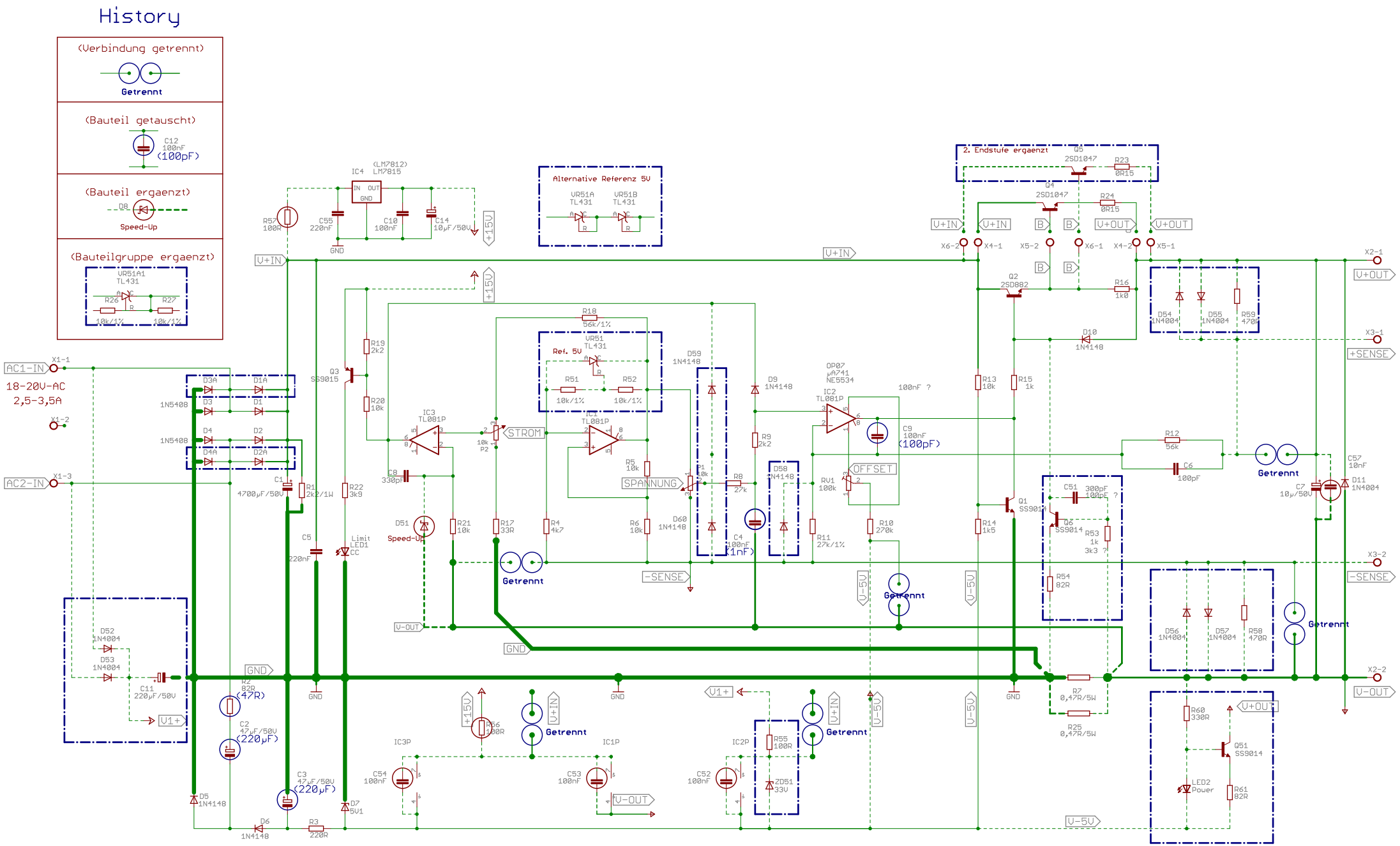
History
(Verbindung getrennt)
Getrennt
(Bauteil getauscht)
C12
100nF
(100pF)
(Bauteil ergaenzt)
D8
Speed-Up
(Bauteilgruppe ergaenzt)
VR51A1
TL431
R26
R27
10k/1%
10k/1%
Alternative Referenz 5V
VR51A
TL431
VR51B
TL431
2. Endstufe ergaenzt
Ref. 5V
VR51
TL431
R51
R52
10k/1%
10k/1%
IC4
(LM7812)
LM7815
IN
OUT
GND
R57
100R
C55
220nF
C10
100nF
C14
10µF/50V
+15V
U+IN
AC1-IN
AC2-IN
X1-1
X1-2
X1-3
18-20V-AC
2,5-3,5A
D3A
D1A
D3
D1
D4
D2
D4A
D2A
1N5408
C1
4700µF/50V
R1
2k2/1W
R22
3k9
C5
220nF
Limit
LED1
CC
Q3
SS9015
R19
2k2
R20
10k
R18
56k/1%
IC3
TL081P
C8
330pF
STROM
10k
P2
IC1
TL081P
R5
10k
SPANNUNG
P1
10k
R8
27k
D59
1N4148
D58
1N4148
D9
1N4148
R9
2k2
C4
100nF
(1nF)
D60
1N4148
R6
10k
R4
4k7
R17
33R
D51
Speed-Up
R21
10k
R10
270k
R11
27k/1%
RV1
100k
OFFSET
IC2
TL081P
OP07
µA741
NE5534
100nF ?
C9
100nF
(100pF)
R13
10k
R15
1k
R14
1k5
Q1
SS9014
C51
300pF
100pF ?
Q4
SS9014
R53
1k
3k3 ?
R54
82R
R12
56k
C6
100pF
C7
10µ/50V
C57
10nF
D11
1N4004
Getrennt
X2-1
X2-2
X3-1
X3-2
+SENSE
-SENSE
U+OUT
U-OUT
U+
U-
U1+
U-5V
GND
Q5
2SD1047
Q4
2SD1047
R23
0R15
R24
0R15
Q2
2SD882
R16
1k0
D10
1N4148
D54
1N4004
D55
1N4004
R59
470R
D56
1N4004
D57
1N4004
R58
470R
R7
0,47R/5W
R25
0,47R/5W
R60
330R
Q51
SS9014
LED2
Power
R61
82R
D52
1N4004
D53
1N4004
C11
220µF/50V
R2
82R
(47R)
C2
47µF/50V
(220µF)
C3
47µF/50V
(220µF)
D5
1N4148
D6
1N4148
R3
220R
D7
5V1
R66
500R
IC3P
IC1P
IC2P
C54
100nF
C53
100nF
C52
100nF
R55
100R
ZD51
33V