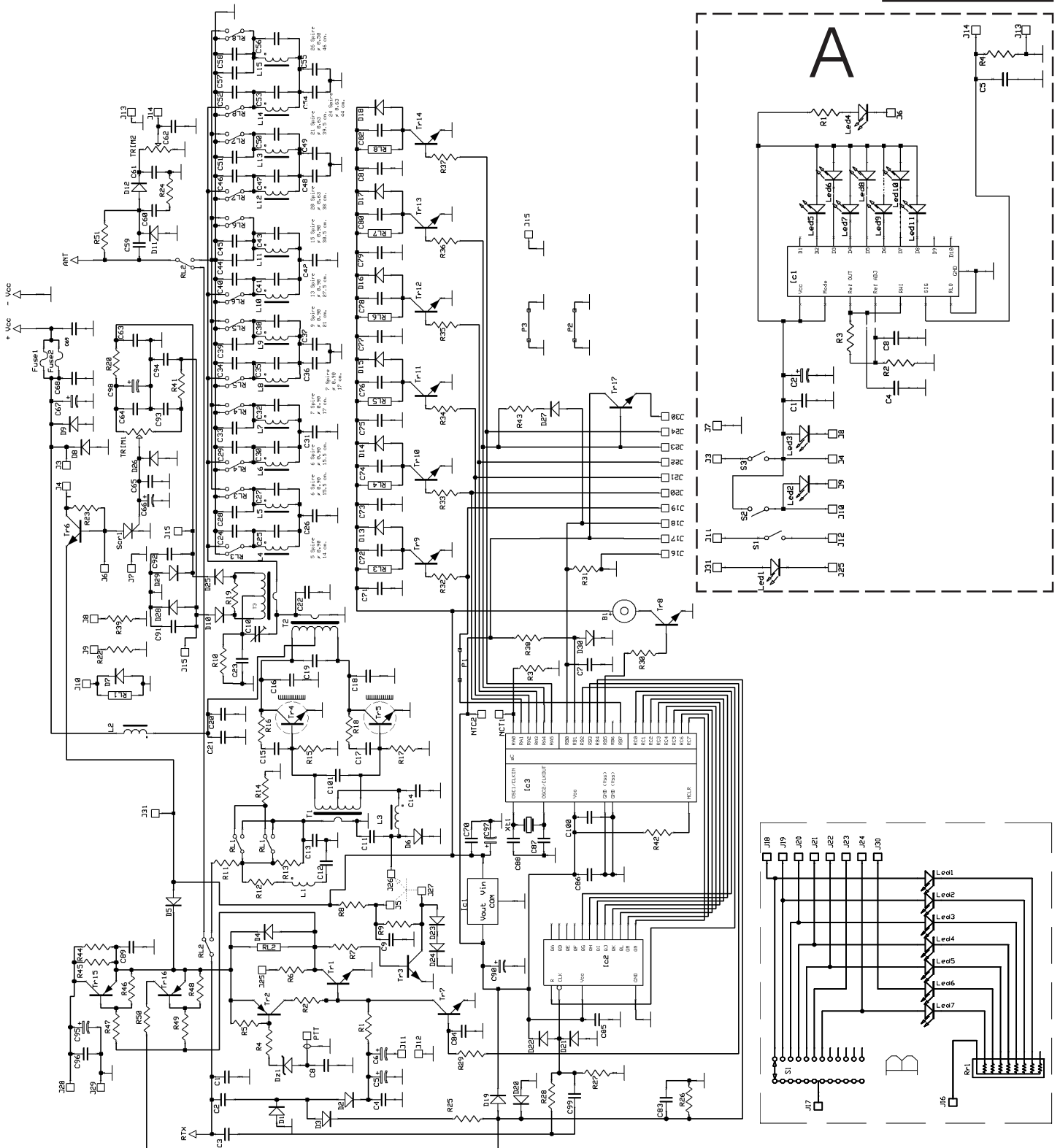


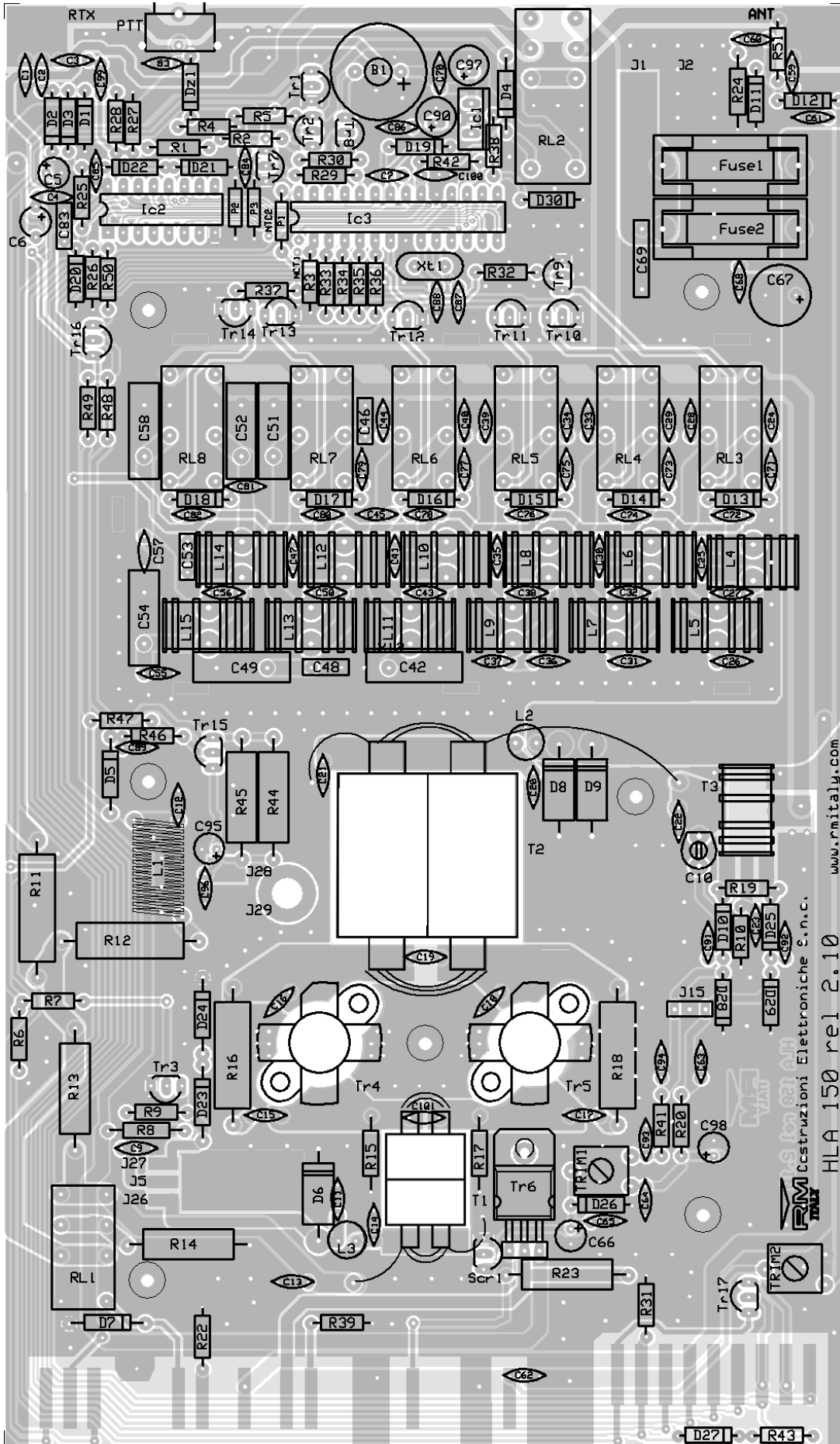


Mod. HLA 150 linear amplifier

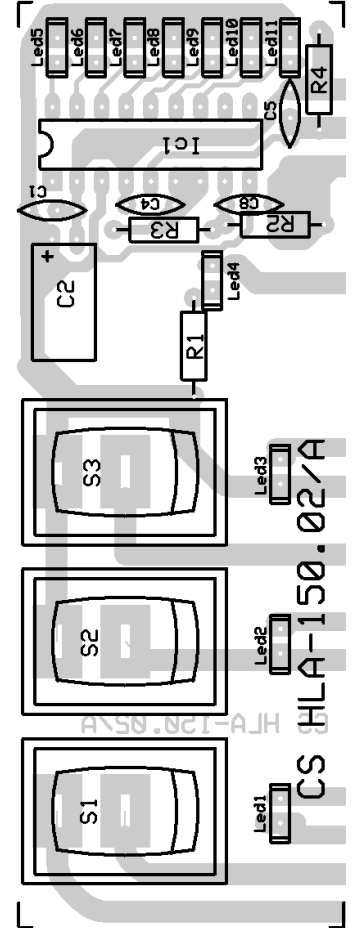
Schematic diagram

Version 2.20

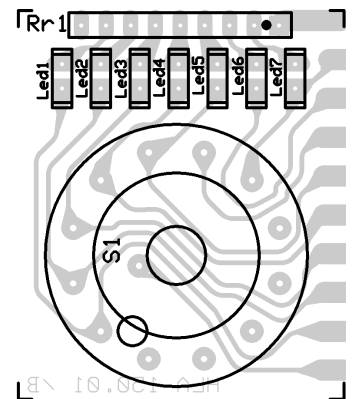




Board A



Board B



List of components

C ₁	=					
C ₂	= 8,2 pF	50 V	NP0			
C ₃	= 15 pF	50 V	NP0			
C ₄	= 100 nF	50 V				
C ₅	= 2,2 μF	16 V				
C ₆	= 33 μF	16 V				
C ₈	= 10 nF	50 V				
C ₉	= 100 nF	50 V				
C ₁₀	= 3 - 10 pF	Trimmer	50 V	NP0		
C ₁₁	= 100 nF	50 V				
C ₁₂	= 10 nF	50 V				
C ₁₃	= 150 pF	50 V	NP0			
C ₁₄	= 100 nF	50 V				
C ₁₅	= 47 nF	50 V				
C ₁₆	= 220 pF	500 V	NP0			
C ₁₇	= 47 nF	50 V				
C ₁₈	= 220 pF	500 V	NP0			
C ₁₉	= 1300 pF	500 V	Silveredmica			
C ₂₀	= 100 nF	50 V				
C ₂₁	= 100 nF	50 V				
