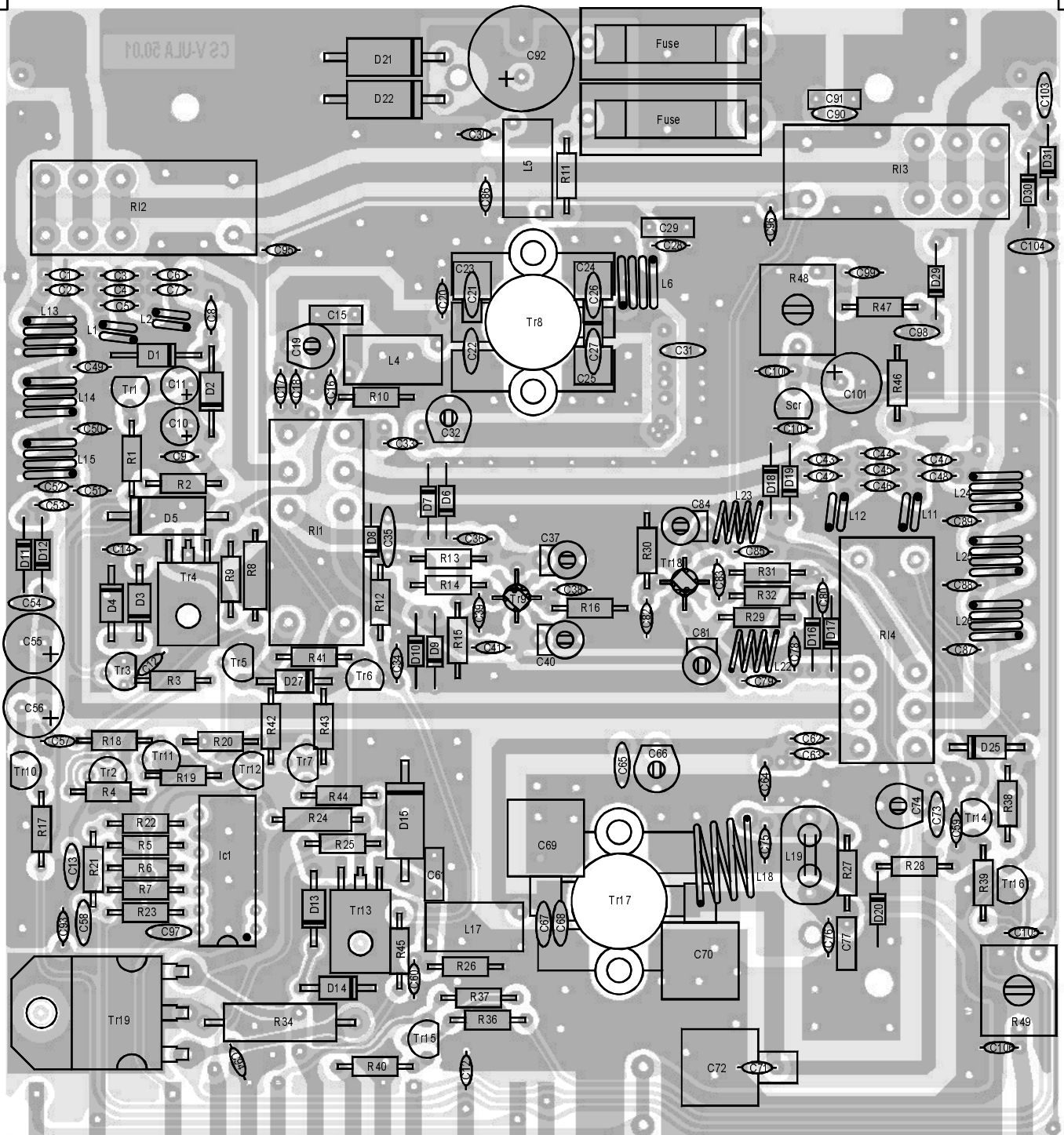
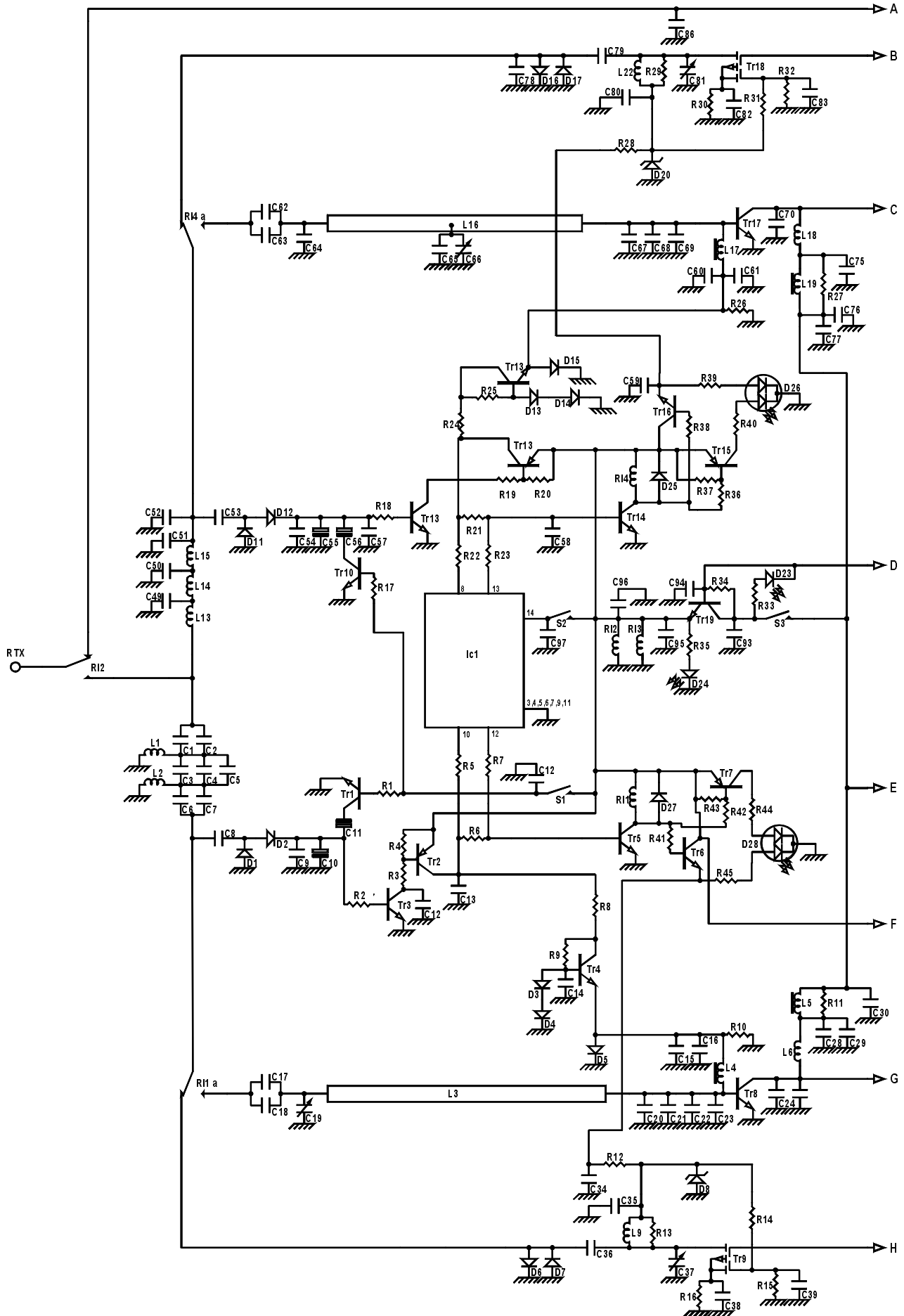


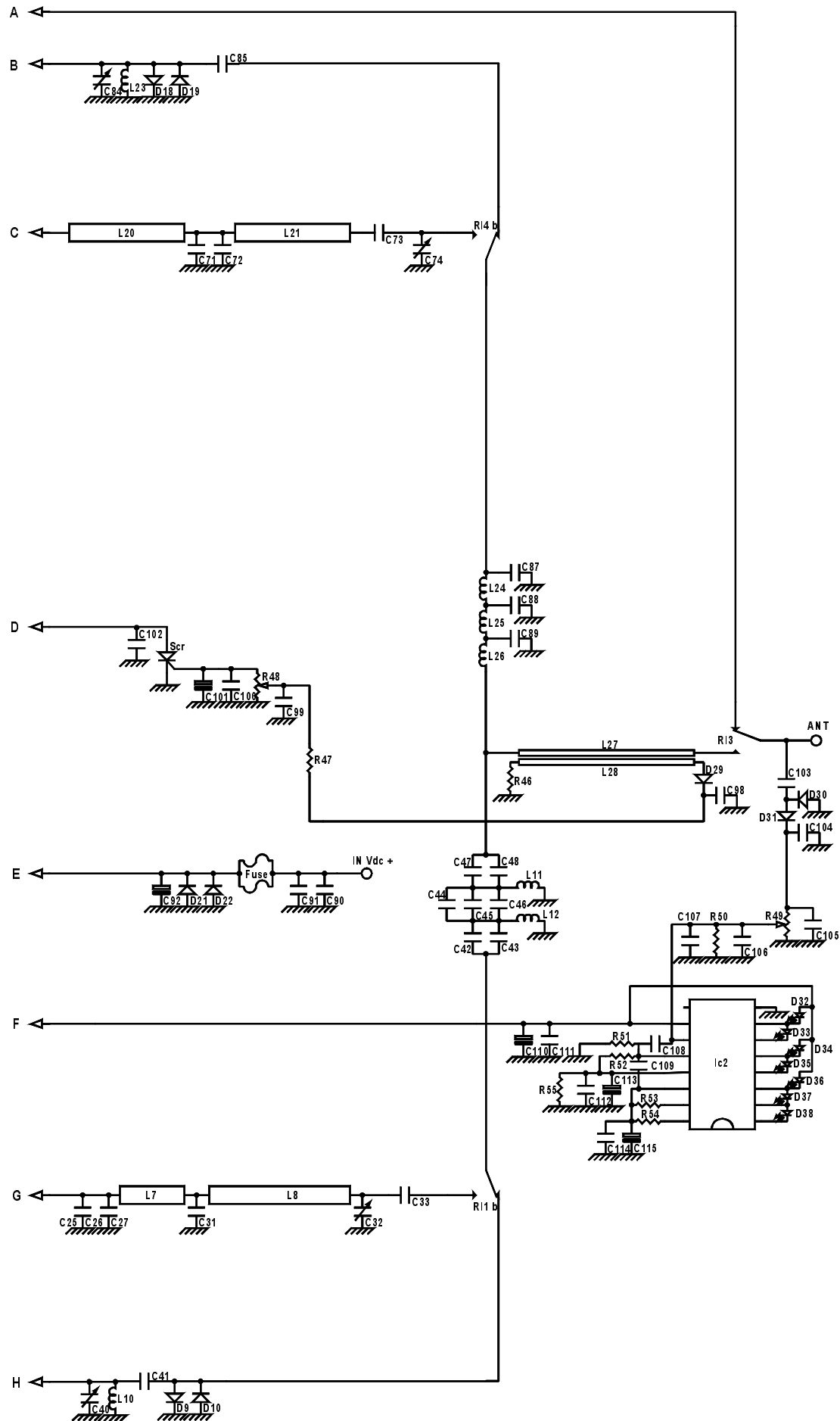
Mod. V-ULA 50 V-UHF linear amplifier

Version 1.02



Schematic diagram





List of components

| | | | | | | | | | |
|------|---|-------------------|-------|------------|------|---|-------------------|-------|------------|
| C 1 | = | 3,9 pF | 50 V | NP0 | C 49 | = | 18 pF | 50 V | NP0 |
| C 2 | = | 3,9 pF | 50 V | NP0 | C 50 | = | 18 pF | 50 V | NP0 |
| C 3 | = | 2,2 pF | 50 V | NP0 | C 51 | = | 18 pF | 50 V | NP0 |
| C 4 | = | 2,2 pF | 50 V | NP0 | C 52 | = | 22 pF | 50 V | NP0 |
| C 5 | = | 1,8 pF | 50 V | NP0 | C 53 | = | 2,2 pF | 50 V | NP0 |
| C 6 | = | 3,9 pF | 50 V | NP0 | C 54 | = | 1,0 nF | 50 V | |
| C 7 | = | 3,9 pF | 50 V | NP0 | C 55 | = | 4,7 µF | 25 V | |
| C 8 | = | 1,8 pF | 50 V | NP0 | C 56 | = | 33 µF | 25 V | |
| C 9 | = | 1,0 nF | 50 V | | C 57 | = | 10 nF | 50 V | |
| C 10 | = | 4,7 µF | 16 V | | C 58 | = | 1,0 nF | 50 V | |
| C 11 | = | 33 µF | 16 V | | C 59 | = | 1,0 nF | 50 V | |
| C 12 | = | 1,0 nF | 50 V | | C 60 | = | 1,0 nF | 50 V | |
| C 13 | = | 1,0 nF | 50 V | | C 61 | = | 220 nF | 63 V | Multilayer |
