RM Costruzioni Elettroniche
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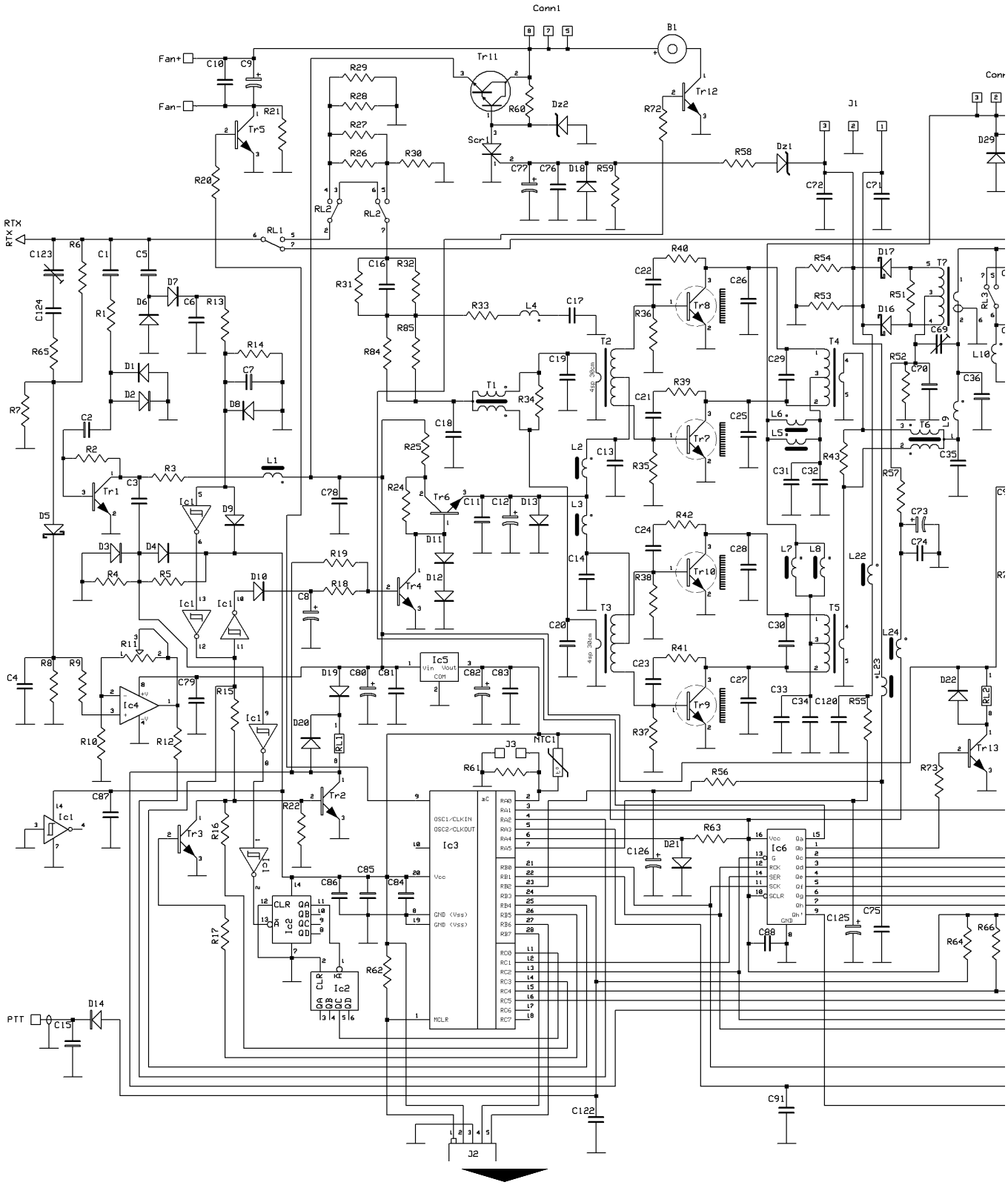
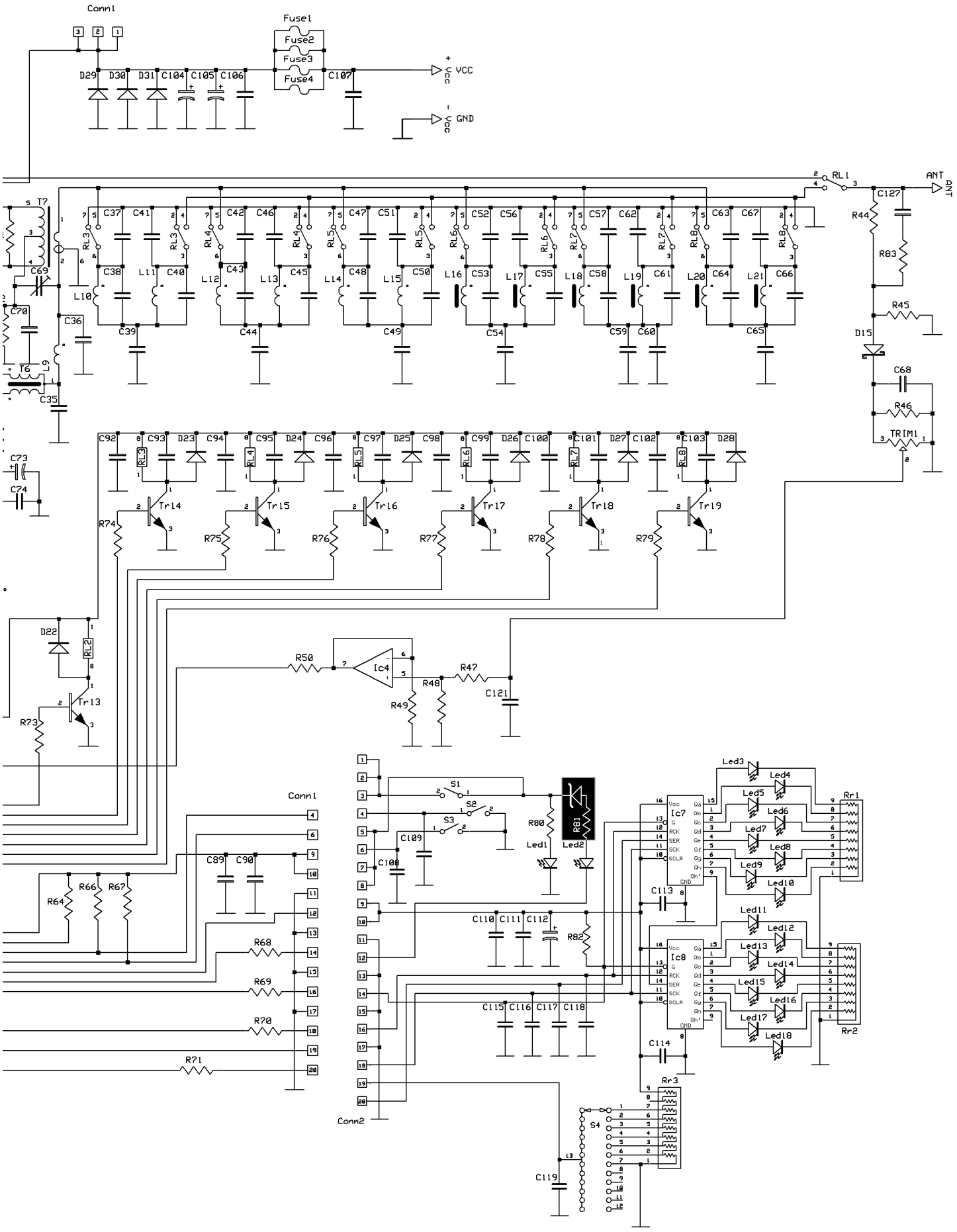
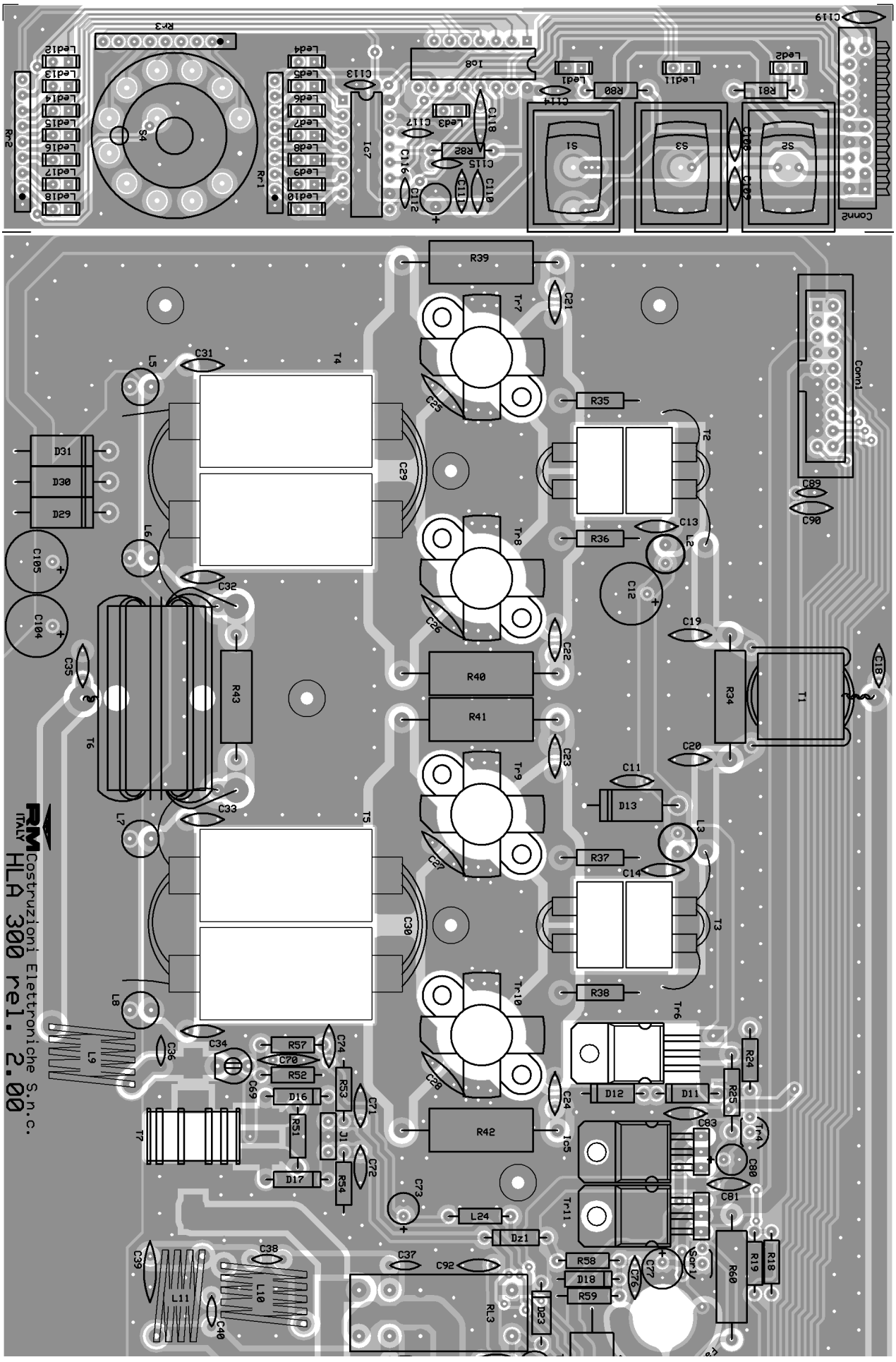
Mod. HLA 300V plus linear amplifier

Schematic diagram

Version 2.00




Conn1
Fuse1
Fuse2
Fuse3
Fuse4
