



RM Costruzioni Elettroniche

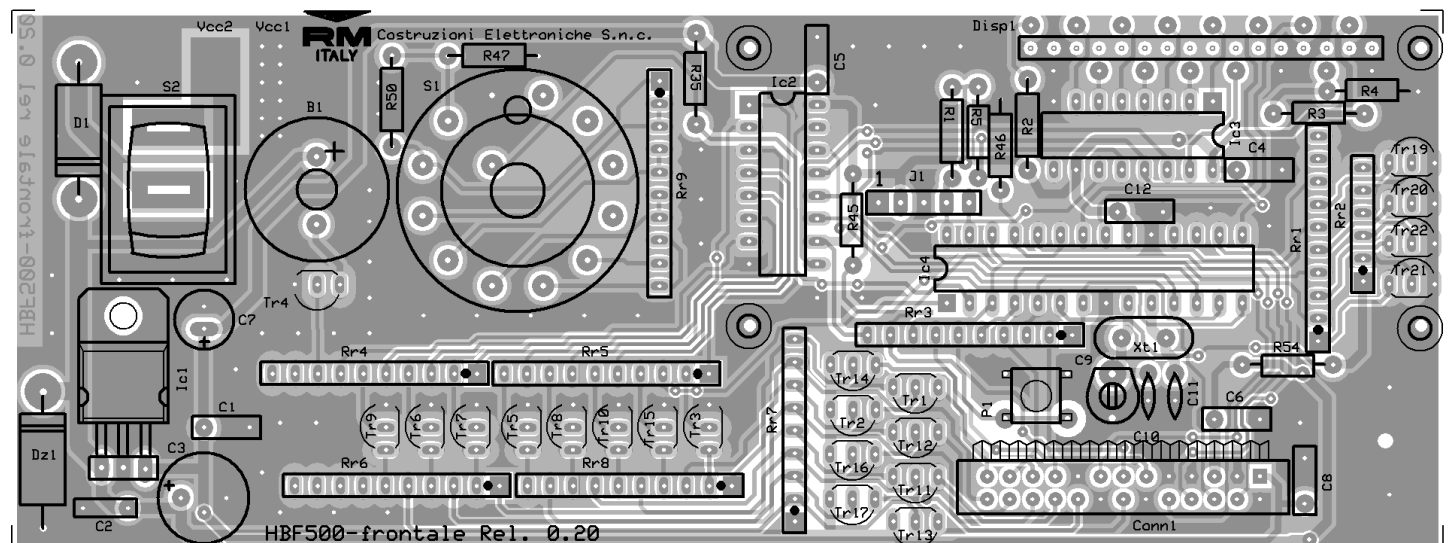
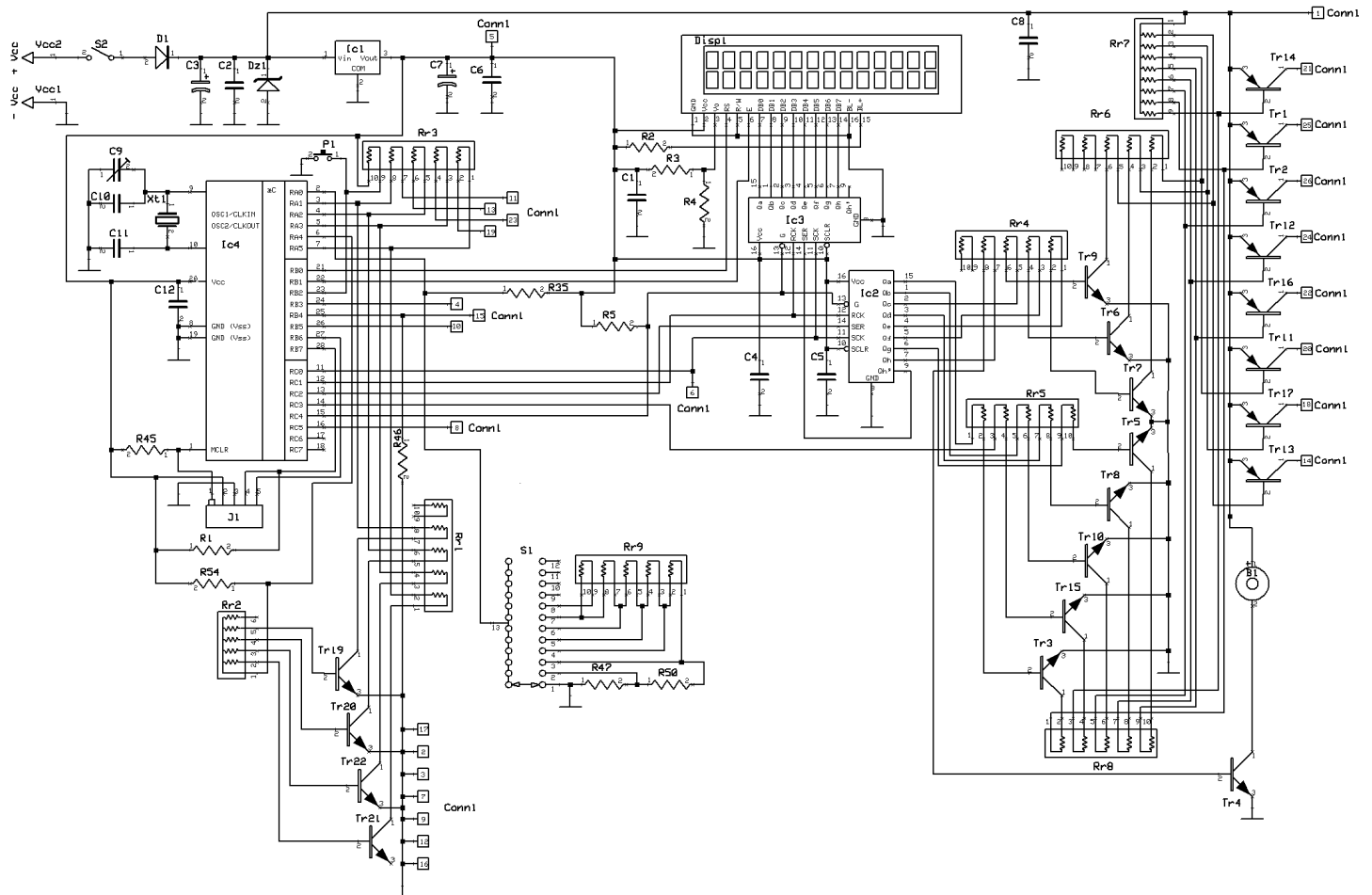
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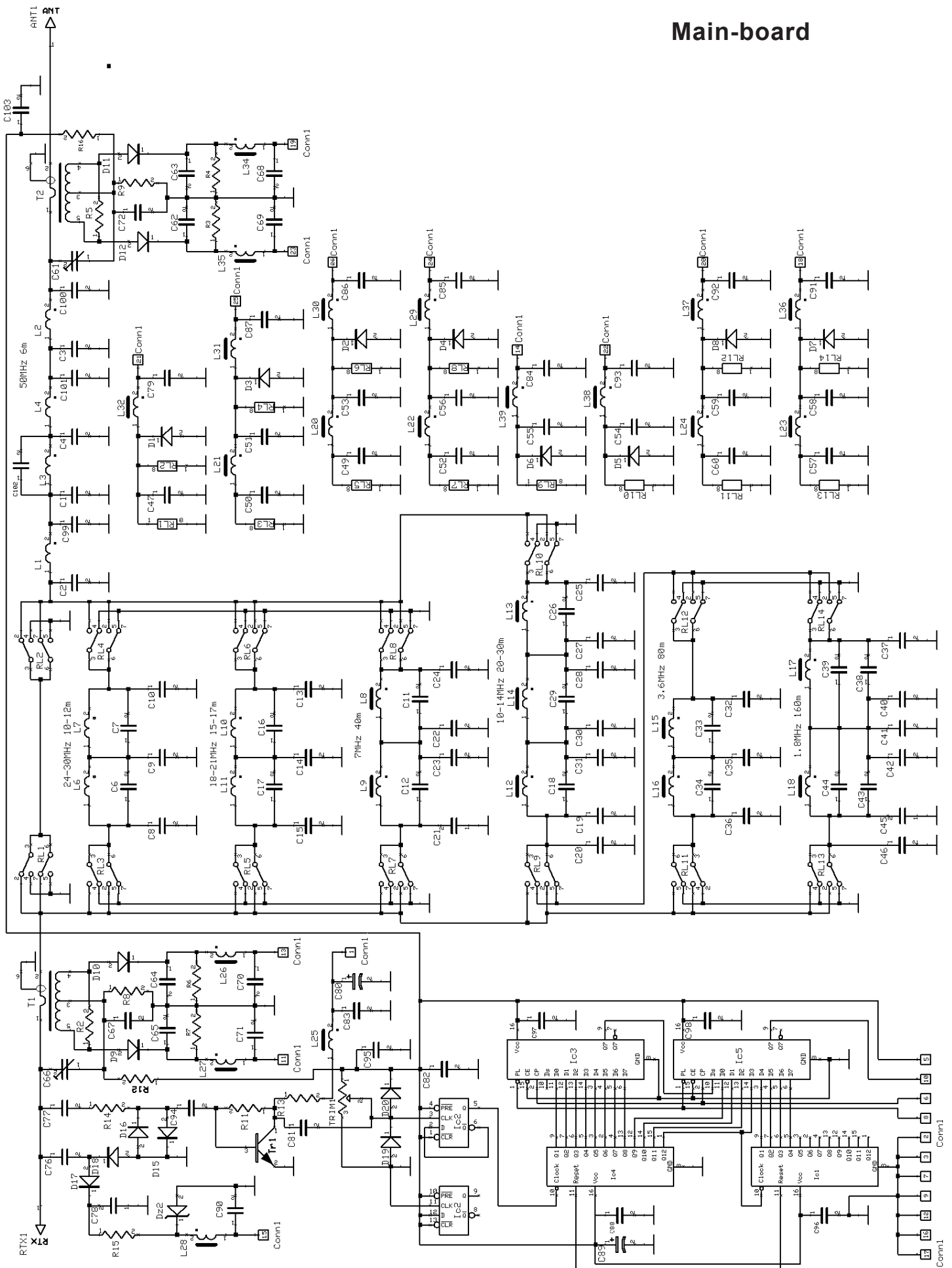
Mod. HBF 500 Automatic LPF

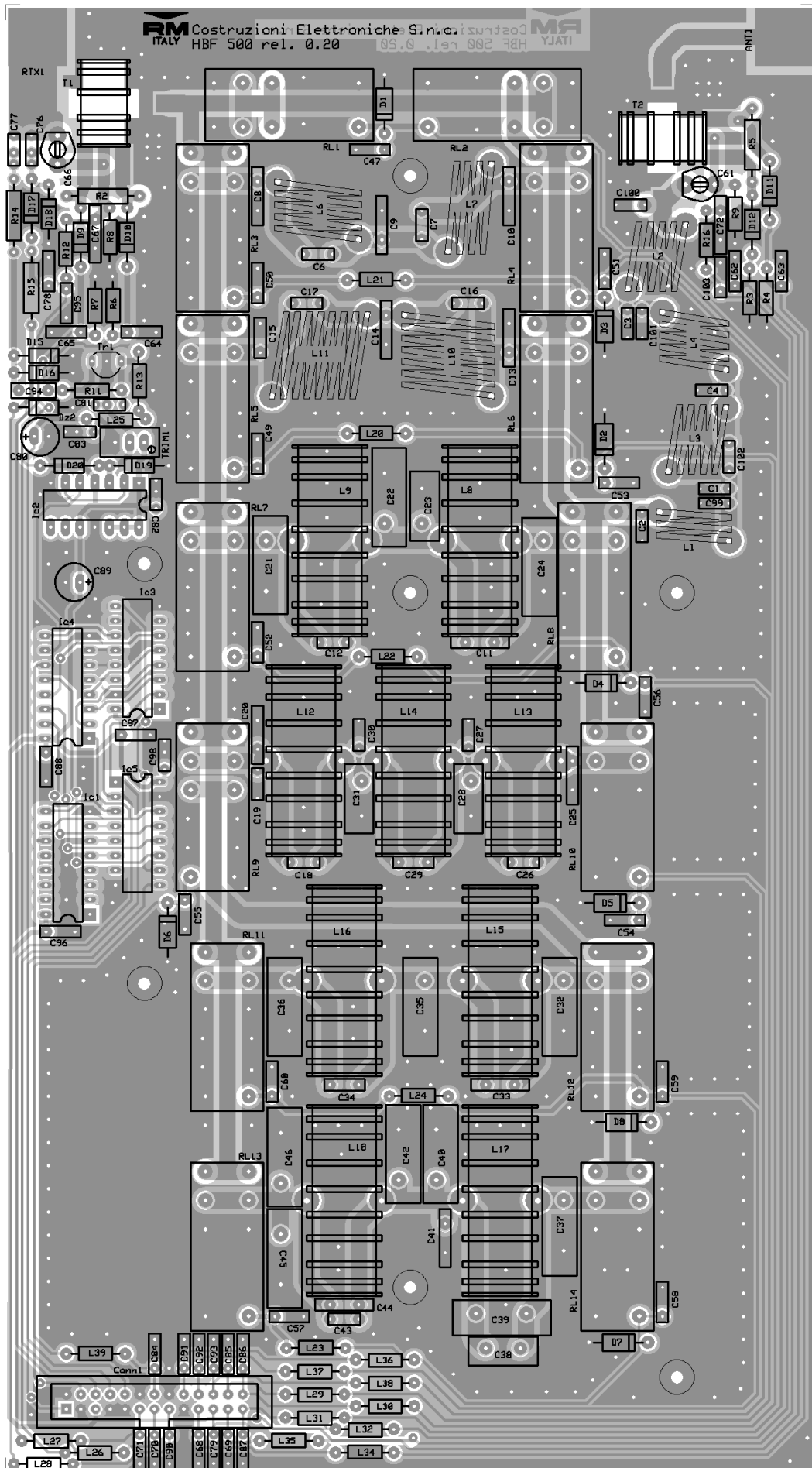
Schematic diagram

Version 0.20



Main-board





List of components board "Frontale"

C ₁	= 100 nF	63 V	Polyester	
C ₂	= 100 nF	50 V		
C ₃	= 470 µF	25 V		
C ₄	= 100 nF	63 V	Polyester	
C ₅	= 100 nF	63 V	Polyester	
C ₆	= 100 nF	63 V	Polyester	
C ₇	= 22 µF	16 V		
C ₈	= 100 nF	50 V		
C ₉	= 5-20 pF	Trimmer	50 V	NP0
C ₁₀	= 6,8 pF	50 V	NP0	
C ₁₁	= 27 pF	50 V	NP0	
C ₁₂	= 100 nF	63 V	Polyester	
R ₁	= 2,2 KΩ	¼W		
R ₂	= 4,7 Ω	¼W		
R ₃	= 8,2 KΩ	¼W		
R ₄	= 1,0 KΩ	¼W		
R ₅	= 10 KΩ	¼W		
R ₃₅	= 1,0 KΩ	¼W		
R ₄₅	= 10 KΩ	¼W		
