

Die Schaltpläne zum Abschlußbericht des Projekts

DIGITALTECHNIK *BACK TO THE ROOTS*

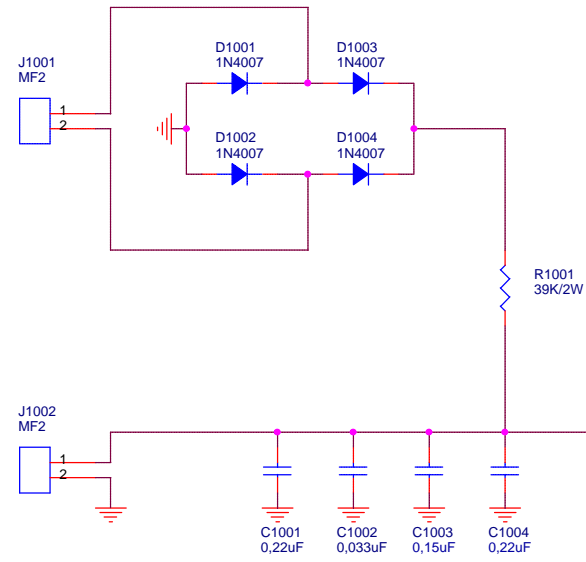
2007/2008

Digitaluhr	<i>ONCILLA</i>
Geigerzähler	<i>CARACAL</i>
Personenwaage	<i>SERVAL</i>
Personenwaage	<i>SUPER-SERVAL</i>

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D-10777 Berlin		http://www.tigris.de
Title Titelblatt		
Size A3	Document Number	Rev 0
Date: Saturday, September 27, 2008		Sheet 1 of 35

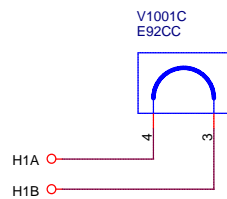
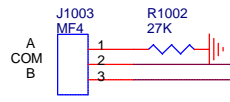
Schwingkreis

Trafo-Sekundärwicklung
210V eff

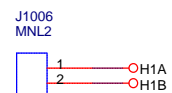


Drossel 4H für
Schwingkreis
100 Hz

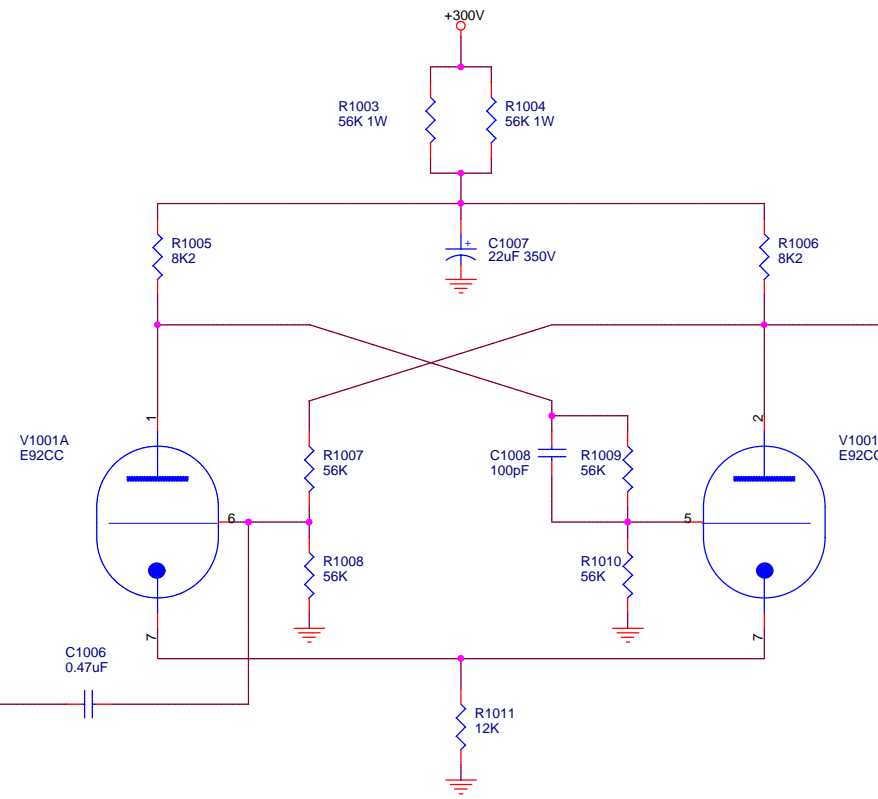
Schalter für Takt
Ein/Aus



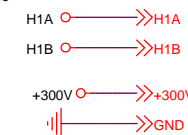
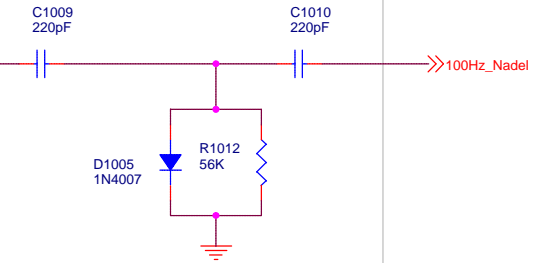
Von Netztrafo



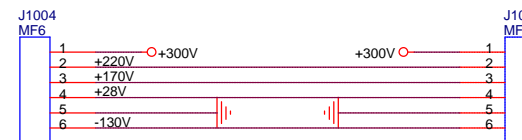
Pulsformer Sinus => Rechteck



Pulsformer Rechteck => Nadel

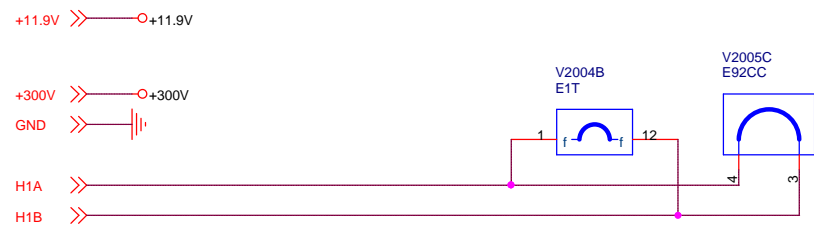
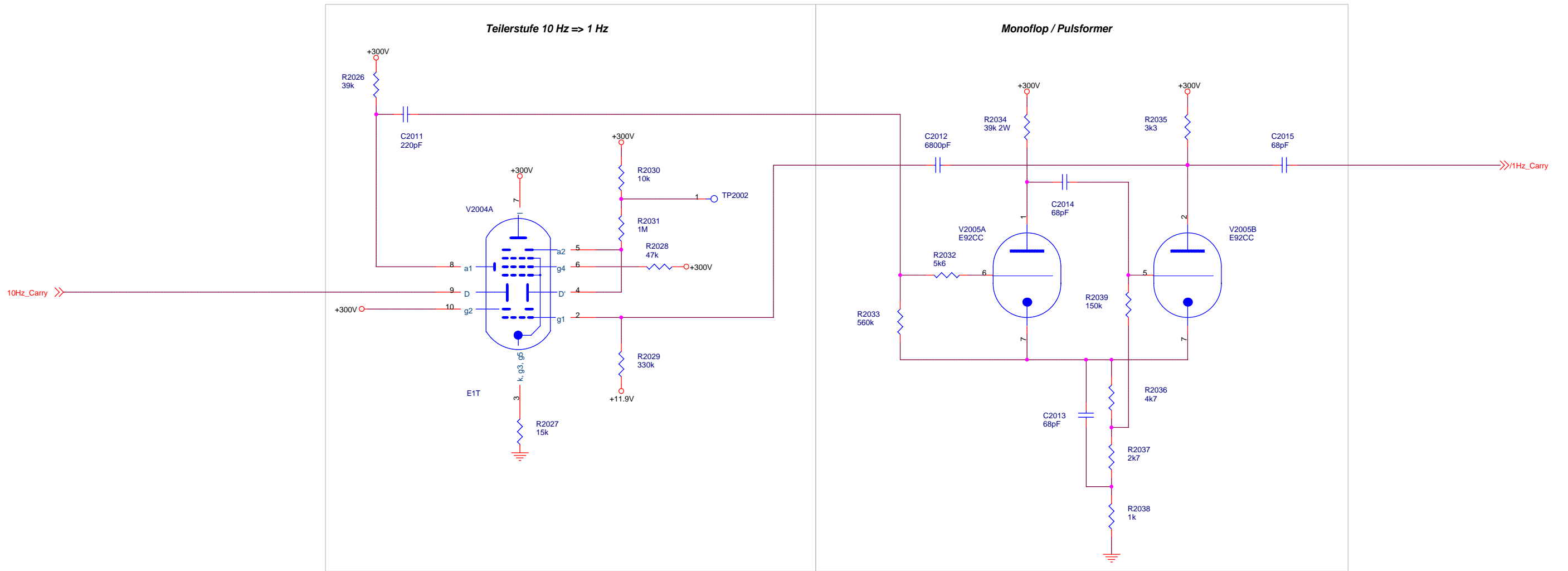


Von Netzteil



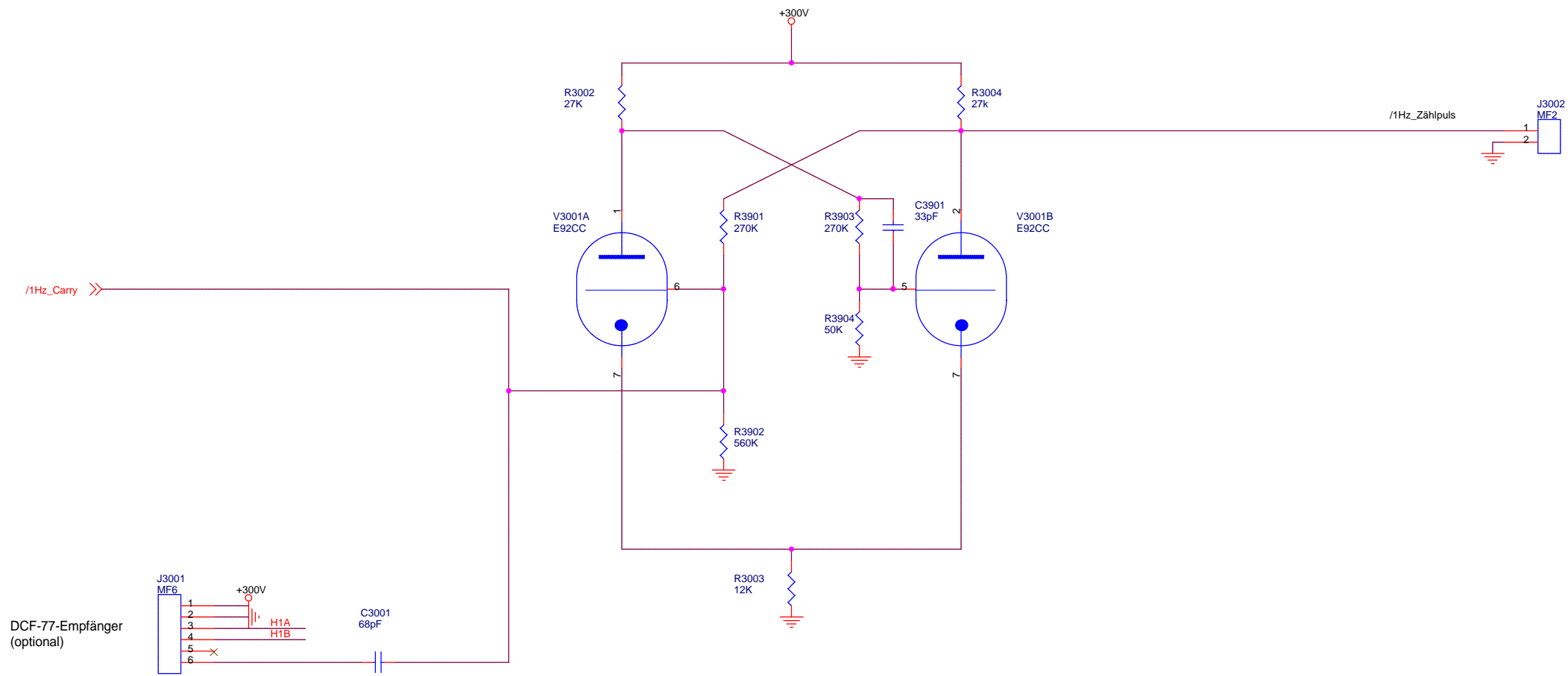
Zur folgenden Zählstufe

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Title: ONCILLA CLOCK Zeitbasis 1Hz -- Schwingkreis / Pulsformer		
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Title: ONCILLA CLOCK Zeitbasis 1Hz -- Teiler 10Hz / 1 Hz		
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Schmitttrigger



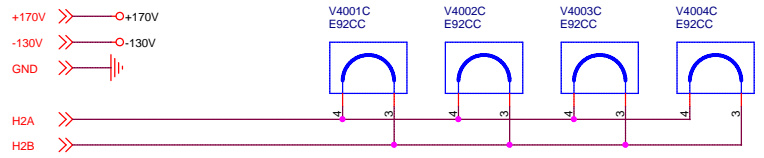
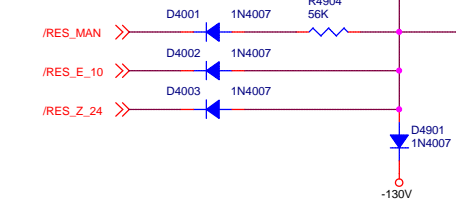
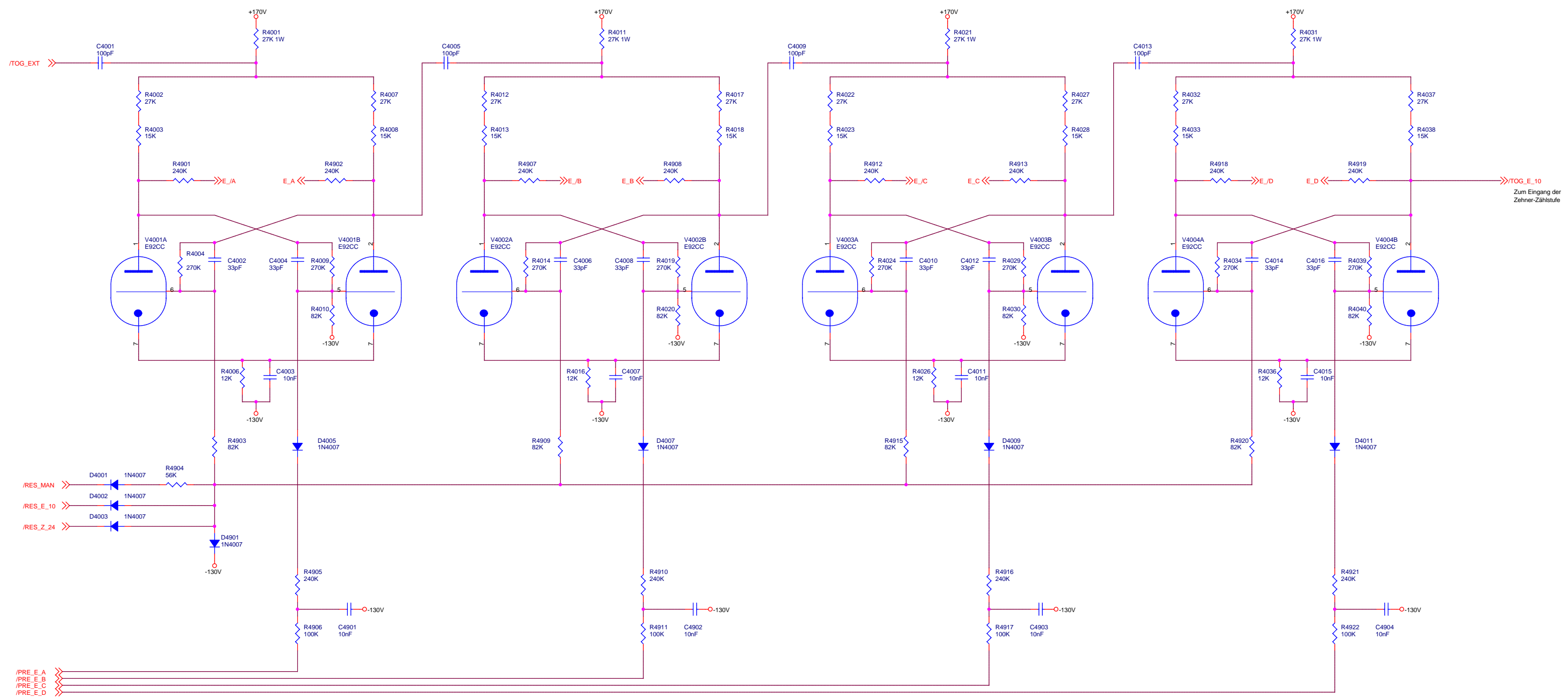
DCF-77-Empfänger
(optional)

+300V >> +300V
GND >> GND

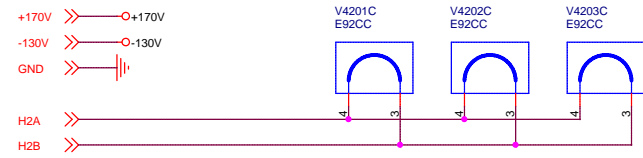
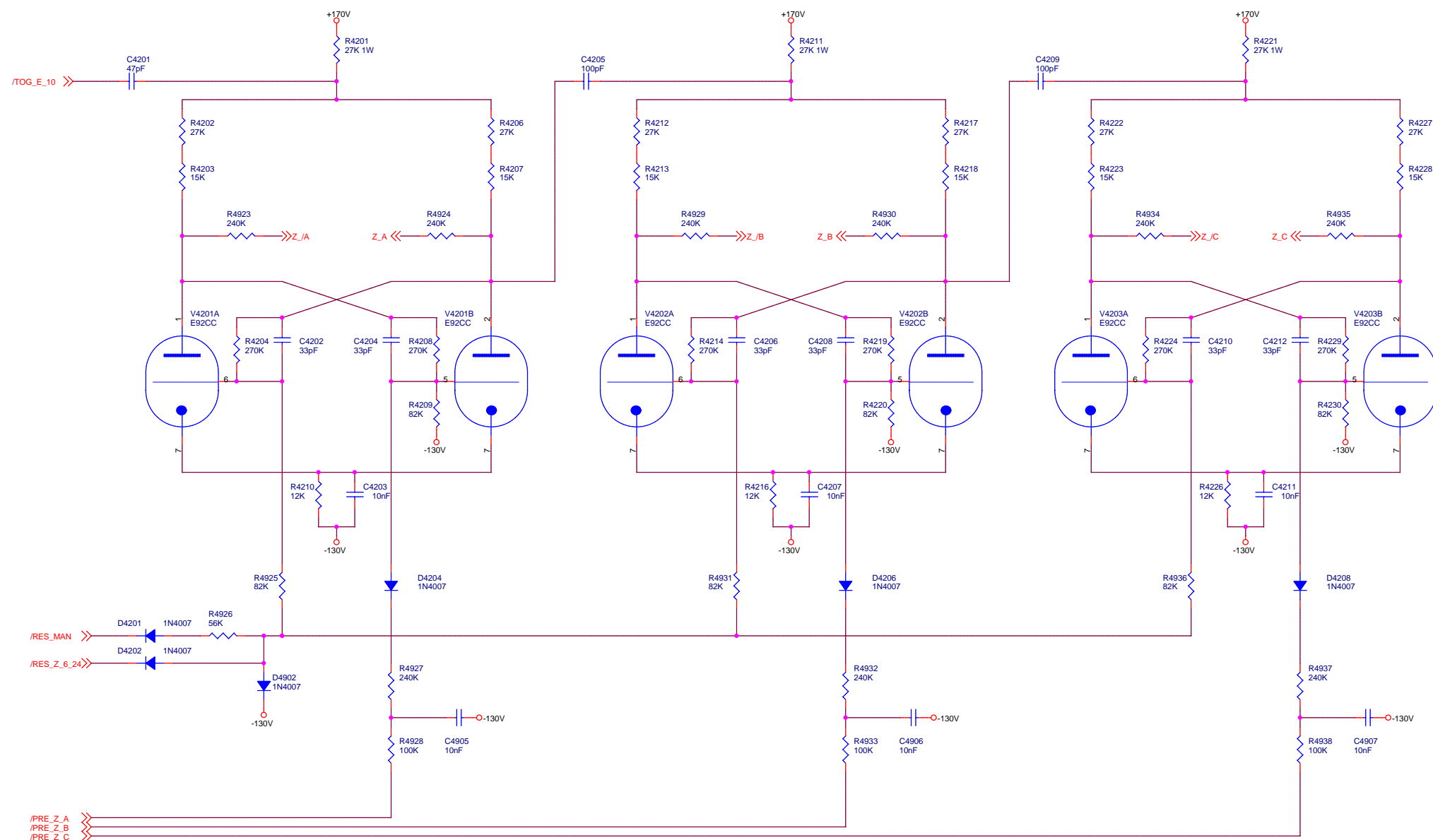
H1A >>
H1B >>



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Zum Eingang der
Zehner-Zählstufe

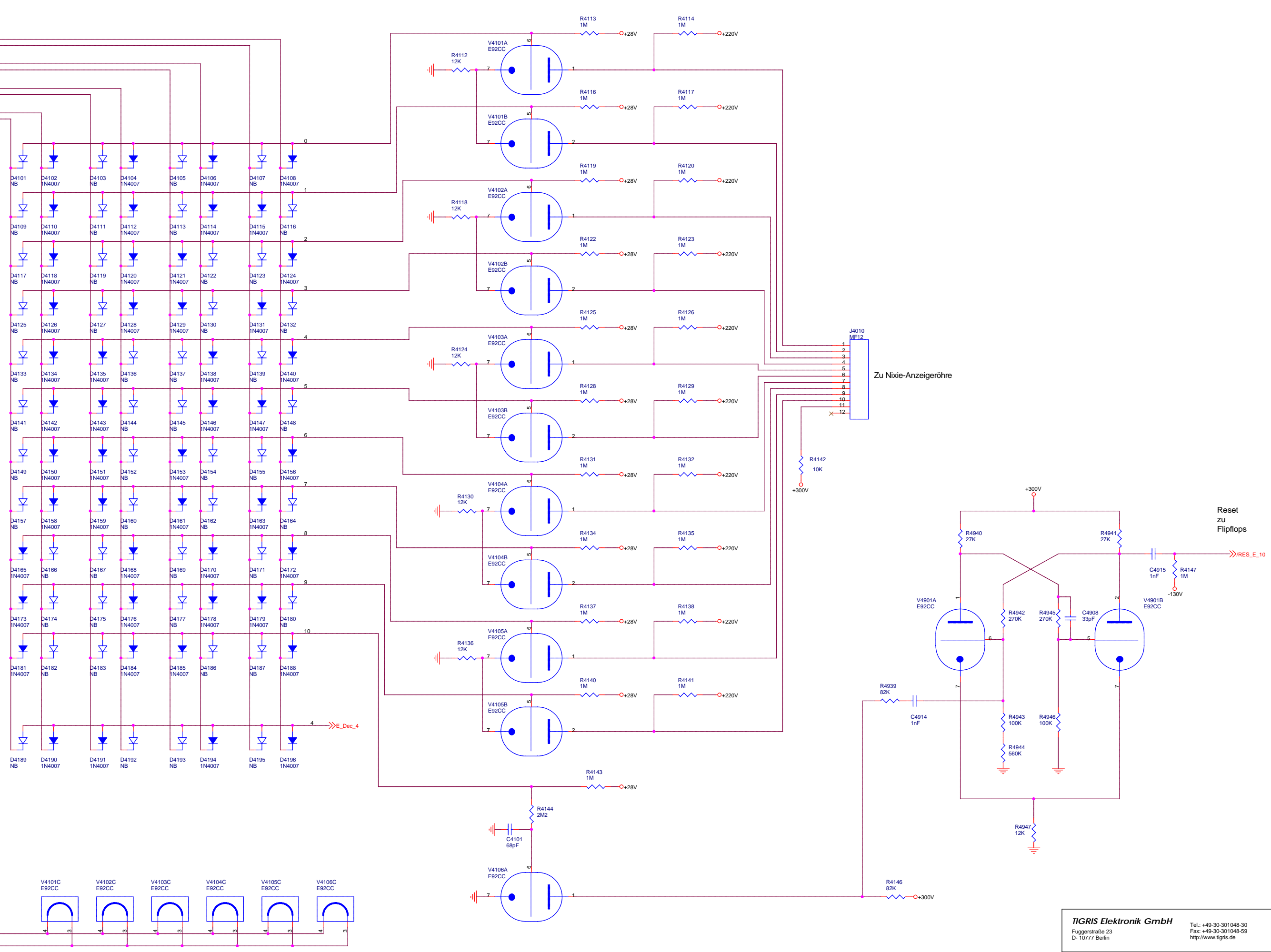


Mit Patches gemäß tatsächlicher Ausführung am 01.01.2008

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Title: ONCILLA CLOCK Zählstufe Zehner		
Size: A2	Document Number:	Rev: 0
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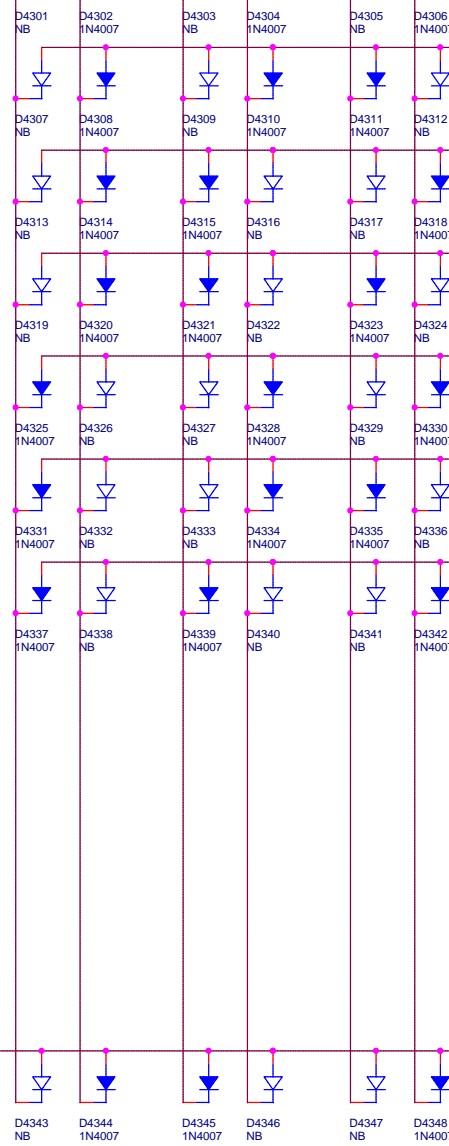
Einer-Stellen
Von
Flipflops