D29 D30 D31 C104 C105 C106 C107
+ Vcc VCC
- Vcc GND
T7 C69 C70 C36 T6 L9 C35
L10 L11 L12 L13 L14 L15 L16 L17 L18 L19 L20 L21
C37 C38 C39 C41 C40 C42 C43 C44 C46 C45 C47 C48 C49 C51 C50 C52 C53 C54 C56 C55 C57 C58 C59 C62 C61 C63 C64 C65 C67 C66
RL1 RL2 RL3 RL4 RL5 RL6 RL7 RL8
ANT C127 R44 R83 R45 D15 C68 R46 TRIM1
C92 C93 D23 C94 C95 D24 C96 C97 D25 C98 C99 D26 C100 C101 D27 C102 C103 D28
Tr14 Tr15 Tr16 Tr17 Tr18 Tr19
R74 R75 R76 R77 R78 R79
C73 C74
D22 RL2 Tr13 R73
R50 Ic4 R47 R48 R49 C121
Conn1
S1 S2 S3 C109 C108
R80 R81 Led1 Led2
C89 C90
R64 R66 R67 R68 R69 R70 R71
Ic7 Ic8
Led3 Led4 Led5 Led6 Led7 Led8 Led9 Led10 Led11 Led12 Led13 Led14 Led15 Led16 Led17 Led18
