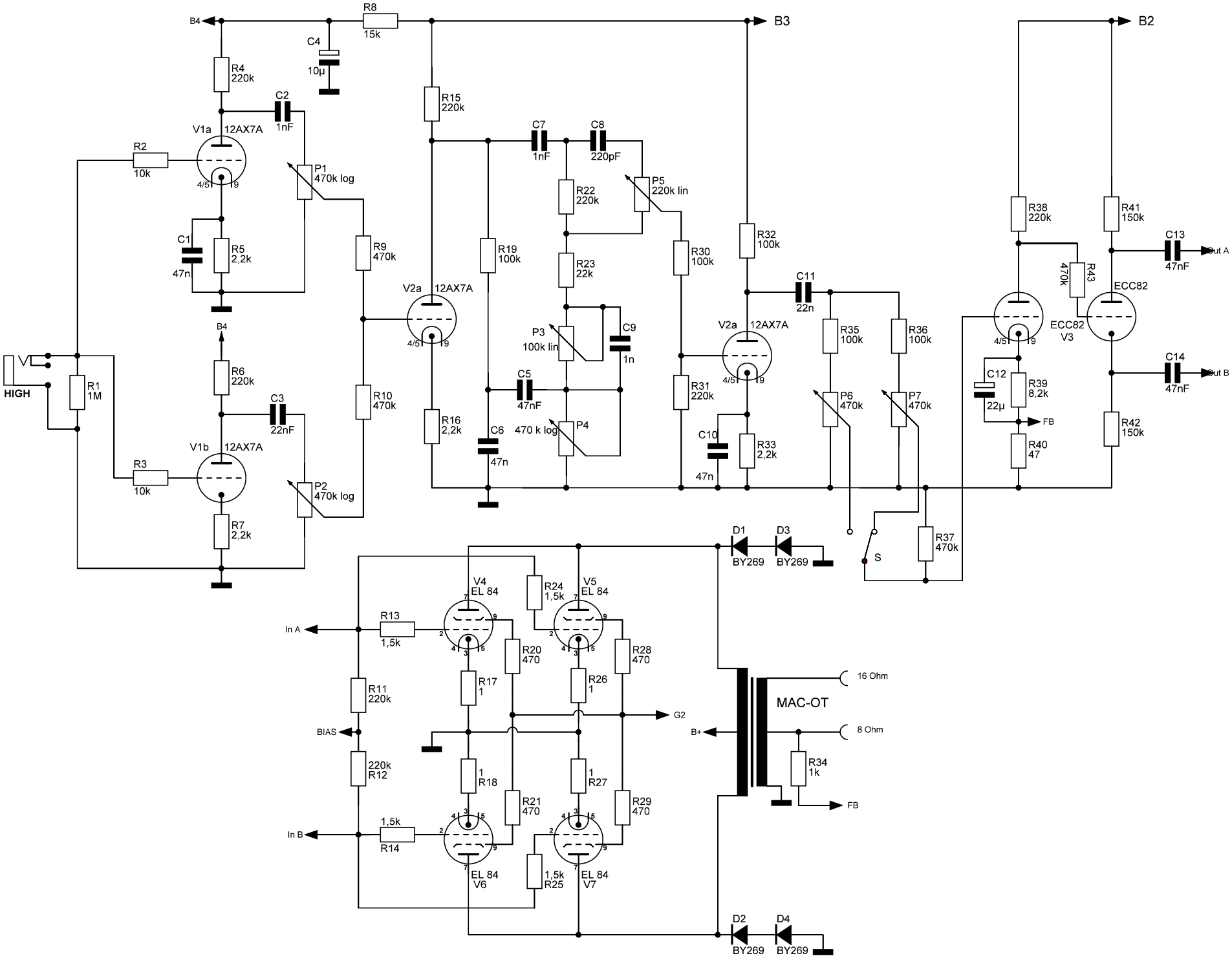
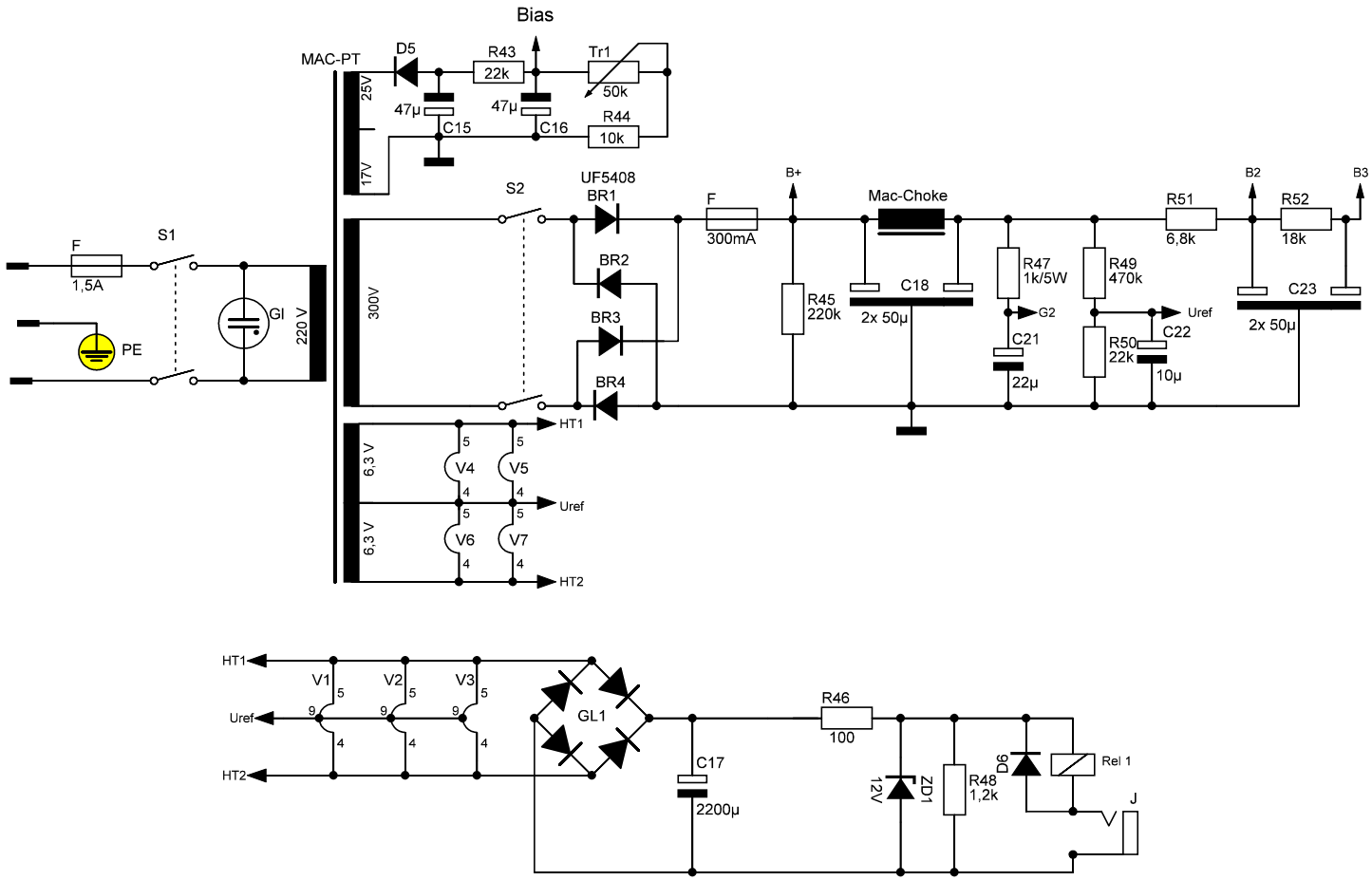
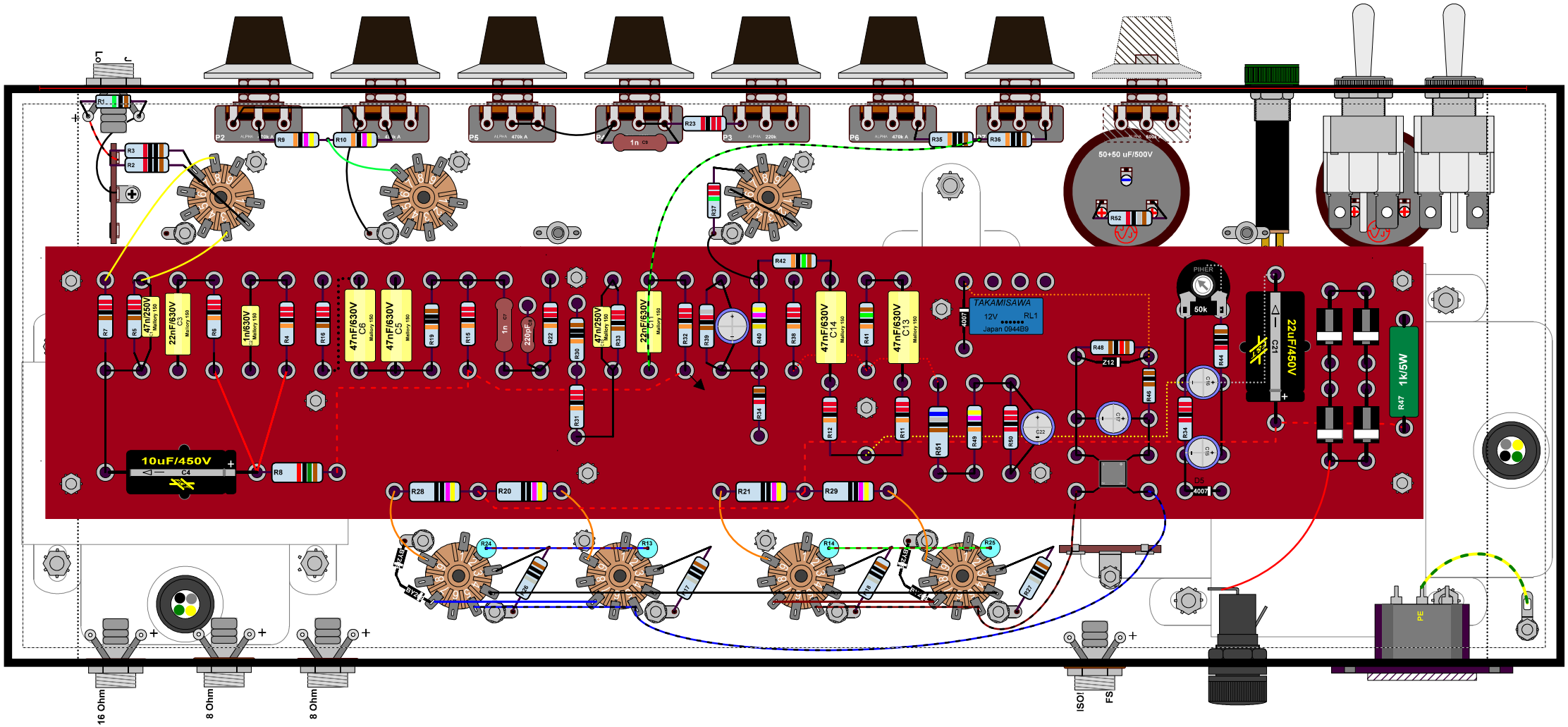

B4
R8
15k
B3
B2
C4
10µ
R4
220k
C2
1nF
V1a
12AX7A
R2
10k
4/5
9
P1
470k log
C1
47n
R5
2,2k
R9
470k
R15
220k
C7
1nF
C8
220pF
R22
220k
P5
220k lin
R19
100k
R23
22k
R30
100k
R32
100k
C11
22n
V2a
12AX7A
P3
100k lin
C9
1n
C5
47nF
P4
470 k log
R31
220k
C10
47n
R33
2,2k
R35
100k
R36
100k
P6
470k
P7
470k
R38
220k
R41
150k
C13
47nF
Out A
R43
470k
ECC82
ECC82
V3
C14
47nF
Out B
C12
22µ
R39
8,2k
FB
R40
47
R42
150k
V
HIGH
R1
1M
R6
220k