| C 14 | = | 1,0 nF | 50 V | | C 62 | = | 100 pF | 50 V | NP0 |
| C 15 | = | 220 nF | 63 V | Multilayer | C 63 | = | 100 pF | 50 V | NP0 |
| C 16 | = | 1,0 nF | 50 V | | C 64 | = | 22 pF | 50 V | NP0 |
| C 17 | = | 47 pF | 50 V | NP0 | C 65 | = | 56 pF | 500 V | NP0 |
| C 18 | = | 47 pF | 50 V | NP0 | C 66 | = | Trimmer 5 - 20 pF | | NP0 |
| C 19 | = | Trimmer 5 - 20 pF | | NP0 | C 67 | = | 82 pF | 500 V | NP0 |
| C 20 | = | 10 pF | 50 V | NP0 | C 68 | = | 100 pF | 500 V | NP0 |
| C 21 | = | 6,8 pF | 50 V | NP0 | C 69 | = | 390 pF | 500 V | Mica |
| C 22 | = | 6,8 pF | 50 V | NP0 | C 70 | = | 390 pF | 500 V | Mica |
| C 23 | = | 33 pF | 300 V | Mica | C 71 | = | 22 pF | 500 V | NP0 |
| C 24 | = | 33 pF | 300 V | Mica | C 72 | = | 100 pF | 500 V | Mica |
| C 25 | = | 33 pF | 300 V | Mica | C 73 | = | 2,2 nF | 500 V | |
| C 26 | = | 12 pF | 500 V | NP0 | C 74 | = | Trimmer 5 - 20 pF | | NP0 |
| C 27 | = | 15 pF | 500 V | NP0 | C 75 | = | 2,2 nF | 500 V | |
| C 28 | = | 100 pF | 500 V | NP0 | C 76 | = | 1,0 nF | 50 V | |
| C 29 | = | 220 nF | 63 V | Multilayer | C 77 | = | 220 nF | 63 V | Multilayer |
| C 30 | = | 1,0 nF | 50 V | | C 78 | = | 4,7 pF | 50 V | NP0 |