+28V
+220V
+300V
GND
H1A
H1B



Zehner-Stellen
Von
Flipflops

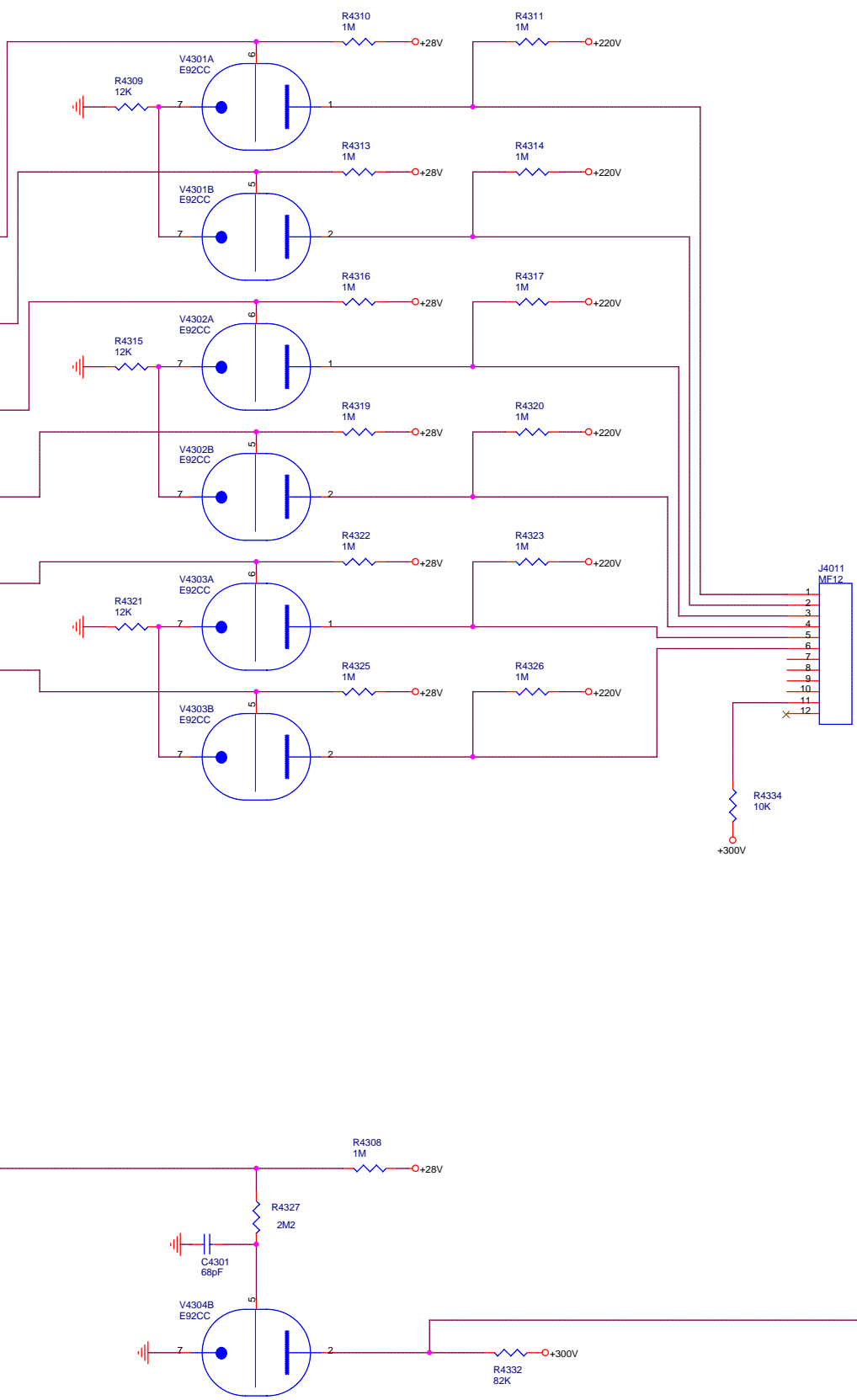
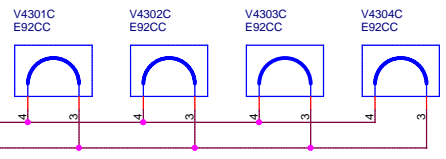
Z_A
Z_B
Z_C



Von Decoder
Einerstellen

E_Dec_4

+28V
+220V
+300V
GND



Zu Nixie-
Anzeigeröhre

J4011
MF12

+300V

R4948
82K

C4909
1nF

R4951
270K

R4952
270K

C4910
33pF

R4953
660K

R4954
100K

R4955
12K

V4902A
E92CC

V4902B
E92CC

R4949
27K

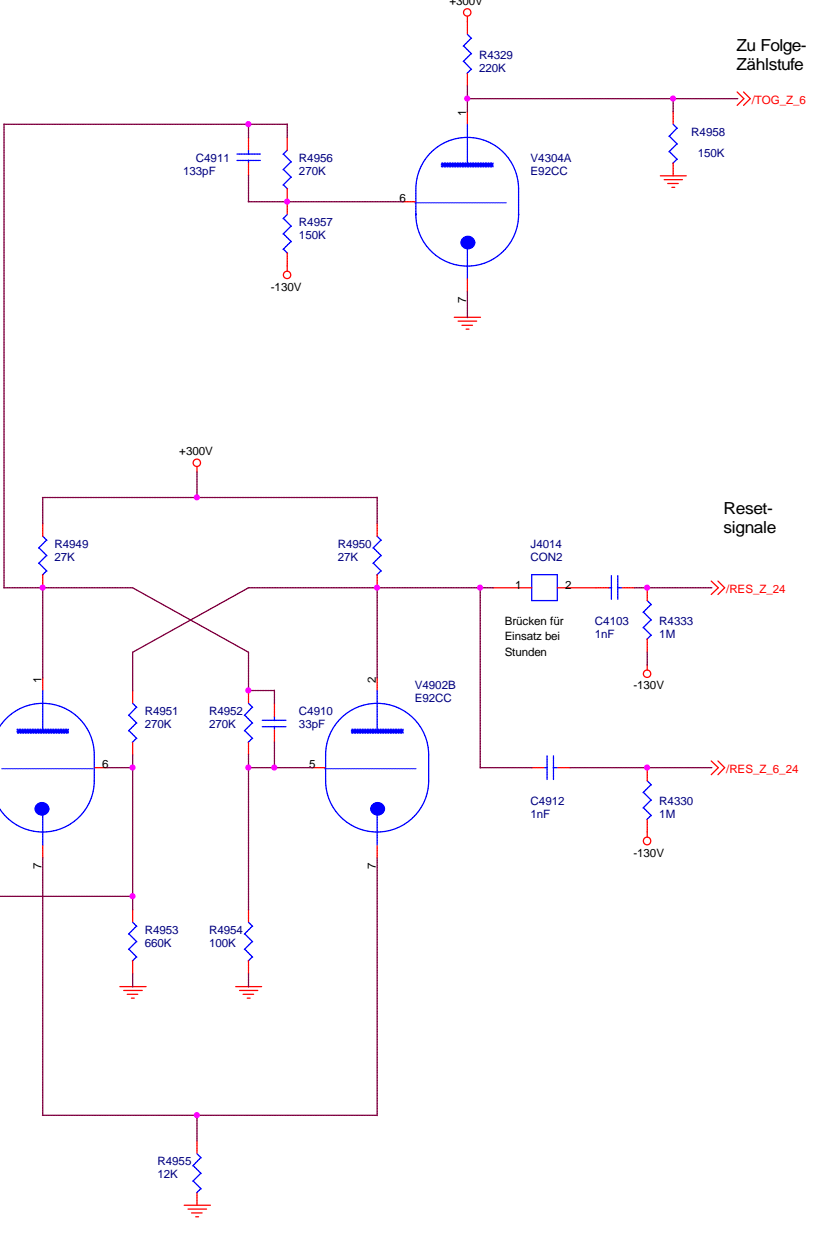
R4950
27K

J4014
CON2

C4912
1nF

R4330
1M

-130V



Zu Folge-
Zählstufe

TOG_Z_6

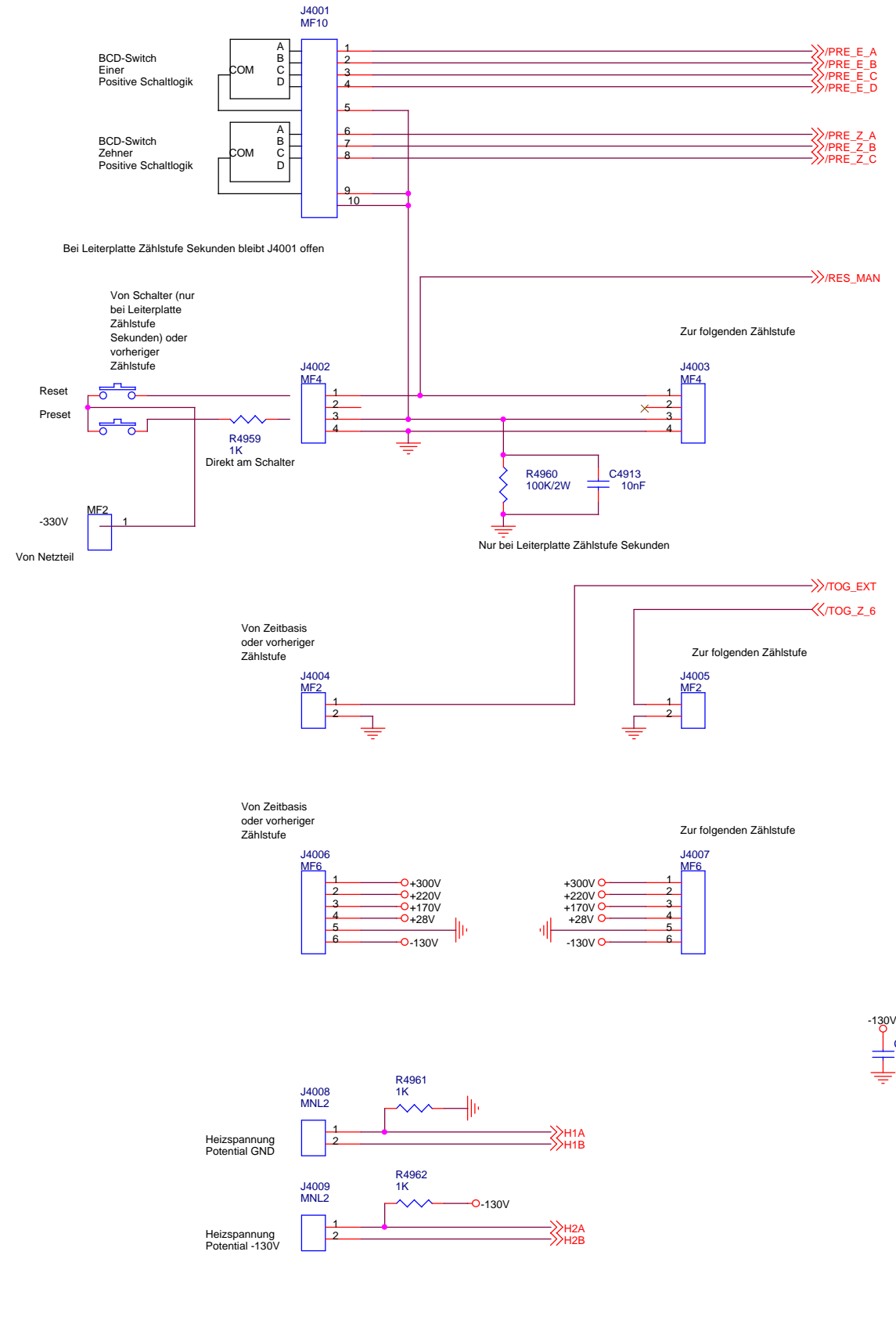
Reset-
signale

RES_Z_24

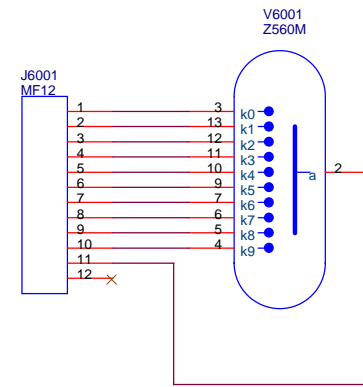
RES_Z_6_24

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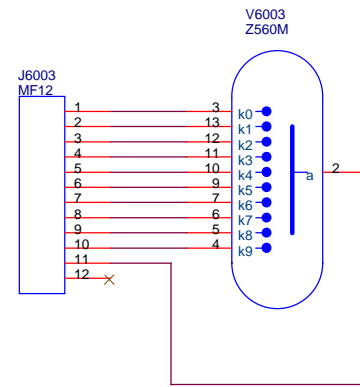
File		ONCILLA CLOCK Decoder Zehner	
Size	A2	Document Number	
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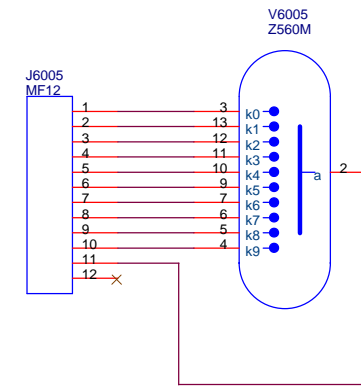
Einer



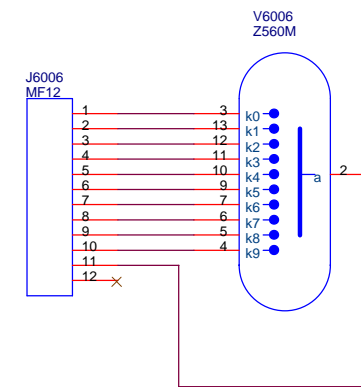
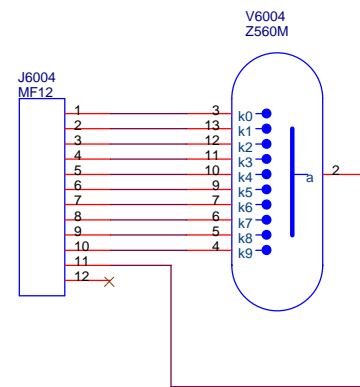
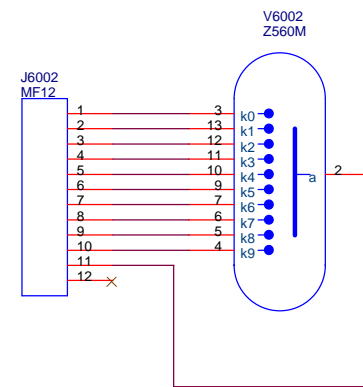
Minuten



Stunden



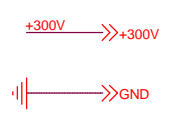
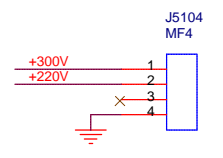
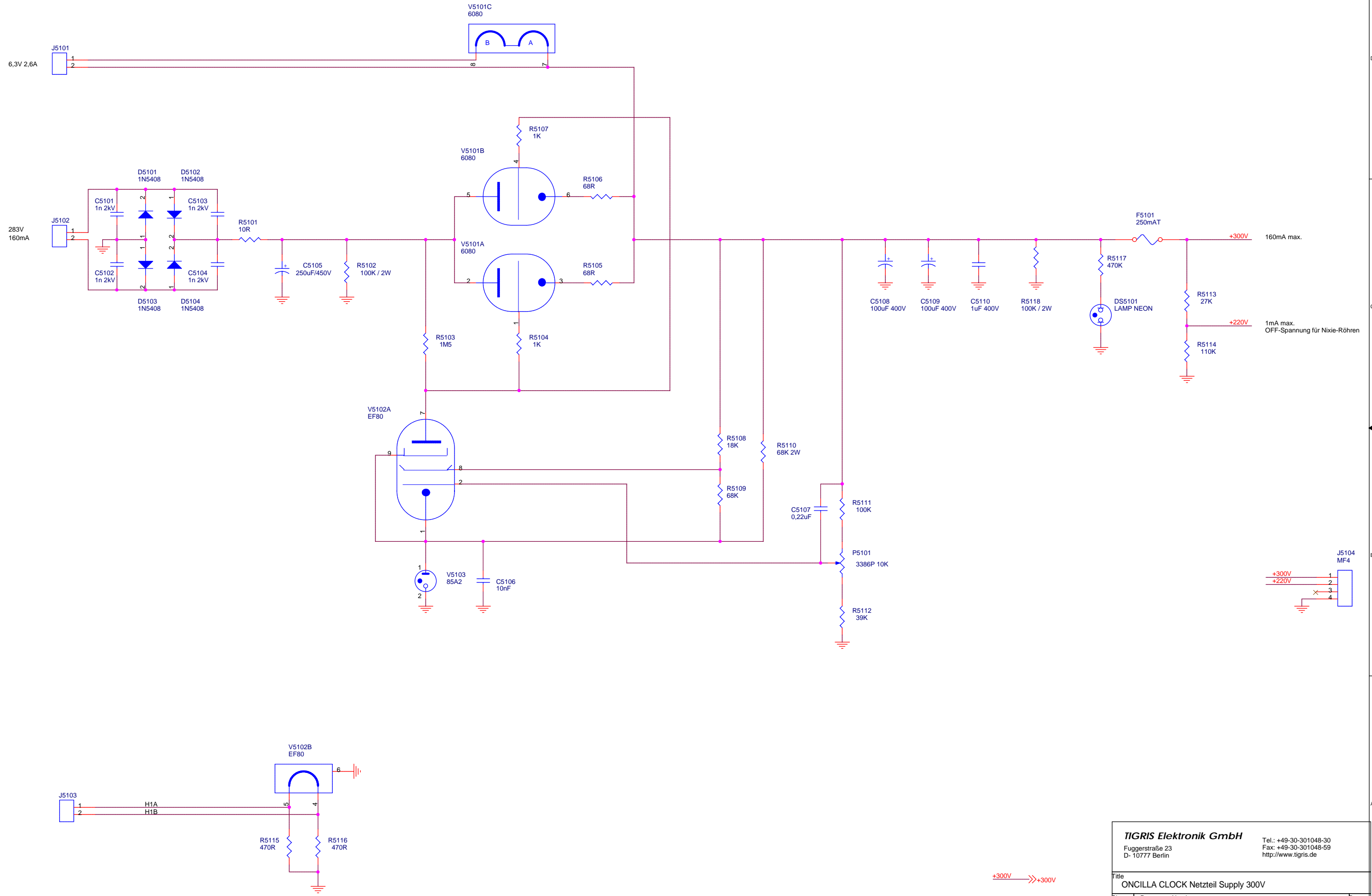
Zehner



