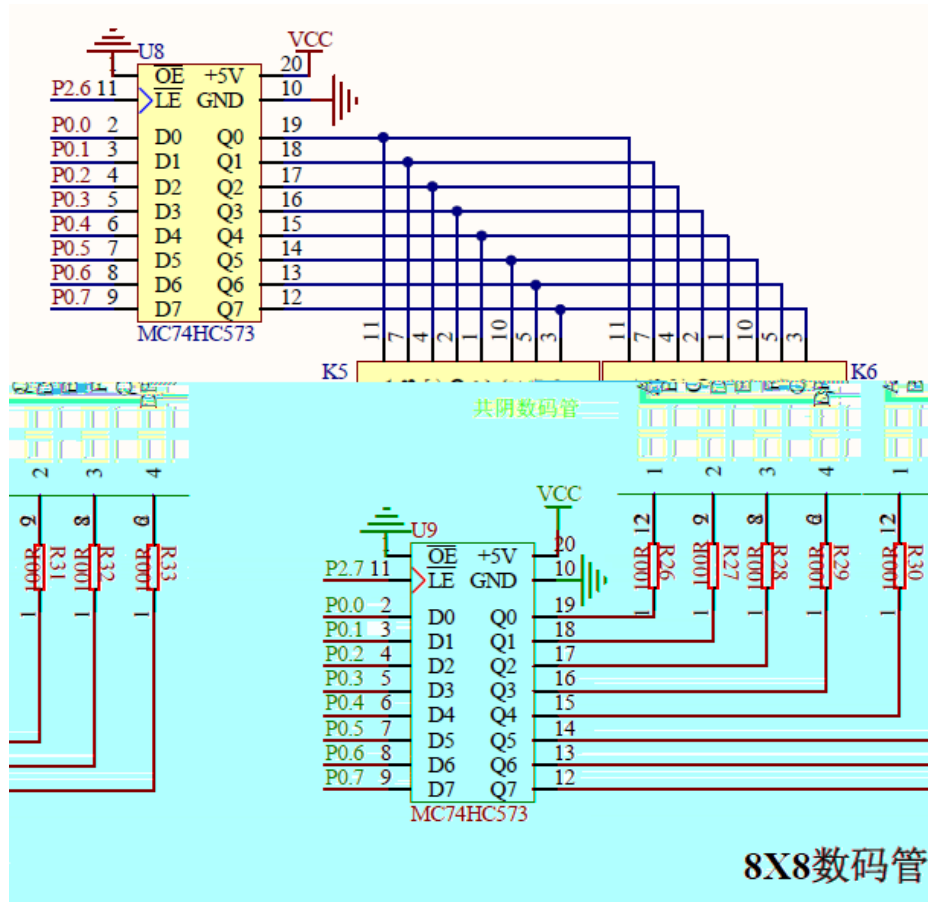
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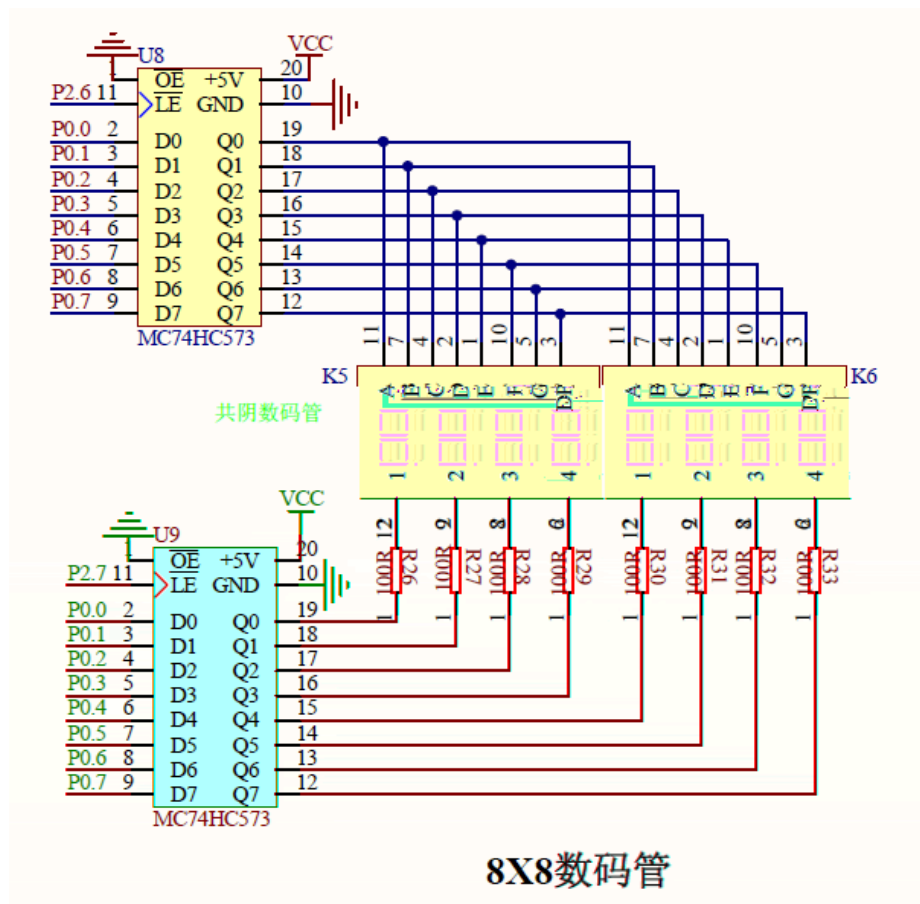
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2