| C 31 | = | 8,2 pF | 500 V | NP0 | C 79 | = | 4,7 pF | 50 V | NP0 |
| C 32 | = | Trimmer 3 - 10 pF | | NP0 | C 80 | = | 1,0 nF | 50 V | |
| C 33 | = | 47 pF | 500 V | NP0 | C 81 | = | Trimmer 3 - 10 pF | | NP0 |
| C 34 | = | 1,0 nF | 50 V | | C 82 | = | 1,0 nF | 50 V | |
| C 35 | = | 1,0 nF | 50 V | | C 83 | = | 1,0 nF | 50 V | |
| C 36 | = | 2,2 pF | 50 V | NP0 | C 84 | = | Trimmer 3 - 10 pF | | NP0 |
| C 37 | = | Trimmer 2 - 5 pF | | NP0 | C 85 | = | 3,9 pF | 50 V | NP0 |
| C 38 | = | 1,0 nF | 50 V | | C 86 | = | 3,9 pF | 50 V | NP0 |
| C 39 | = | 1,0 nF | 50 V | | C 87 | = | 18 pF | 50 V | NP0 |
| C 40 | = | Trimmer 2 - 5 pF | | NP0 | C 88 | = | 18 pF | 50 V | NP0 |
| C 41 | = | 2,2 pF | 50 V | NP0 | C 89 | = | 18 pF | 50 V | NP0 |
| C 42 | = | 3,9 pF | 50 V | NP0 | C 90 | = | 100 nF | 50 V | |
| C 43 | = | 3,9 pF | 50 V | NP0 | C 91 | = | 220 nF | 63 V | Multilayer |
| C 44 | = | 1,8 pF | 50 V | NP0 | C 92 | = | 470 µF | 25V | |
| C 45 | = | 2,2 pF | 50 V | NP0 | C 93 | = | 1,0 nF | 50 V | |
| C 46 | = | 2,2 pF | 50 V | NP0 | C 94 | = | 1,0 nF | 50 V | |
| C 47 | = | 3,9 pF | 50 V | NP0 | C 95 | = | 1,0 nF | 50 V | |
| C 48 | = | 3,9 pF | 50 V | NP0 | C 96 | = | 1,0 nF | 50 V | |