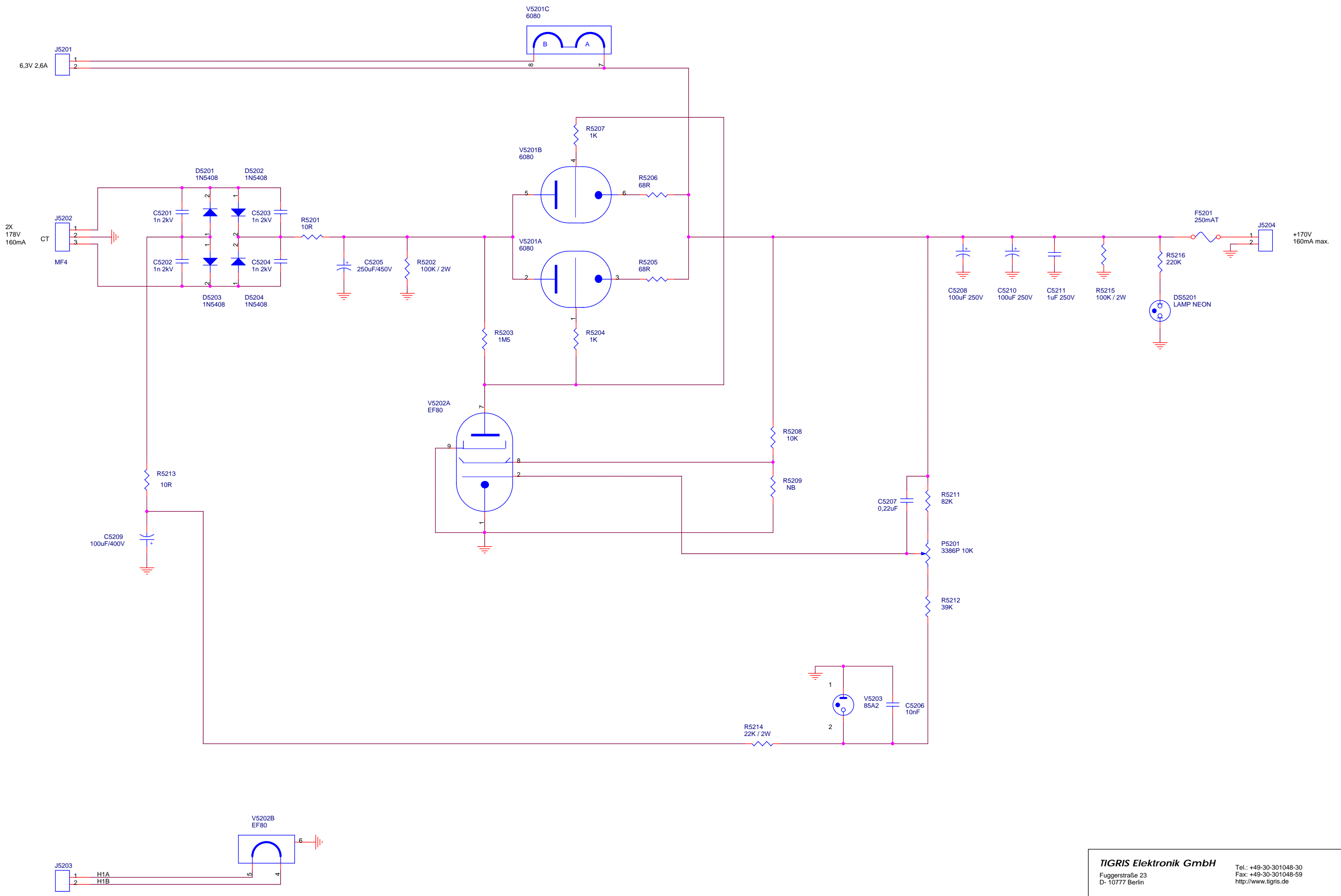
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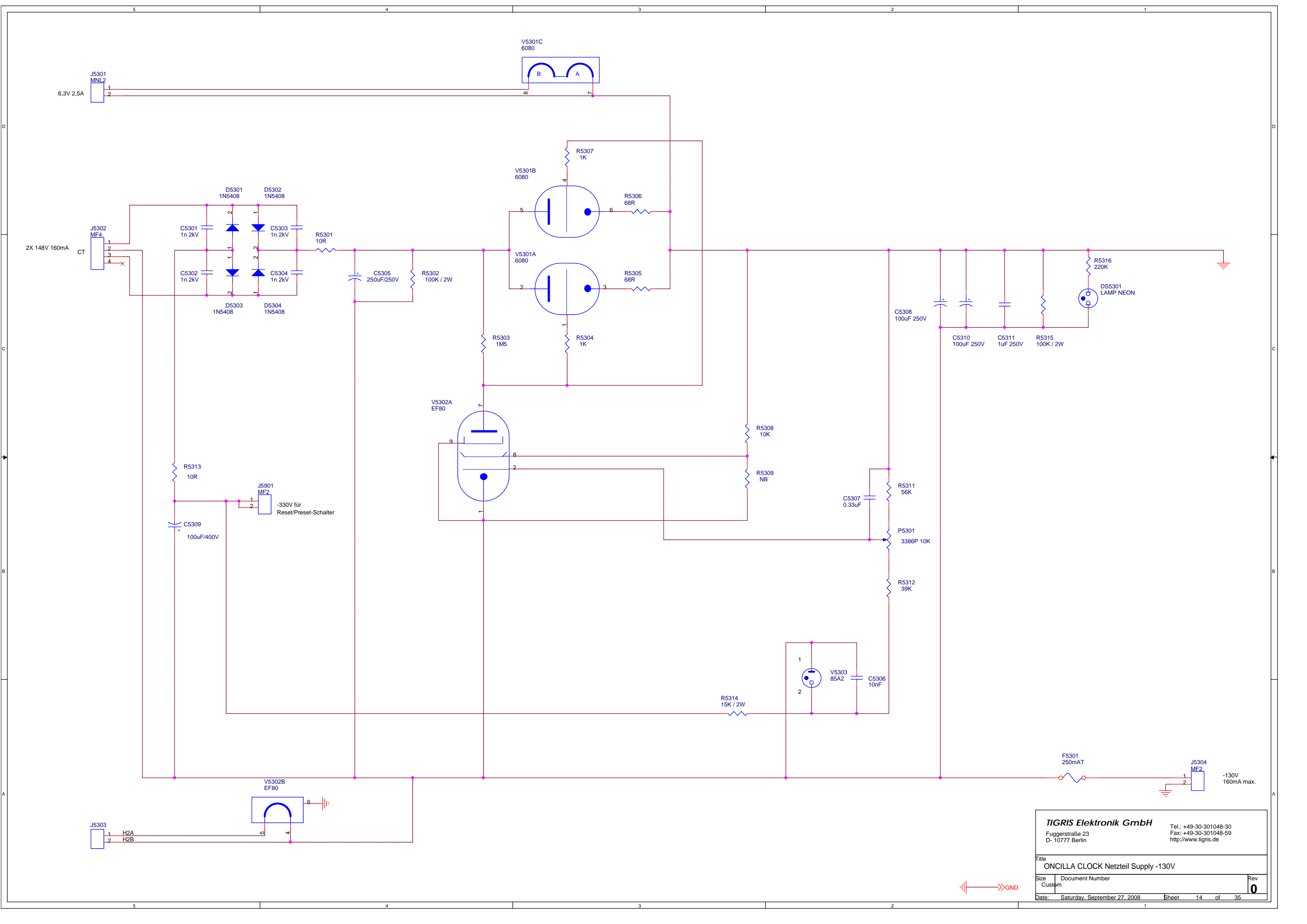
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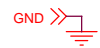
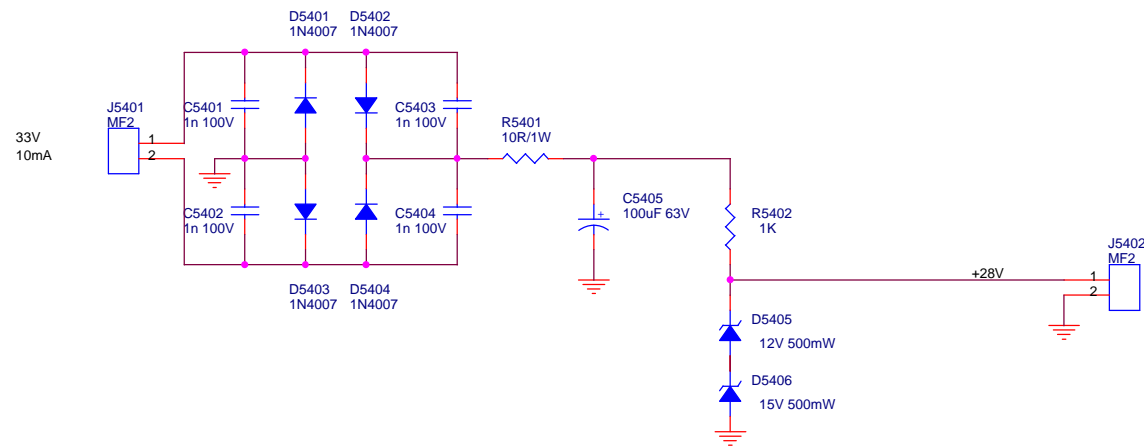
Title		
ONCILLA CLOCK Nixie-Röhren		
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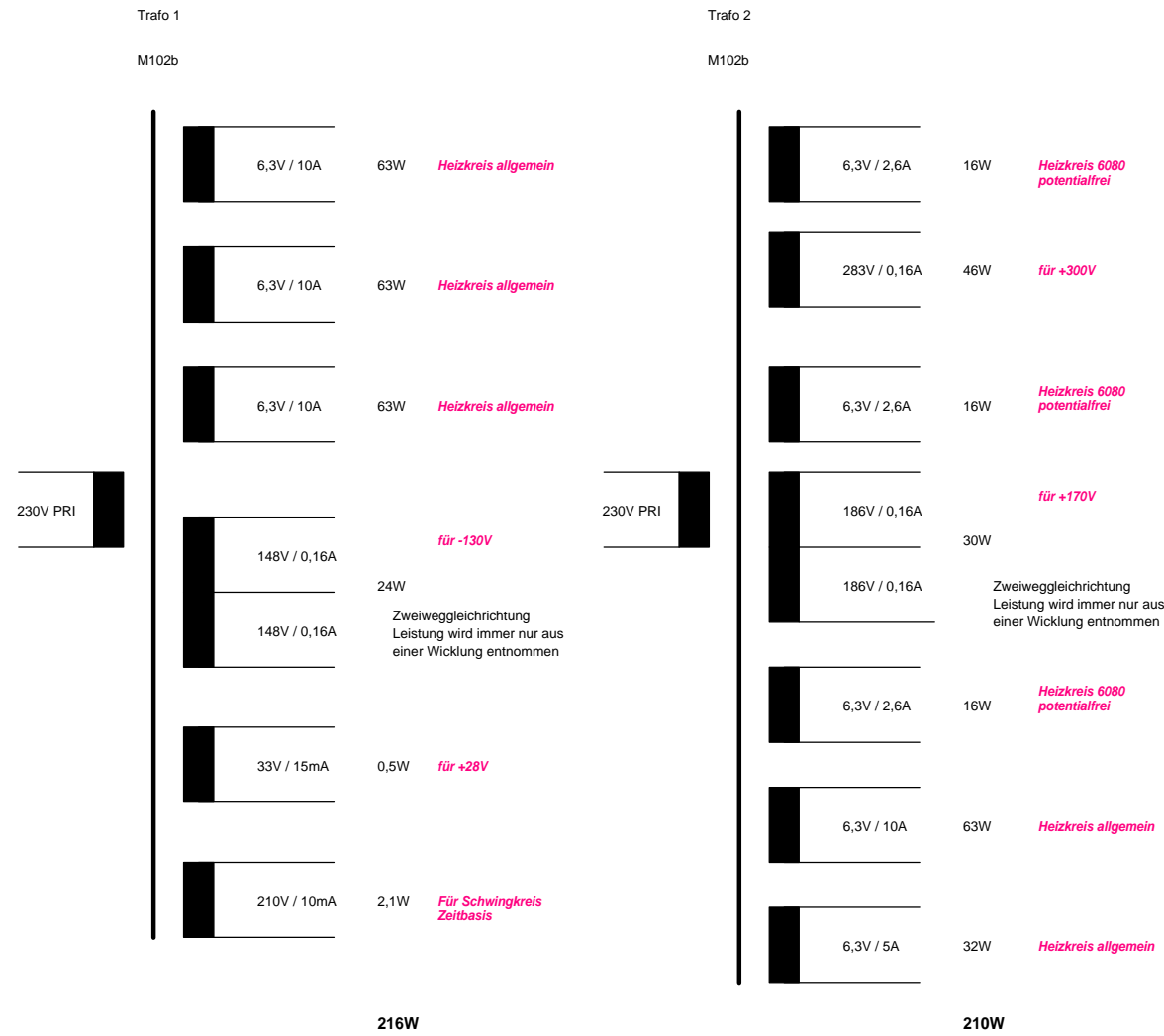
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Title: ONCILLA CLOCK Netzteil Supply 300V		
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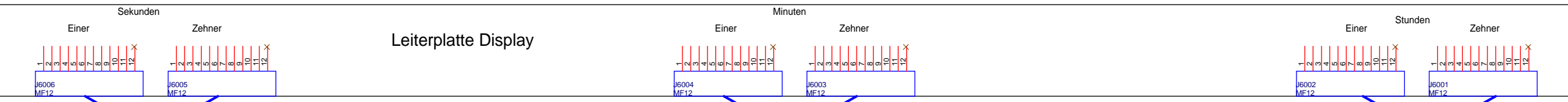
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Title ONCILLA CLOCK Netzteil Supply 28V		
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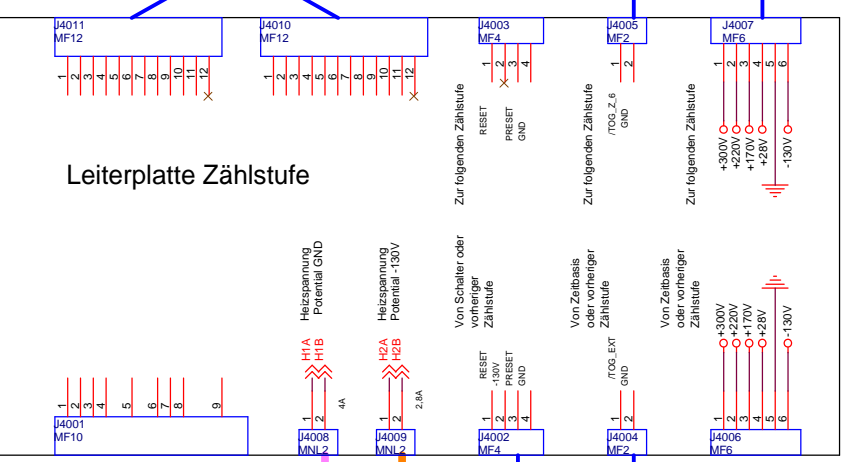
Mit Patches gemäß tatsächlicher Ausführung am 01.01.2008

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Title ONCILLA CLOCK Netzteil Netztrafos		
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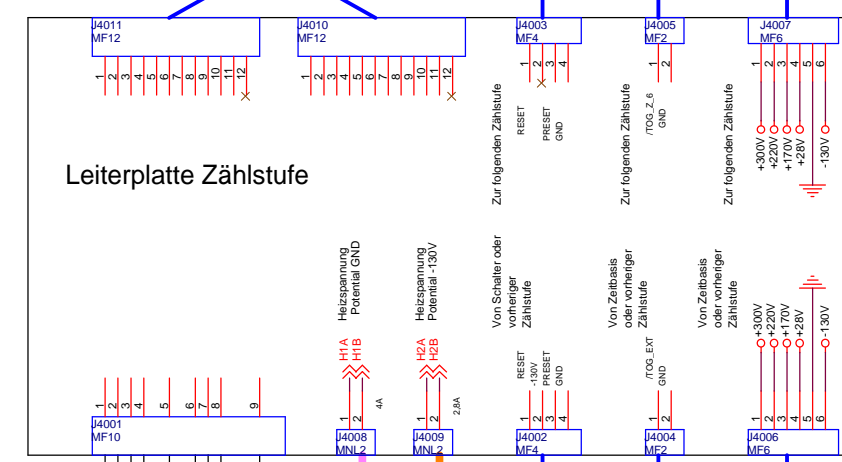
Leiterplatte Display



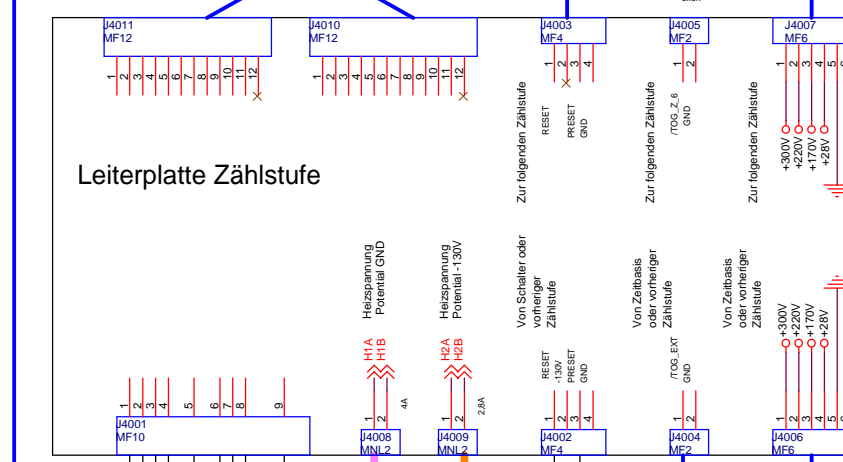
Leiterplatte Zählstufe



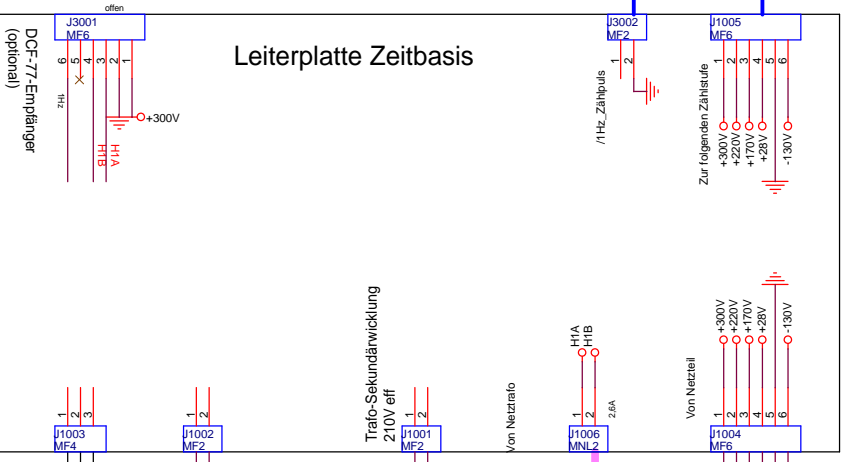
Leiterplatte Zählstufe



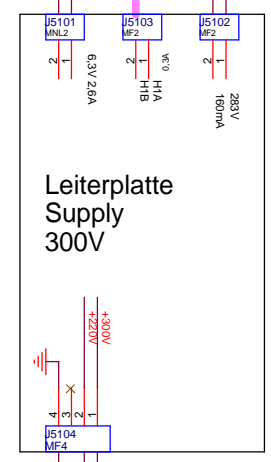
Leiterplatte Zählstufe



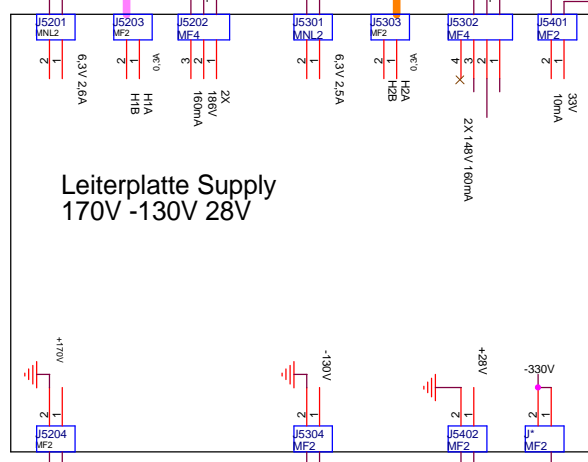
Leiterplatte Zeitbasis



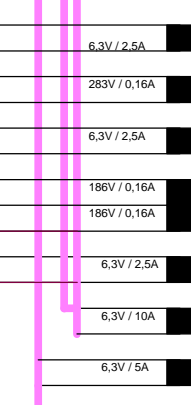
Leiterplatte Supply 300V



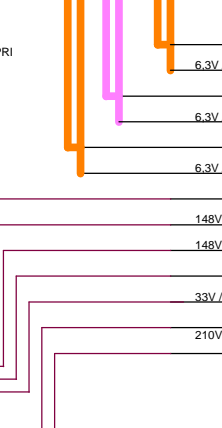
Leiterplatte Supply 170V -130V 28V



Trafo 2

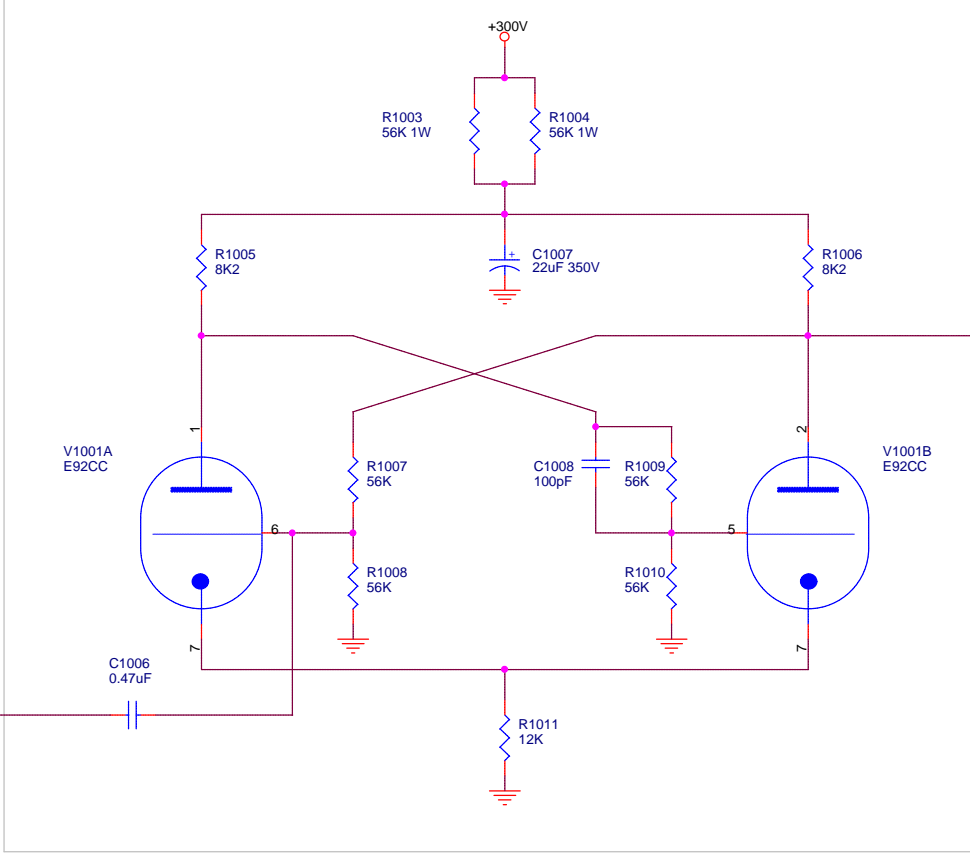


Trafo 1

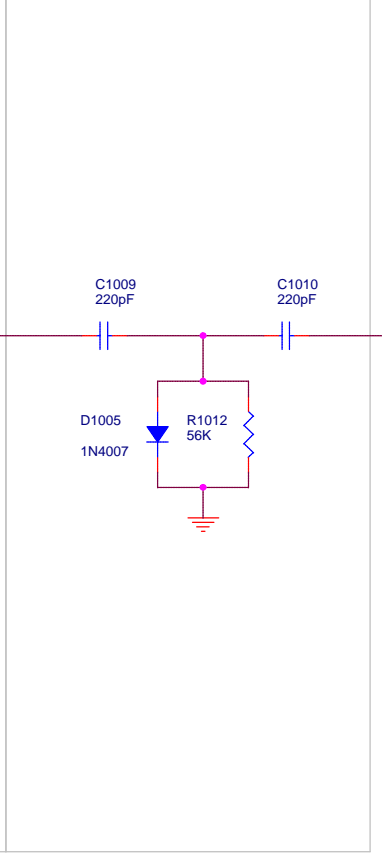


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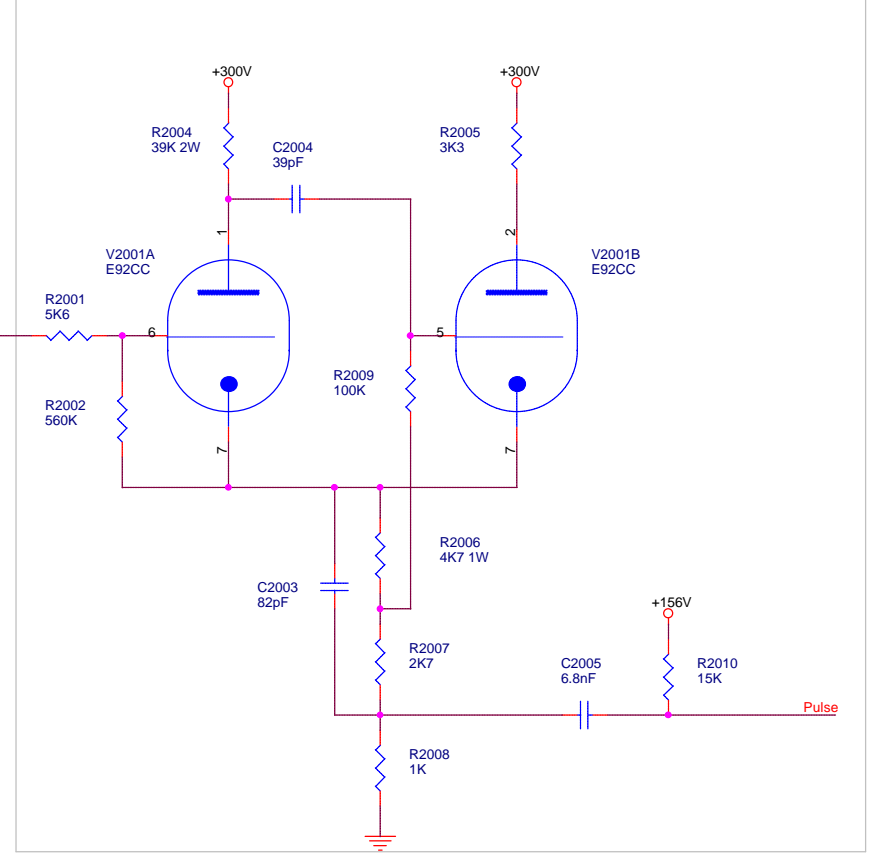
Pulsformer Sinus => Rechteck