Rr1 Rr2 Rr3
C113 C114
C110 C111 C112 R82
C115 C116 C117 C118
Conn2
S4 C119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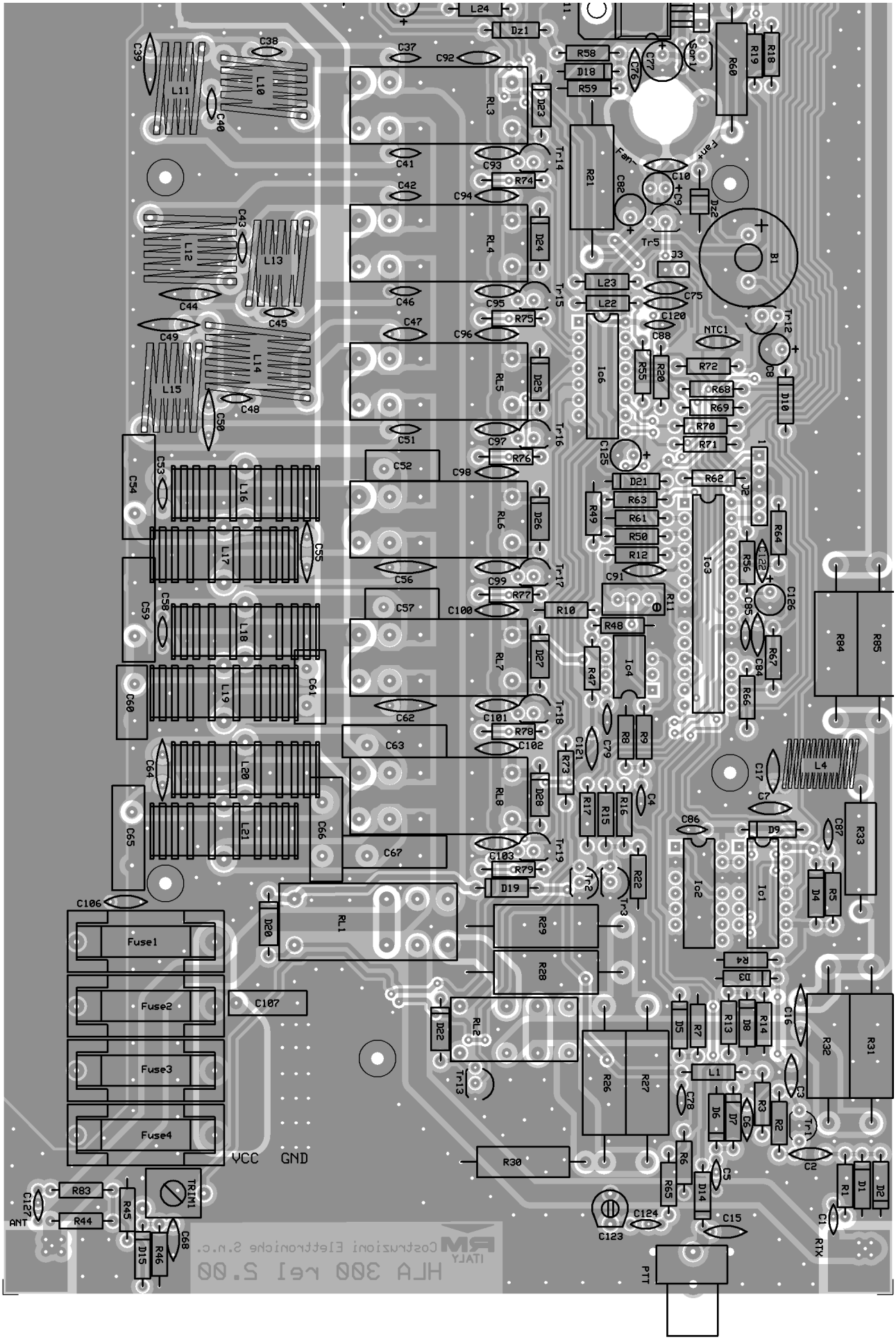
HLA 300 rel. 2.00


Fuse1
Fuse2
Fuse3
Fuse4
VCC
GND
ANT
PTT
RTX
Fan
Fan+
B1
NTC1
TRIM1
HLA 300 rel 2.00
Costruzioni Elettroniche S.n.c.