R ₄₆	= 1,0 MΩ	¼W		
R ₄₇	= 470 Ω	¼W		
R ₅₀	= 470 Ω	¼W		
R ₅₄	= 1,0 KΩ	¼W		
Rr ₁	= 5 x 2,2 KΩ	10B222G		
Rr ₂	= 5 x 10 KΩ	6A103G		
Rr ₃	= 5 x 2,2 KΩ	10B222G		
Rr ₄	= 5 x 10 KΩ	10B103G		
Rr ₅	= 5 x 10 KΩ	10B103G		
Rr ₆	= 5 x 4,7 KΩ	10B472G		
Rr ₇	= 8 x 1,0 KΩ	9A102G		
Rr ₈	= 5 x 4,7 KΩ	10B472G		
Rr ₉	= 5 x 470 Ω	10B471G		
B ₁	= Buzzer 12V	ARIMB12A12		
D ₁	= 1N5400			
Dz ₁	= 1N5355	Zener 18 V 5W		
Ic ₁	= LM 7805			
Ic ₂	= 74HC595			
Ic ₃	= 74HC595			
Ic ₄	= Micro RM10			
Tr ₁	= BC 327-25			
Tr ₂	= BC 327-25			
from Tr ₃ to Tr ₁₀	= BC 547 B			
from Tr ₁₁ to Tr ₁₄	= BC 327-25			
Tr ₁₅	= BC 547 B			
Tr ₁₆	= BC 327-25			
Tr ₁₇	= BC 327-25			
from Tr ₁₉ to Tr ₂₂	= BC 547 B			
Xt ₁	= Xtal 11.059 MHz			
S ₁	= Switch 8 pos. 1 way			
P ₁	= Push-button			

List of components main-board

C ₁	= 82 pF	500 V	NP0