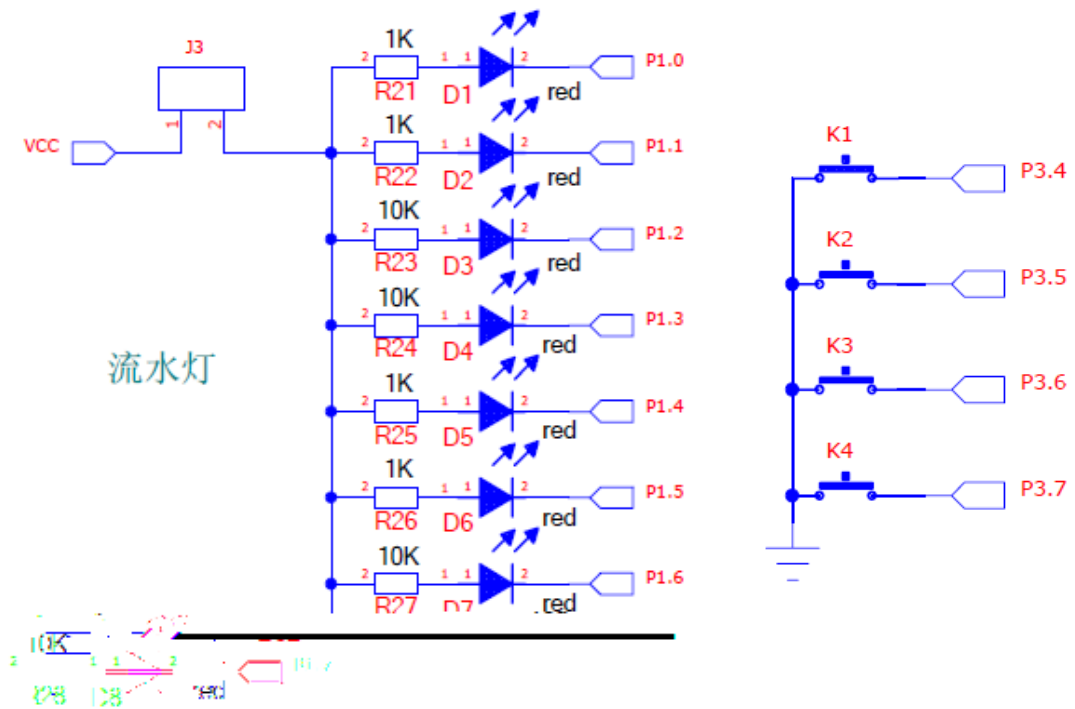


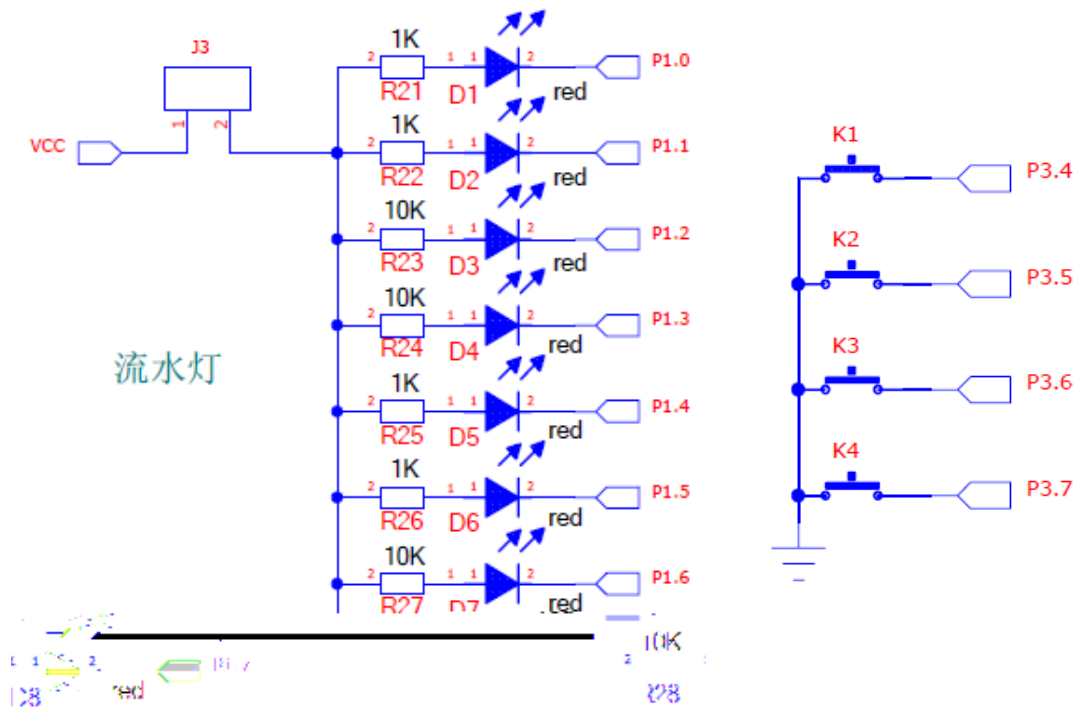


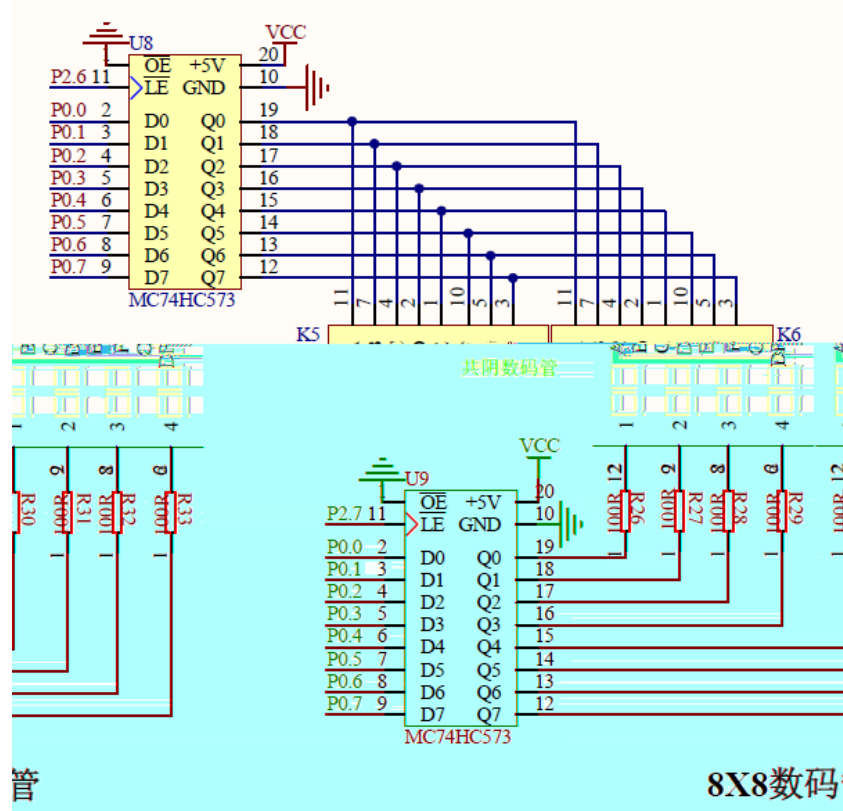
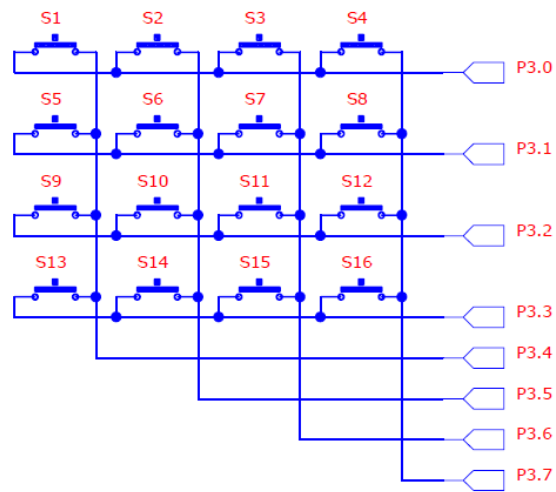