ITALY

List of components

C 1	= 10 pF	50 V	NP0
C 2	= 100 nF	50 V	
C 3	= 10 nF	50 V	
C 4	= 1,0 µF	50 V	Multilayer
C 5	= 4,7 pF	50 V	NP0
C 6	= 100 nF	50 V	
C 7	= 10 nF	50 V	
C 8	= 2,2 µF	25 V	
C 9	= 22 µF	25 V	
C 10	= 100 nF	50 V	
C 11	= 100 nF	50 V	
C 12	= 470 µF	25 V	
C 13	= 100 nF	50 V	
C 14	= 100 nF	50 V	
C 15	= 100 nF	50 V	
C 16	= 220 pF	500 V	N750
C 17	= 10 nF	50 V	
C 18	= not present		
C 19	= 100 pF	50 V	NP0
C 20	= 100 pF	50 V	NP0
C 21	= 47 nF	50 V	
C 22	= 47 nF	50 V	
C 23	= 47 nF	50 V	
C 24	= 47 nF	50 V	
C 25	= 180 pF	500 V	N750
C 26	= 180 pF	500 V	N750
C 27	= 180 pF	500 V	N750
C 28	= 180 pF	500 V	N750
C 29	= 560 + 390 pF	500 V	Silveredmica
C 30	= 560 + 390 pF	500 V	Silveredmica
C 31	= 100 nF	50 V	
C 32	= 100 nF	50 V	
C 33	= 100 nF	50 V	
C 34	= 100 nF	50 V	
C 35	= 100 pF	500 V	NP0
C 36	= 56 pF	500 V	NP0
C 37	= 47 pF	500 V	NP0
C 38	= 12 pF	500 V	NP0
C 39	= 150 pF	500 V	NP0
C 40	= 39 pF	500 V	NP0
C 41	= 39 pF	500 V	NP0
C 42	= 82 pF	500 V	NP0
C 43	= 18 pF	500 V	NP0
C 44	= 220 pF	500 V	N750
C 45	= 39 pF	500 V	NP0
C 46	= 68 pF	500 V	NP0
C 47	= 100 pF	500 V	NP0
C 48	= 56 pF	500 V	NP0
C 49	= 220 pF	500 V	N750
C 50	= 180 pF	500 V	N750
C 51	= 22 pF	500 V	NP0
C 52	= 390 pF	500 V	Silveredmica
C 53	= 56 pF	500 V	NP0
C 54	= 620 pF	500 V	Silveredmica
C 55	= 180 pF	500 V	N750
C 56	= 180 pF	500 V	N750
C 57	= 390 pF	500 V	Silveredmica
C 58	= 68 pF	500 V	NP0
C 59	= 560 pF	500 V	Silveredmica
C 60	= 390 pF	500 V	Silveredmica
C 61	= 330 pF	500 V	Silveredmica
C 62	= 270 pF	500 V	N750
C 63	= 560 pF	500 V	Silveredmica
C 64	= 270 pF	500 V	N750
C 65	= 1600 pF	500 V	Silveredmica
C 66	= 620 pF	500 V	Silveredmica
C 67	= 560 pF	500 V	Silveredmica
C 68	= 10 nF	50 V	
C 69	= HCU06C100 3-10 pF (White)		
C 70	= 470 pF	50 V	N750
C 71	= 100 nF	50 V	
C 72	= 100 nF	50 V	
C 73	= 22 µF	25 V	
C 74	= 100 nF	50 V	
C 75	= 100 nF	50 V	
C 76	= 100 nF	50 V	
C 77	= 47 µF	25 V	
C 78	= 220 nF	50 V	Multilayer
C 79	= 220 nF	50 V	Multilayer