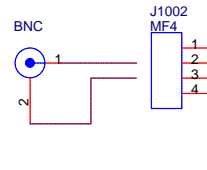
Pulsformer Rechteck => Nadel



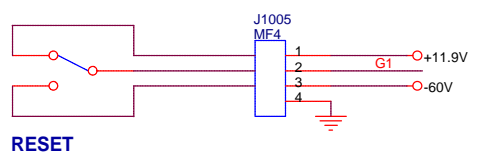
Pulsformer für E1T



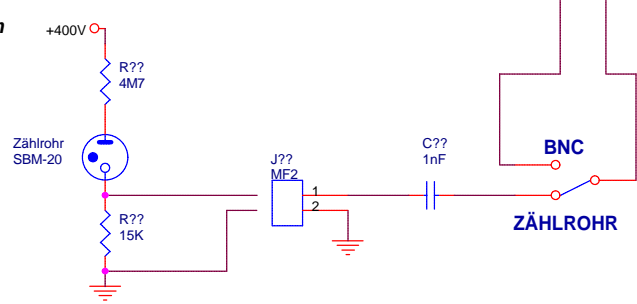
BNC-Anschluß



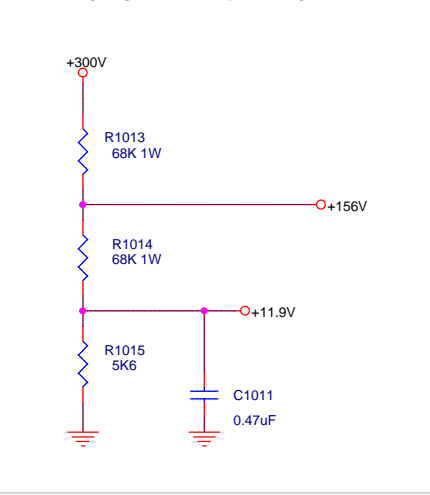
Resettaster



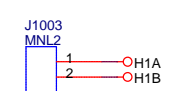
Direkt vom Netzteil



Erzeugung von Hilfsspannungen



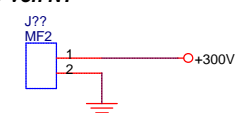
Heizspannung 6,3V



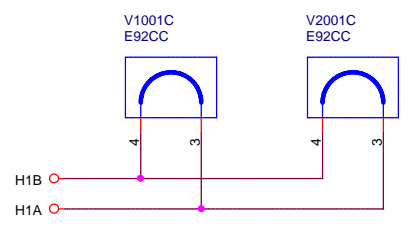
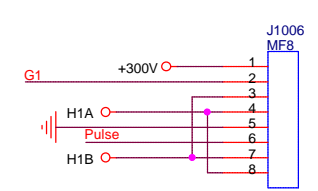
-60V von NT



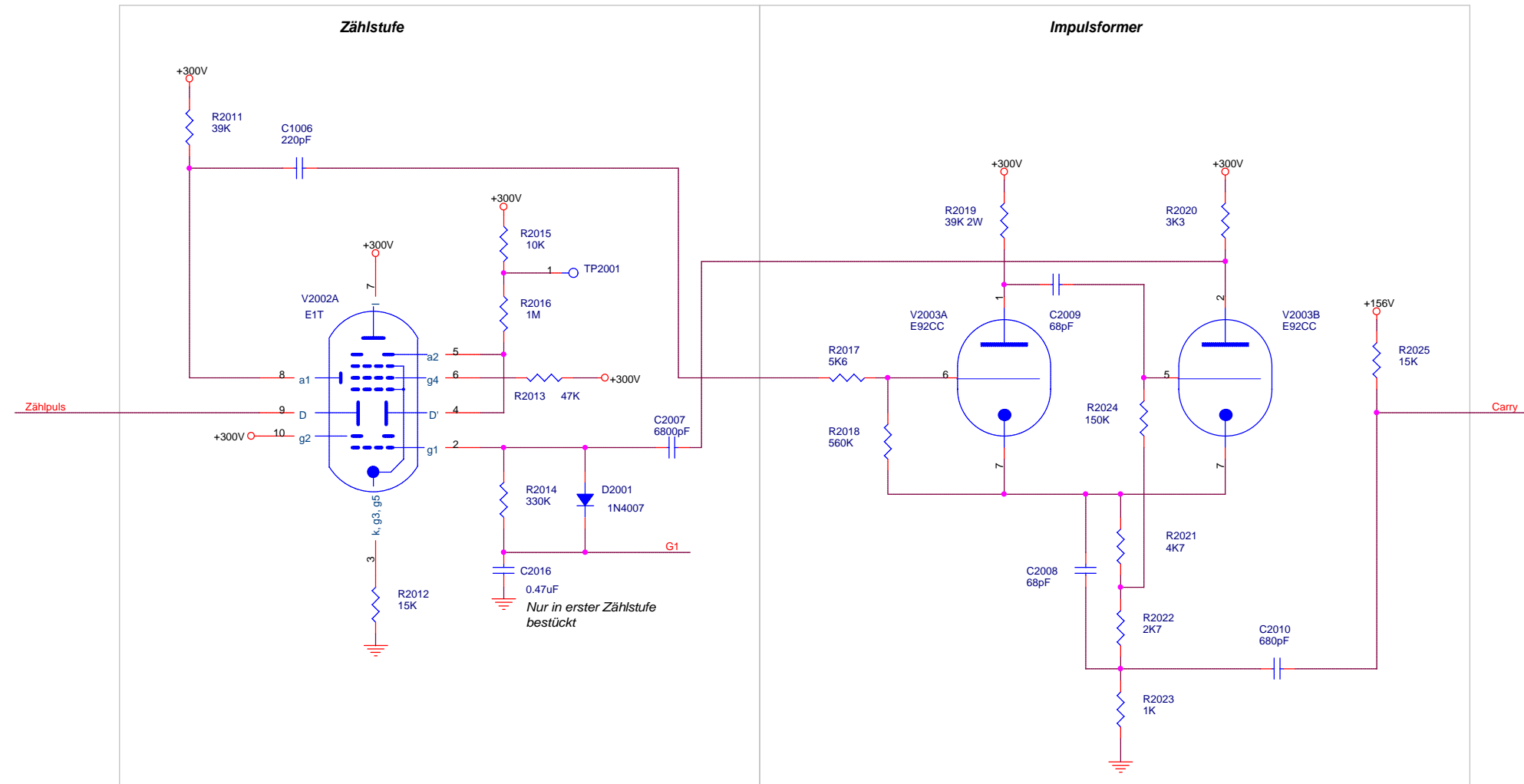
+300V von NT



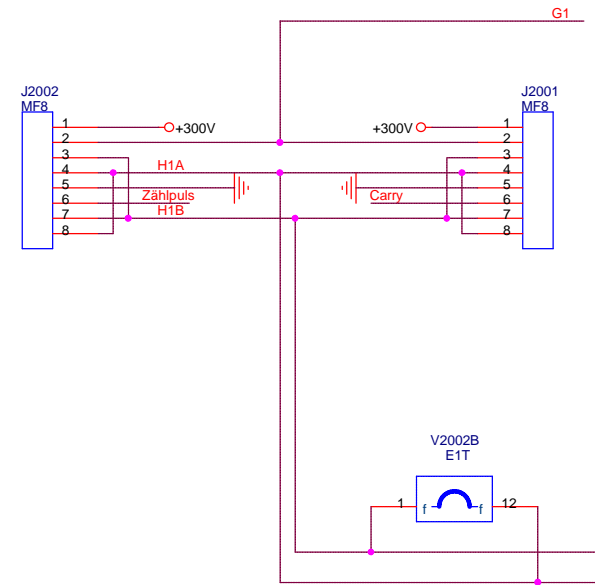
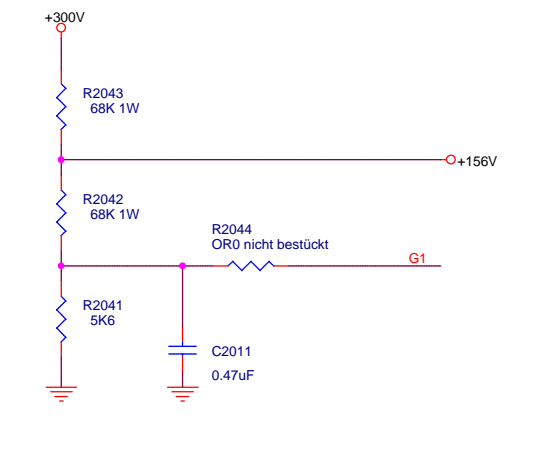
Ansteuerung Zählstufen



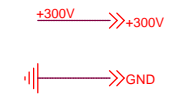
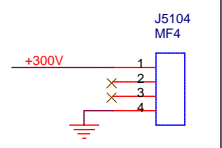
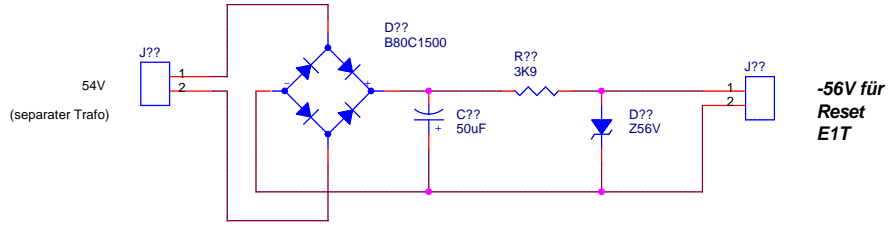
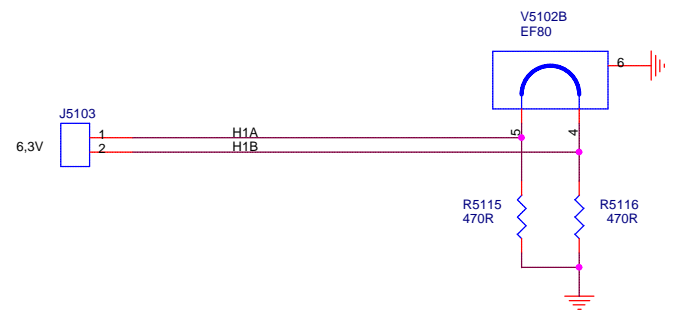
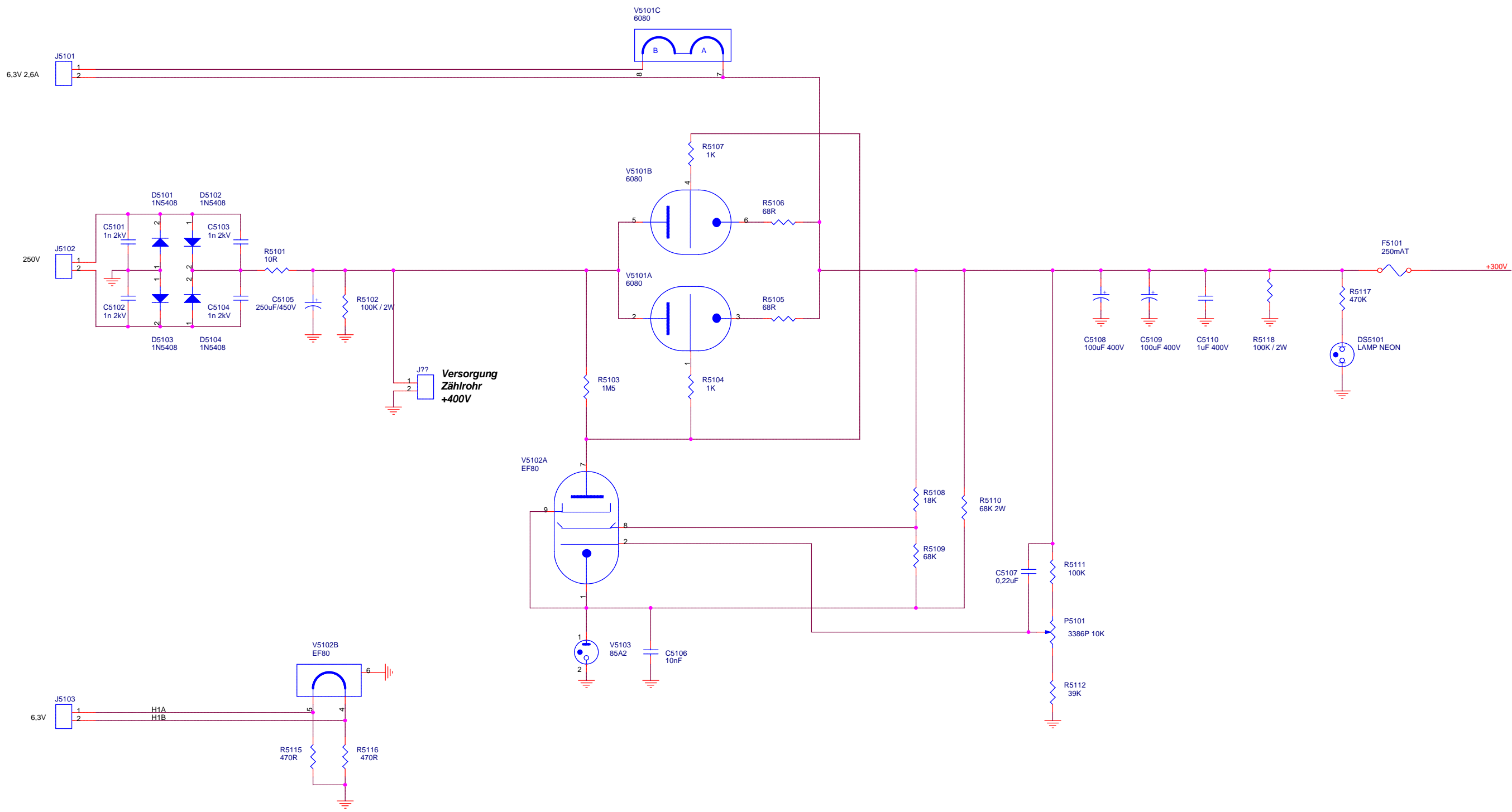
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Title: CARACAL - Eingangspulsformer		
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Erzeugung von Hilfsspannungen



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Title: CARACAL Zähldekade		
Size: Custom	Document Number:	Rev: 0
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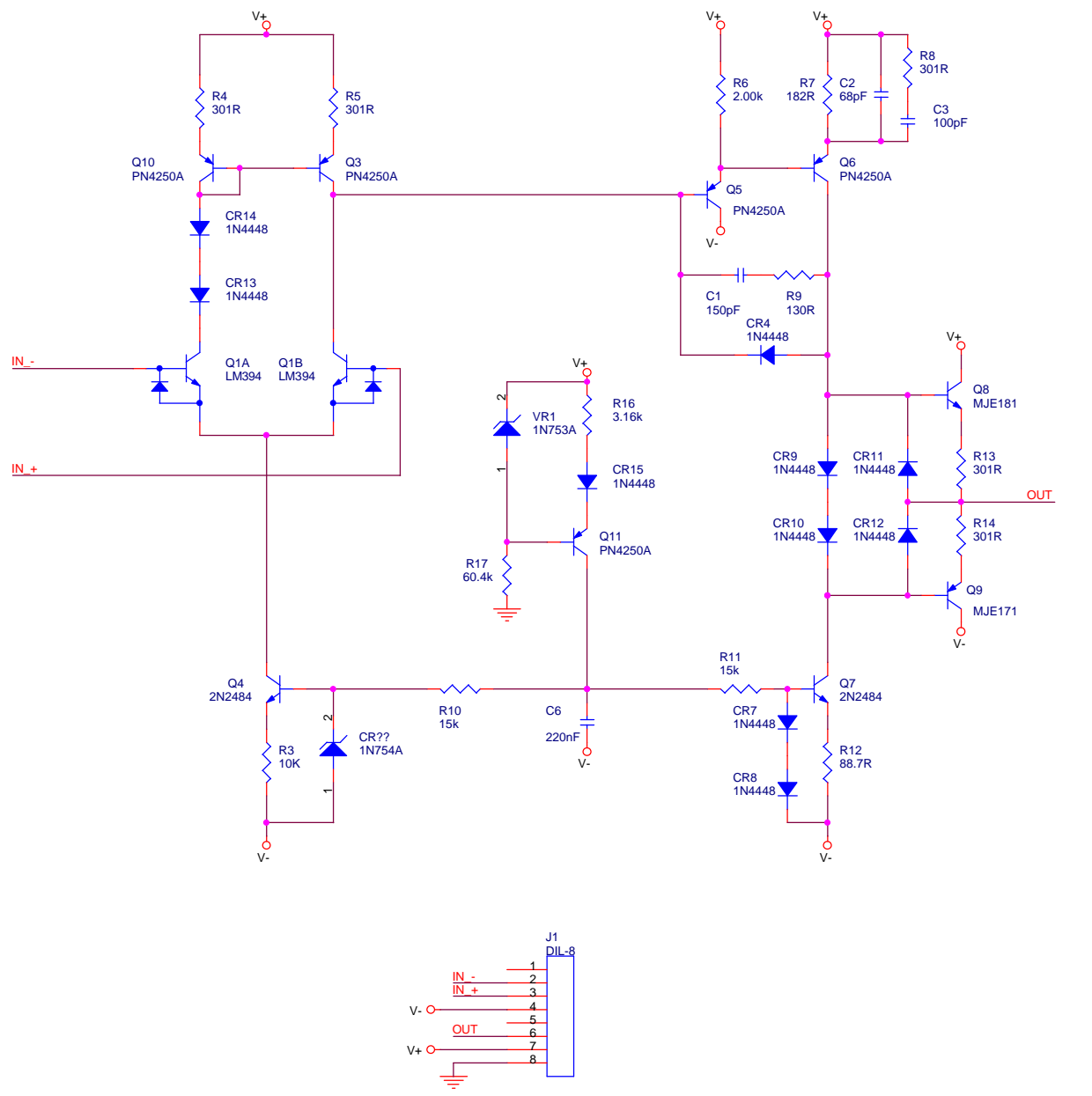


Mit Patches, Stand 31.12.2007

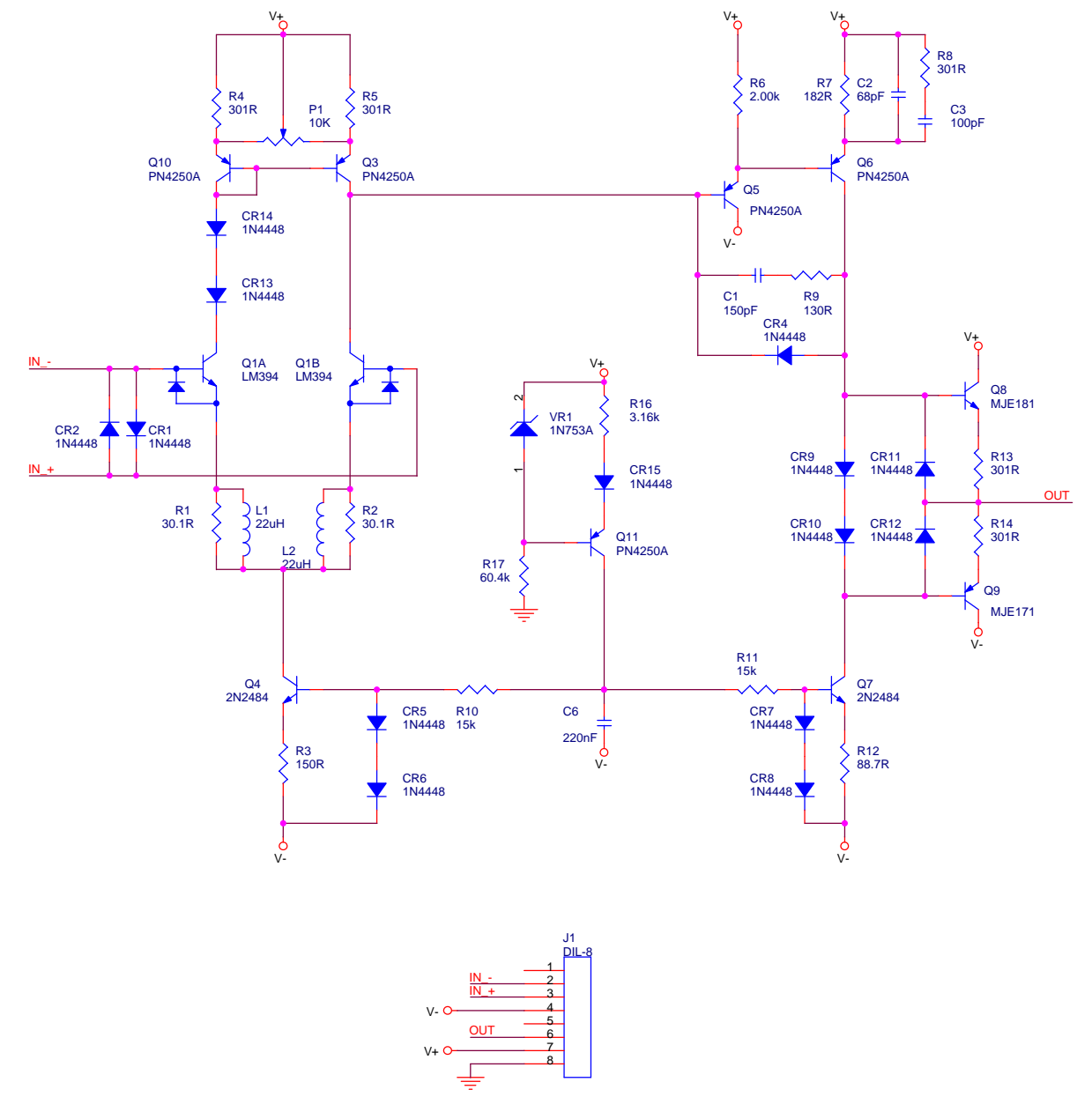
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OPV-Modul U1



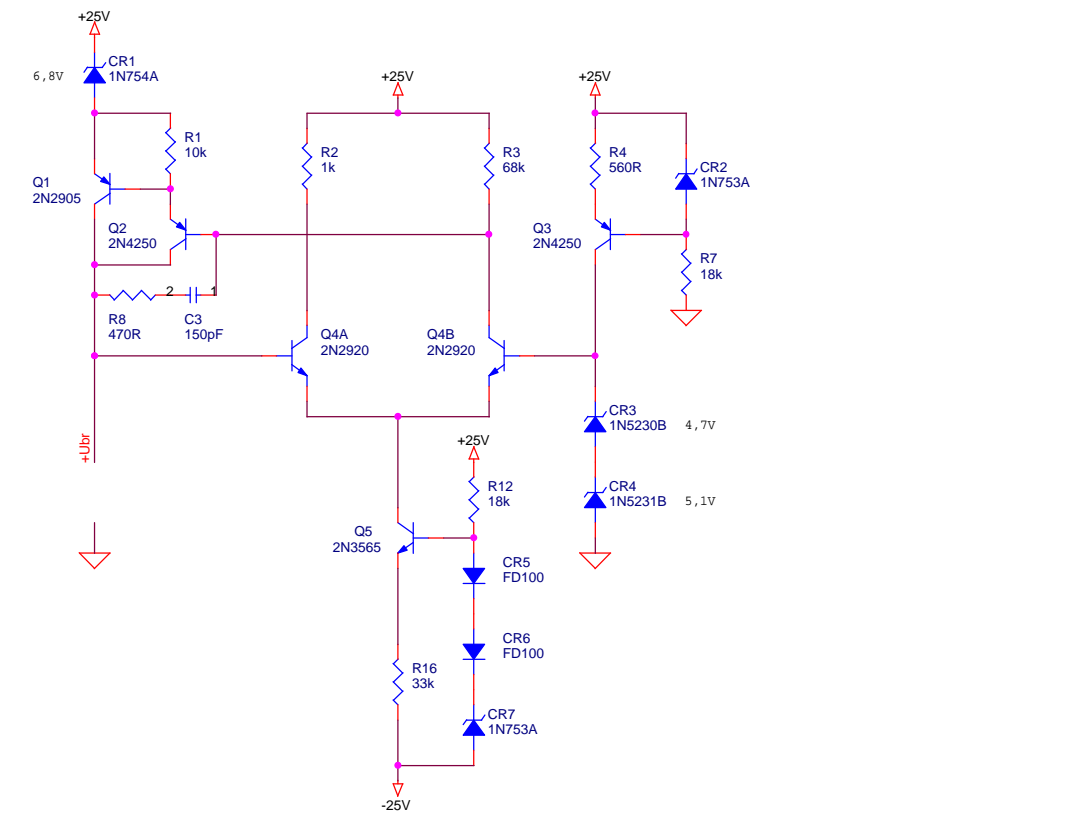
OPV-Modul U2



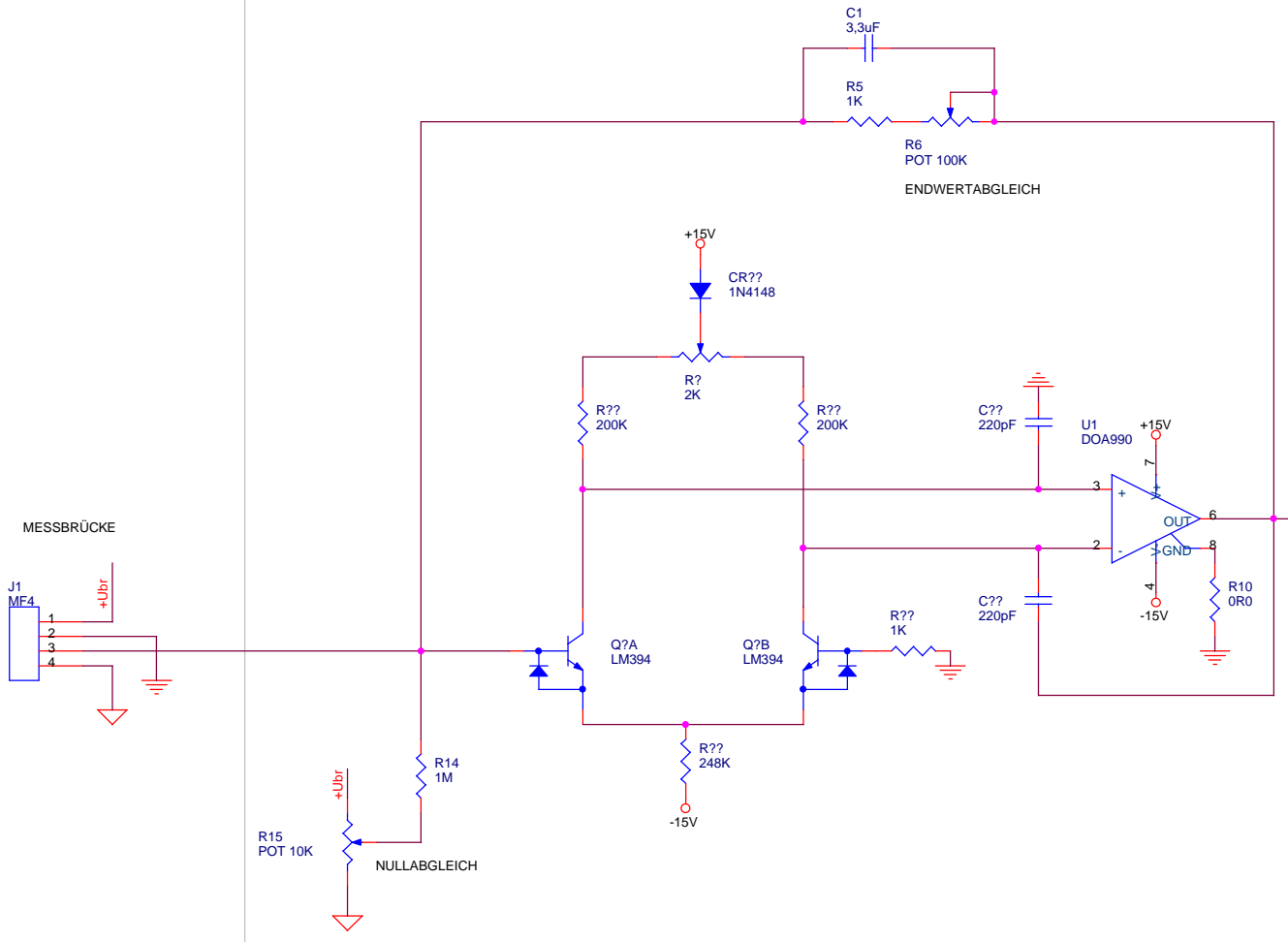
Die vereinfachte Schaltung des Moduls U1 würde aller Voraussicht nach auch für U2 anstelle dieser Schaltung arbeiten, dies wurde jedoch aus Zeitmangel nicht getestet