C ₂₂	= 47 pF	1 KV	NP0			
C ₂₃	= 470 pF	50 V	N750			
C ₂₄	= 12 pF	500 V	NP0			
C ₂₅	= 18 pF	500 V	NP0			
C ₂₆	= 120 pF	500 V	NP0			
C ₂₇	= 56 pF	500 V	NP0			
C ₂₈	= 33 pF	500 V	NP0			
C ₂₉	= 47 pF	500 V	NP0			
C ₃₀	= 33 pF	500 V	NP0			
C ₃₁	= 220 pF	500 V	NP0			
C ₃₂	= 15 pF	500 V	NP0			
C ₃₃	= 100 pF	500 V	NP0			
C ₃₄	= 82 pF	500 V	NP0			
C ₃₅	= 82 pF	500 V	NP0			
C ₃₆	= 100 pF	500 V	NP0			
C ₃₇	= 220 pF	500 V	NP0			
C ₃₈	= 56 pF	500 V	NP0			
C ₃₉	= 150 pF	500 V	NP0			
C ₄₀	= 220 pF	500 V	NP0			
C ₄₁	= 100 pF	500 V	NP0			
C ₄₂	= 620 pF	500 V	Silveredmica			
C ₄₃	= 33 pF	500 V	NP0			
C ₄₄	= 220 pF	500 V	NP0			
C ₄₅	= 100 pF	500 V	NP0			
C ₄₆	= 390 pF	500 V	Silveredmica			
C ₄₇	= 150 pF	500 V	NP0			
C ₄₈	= 390 pF	500 V	Silveredmica			
C ₄₉	= 620 pF	500 V	Silveredmica			