C 80	= 10 µF	25 V	
C 81	= 100 nF	50 V	
C 82	= 22 µF	25 V	
C 83	= 100 nF	50 V	
C 84	= 100 nF	50 V	
C 85	= 220 nF	50 V	Multilayer
C 86	= 220 nF	50 V	Multilayer
C 87	= 220 nF	50 V	Multilayer
C 88	= 220 nF	50 V	Multilayer
C 89	= 220 nF	50 V	Multilayer
C 90	= 100 nF	50 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	= 100 nF	50 V	
C 96	= 100 nF	50 V	
C 97	= 100 nF	50 V	
C 98	= 100 nF	50 V	
C 99	= 100 nF	50 V	
C 100	= 100 nF	50 V	
C 101	= 100 nF	50 V	
C 102	= 100 nF	50 V	
C 103	= 100 nF	50 V	
C 104	= 470 µF	25 V	
C 105	= 470 µF	25 V	
C 106	= 100 nF	50 V	
C 107	= 470 nF	100 V	Polyester
C 108	= 100 nF	50 V	
C 109	= 100 nF	50 V	
C 110	= 10 nF	50 V	
C 111	= 100 nF	50 V	
C 112	= 22 µF	25 V	
C 113	= 220 nF	50 V	Multilayer
C 114	= 220 nF	50 V	Multilayer
C 115	= 1,0 nF	50 V	
C 116	= 1,0 nF	50 V	
C 117	= 1,0 nF	50 V	
C 118	= 470 pF	50 V	N750
C 119	= 100 nF	50 V	

C 120 = 100 nF 50 V
C 121 = 100 nF 50 V
C 122 = 100 nF 50 V
C 123 = HCU06C100 1-5 pF (Blue)
C 124 = 1,0 pF 50 V
C 125 = 22 µF 25 V
C 126 = 22 µF 25 V
C 127 = 1,0 pF 50 V
R 1 = 22 KΩ ¼W
R 2 = 47 KΩ ¼W
R 3 = 1,0 KΩ ¼W
R 4 = 100 KΩ ¼W
R 5 = 100 KΩ ¼W
R 6 = 22 KΩ ¼W
R 7 = 4,7 KΩ ¼W
R 8 = 4,7 KΩ ¼W
R 9 = 10 KΩ ¼W
R 10 = 10 KΩ ¼W
R 11 = 10 KΩ multi-turn trimmer
R 12 = 1,0 KΩ ¼W
R 13 = 10 KΩ ¼W
R 14 = 1,0 MΩ ¼W
R 15 = 4,7 KΩ ¼W
R 16 = 4,7 KΩ ¼W
R 17 = 4,7 KΩ ¼W
R 18 = 10 KΩ ¼W
R 19 = 10 KΩ ¼W
R 20 = 1,0 KΩ ¼W
R 21 = 33 Ω 5W
R 22 = 10 KΩ ¼W
R 24 = 680Ω ¼W
R 25 = 1,0 Ω ½W
R 26 = 33 Ω 5W
R 27 = 33 Ω 5W
R 28 = 470 Ω 5W
R 29 = 470 Ω 5W
R 30 = 330 Ω 2W
R 31 = 33 Ω 5W
R 32 = 33 Ω 5W
R 33 = 100 Ω 2W
R 34 = 100 Ω 2W
R 35 = 10 Ω ½W
R 36 = 10 Ω ½W
R 37 = 10 Ω ½W
R 38 = 10 Ω ½W
R 39 = 68 Ω 5W
R 40 = 68 Ω 5W
R 41 = 68 Ω 5W
R 42 = 68 Ω 5W
R 43 = 100 Ω 2W
R 44 = 100 KΩ ¼W
R 45 = 12 KΩ ¼W
R 46 = 47 KΩ ¼W
R 47 = 4,7 KΩ ¼W
R 48 = 10 KΩ ¼W
R 49 = 10 KΩ ¼W
R 50 = 1,0 KΩ ¼W
R 51 = 47 Ω ¼W
R 52 = 1,0 KΩ ¼W
R 53 = 22 KΩ ¼W
R 54 = 22 KΩ ¼W
R 55 = 2,2 KΩ ¼W
R 56 = 2,2 KΩ ¼W