T2-7

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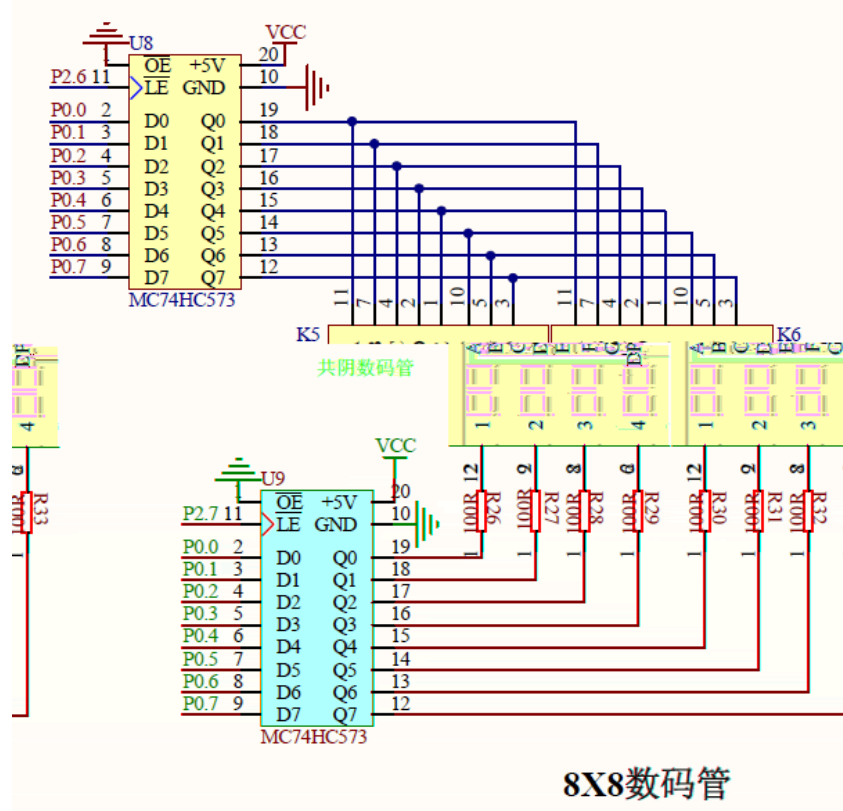
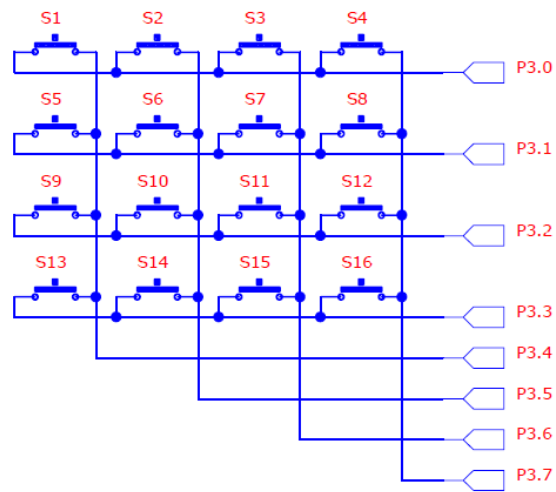