| | | | | | C 97 | = | 1,0 nF | 50 V | |

| | | | | | | |
|--------------------|--------|------|-----|-------------------|-----------------|-----|
| C ₉₈ = | 1,0 nF | 50 V | | R ₃₂ = | 3,3 KΩ | ¼ W |
| C ₉₉ = | 1,0 nF | 50 V | | R ₃₃ = | 1,0 KΩ | ¼ W |
| C ₁₀₀ = | 1,0 nF | 50 V | | R ₃₄ = | 330 Ω | 2 W |
| C ₁₀₁ = | 10 μF | 25 V | | R ₃₅ = | 1,0 KΩ | ¼ W |
| C ₁₀₂ = | 1,0 nF | 50 V | | R ₃₆ = | 12KΩ | ¼ W |
| C ₁₀₃ = | 2,2 pF | 50 V | NP0 | R ₃₇ = | 1,0 KΩ | ¼ W |
| C ₁₀₄ = | 1,0 nF | 50 V | | R ₃₈ = | 2,2 KΩ | ¼ W |
| C ₁₀₅ = | 1,0 nF | 50 V | | R ₃₉ = | 1,0 KΩ | ¼ W |
| C ₁₀₆ = | 1,0 nF | 50 V | | R ₄₀ = | 1,0 KΩ | ¼ W |
| C ₁₀₇ = | 10 nF | 50 V | | R ₄₁ = | 2,2 KΩ | ¼ W |
| C ₁₀₈ = | 10 nF | 50 V | | R ₄₂ = | 12 KΩ | ¼ W |
| C ₁₀₉ = | 10 nF | 50 V | | R ₄₃ = | 1,0 KΩ | ¼ W |
| C ₁₁₀ = | 10 μF | 25 V | | R ₄₄ = | 1,0 KΩ | ¼ W |
| C ₁₁₁ = | 10 nF | 50 V | | R ₄₅ = | 1,0 KΩ | ¼ W |
| C ₁₁₂ = | 10 nF | 50 V | | R ₄₆ = | 100 Ω | ¼ W |
| C ₁₁₃ = | 4,7 μF | 25 V | | R ₄₇ = | 2,2 KΩ | ¼ W |
| C ₁₁₄ = | 10 nF | 50 V | | R ₄₈ = | Trimmer 4,7 KΩ | |
| C ₁₁₅ = | 10 nF | 50 V | | R ₄₉ = | Trimmer 220 KΩ | |
| R ₁ = | 12 KΩ | ¼ W | | R ₅₀ = | 470 Ω ¼ W | |