C ₂	= not present		
C ₃	= 68 pF	500 V	NP0
C ₄	= 68 pF	500 V	NP0
C ₆	= 18 pF	500 V	NP0
C ₇	= 47 pF	500 V	NP0
C ₈	= 82 pF	500 V	NP0
C ₉	= 150 pF	500 V	NP0
C ₁₀	= 56 pF	500 V	NP0
C ₁₁	= 180pF	500 V	N750
C ₁₂	= 47 pF	500 V	NP0
C ₁₃	= 120 pF	500 V	NP0
C ₁₄	= 270 pF	500 V	N750
C ₁₅	= 100 pF	500 V	NP0
C ₁₆	= 33 pF	500 V	NP0
C ₁₇	= 22 pF	500 V	NP0
C ₁₈	= 15 pF	500 V	NP0
C ₁₉	= 150 pF	500 V	NP0
C ₂₀	= not present		
C ₂₁	= 560 pF	500 V	Silvered mica
C ₂₂	= 620 pF	500 V	Silvered mica
C ₂₃	= 390 pF	500 V	Silvered mica
C ₂₄	= 390 pF	500 V	Silvered mica
C ₂₅	= 180 pF	500 V	N750
C ₂₆	= 68 pF	500 V	NP0
C ₂₇	= 33 pF	500 V	NP0
C ₂₈	= 390 pF	500 V	Silvered mica
C ₂₉	= 100 pF	500 V	NP0
C ₃₀	= 47 pF	500 V	NP0
C ₃₁	= 390 pF	500 V	Silvered mica
C ₃₂	= 390 pF	500 V	Silvered mica
C ₃₃	= 180 pF	500 V	N750
C ₃₄	= 82 pF	500 V	NP0