管

8X8数码

2

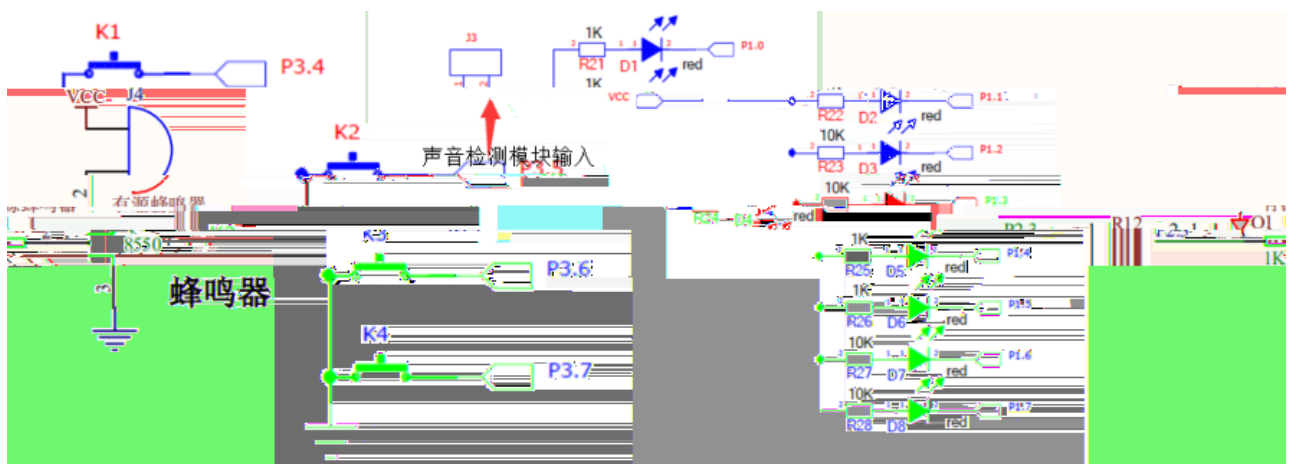


8X8数码管

2

T2-11

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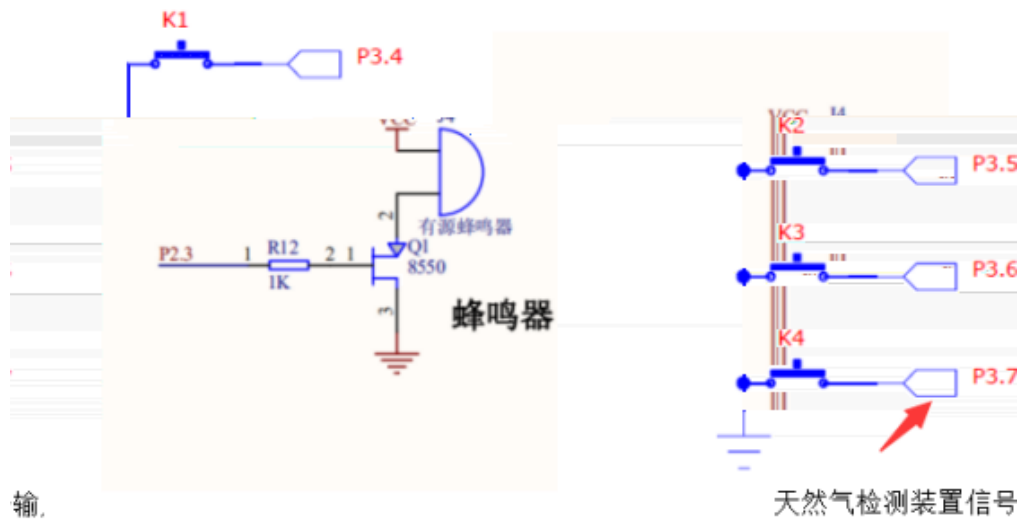


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T2-12

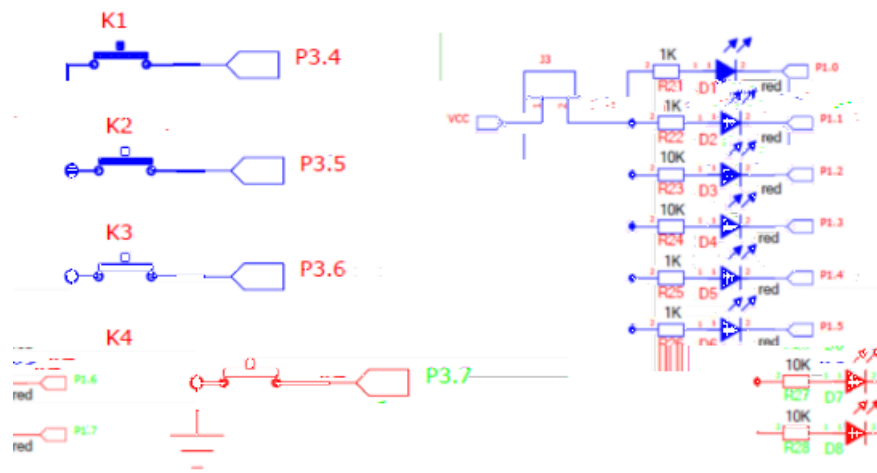
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T2-13

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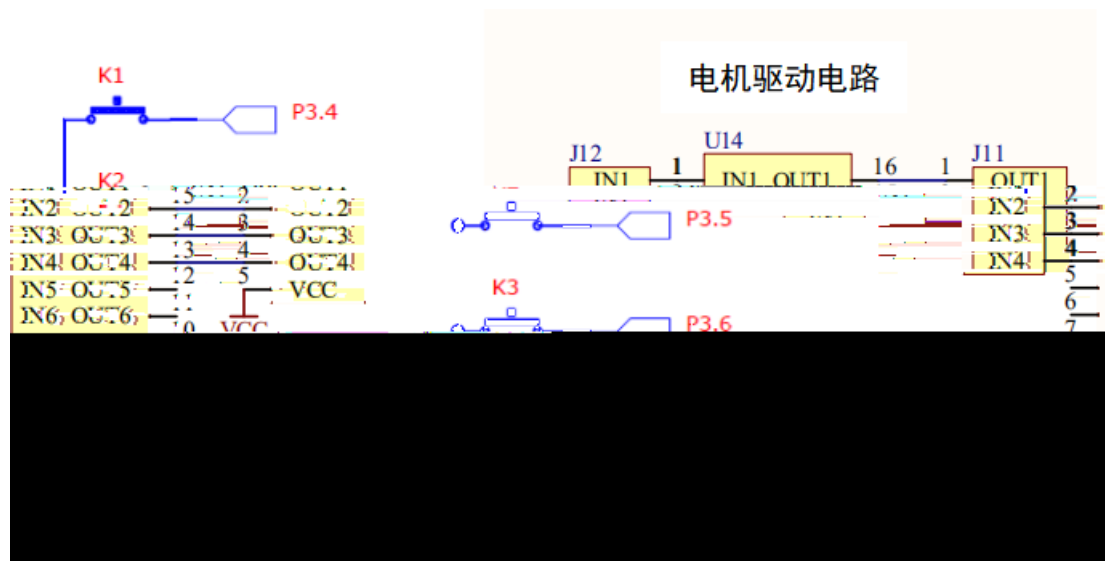
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T2-14

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T2-15

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H1-1 STM32

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Keil ARM

MCU

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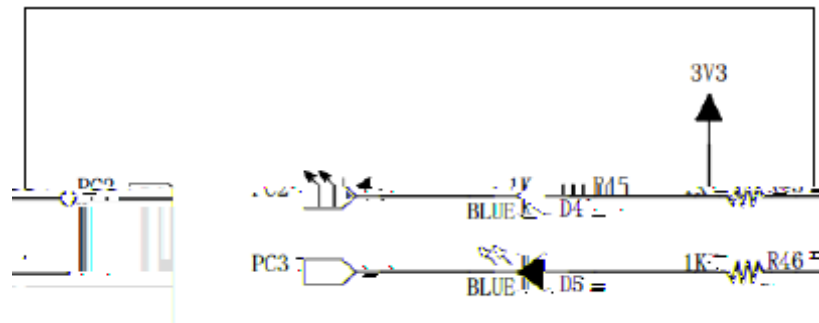
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Fire-Debugger DAP