| R ₂ = | 2,2 KΩ | ¼ W | | R ₅₁ = | 1,0 KΩ | ¼ W |
| R ₃ = | 1,0 KΩ | ¼ W | | R ₅₂ = | 1,0 KΩ | ¼ W |
| R ₄ = | 100 Ω | ¼ W | | R ₅₃ = | 22 KΩ | ¼ W |
| R ₅ = | 12 KΩ | ¼ W | | R ₅₄ = | 10 KΩ | ¼ W |
| R ₆ = | 2,2 KΩ | ¼ W | | R ₅₅ = | 1,0 KΩ | ¼ W |
| R ₇ = | 2,2 KΩ | ¼ W | | D ₁ = | 1N 4148 | |
| R ₈ = | 1,0 Ω | ½ W | | D ₂ = | OA 118 | |
| R ₉ = | 1,2 KΩ | ¼ W | | D ₃ = | 1N 4004 | |
| R ₁₀ = | 6,8 Ω | ¼ W | | D ₄ = | 1N 4004 | |
| R ₁₁ = | 10 Ω | ¼ W | | D ₅ = | 1N 5400 | |
| R ₁₂ = | 470 Ω | ¼ W | | D ₆ = | 1N 4148 | |
| R ₁₃ = | 1,0 KΩ | ¼ W | | D ₇ = | 1N 4148 | |
| R ₁₄ = | 6,8 KΩ | ¼ W | | D ₈ = | Zener 5,1 V ½ W | |
| R ₁₅ = | 3,3 KΩ | ¼ W | | D ₉ = | 1N 4148 | |
| R ₁₆ = | 10 Ω | ¼ W | | D ₁₀ = | 1N 4148 | |
| R ₁₇ = | 12 KΩ | ¼ W | | D ₁₁ = | 1N 4148 | |
| R ₁₈ = | 2,2 KΩ | ¼ W | | D ₁₂ = | 1N 4148 | |
| R ₁₉ = | 1,0 KΩ | ¼ W | | D ₁₃ = | 1N 4004 | |
| R ₂₀ = | 100 Ω | ¼ W | | D ₁₄ = | 1N 4004 | |
| R ₂₁ = | 2,2 KΩ | ¼ W | | D ₁₅ = | 1N 5400 | |
| R ₂₂ = | 12 KΩ | ¼ W | | D ₁₆ = | 1N 4148 | |
| R ₂₃ = | 2,2 KΩ | ¼ W | | D ₁₇ = | 1N 4148 | |
| R ₂₄ = | 1,0 Ω | ½ W | | D ₁₈ = | 1N 4148 | |
| R ₂₅ = | 1,2 KΩ | ¼ W | | D ₁₉ = | 1N 4148 | |
