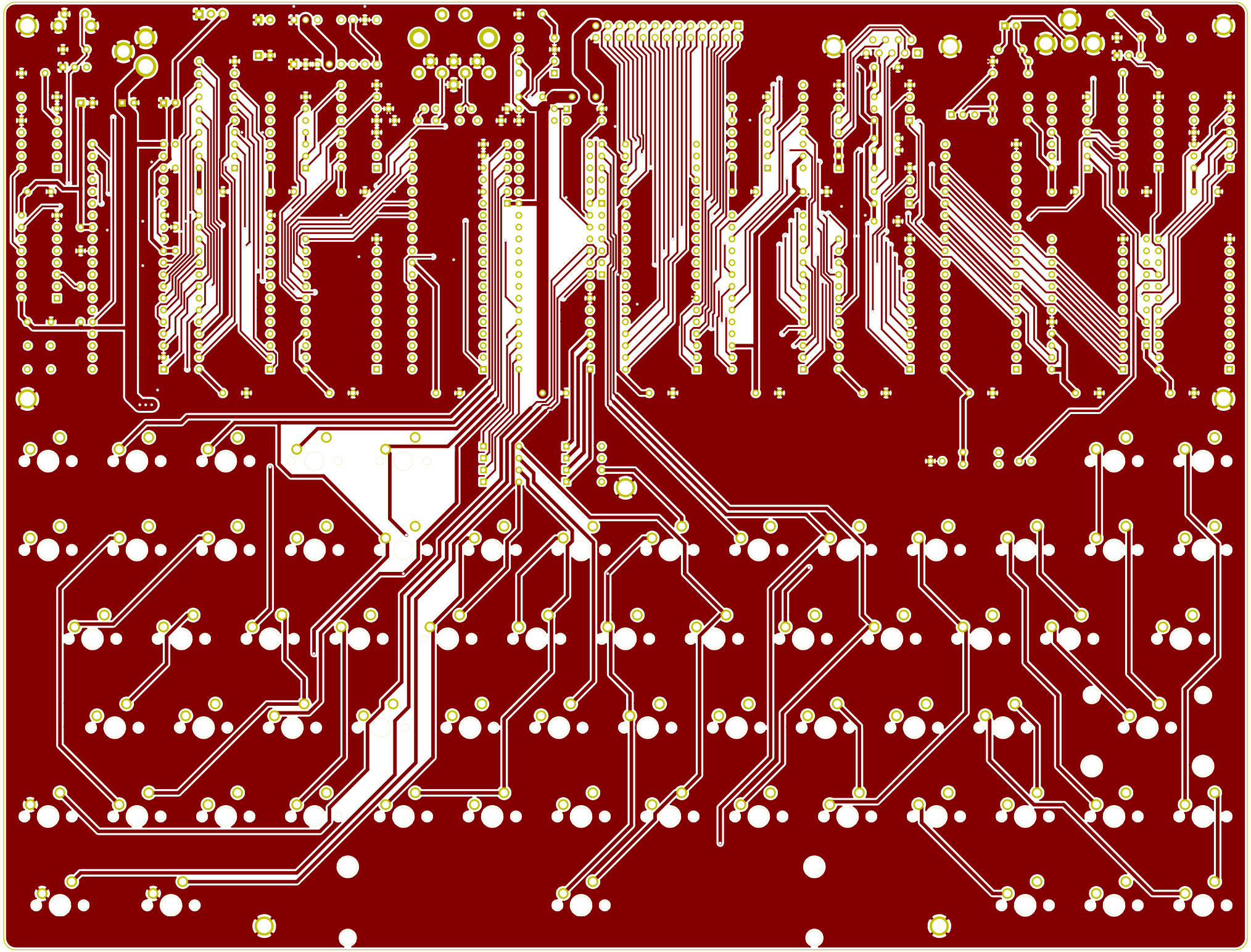

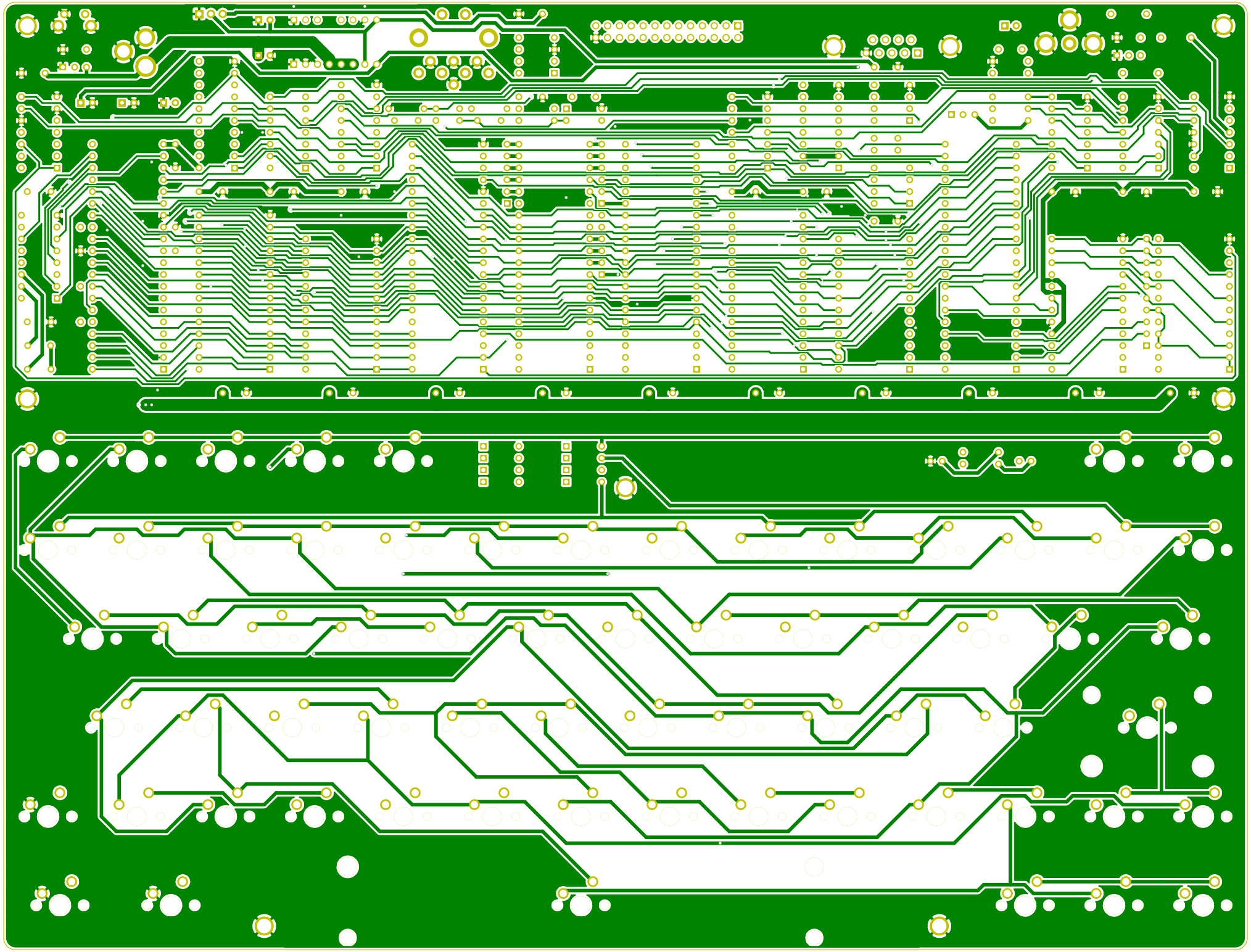

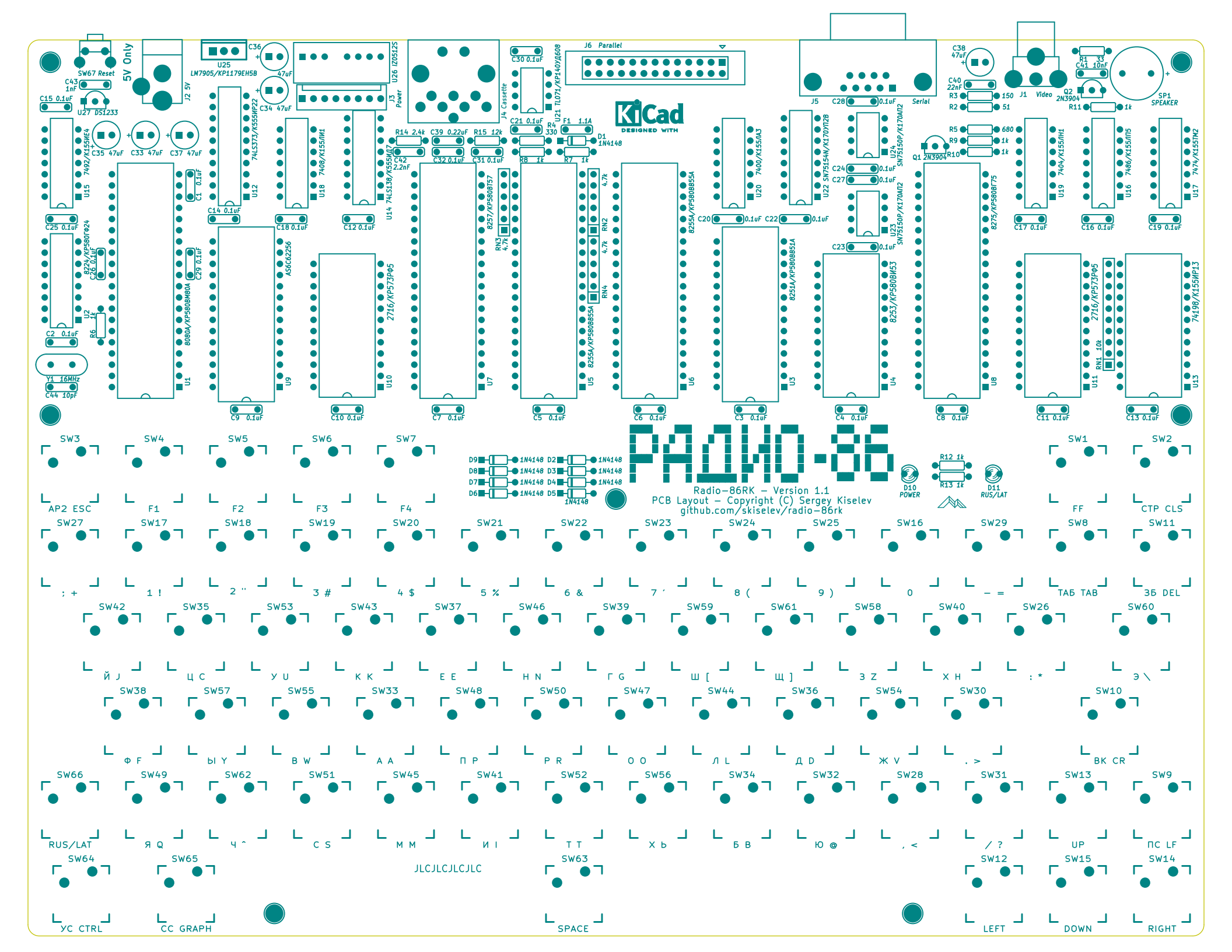
РАДИО-86
Radio-86RK - Version 1.1
PCB Layout - Copyright (C) Sergey Kiselev
github.com/skiselev/radio-86rk
SW67 Reset
5V Only
J2 5V
U25
LM7905/KP1179EH5B
J3 Power
J4 Cassette
J6 Parallel
J5 Serial
J1 Video
SP1 SPEAKER
Q2 2N3904
Q1 2N3904
D1 1N4148
D10 POWER
D11 RUS/LAT
Y1 16MHz
AP2 ESC
F1
F2
F3
F4
FF
СТР CLS
ТАБ TAB
ЗБ DEL
ВК CR
RUS/LAT
UP
ПС LF
JLCJLCJLCJLC
УС CTRL
СС GRAPH
SPACE
LEFT
DOWN
RIGHT