T3-2

1



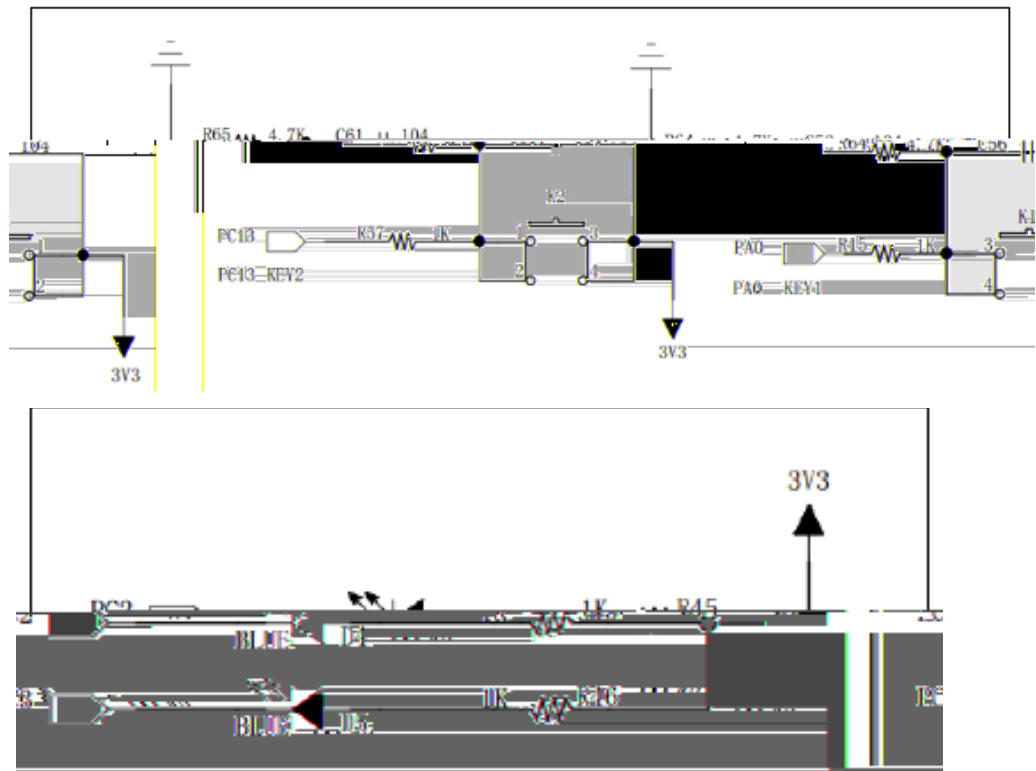
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Fire-Debugger DAP