C3
22nF
V1b
12AX7A
R3
10k
P2
470k log
R7
2,2k
R10
470k
R16
2,2k
C6
47n
D1
BY269
D3
BY269
S
R37
470k
V4
EL 84
V5
EL 84
R24
1,5k
In A
R13
1,5k
R20
470
R28
470
R17
1
R26
1
R11
220k
G2
BIAS
220k
R12
1
R18
1
R27
R21
470
R29
470
In B
1,5k
R14
EL 84
V6
1,5k
R25
EL 84
V7
MAC-OT
16 Ohm
B+
8 Ohm
R34
1k
FB
D2
BY269
D4
BY269


Bias
MAC-PT
D5
R43
22k
Tr1
50k
47µ
C15
47µ
C16
R44
10k
25V
17V
S2
UF5408
BR1
BR2
BR3
BR4
F
300mA
B+
Mac-Choke
R51
6,8k
B2
R52
18k
B3
F
1,5A
S1
PE
GI
220 V
300V
R45
220k
C18
2x 50µ
R47
1k/5W
G2
C21
22µ
R49
470k
Uref
R50
22k
C22
10µ
C23
2x 50µ
HT1
6,3 V
V4
V5
Uref
6,3 V
V6
V7
HT2
HT1
V1
V2
V3
Uref
HT2
GL1
C17
2200µ
R46
100
ZD1
12V
R48
1,2k
D6
Rel 1
J



10uF/450V
C4
47nF/630V
C6
47nF/630V
C5
47nF/630V
C14
47nF/630V
C13
22nF/630V
47n/250V
1n/630V
22nF/630V
47n/250V
22nF/630V
1n
220pF
TAKAMISAWA
12V
RL1
Japan 0944B9
PIHER
50k
22uF/450V
C21
1k/5W
R47
50+50 uF/500V
R52
R48
Z12
R42
R37
R23
R35
R36
R9
R10
R3
R2
R1
R7
R5
R6
R4
R16
R19
R15
R22
R30
R31
R33
R32
R39
R40
R38
R41
R12
R11
R51
R49
R50
R34
R44
R46
R8
R28
R20
R21
R29
R24
R13
R14
R25
R27
16 Ohm
8 Ohm
8 Ohm
ISO!
FS
PE