| R ₂₆ = | 4,7 Ω | ¼ W | | D ₂₀ = | Zener 5,1 V ½ W | |
| R ₂₇ = | 10 Ω | ¼ W | | D ₂₁ = | 1N 5400 | |
| R ₂₈ = | 470 Ω | ¼ W | | D ₂₂ = | 1N 5400 | |
| R ₂₉ = | 1,0 KΩ | ¼ W | | D ₂₃ = | Red LED | |
| R ₃₀ = | 220 Ω | ¼ W | | D ₂₄ = | Green LED | |
| R ₃₁ = | 6,8 KΩ | ¼ W | | D ₂₅ = | 1N 4004 | |

| | | | |
|--------------------|---|-------------------|---|
| D ₂₆ = | BicolorLED | L ₁₄ = | 4 turns wire ϕ 1 mm on ϕ 5 mm |
| D ₂₇ = | 1N 4004 | L ₁₅ = | 4 turns wire ϕ 1 mm on ϕ 5 mm |
| D ₂₈ = | Bicolor LED | L ₁₆ = | Strip line |
| D ₂₉ = | 1N 4148 | L ₁₇ = | VK 200 |
| D ₃₀ = | 1N 4148 | L ₁₈ = | 3 turns wire ϕ 1,5 mm on ϕ 8 mm |
| D ₃₁ = | 1N 4148 | L ₁₉ = | 2 turns wire ϕ 1,3 mm on $\frac{1}{2}$ Balun |
| D ₃₂ = | Green LED | L ₂₀ = | Strip line |
| D ₃₃ = | Green LED | L ₂₁ = | Strip line |
| D ₃₄ = | Green LED | L ₂₂ = | 4 turns wire ϕ 0,8 mm on ϕ 5 mm |
| D ₃₅ = | Green LED | L ₂₃ = | 4 turns wire ϕ 0,8 mm on ϕ 5 mm |
| D ₃₆ = | Green LED | L ₂₄ = | 4 turns wire ϕ 1 mm on ϕ 5 mm |
| D ₃₇ = | Green LED | L ₂₅ = | 4 turns wire ϕ 1 mm on ϕ 5 mm |
| D ₃₈ = | Green LED | L ₂₆ = | 4 turns wire ϕ 1 mm on ϕ 5 mm |
| Tr ₁ = | BC 547 | L ₂₇ = | Strip line |