Fire-Debugger DAP

T3-4

1



2

Fire-Debugger DAP

T3-5

1

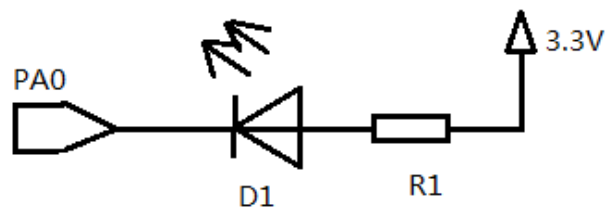
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2	PC13/ANT1	VSS	63
3	PC14/OSC32	PB9/TIM4_CH4/SDIO_D5	62
4	PC15/OSC32	PB8/TIM4_CH3/SDIO_D4	61
5	PD0/OSCIN	BOOT0	60
6	PD1/OSCOU	PB7/I2C1_SDA/TIM4_CH2	59
7	NRST	PB6/I2C1_SCL/TIM4_CH1	58
8	PC0/ADC10	PB5/I2C1_SMBA/SPI3_MOSI/I2S3_SD	57
9	PC1/ADC11	PB4/JNTRST/SPI3_MISO	56
10	PC2/ADC12	PB3/JTDO/SPI3_SCK/I2S3_CK	55
11	PC3/ADC13	PD2/U5_RX/TIM3_ETR/SDIO_CMD	54
12	VSSA	PC12/U5_TX/SDIO_CK	53
13	VDDA	PC11/U4_RX/SDIO_D3	52
14	PA0/WKUP/ADC0/TIM2_CH1_ETR/TIM5_CH1/TIM8_ETR	PC10/U4_TX/SDIO_D2	51
15	PA1/ADC1/TIM2_CH2/TIM5_CH2	PA15/JTDI/SPI3_NSS/I2S3_WS	50
16	PA2/U2_TX/ADC2/TIM2_CH3/TIM5_CH3	PA14/JTCK/SWCLK	49
17	PA3/U2_RX/ADC3/TIM2_CH4/TIM5_CH4	VDD	48
18	VSS	VSS	47
19	VDD	VSS	46
20	PA4/SPI1_NSS/ADC5/DAC1	PA13/USBS/SDIO_CK	45
	PA5/SPI1_SCK/ADC5/DAC2	PA12/CAN_TX/USBDP/TIM1_ETR	44
	PA6/SPI1_MISO/ADC6/TIM2_CH5/TIM8_ETR	PA11/CAN_RX/USBDM	43
	PA7/SPI1_MOSI/ADC7/TIM2_CH6/TIM8_ETR	PA10/U5_TX	42
	PA8/SPI1_CS/ADC8/TIM2_CH7/TIM8_ETR	PA9/U5_RX	41
	PA9/SPI1_CS/ADC9/TIM2_CH8/TIM8_ETR	PA8/U5_TX	40
	PA10/SPI1_CS/ADC10/TIM2_CH9/TIM8_ETR	PA7/U5_RX	39
	PA11/SPI1_CS/ADC11/TIM2_CH10/TIM8_ETR	PA6/U5_TX	38
	PA12/SPI1_CS/ADC12/TIM2_CH11/TIM8_ETR	PA5/U5_RX	37
	PA13/SPI1_CS/ADC13/TIM2_CH12/TIM8_ETR	PA4/U5_TX	36
	PA14/SPI1_CS/ADC14/TIM2_CH13/TIM8_ETR	PA3/U5_RX	35
	PA15/SPI1_CS/ADC15/TIM2_CH14/TIM8_ETR	PA2/U5_TX	34
	PA16/SPI1_CS/ADC16/TIM2_CH15/TIM8_ETR	PA1/U5_RX	33
	PA17/SPI1_CS/ADC17/TIM2_CH16/TIM8_ETR	PA0/U5_TX	32
	PA18/SPI1_CS/ADC18/TIM2_CH17/TIM8_ETR	PA15/U5_RX	31
	PA19/SPI1_CS/ADC19/TIM2_CH18/TIM8_ETR	PA14/U5_TX	30
	PA20/SPI1_CS/ADC20/TIM2_CH19/TIM8_ETR	PA13/U5_RX	29
	PA21/SPI1_CS/ADC21/TIM2_CH20/TIM8_ETR	PA12/U5_TX	28
	PA22/SPI1_CS/ADC22/TIM2_CH21/TIM8_ETR	PA11/U5_RX	27
	PA23/SPI1_CS/ADC23/TIM2_CH22/TIM8_ETR	PA10/U5_TX	26
	PA24/SPI1_CS/ADC24/TIM2_CH23/TIM8_ETR	PA9/U5_RX	25
	PA25/SPI1_CS/ADC25/TIM2_CH24/TIM8_ETR	PA8/U5_TX	24
	PA26/SPI1_CS/ADC26/TIM2_CH25/TIM8_ETR	PA7/U5_RX	23
	PA27/SPI1_CS/ADC27/TIM2_CH26/TIM8_ETR	PA6/U5_TX	22
	PA28/SPI1_CS/ADC28/TIM2_CH27/TIM8_ETR	PA5/U5_RX	21
	PA29/SPI1_CS/ADC29/TIM2_CH28/TIM8_ETR	PA4/U5_TX	20
	PA30/SPI1_CS/ADC30/TIM2_CH29/TIM8_ETR	PA3/U5_RX	19
	PA31/SPI1_CS/ADC31/TIM2_CH30/TIM8_ETR	PA2/U5_TX	18
	PA32/SPI1_CS/ADC32/TIM2_CH31/TIM8_ETR	PA1/U5_RX	17
	PA33/SPI1_CS/ADC33/TIM2_CH32/TIM8_ETR	PA0/U5_TX	16
	PA34/SPI1_CS/ADC34/TIM2_CH33/TIM8_ETR	PA31/U5_RX	15
	PA35/SPI1_CS/ADC35/TIM2_CH34/TIM8_ETR	PA30/U5_TX	14
	PA36/SPI1_CS/ADC36/TIM2_CH35/TIM8_ETR	PA29/U5_RX	13
	PA37/SPI1_CS/ADC37/TIM2_CH36/TIM8_ETR	PA28/U5_TX	12
	PA38/SPI1_CS/ADC38/TIM2_CH37/TIM8_ETR	PA27/U5_RX	11
	PA39/SPI1_CS/ADC39/TIM2_CH38/TIM8_ETR	PA26/U5_TX	10
	PA40/SPI1_CS/ADC40/TIM2_CH39/TIM8_ETR	PA25/U5_RX	9
	PA41/SPI1_CS/ADC41/TIM2_CH40/TIM8_ETR	PA24/U5_TX	8
	PA42/SPI1_CS/ADC42/TIM2_CH41/TIM8_ETR	PA23/U5_RX	7
	PA43/SPI1_CS/ADC43/TIM2_CH42/TIM8_ETR	PA22/U5_TX	6
	PA44/SPI1_CS/ADC44/TIM2_CH43/TIM8_ETR	PA21/U5_RX	5
	PA45/SPI1_CS/ADC45/TIM2_CH44/TIM8_ETR	PA20/U5_TX	4
	PA46/SPI1_CS/ADC46/TIM2_CH45/TIM8_ETR	PA19/U5_RX	3
	PA47/SPI1_CS/ADC47/TIM2_CH46/TIM8_ETR	PA18/U5_TX	2
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Fire-Debugger DAP

T3-6

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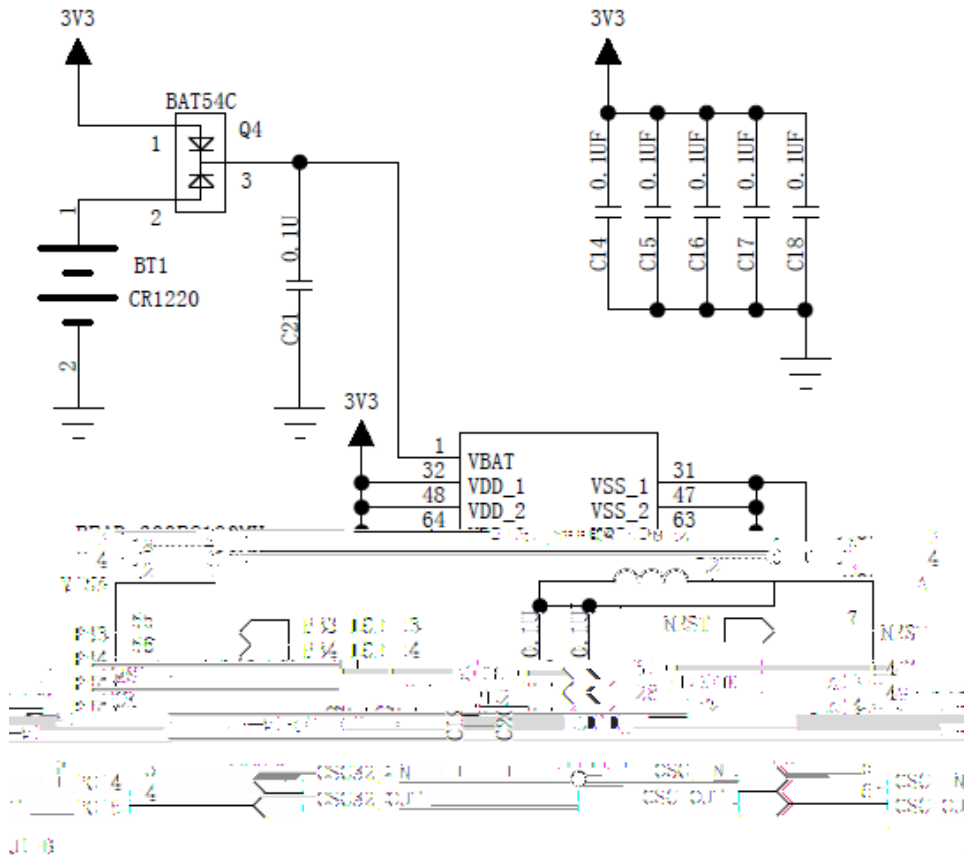