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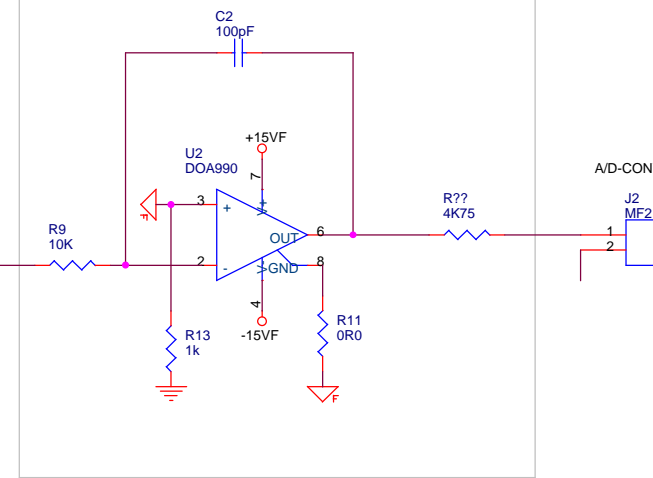
Brückenversorgung



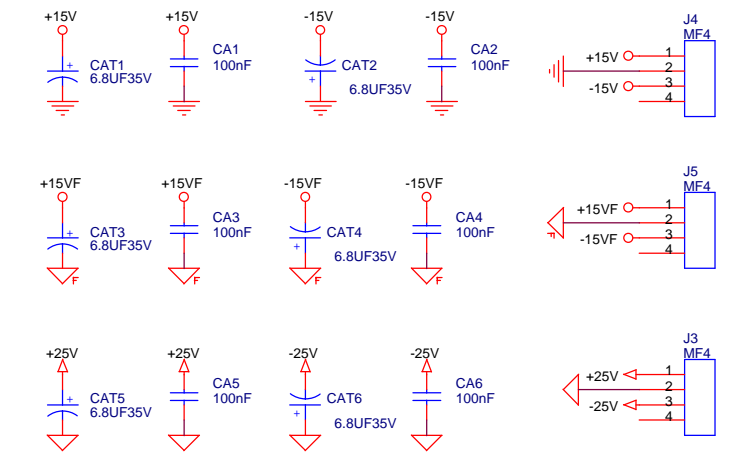
Brückenverstärker



Spannungs/Strom-Wandler



Zuführung und Entkopplung der Versorgungsspannungen



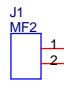
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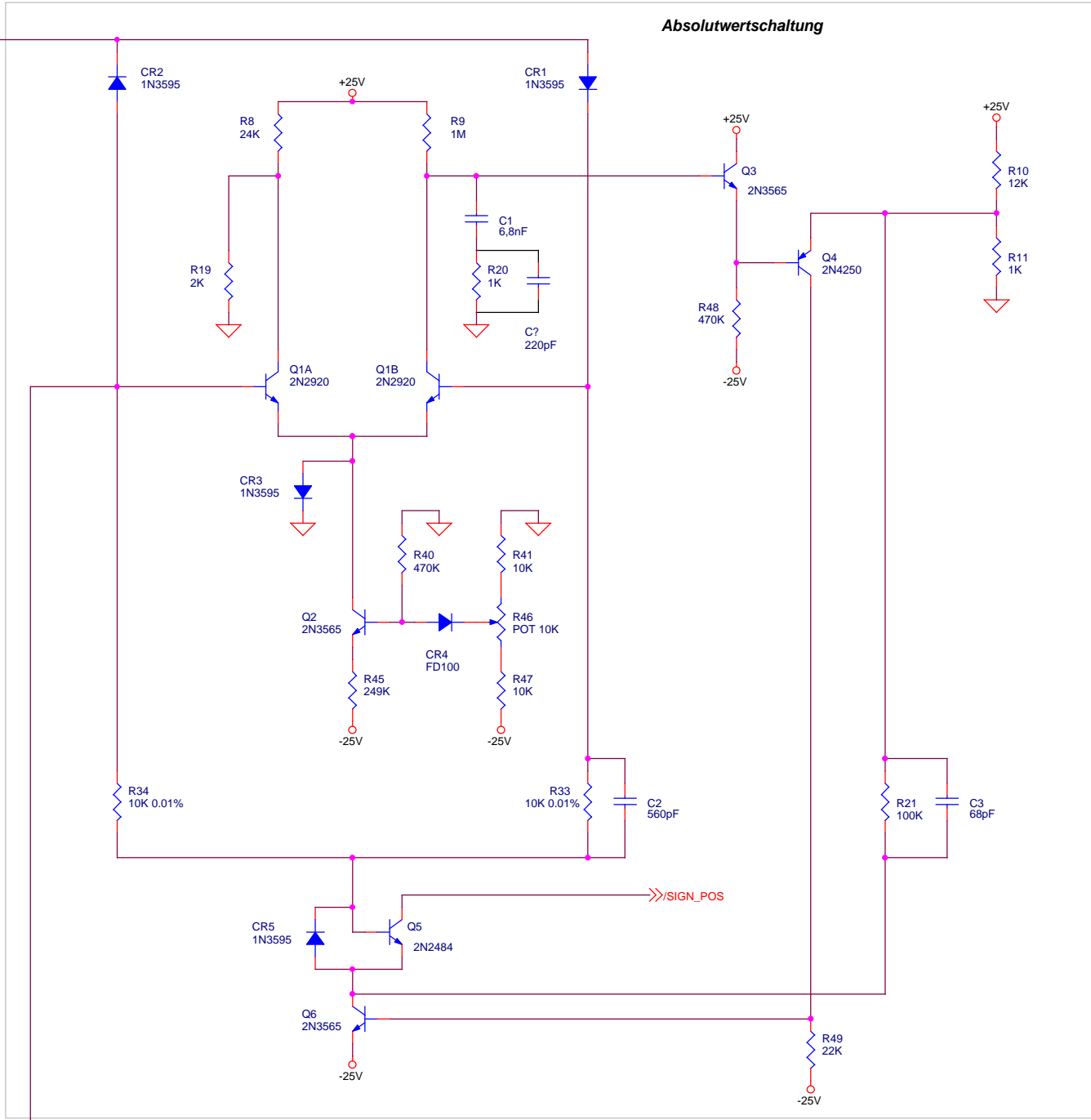
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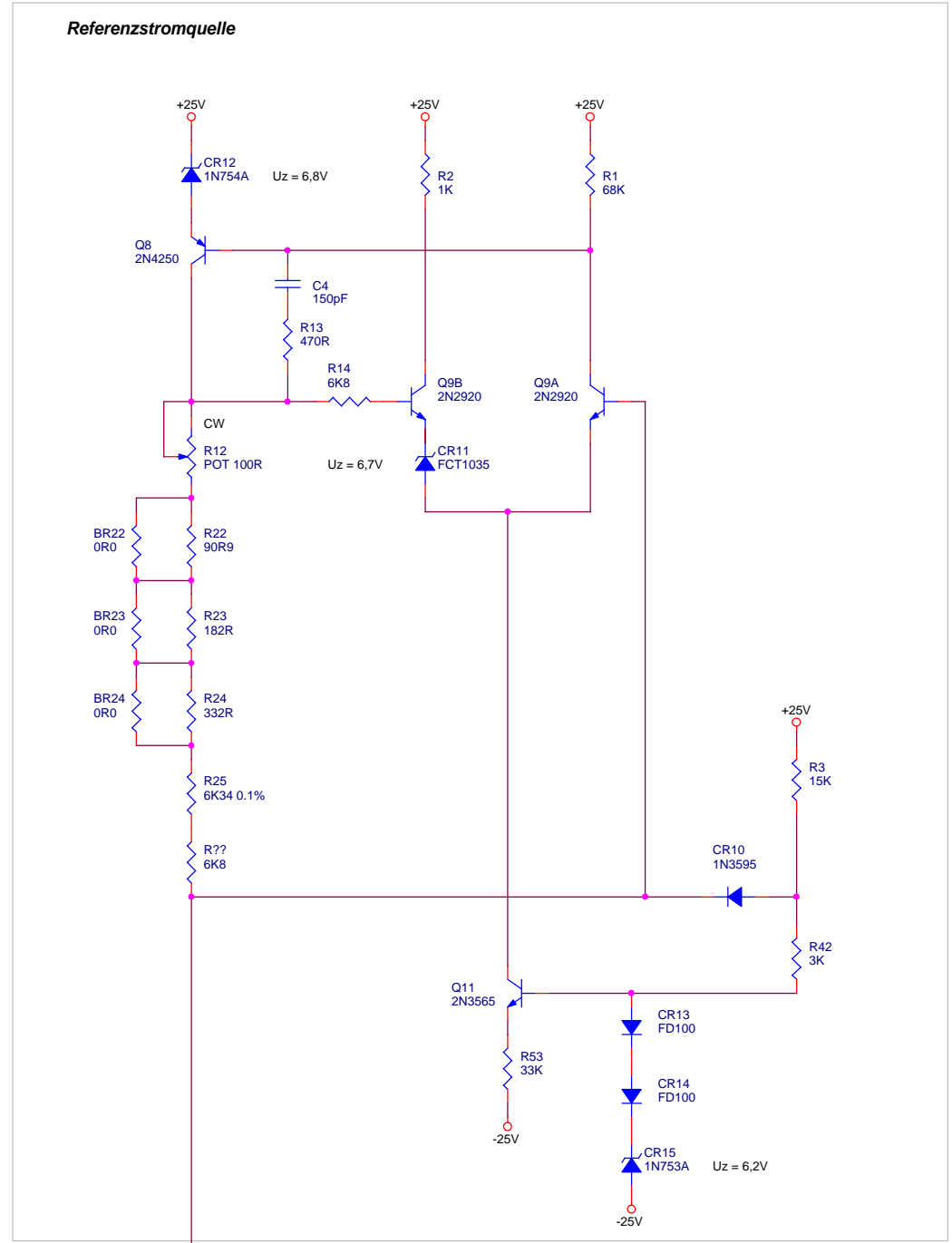
VON
ANALOG-
BOARD +/-
0.5mA



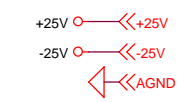
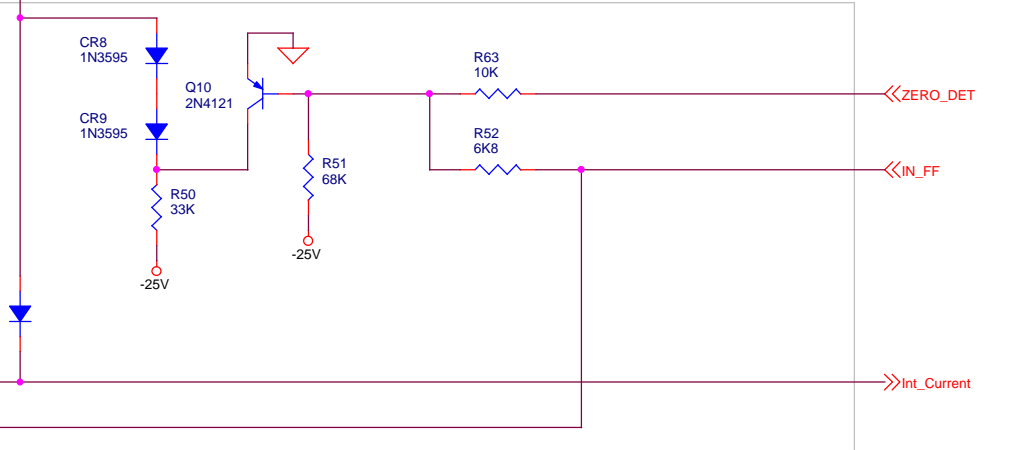
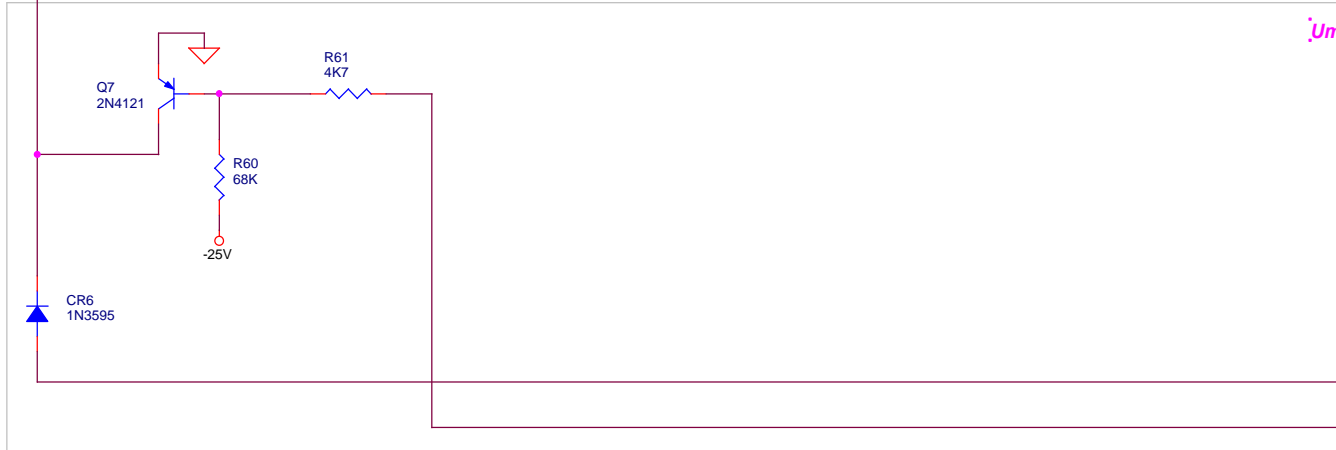
Absolutwertschaltung