R 57 = 22 KΩ ¼W
R 58 = 470 Ω ¼W
R 59 = 10 KΩ ¼W
R 60 = 330 Ω 2W
R 61 = 4,7 KΩ ¼W
R 62 = 4,7 KΩ ¼W
R 63 = 4,7 KΩ ¼W
R 64 = 4,7 KΩ ¼W
R 65 = 2,2 KΩ ¼W
R 66 = 4,7 KΩ ¼W
R 67 = 4,7 KΩ ¼W
R 68 = 47 Ω ¼W
R 69 = 47 Ω ¼W
R 70 = 47 Ω ¼W
R 71 = 47 Ω ¼W
R 72 = 4,7 KΩ ¼W
R 73 = 4,7 KΩ ¼W
R 74 = 4,7 KΩ ¼W
R 75 = 4,7 KΩ ¼W
R 76 = 4,7 KΩ ¼W
R 77 = 4,7 KΩ ¼W
R 78 = 4,7 KΩ ¼W
R 79 = 4,7 KΩ ¼W
R 80 = 1,0 KΩ ¼W
R 81 = 220 Ω ¼W + Zener 5,1V ½W
R 82 = 4,7 KΩ ¼W
R 83 = 6,8 KΩ ¼W
R 84 = 33 Ω 5W
R 85 = 33 Ω 5W
Rr 1 = 8 x 270 Ω 1/8W
Rr 2 = 8 x 270 Ω 1/8W
Rr 3 = 8 x 470 Ω 1/8W
NTC 1= 4,7 KΩ
Trim 1 = 220 KΩ PT10LV
B 1 = Buzzer 12V ARIMB12A12
D 1 to D 4 = 1N4148
D 5 = 1N5711
D 6 to D 10 = 1N4148
D 11 to D 12 = 1N4007
D 13 = 1N5400
D 14 = 1N4148
D 15 to D 17 = 1N5711
D 18 = 1N4148
D 19 to D 20 = 1N4007
D 21 = 1N4148
D 22 to D 28 = 1N4007
D 29 to D 31 = 1N5400
Dz 1 = Zener 5,1 V ½W
Dz 2 = Zener 10 V 1W
Led 1 = green
Led 2 to Led 3 = red
Led 4 to Led 10 = green
Led 11 = yellow
Led 12 to Led 17 = green
Led 18 = yellow
Fuse 1 to Fuse 4 = 10 A Fast
Ic 1 = 74HC14

Ic 2 = 74HC393
Ic 3 = Micro RM20
Ic 4 = LM358
Ic 5 = LM 7805
Ic 6 = 74HC595
Ic 7 = 74HC595
Ic 8 = 74HC595
Tr 1 = BF199
Tr 2 to Tr 4 = BC 547 B
Tr 5 = BC 337-25
Tr 6 = BD241BFP
Tr 7 - Tr 10 = SD 1446
Tr 11 = BDX53BFP
Tr 12 - Tr 19 = BC 547 B
Scr 1 = P0102
Rl 1 = 4152.9.012
Rl 2 = 3022.9.012
Rl 3 to Rl 8 = 4152.9.012
T 1 = Input Decoupler Transformer
T 2 and T 3 = Input Transformers
T 4 and T 5 = Output Transformers
T 6 = Output Coupler Transformer
T 7 = ANRA 700/12
L 1 = 10 µH
L 2 and L 3 = FH002100
L 4 = ANRA883
L 5 to L 8 = FH002110
L 9 = ANRA 856/1
L 10 = ANRA 856/1
L 11 = ANRA 856
L 12 = ANRA 856/2
L 13 = ANRA 856/1
L 14 = ANRA 856/4
L 15 = ANRA 856/3
L 16 = ANRA 725/5
L 17 = ANRA 725/4
L 18 = ANRA 725/7
L 19 = ANRA 725/6
L 20 = ANRA 725/9
L 21 = ANRA 725/8
L 22 = 10 µH
L 23 = 10 µH
L 24 = 10 µH
PTT = GP305522
S 1 = JS606A 10A
S 2 = JS606A 10A
S 3 = JS606A 10A
S 4 = BL200012