C ₅₀	= 82 pF	500 V	NP0			
C ₅₁	= 620 pF	500 V	Silveredmica			
C ₅₂	= 620 pF	500 V	Silveredmica			
C ₅₃	= 390 pF	500 V	Silveredmica			
C ₅₄	= 1600 pF	500 V	Silveredmica			
C ₅₅	= 270 pF	500 V	NP0			
C ₅₆	= 150 pF	500 V	NP0			
C ₅₇	= 150 pF	500 V	NP0			
C ₅₈	= 620 pF	500 V	Silveredmica			
C ₅₉	= 2,2 pF	50 V	NP0			
C ₆₀	= 33 pF	50 V	NP0			
C ₆₁	= 100 nF	50 V				
C ₆₂	= 10 nF	50 V				
C ₆₃	= 100 nF	50 V				
C ₆₄	= 100 nF	50 V				
C ₆₅	= 100 nF	50 V				
C ₆₆	= 10 μF	25 V				
C ₆₇	= 470 μF	25 V				
C ₆₈	= 100 nF	50 V				
C ₆₉	= 470 nF	63 V				Polyester
C _{70 to C₈₂}	= 100 nF	50 V				Polyester
C ₈₃	= 10 nF	63 V				
C ₈₄	= 10 nF	50 V				
C ₈₅	= 100 nF	50 V				
C ₈₆	= 100 nF	50 V				
C ₈₇	= 27 pF	50 V				NP0
C ₈₈	= 27 pF	50 V				NP0
C ₈₉	= 100 nF	50 V				