C ₃₅	= 1600 pF	500 V	Silvered mica
C ₃₆	= 1300 pF	500 V	Silvered mica
C ₃₇	= 1100 pF	500 V	Silvered mica
C ₃₈	= 390 pF	500 V	Silvered mica
C ₃₉	= not present		
C ₄₀	= 1300 pF	500 V	Silvered mica
C ₄₁	= not present		
C ₄₂	= 1300 pF	500 V	Silvered mica
C ₄₃	= not present		
C ₄₄	= 150 pF	500 V	NP0
C ₄₅	= not present		
C ₄₆	= 620 pF	500 V	Silvered mica
C ₄₇	= 100 nF	50 V	
from C ₄₉ to C ₆₀	= 100 nF	50 V	
C ₆₁	= 3 -10 pF	Trimmer White HCU06C100	
from C ₆₂ to C ₆₅	= 100 nF	50 V	
C ₆₆	= 3 -10 pF	Trimmer White HCU06C100	
C ₆₇	= 470 pF	50 V	N750
from C ₆₈ to C ₇₁	= 100 nF	50 V	
C ₇₂	= 470 pF	50 V	N750
C ₇₆	= 2,2 pF	50 V	N750
C ₇₇	= 2,2 pF	50 V	N750
C ₇₈	= 100 nF	50 V	

C ₇₉ = 100 nF	50 V		L ₁₆ = 13 turn wire ø1,5 mm on AN477/10
C ₈₀ = 22 µF	25 V		L ₁₇ = 17 turn wire ø1,5 mm on AN477/10