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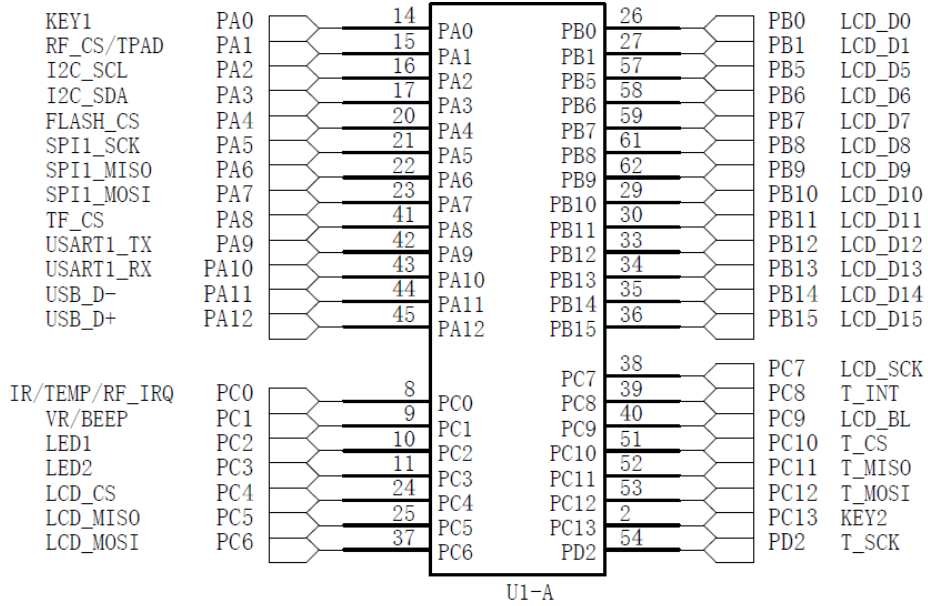


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Fire-Debugger DAP

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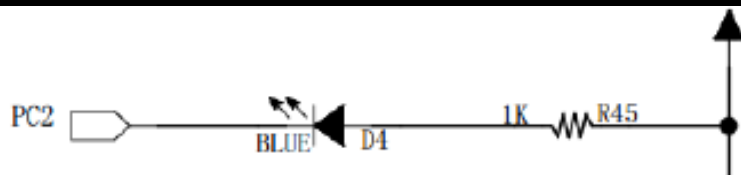
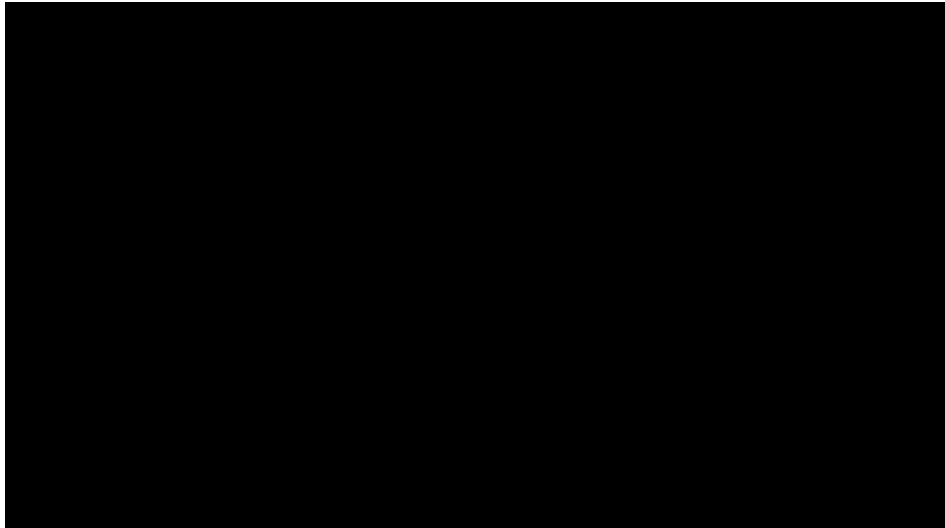


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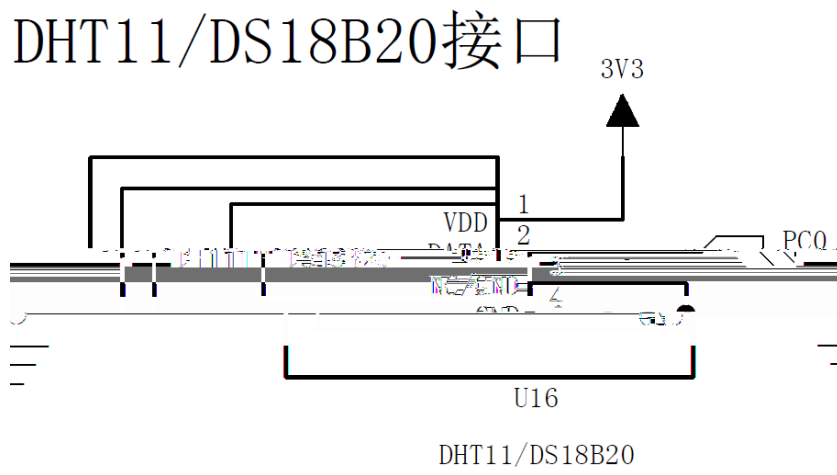
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Fire-Debugger DAP