C ₉₀	= 22 μF	25 V				
C ₉₁	= 100 nF	50 V				
C ₉₂	= 100 nF	50 V				
C ₉₃	= 100 nF	50 V				
C ₉₄	= 100 nF	50 V				
C ₉₅	= 22 μF	25 V				
C ₉₆	= 100 nF	50 V				
C ₉₇	= 10 μF	25 V				
C ₉₈	= 33 μF	16 V				
C ₉₉	= 4,7 pF	50 V				NP0
C ₁₀₀	= 220 nF	50 V				Multilayer
C ₁₀₁	= 2 x 470 pF	50 V				N750
R ₁	= 2,2 KΩ	¼W				
R ₂	= 4,7 KΩ	¼W				
R ₃	= 4,7 KΩ	¼W				
R ₄	= 10 KΩ	¼W				
R ₅	= 2,2 KΩ	¼W				
R ₆	= 1,0 KΩ	¼W				
R ₇	= 2,2 KΩ	¼W				
R ₈	= 1,0 Ω	½W				
R ₉	= 1,2 KΩ	¼W				
R ₁₀	= 1,0 KΩ	¼W				
R ₁₁	= 33 Ω	5W				
R ₁₂	= 33 Ω	5W				
R ₁₃	= 39Ω	2W				
R ₁₄	= 150 Ω	2W				
R ₁₅	= 10 Ω	½W				
R ₁₆	= 68 Ω	5W				
R ₁₇	= 10 Ω	½W				
R ₁₈	= 68 Ω	5W				
R ₁₉	= 47 Ω	¼W				
R ₂₀	= 1,0 KΩ	¼W				
R ₂₂	= 1,0 KΩ	¼W				
R ₂₃	= 330 Ω	2W				
R ₂₄	= 27 Ω	½W				
R ₂₅	= 10 KΩ	¼W				