C ₈₁ = 220 nF	50 V	Multilayer	L ₁₈ = 19 turn wire ø1,5 mm on AN477/10
C ₈₂ = 220 nF	50 V	Multilayer	from L ₂₀ to L ₃₂ = 10 µH
C ₈₃ = 220 nF	50 V	Multilayer	from L ₃₄ to L ₃₉ = 10 µH
from C ₈₄ to C ₈₈	= 100 nF	50 V	Conn ₁ = AWP23/T
C ₈₉ = 47 µF	16 V		
from C ₉₀ to C ₉₃	= 100 nF	50 V	
C ₉₄ = 22 nF	63 V	Polyester	
from C ₉₅ to C ₉₇	= 100 nF	50 V	
C ₉₈ = 220 nF	50 V	Multilayer	
C ₉₉	= not present		
C ₁₀₀ = 33 pF	500 V	NP0	
C ₁₀₁	= not present		
C ₁₀₂ = 15 pF	500 V	NP0	
C ₁₀₃ = 100 nF	50 V		
R ₂ = 47 Ω	½W		
R ₃ = 4,7 KΩ	¼W		
R ₄ = 4,7 KΩ	¼W		
R ₅ = 47 Ω	½W		
R ₆ = 4,7 KΩ	¼W		
R ₇ = 4,7 KΩ	¼W		
R ₈ = 1,0 KΩ	¼W		
R ₉ = 1,0 KΩ	¼W		
R ₁₁ = 47 KΩ	¼W		
R ₁₂ = 15 KΩ	¼W		
R ₁₃ = 1,0 KΩ	¼W		
R ₁₄ = 100 KΩ	½W		
R ₁₅ = 100 KΩ	½W		
R ₁₆ = 15 KΩ	¼W		
Trim ₁	= Timmer PT10 1,0 MΩ		
from D ₁ to D ₈	= 1N4007		