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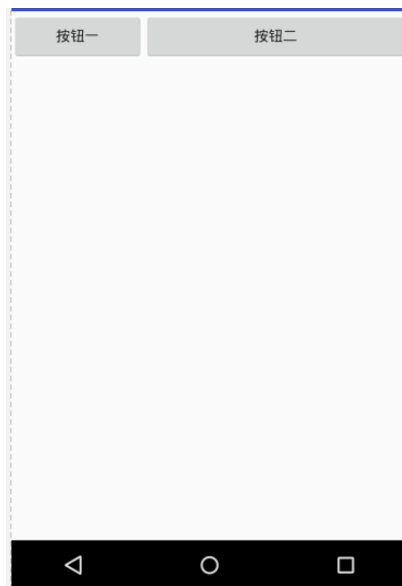
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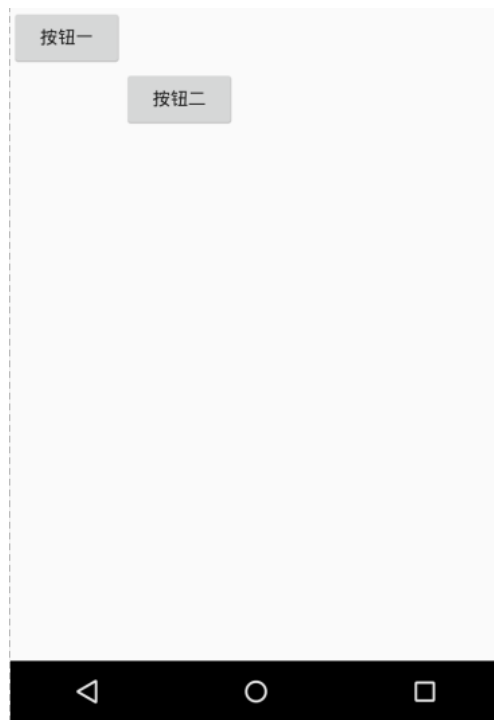
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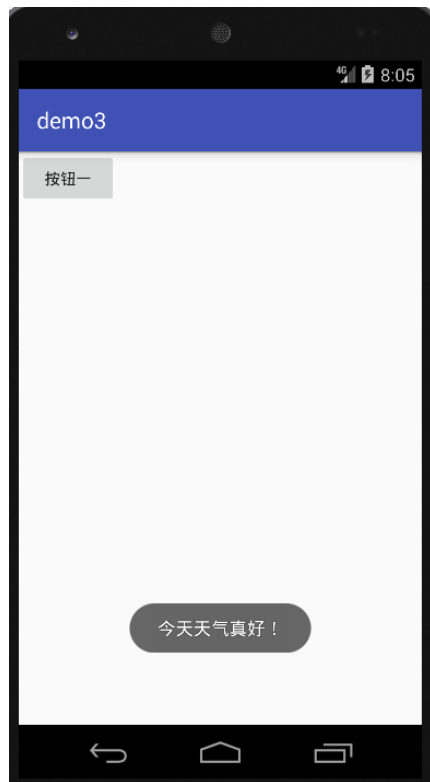
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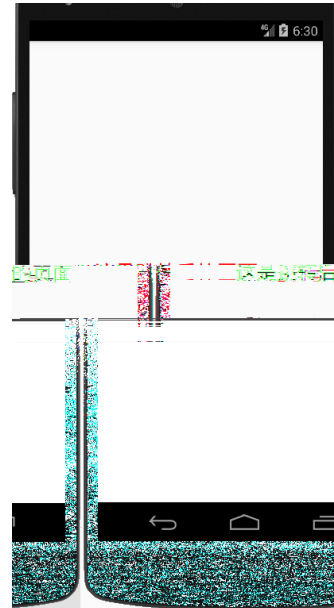
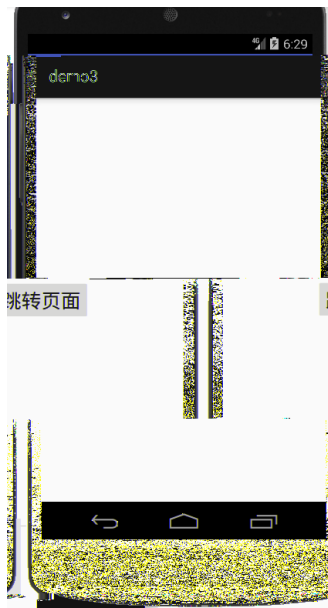
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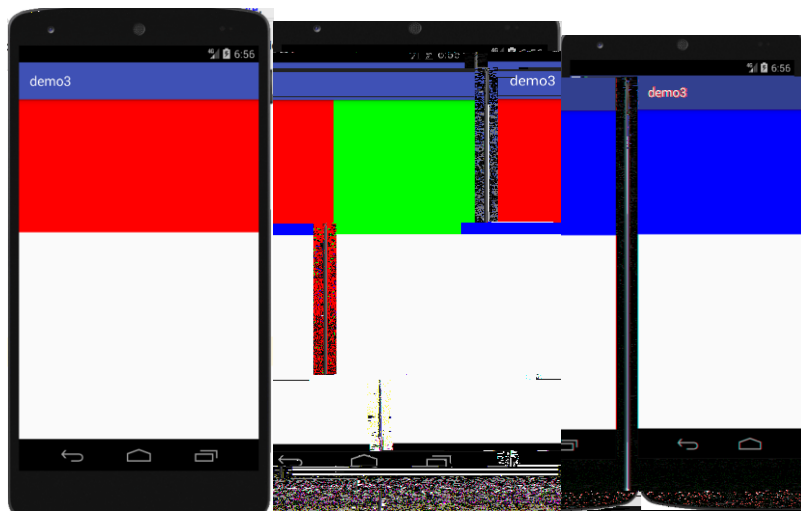
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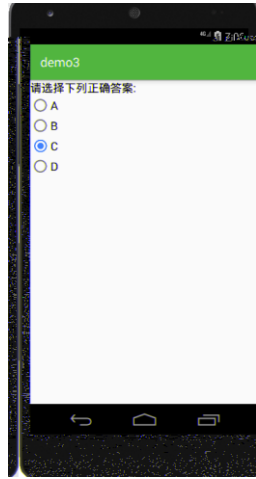
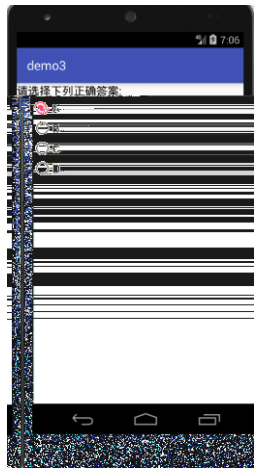
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T4-10

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