R₂₆ = 1,0 MΩ ¼W
 R₂₇ = 47 KΩ ¼W
 R₂₈ = 4,7 KΩ ¼W
 R₂₉ = 1,0 KΩ ¼W
 R₃₀ = 4,7 KΩ ¼W
 R₃₁ = 10 KΩ ¼W
 R₃₂ = 4,7 KΩ ¼W
 R₃₃ = 4,7 KΩ ¼W
 R₃₄ = 4,7 KΩ ¼W
 R₃₅ = 4,7 KΩ ¼W
 R₃₆ = 4,7 KΩ ¼W
 R₃₇ = 4,7 KΩ ¼W
 R₃₈ = 4,7 KΩ ¼W
 R₃₉ = 1,0 KΩ ¼W
 R₄₁ = 10 KΩ ¼W
 R₄₂ = 1,0 KΩ ¼W
 R₄₃ = 220 Ω ¼W
 R₄₄ = 68 Ω 2W
 R₄₅ = 68 Ω 2W
 R₄₆ = 470 Ω ¼W
 R₄₇ = 2,2 KΩ ¼W
 R₄₈ =
 R₄₉ =
 R₅₀ =

R₅₁ = 10 KΩ ¼W

P₁ = P₂ = P₃ = Ponte 0 Ω ¼W

B₁ = Buzzer 12V ARIMB12A12

Trim₁ = Timmer PT10 10 KΩ

Trim₂ = Timmer PT10 10 KΩ

D₁ = 1N4148

D₂ = 1N4148

D₃ = 1N4148

D₄ = 1N4007

D₅ = 1N4007

D₆ = 1N5400

D₇ = 1N4007

D₈ = 1N5400

D₉ = 1N5400

D₁₀ - D₂₂ = 1N4148

D₂₃ = 1N4007

D₂₄ = 1N4007

D₂₅ - D₃₀ = 1N4148

Dz₁ = Zener 7,5 V ½W

Fuse₁ = 12 A Fast

Fuse₂ = 12 A Fast

Ic₁ = LM 7805

Ic₂ = 74HC4020

Ic₃ = Micro RM3

Tr₁ = BC 547 B

Tr₂ = BC 557 B

Tr₃ = BC 547 B

Tr₄ - Tr₅ = SD 1446

Tr₆ = BD 241

Tr₇ - Tr₁₄ = BC 547 B

Tr₁₅ = BC 327

Tr₁₆ =

Tr₁₇ = BC 547 B

Tr₁₈ = BD 241 BFP

Xt₁ = Xtal 11.059 MHz

Scr₁ = P0102

Rl₁ = 3022

Rl₂ = 4152

Rl₃ - Rl₈ = 3022

T₁ = Input Transformer

T₂ = Output Transformer

T₃ = ANRA 700/12

L₁ = ANRA 455

L₂ = FH002110

L₃ = FH002100

L₄ = 5 sp filo ø 1,0 su 3 L PFR 68

L₅ = 4 sp filo ø 1,0 su 3 L PFR 68

L₆ = ANRA 700/1

L₇ = ANRA 700/2

L₈ = ANRA 700/2

L₉ = ANRA 700/3

L₁₀ = ANRA 700/5

L₁₁ = ANRA 700/6

L₁₂ = ANRA 700/7

L₁₃ = ANRA 700/8

L₁₄ = ANRA 700/9

L₁₅ = ANRA 700/10

Conn₁ = CQQ/A2/6,3

NTC₁ = 4,7 KΩ ø 5mm

Board A

C₁ = 10 nF 50 V

C₂ = 10 µF 16 V

C₄ = 10 nF 50 V

C₅ = 10 nF 50 V

C₈ = 10 nF 50 V

R₁ = 1,0 KΩ ¼W

R₂ = 8,2 KΩ ¼W

R₃ = 1,0 KΩ ¼W

R₄ = 4,7 KΩ ¼W

Ic₁ = LM 3915

Led₁ - Led₁₁ = LED

Boar B

S₁ = Switch 1 way 7 positions

Rr₁ = Resistor networks 7 x 220 Ω

Led₁ - Led₇ = LED