from D ₉ to D ₁₂	= 1N5711		
from D ₁₅ to D ₂₀	= 1N4148		
Dz ₂	= Zener 5,1 V ½W		
Ic ₁	= 74HC4040		
Ic ₂	= 74HC74		
Ic ₃	= 74HC165		
Ic ₄	= 74HC4040		
Ic ₅	= 74HC165		
Tr ₁	= BF 199		
from Rl ₁ to Rl ₁₄	= 4152		
T ₁	= ANRA 700/12		
T ₂	= ANRA 700/12		
L ₁	= 4 turn wire ø1,5 mm on ø 9 mm		
L ₂	= 4 turn wire ø1,5 mm on ø 9 mm		
L ₃	= 4 turn wire ø1,5 mm on ø 10 mm		
L ₄	= 6 turn wire ø1,5 mm on ø 9 mm		
L ₆	= 5 turn wire ø1,5 mm on ø 12 mm		
L ₇	= 4 turn wire ø1,5 mm on ø 11,5 mm		
L ₈	= 7 turn wire ø1,5 mm on AN477/10		
L ₉	= 8 turn wire ø1,5 mm on AN477/10		
L ₁₀	= 6 turn wire ø1,5 mm on ø 12 mm		
L ₁₁	= 7 turn wire ø1,5 mm on ø 12 mm		
L ₁₂	= 5 turn wire ø1,5 mm on AN477/10		
L ₁₃	= 4 turn wire ø1,5 mm on AN477/10		
L ₁₄	= 4 turn wire ø1,5 mm on AN477/10		
L ₁₅	= 12 turn wire ø1,5 mm on AN477/10		