Memory Map:

```
0000h –  7FFFh:  RAM (32K): 7600h – 7FFFh – Display and Monitor Memory
8000h –  BFFFh:  8255A PPI (Keyboard, Cassette, Sound Control)
9000h –  9FFFh:  8253 PIT (Sound, USART Clock)
0A000h – 0AFFFh: 8255A PPI (Parallel Interface)
0B000h – 0BFFFh: 8251A USART
0C000h – 0CFFFh: 8275 CRT Controller
0D000h – 0DFFFh: Unused
0E000h – 0EFFFh: 8257 DMA Controller (Write Only)
0E000h – 0FFFFh: ROM (Read Only)
```

Monitor Commands – Memory:

```
D<Start_Address>,<End_Address> – Display memory content in hexadecimal
L<Start_Address>,<End_Address> – Display memory content in ASCII
F<Start_Address>,<End_Address>,<Value> – Fill memory with a value
```

```
M<Address> – Modify memory content
T<Start_Address>,<End_Address>,<Destination_Start_Address> – Copy memory block to destination
C<Start_Address>,<End_Address>,<Destination_Start_Address> – Compare memory block with destination
S<Start_Address>,<End_Address>,<Value> – Search memory for a value
```

```
R<ROM_Start_Address>,<ROM_End_Address>,<Destination_Start_Address> – Read from ROM connected to Parallel interface to  memory
Monitor Commands – Run Control and Registers:
G<Start_Address>[,End_Address] – Run code, optionally stop at the specified address
X – Display and modify registers
```

Monitor Commands – Cassette Input/Output:

```
O<Start_Address>,<End_Address>[,Speed] – Write memory to cassette. Default speed is 1Dh \ 1200 bps
I[<Offset>][,Speed] – Read data from to cassette memory at specified offset
```

Credits:

```
Schematic and firmware are based on Radio Magazine publications
April 1988 to June 1989: archive.radio.ru\web\ and on
Alexey Khudyakov's Radio-86RK-SRAM project: radio86rk.pbworks.com
```

Monitor Subroutines:

```
0F803h – Keyboard input – Output: A – character
0F806h – Cassette input – Input: A=0FFh – with sync
         A=00h – no sync; Output: A – data
```

```
0F809h – Print to screen – Input: C – character
0F80Ch – Cassette output – Input: C – data
0F812h – Query keyboard – Output: A=00h – key not
         pressed; A=0FFh – key pressed
```

```
0F815h – Print to screen in hex – Input: A – data
0F818h – Print string – Input: HL – string address
0F81Bh – Get key – Output: A=0FFh – key not pressed
         A=0FEh – Rus\Lat; otherwise A – key code
```

```
0F81Eh – Get cursor – Output: H – row, L – column
0F821h – Read screen – Output: A – char at cursor
0F824h – Read from cassette – Input: HL – offset
         Output: HL – start; DE – end; BC – chk.sum
```

```
0F82Ah – Calculate checksum – Input: HL – start;
         DE – end; Output: BC – checksum
0F82Dh – Initialize CRT (after cassette I/O)
0F830h\0F833h – Get\Set RAM top – Output\Input: HL
         – address
```