Referenzstromquelle



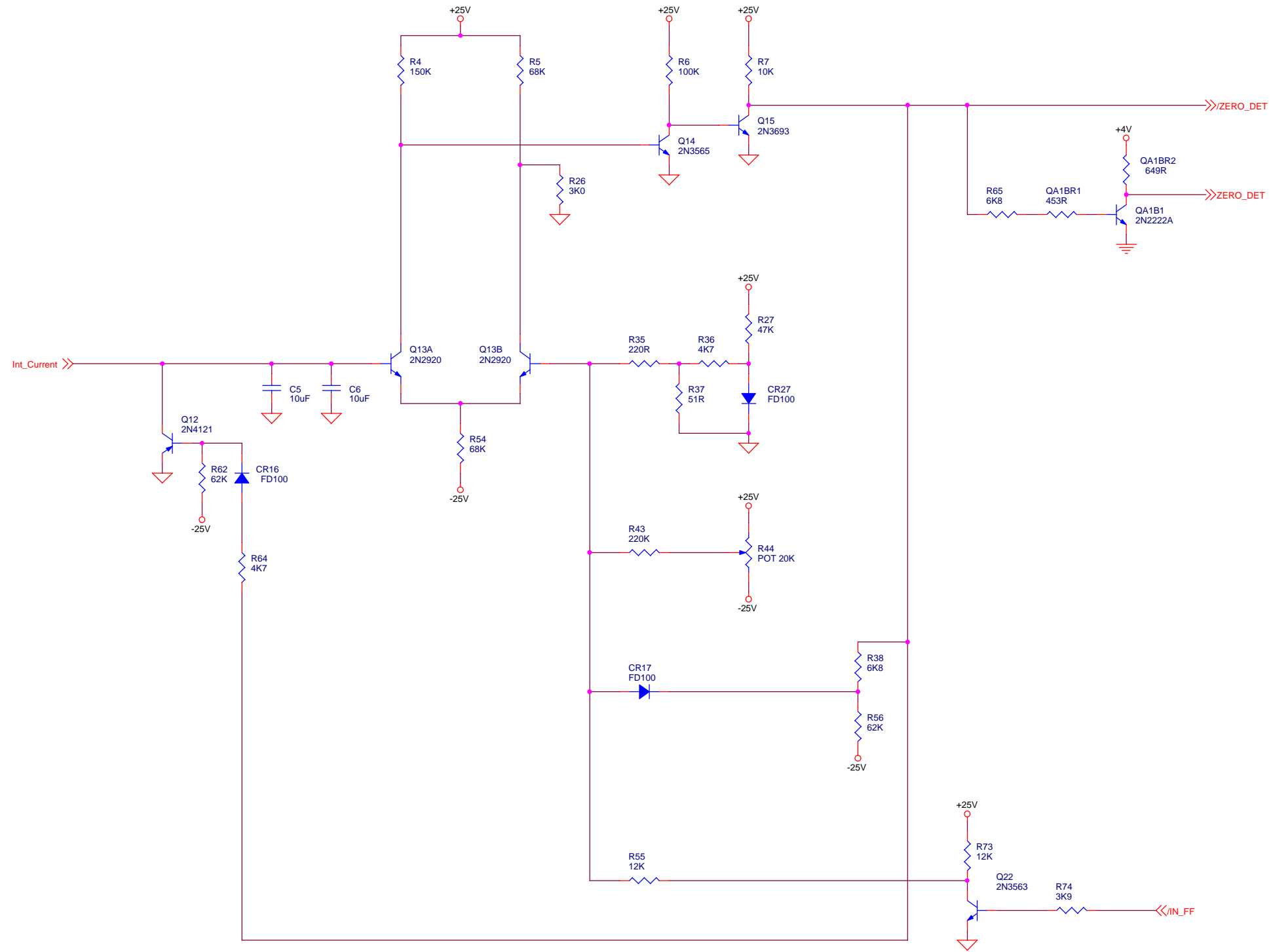
Umschalten der Ströme

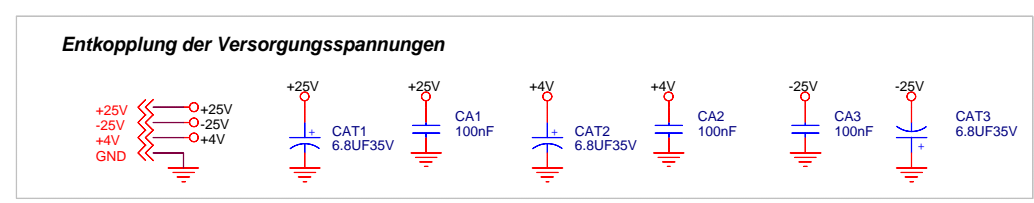
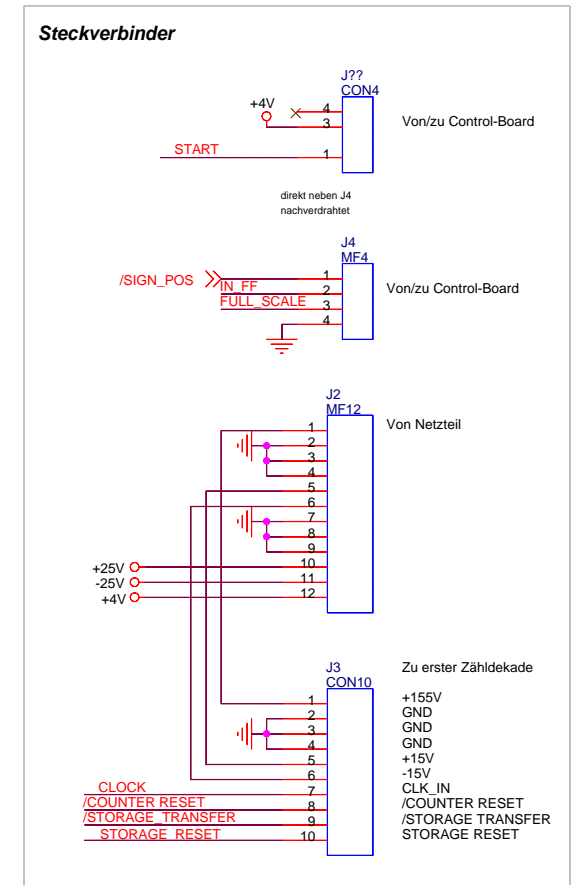
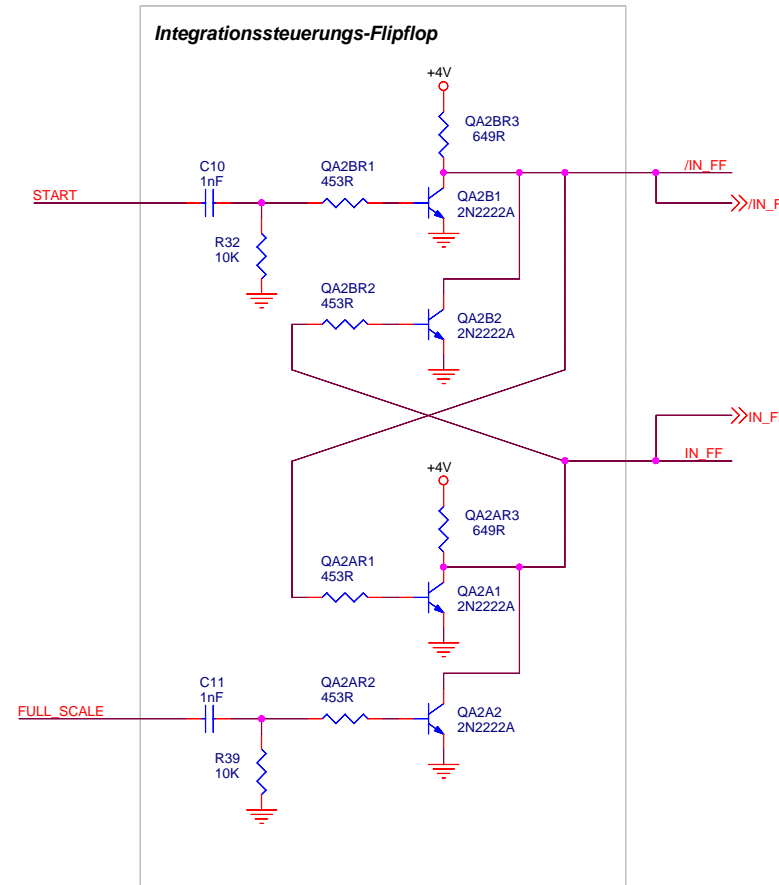
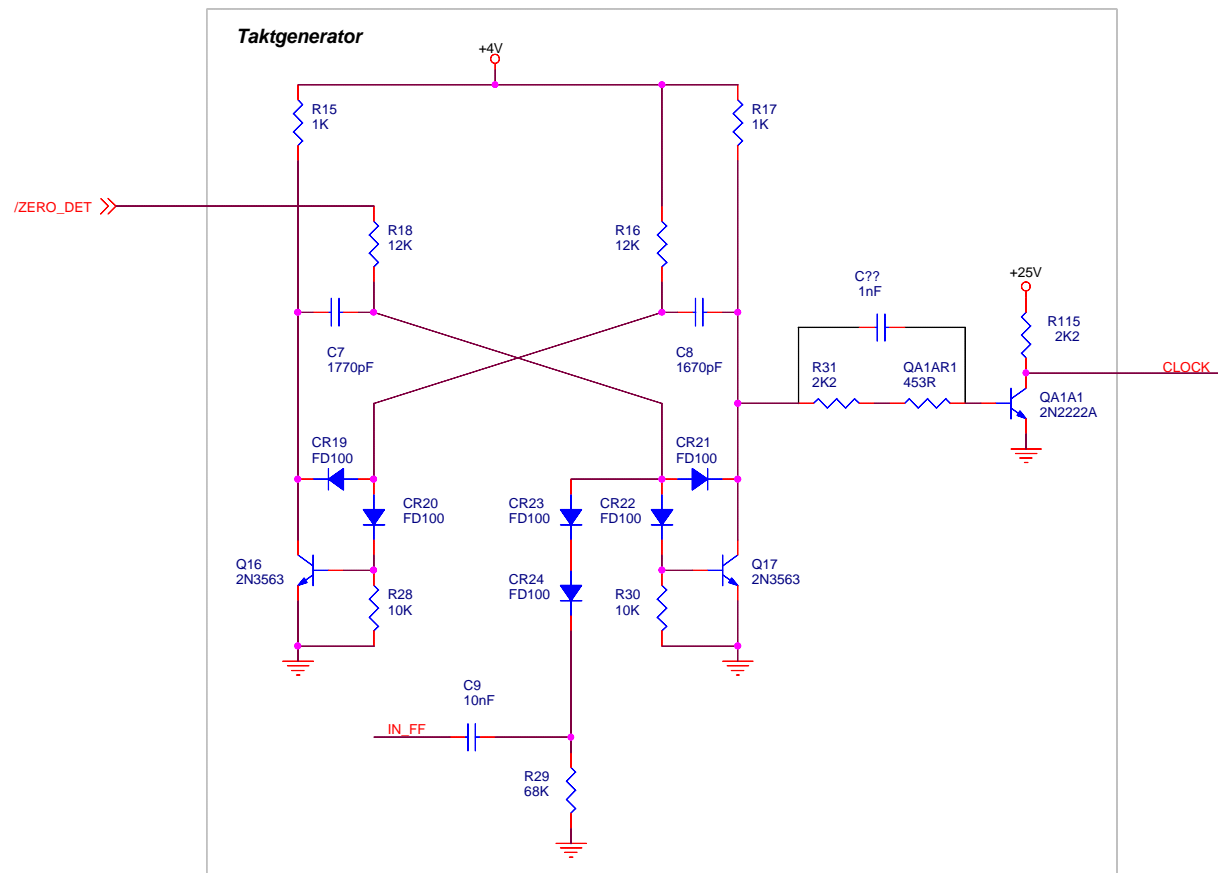
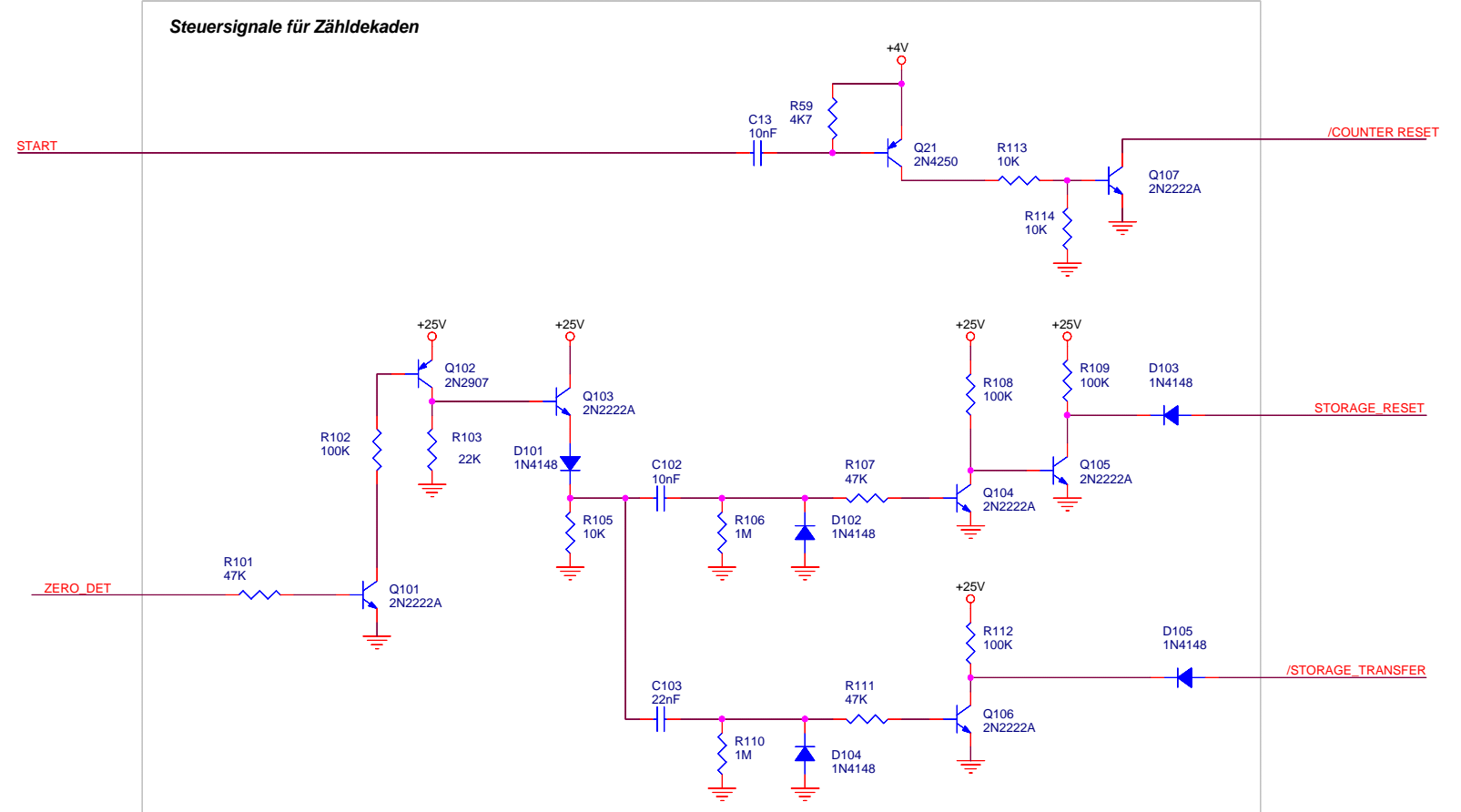
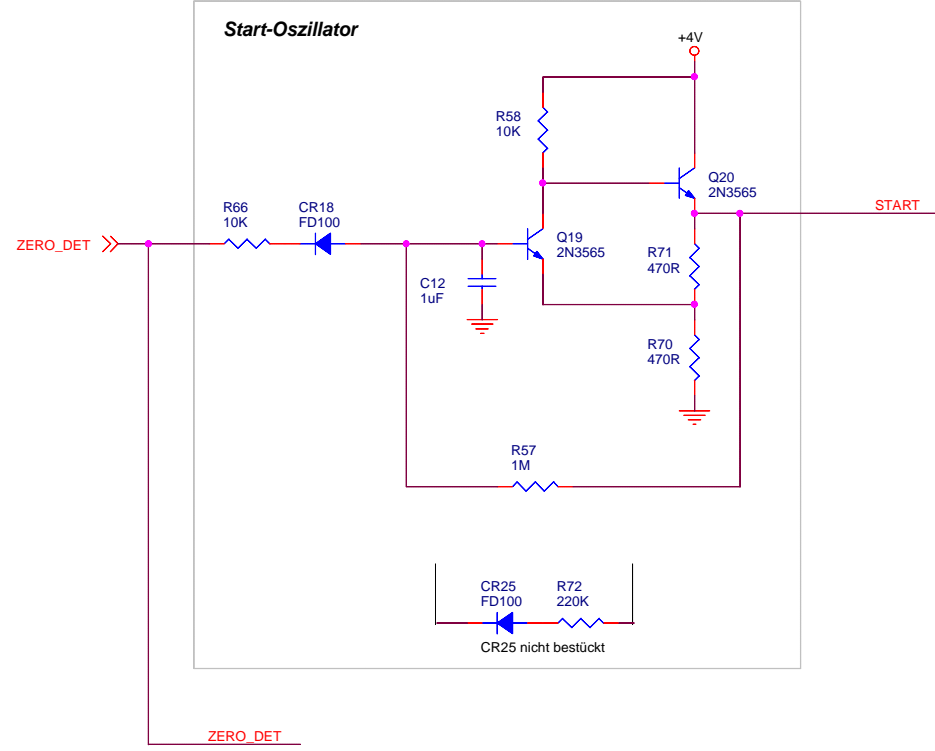


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Zero-Detector



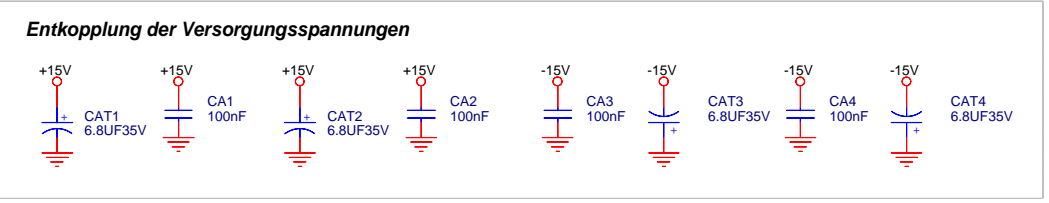
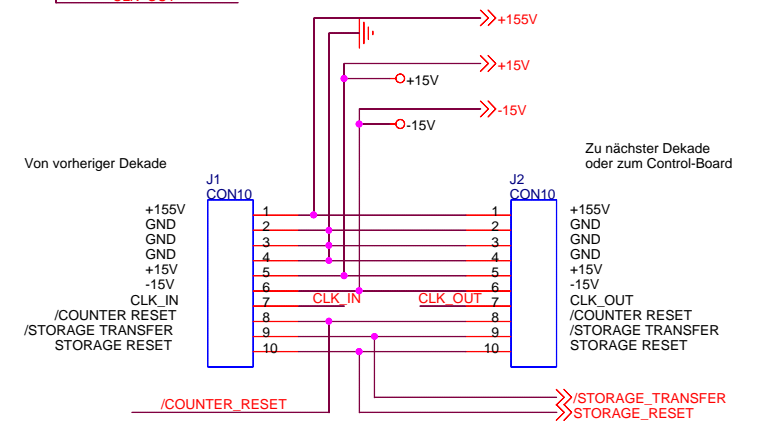
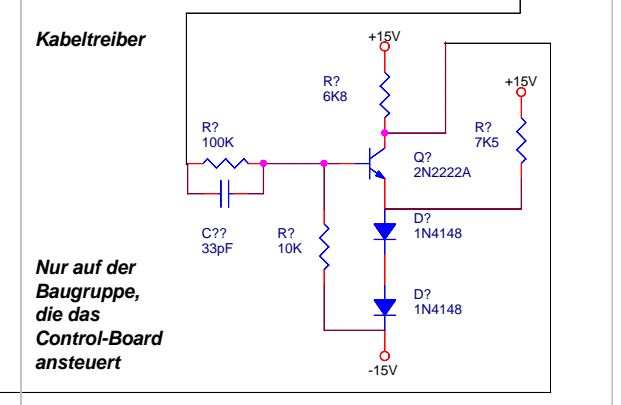
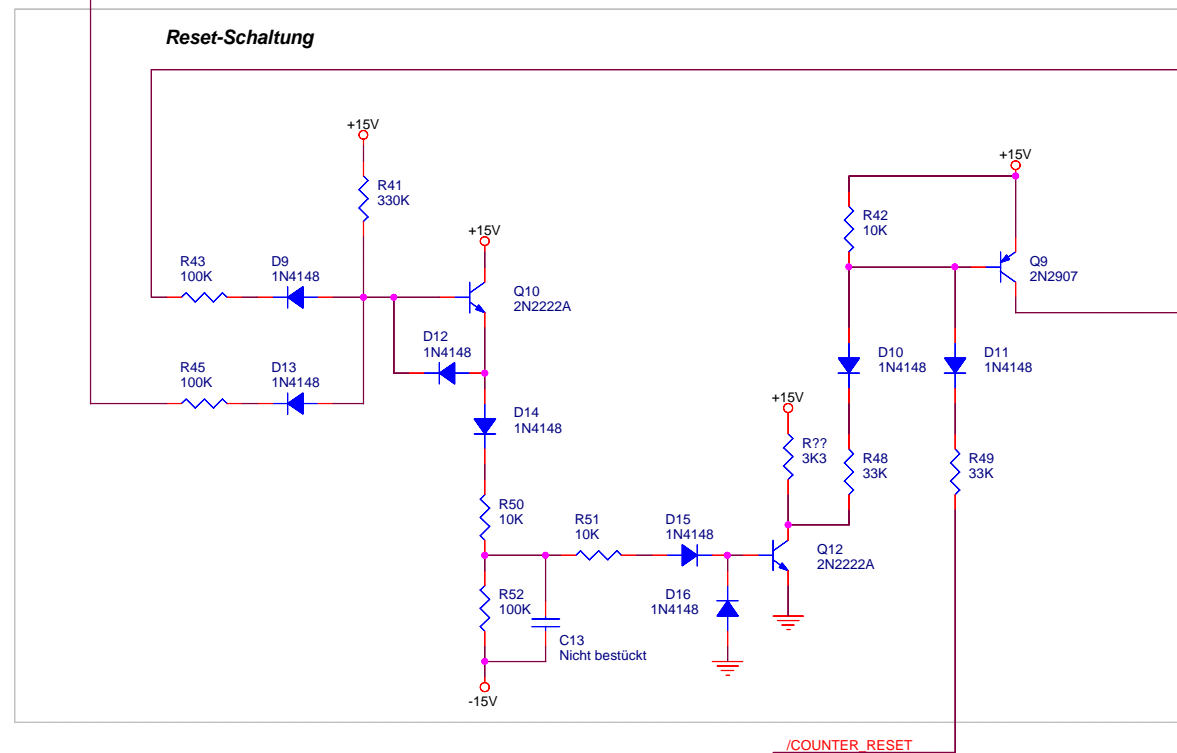
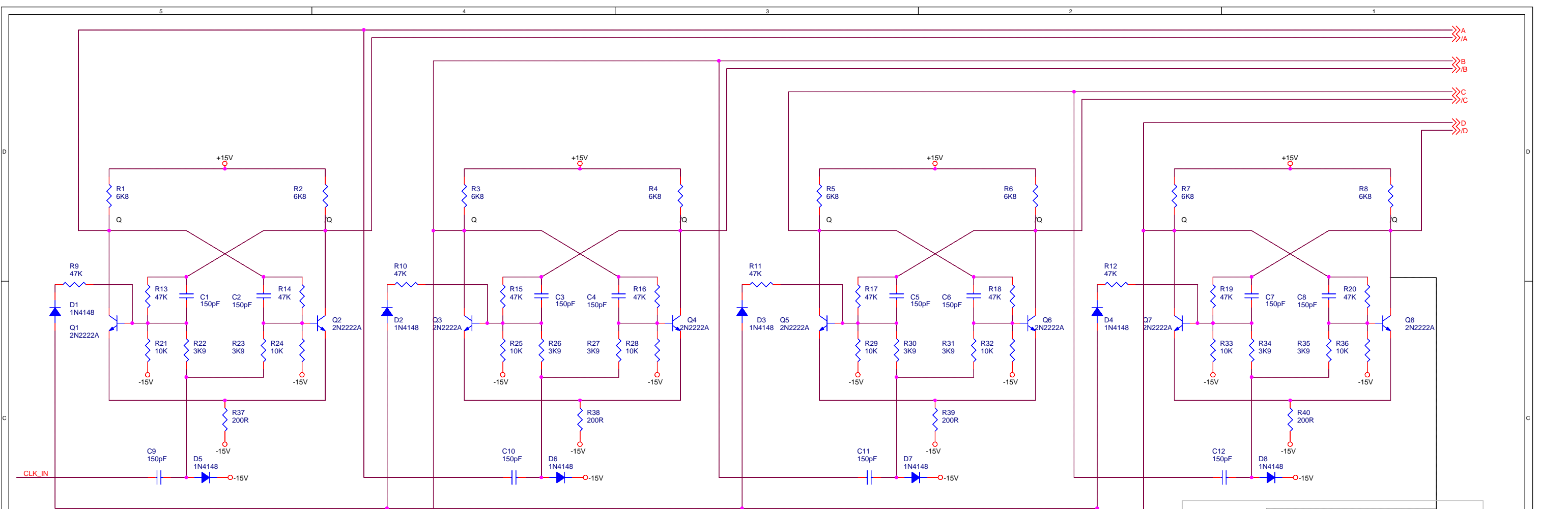


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Title: **SERVAL ADC3 CONTROL**

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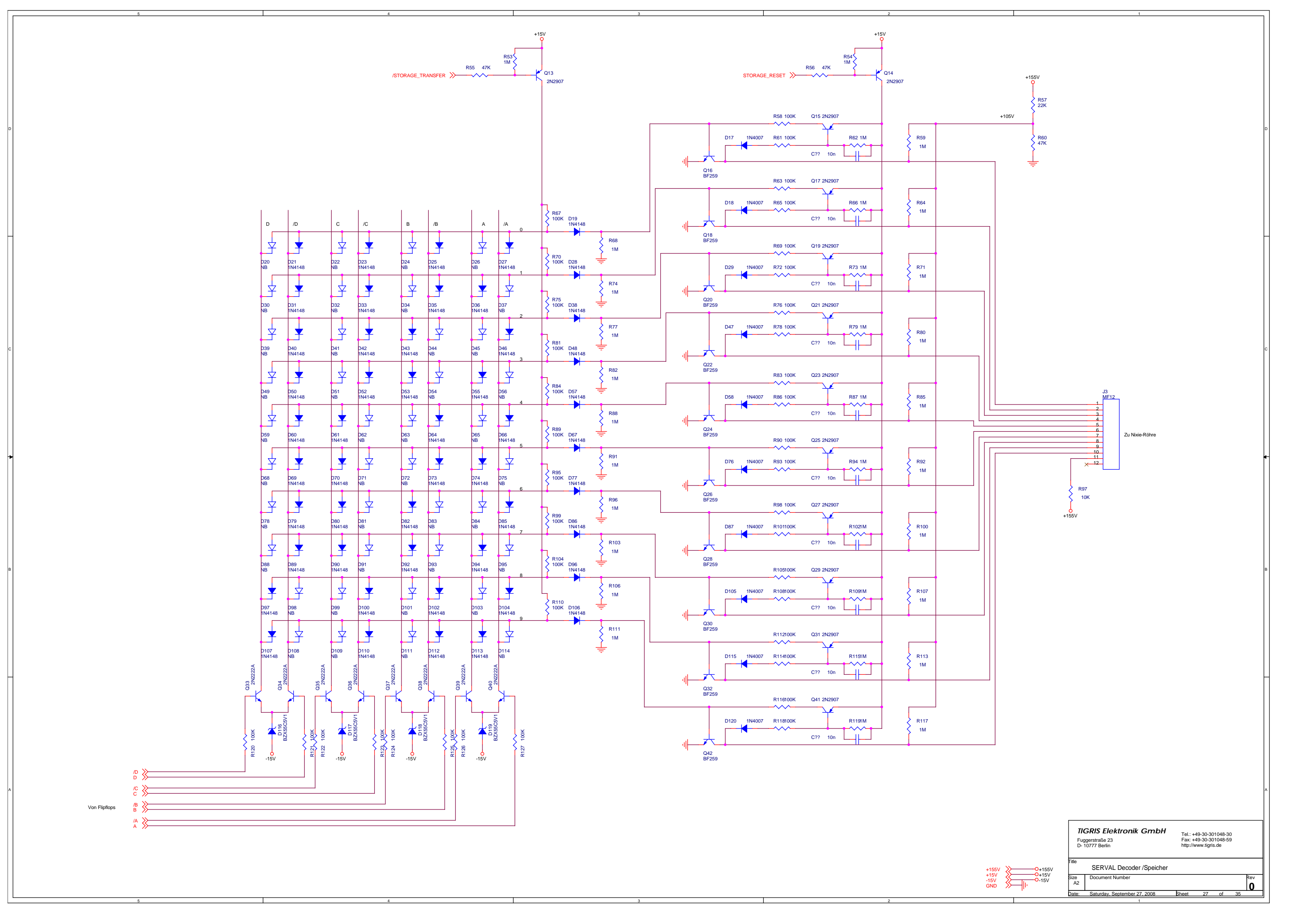


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Title: **SERVAL Zählstufen**

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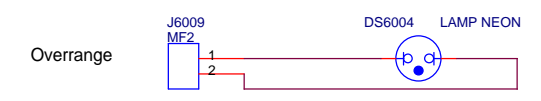
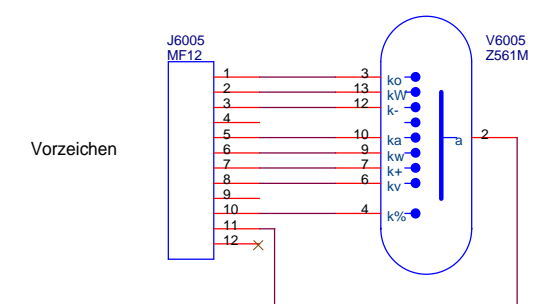
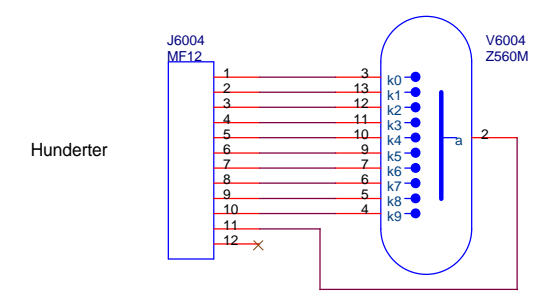
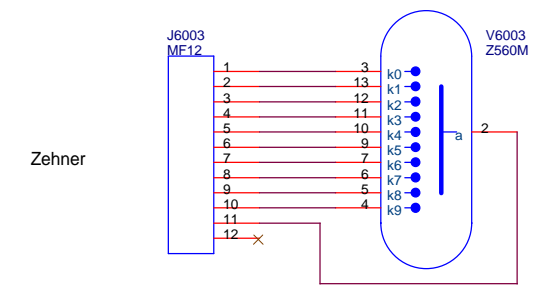
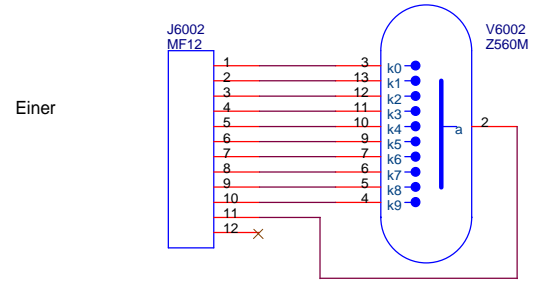
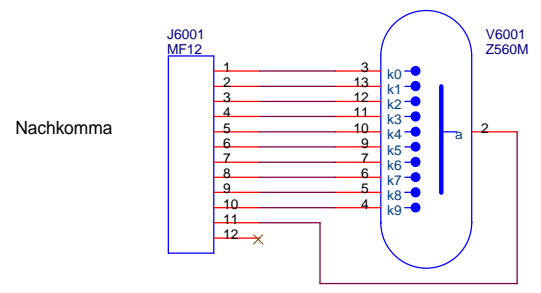