| Tr ₂ = | BC 327 | L ₂₈ = | Strip line |
| Tr ₃ = | BC 547 | Rl ₁ = | 4052-12 |
| Tr ₄ = | BD 179 | Rl ₂ = | 4052-12 |
| Tr ₅ = | BC 547 | Rl ₃ = | 4052-12 |
| Tr ₆ = | BC 337 | Rl ₄ = | 4052-12 |
| Tr ₇ = | BC 557 | S ₁ = | Switch 3A (FM - SSB) |
| Tr ₈ = | BLU 45/12 | S ₂ = | Switch 3A (Simplex - Duplex) |
| Tr ₉ = | BF 966 S | S ₃ = | Switch 3A (ON - OFF) |
| Tr ₁₀ = | BC 547 | | |
| Tr ₁₁ = | BC 547 | | |
| Tr ₁₂ = | BC 327 | | |
| Tr ₁₃ = | BD 179 | | |
| Tr ₁₄ = | BC 547 | | |
| Tr ₁₅ = | BC 557 | | |
| Tr ₁₆ = | BC 337 | | |
| Tr ₁₇ = | SD 1477 | | |
| Tr ₁₈ = | BF 966 S | | |
| Tr ₁₉ = | TIP 142 | | |
| Scr = | P0102 | | |
| Fuse = | 2 x 6 A | | |
| IC ₁ = | CD 4013 | | |
| IC ₂ = | KA 2288 | | |
| L ₁ = | 2 turns wire ϕ 1 mm on ϕ 3 mm | | |
| L ₂ = | 2 turns wire ϕ 1 mm on ϕ 3 mm | | |
| L ₃ = | Strip line | | |
| L ₄ = | VK 200 | | |
| L ₅ = | VK 200 | | |
| L ₆ = | 2 turns wire ϕ 1 mm on ϕ 6 mm | | |
| L ₇ = | Strip line | | |
| L ₈ = | Strip line | | |
| L ₉ = | Strip line | | |
| L ₁₀ = | Strip line | | |
| L ₁₁ = | 2 turns wire ϕ 1 mm on ϕ 3 mm | | |
| L ₁₂ = | 2 turns wire ϕ 1 mm on ϕ 3 mm | | |
| L ₁₃ = | 4 turns wire ϕ 1 mm on ϕ 5 mm | | |