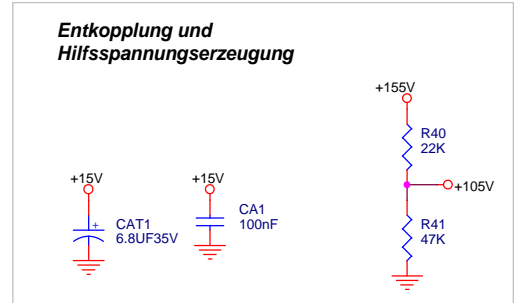
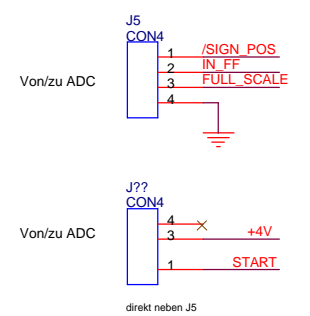
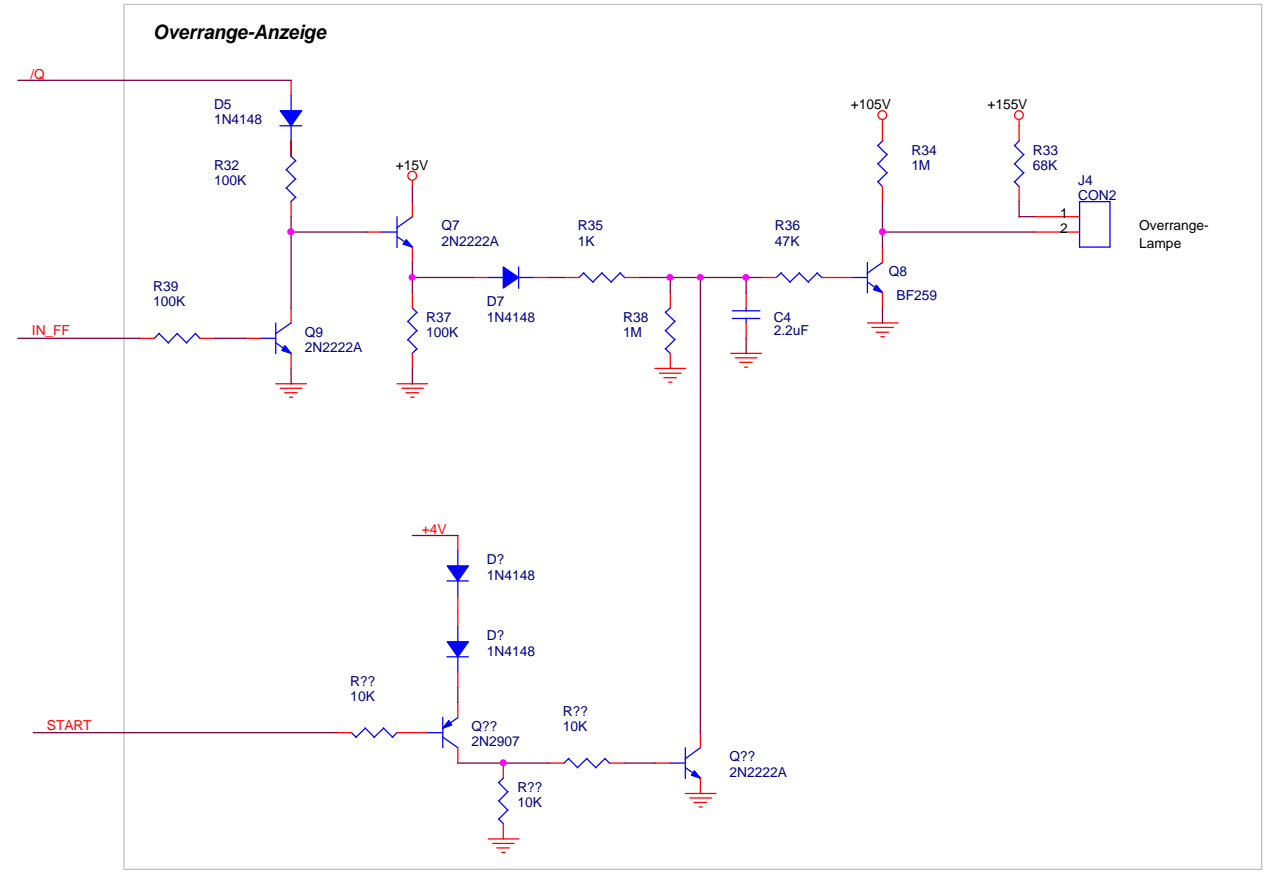
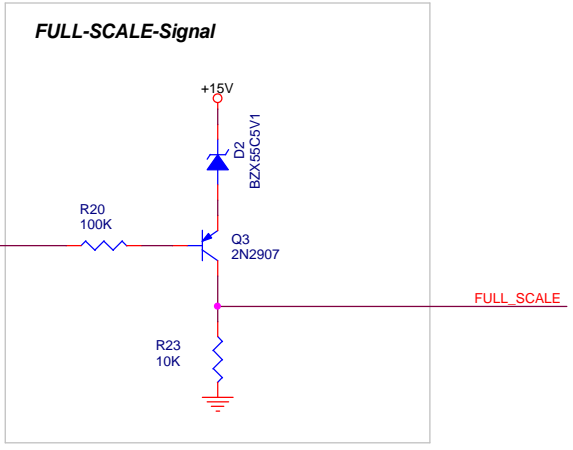
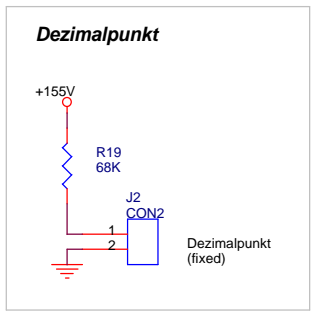
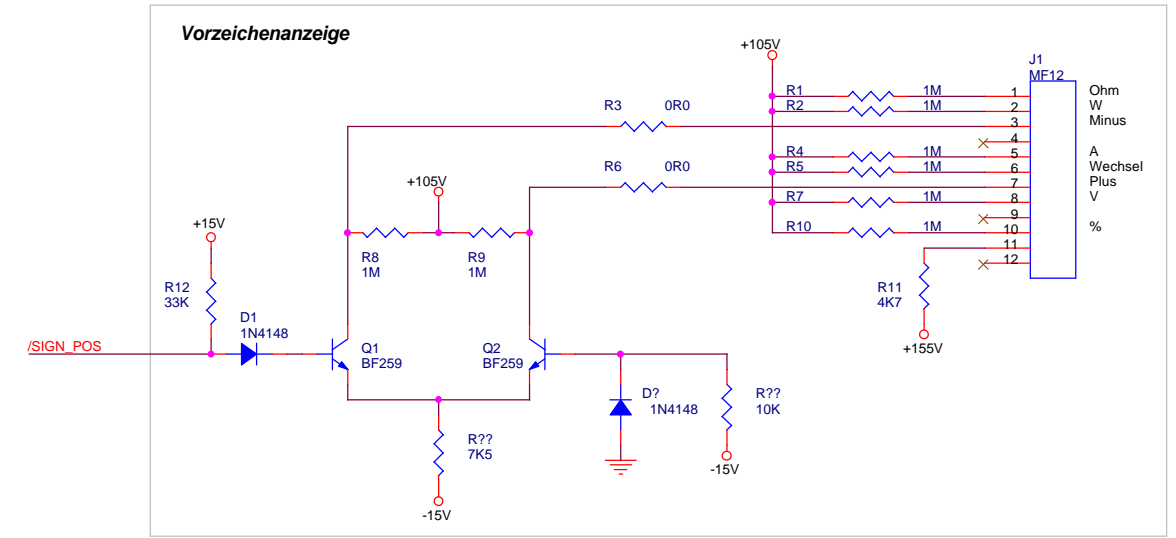
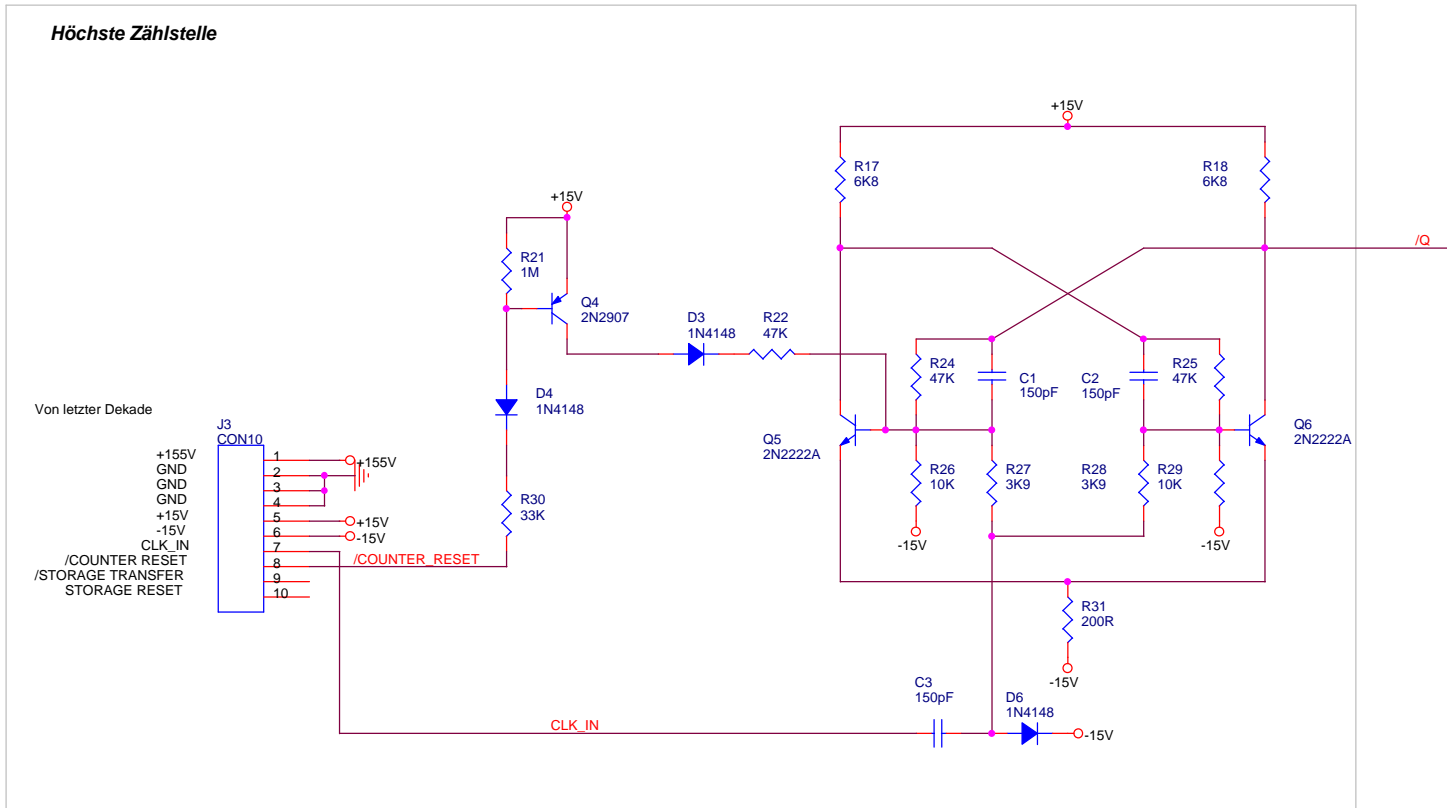
Von Flipflops

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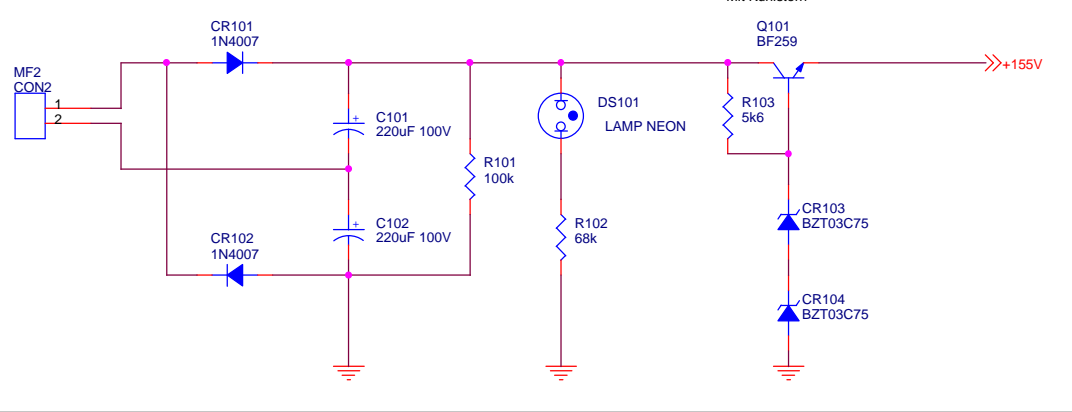




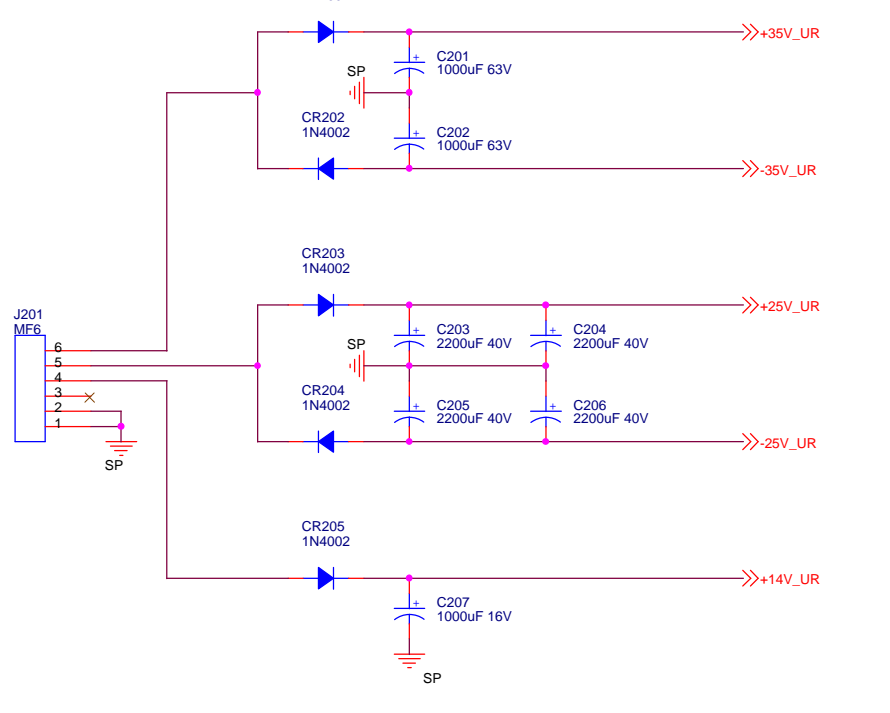


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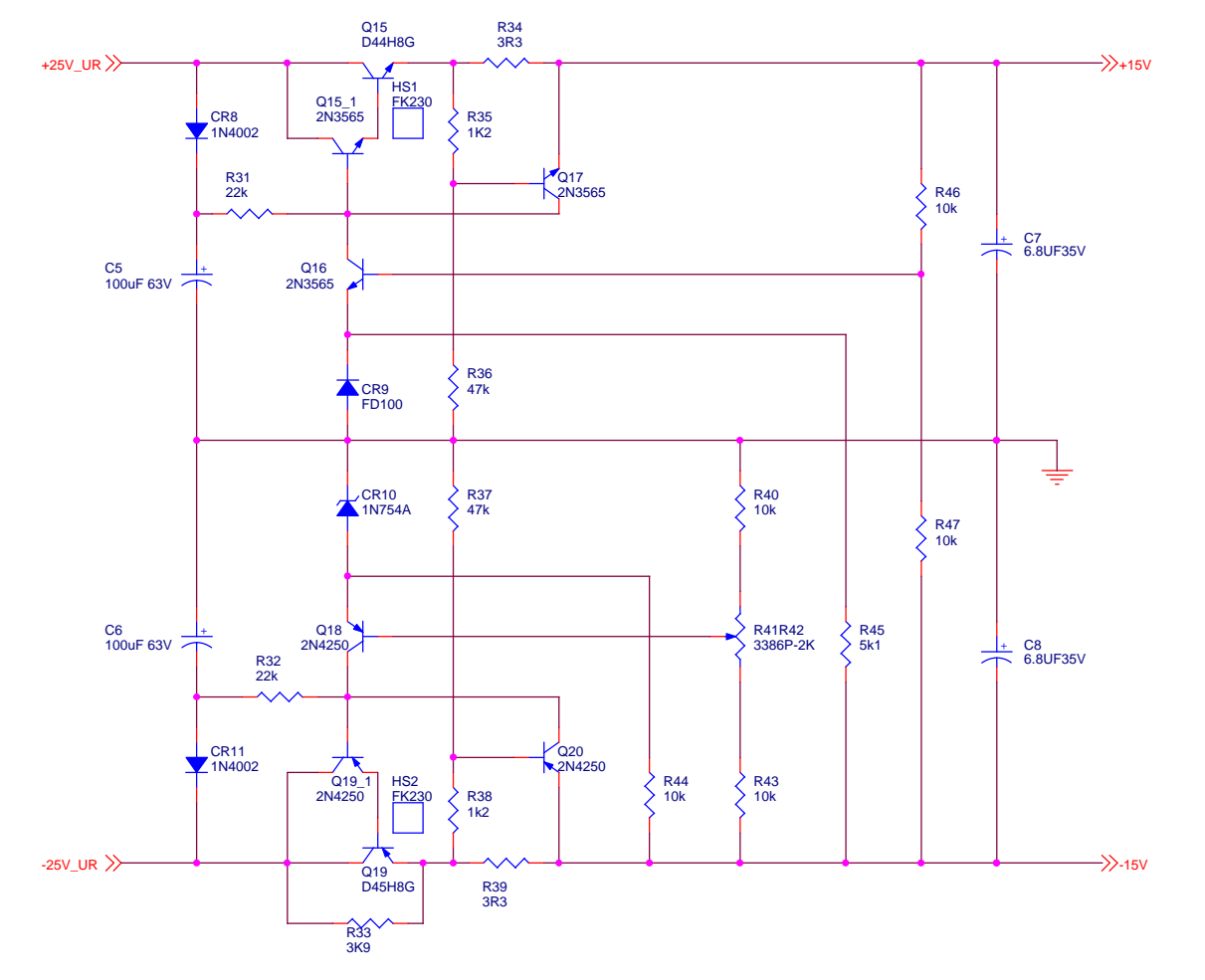
Versorgung +155V



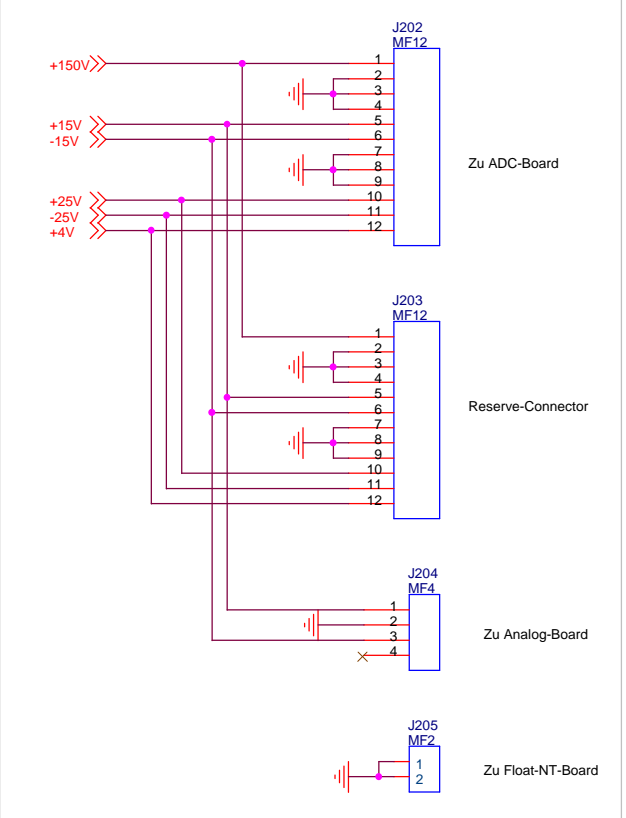
Gleichrichterschaltung



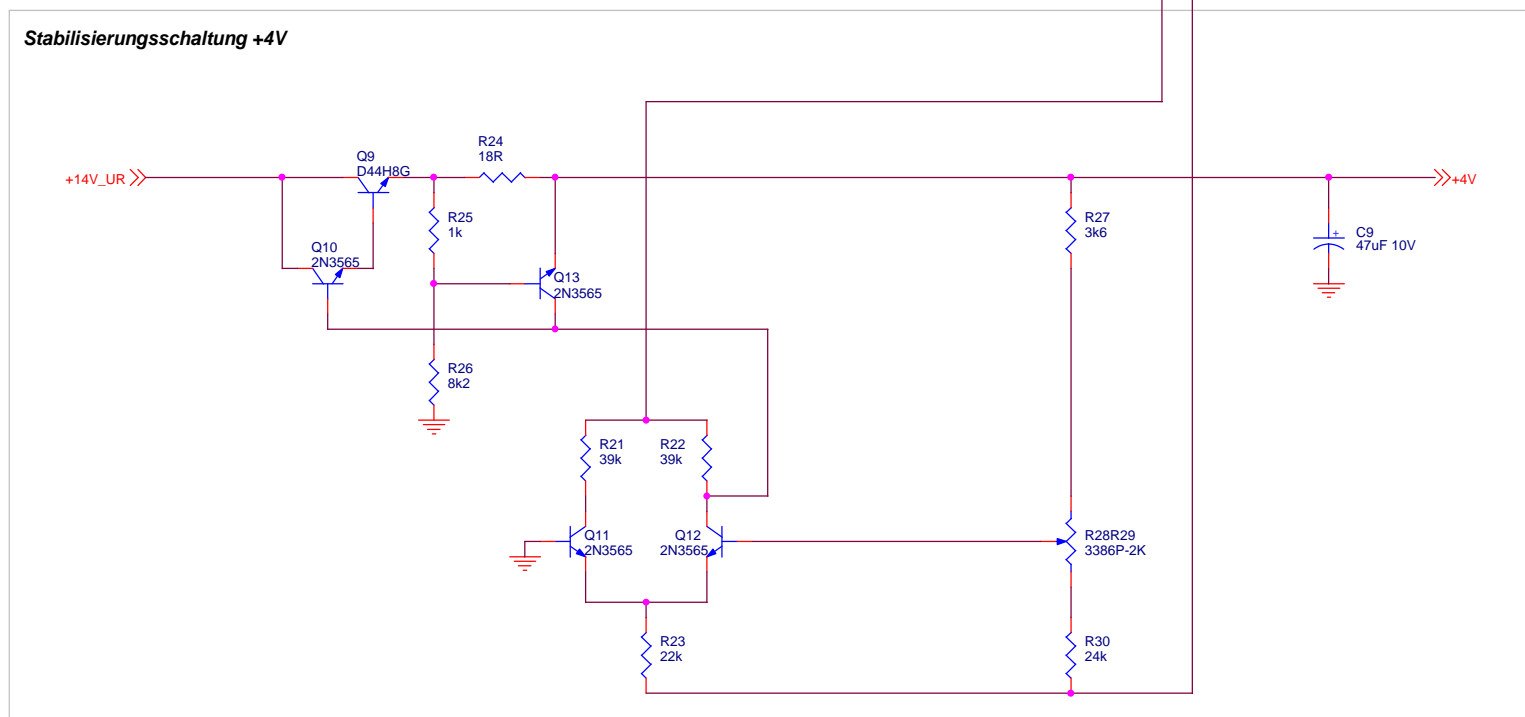
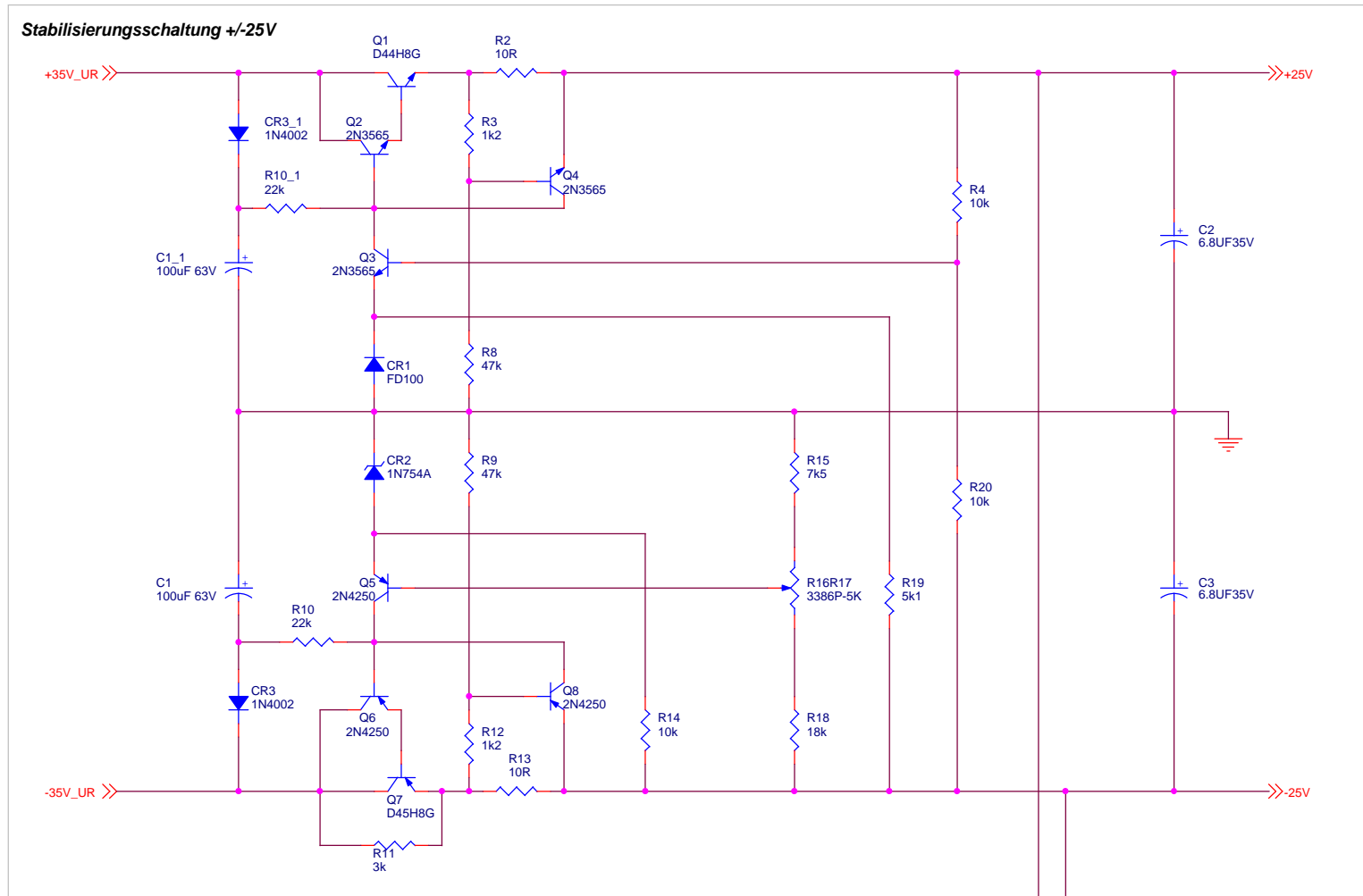
Stabilisierungsschaltung +/-15V



Steckverbinder

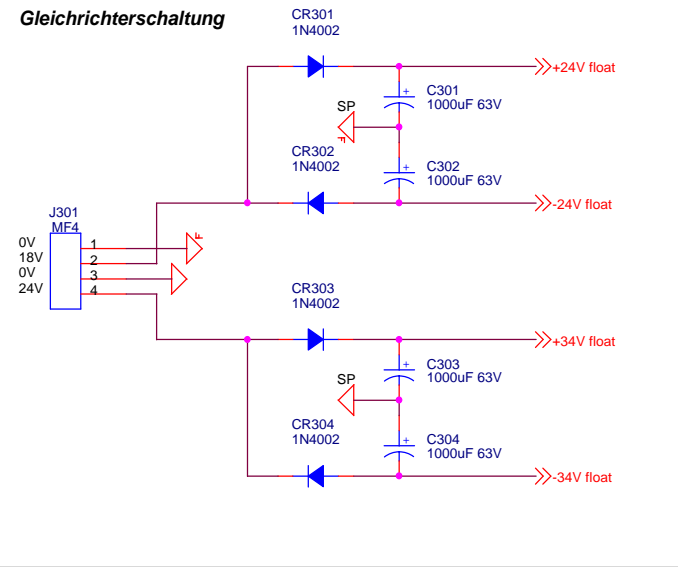


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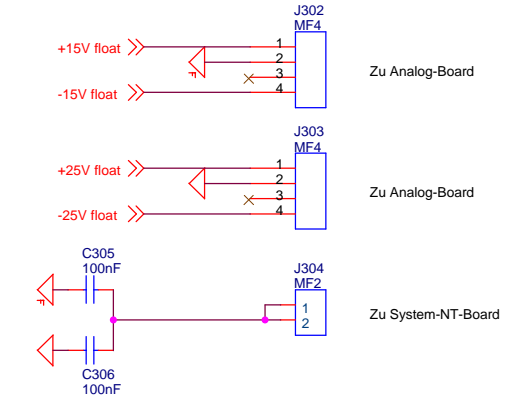


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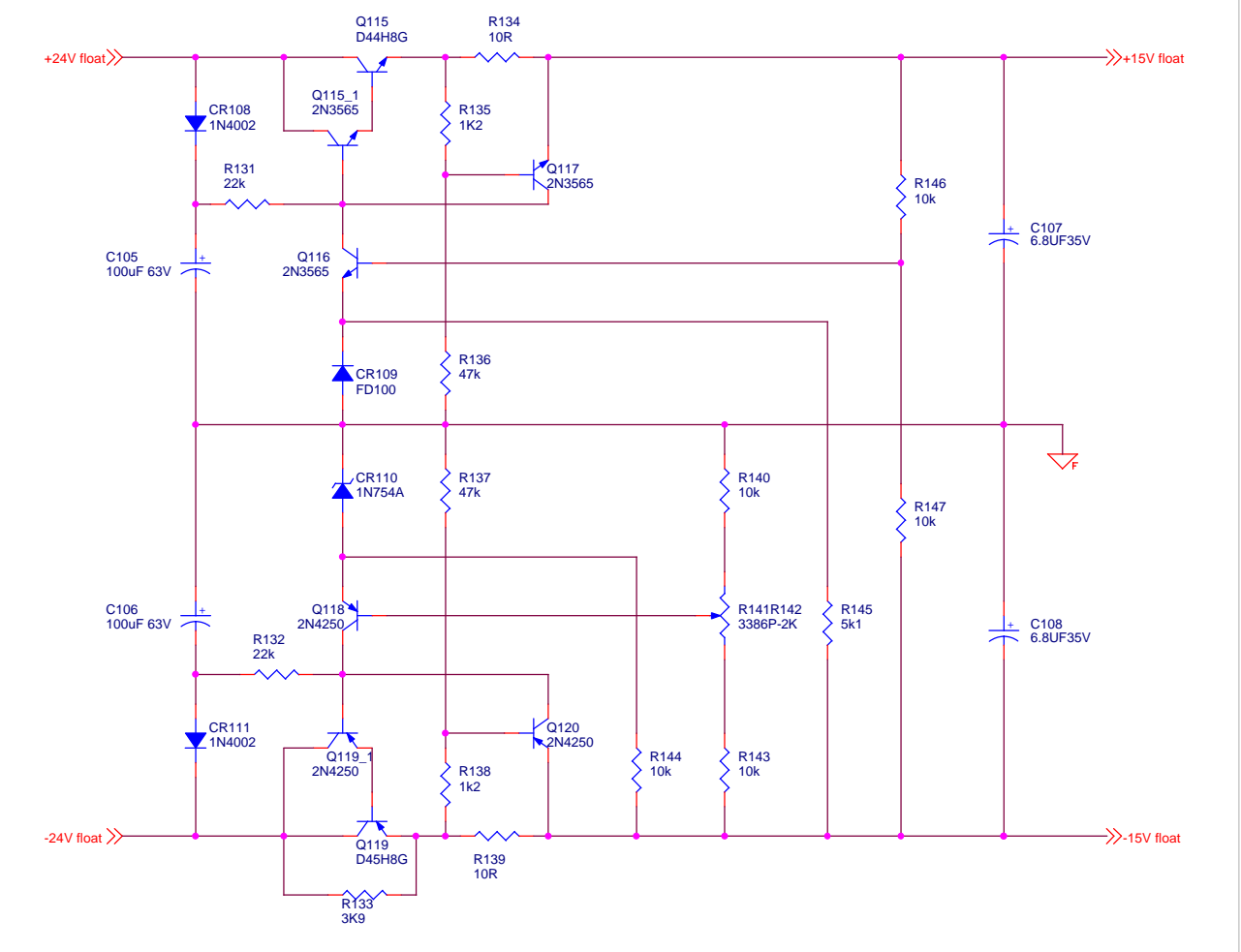
Gleichrichterschaltung



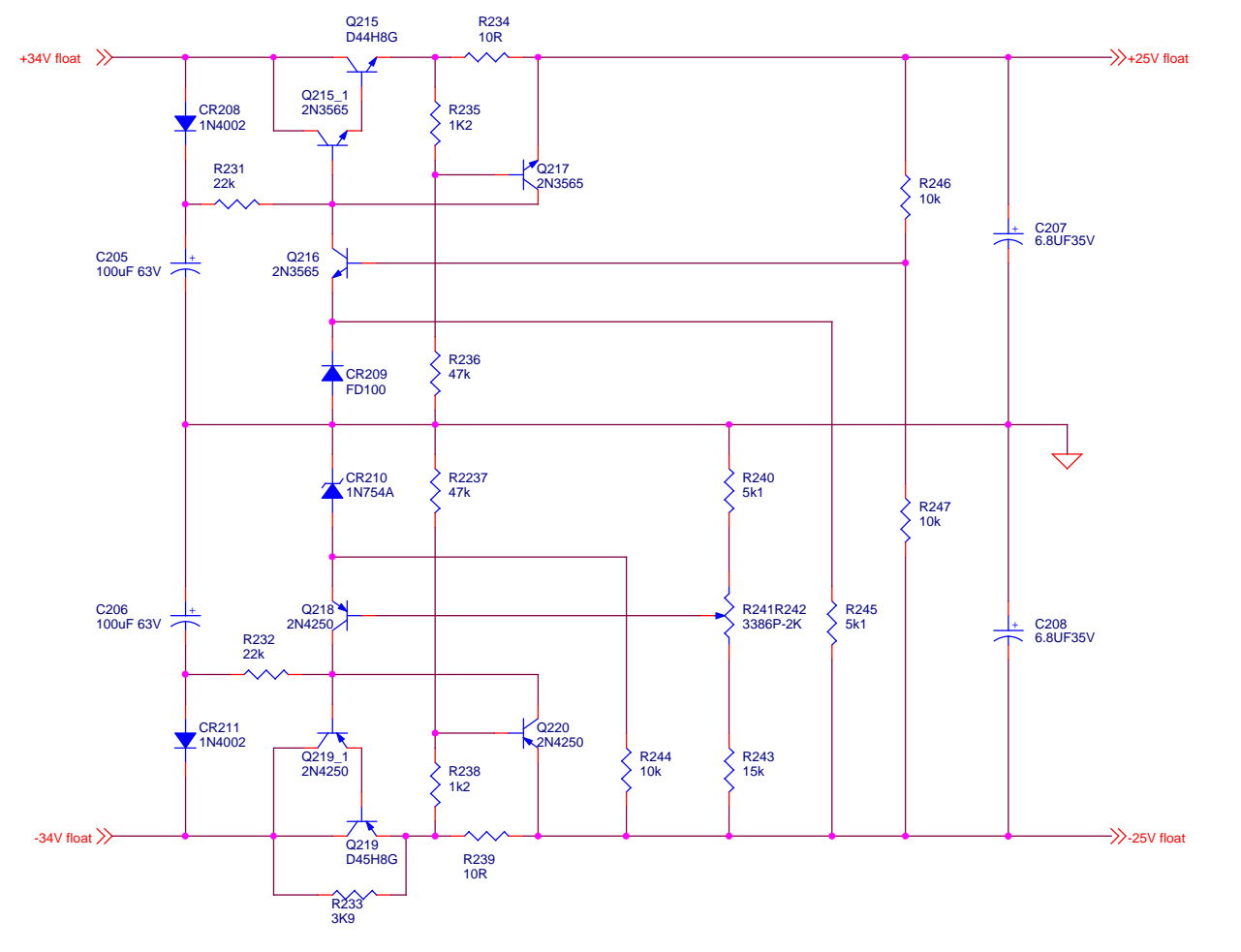
Steckverbinder

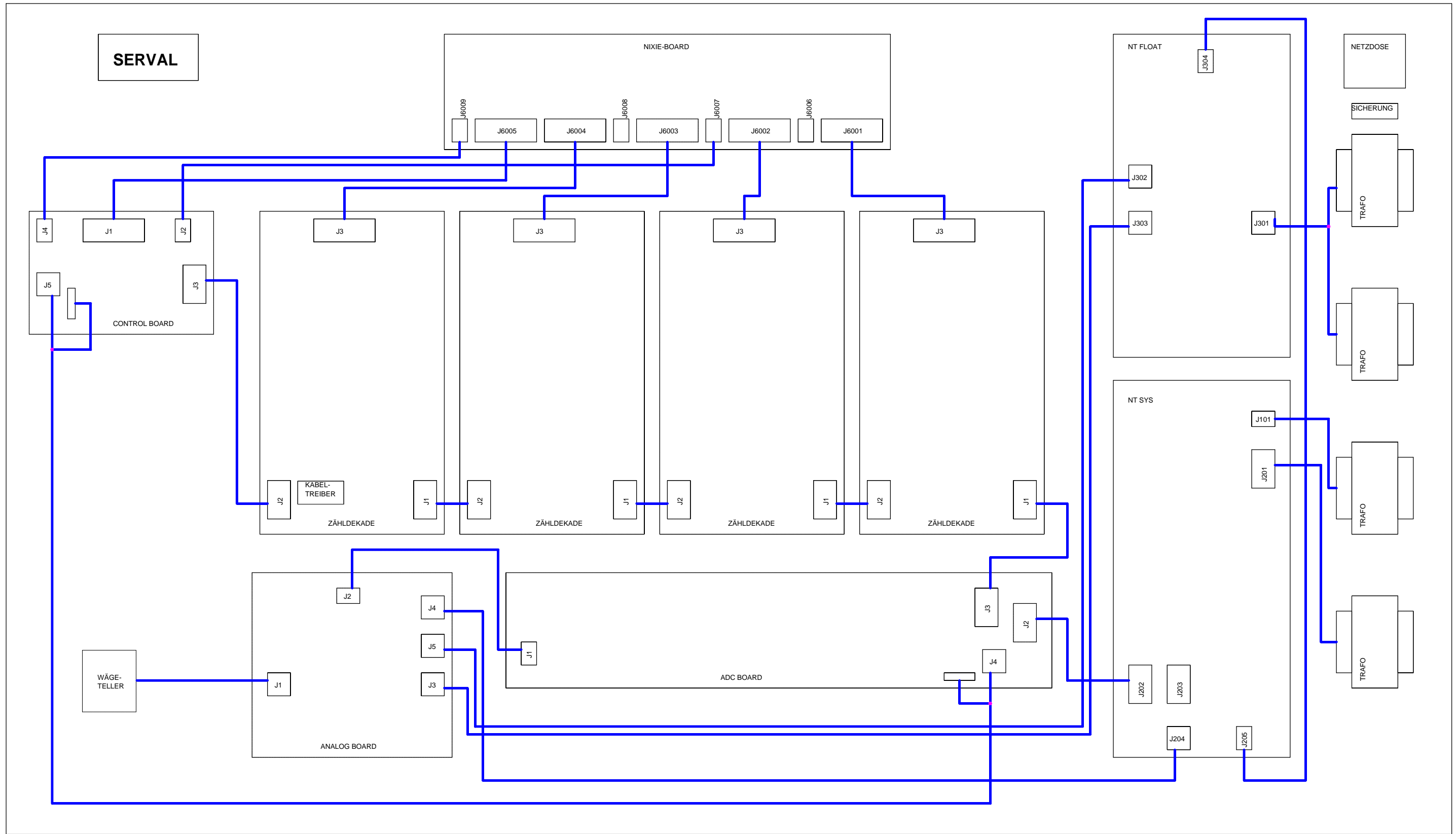


Stabilisierungsschaltung +/-15V Float



Stabilisierungsschaltung +/-25V Float

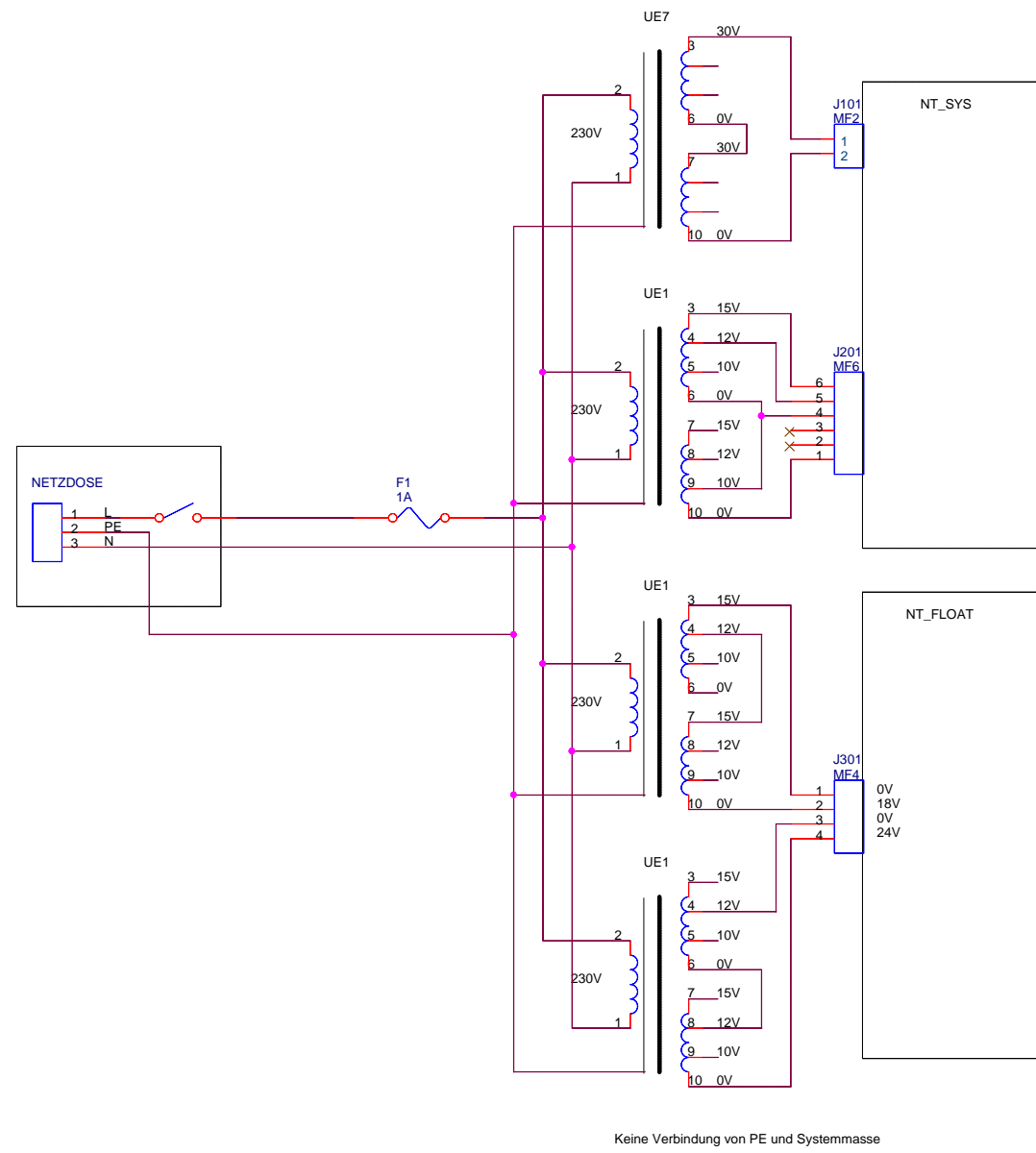




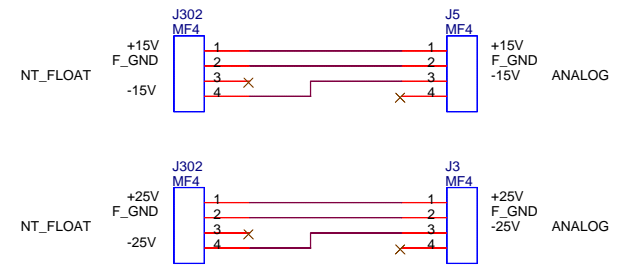
Alle Kabel, bis auf die Verbindung von NT_FLOAT J302 => ANALOG BOARD J5 und NT_FLOAT J303 => ANALOG BOARD J3 sind 1 zu 1 durchverbunden, diese Kabel werden auf der Folgeseite beschrieben

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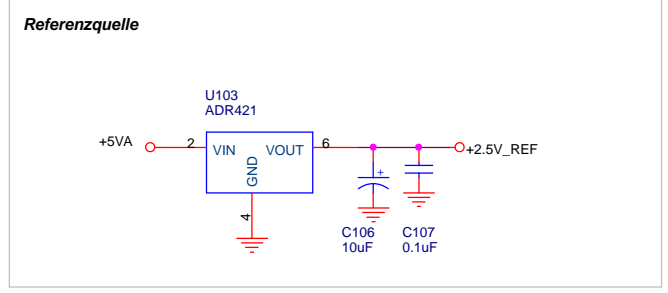
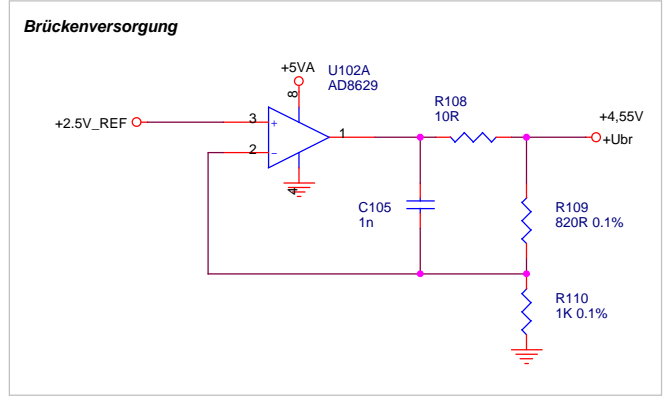
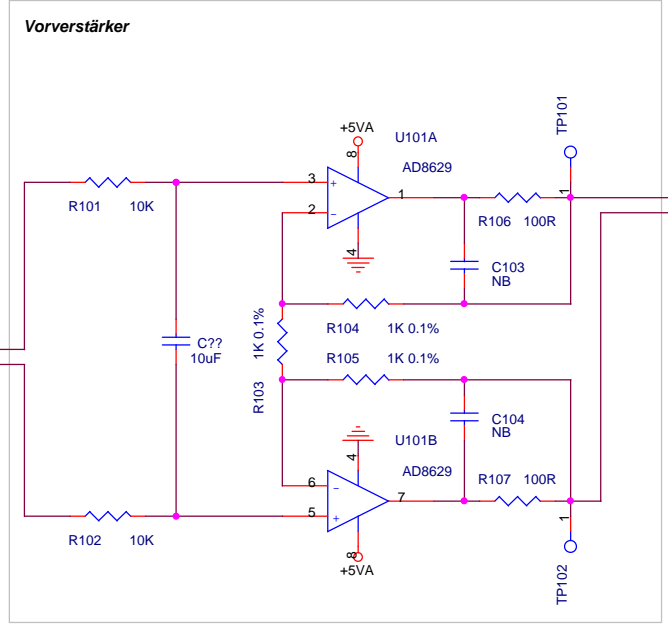
Verdrahtung der Netztransformatoren



Kabel, die nicht 1 zu 1 verbunden sind:



Anschluß DMS-Brücke



Anschluß Trafo 12V/1A

