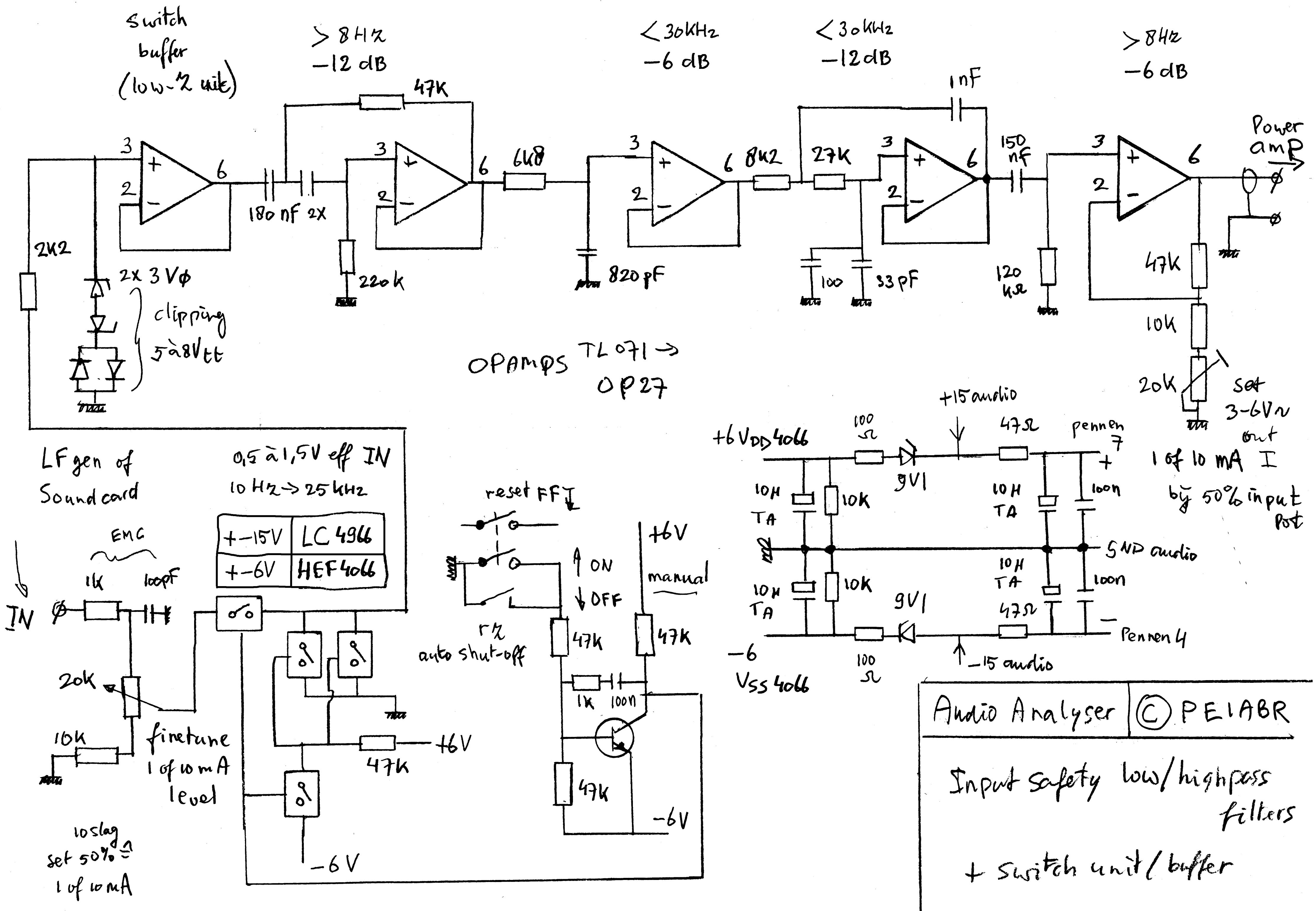
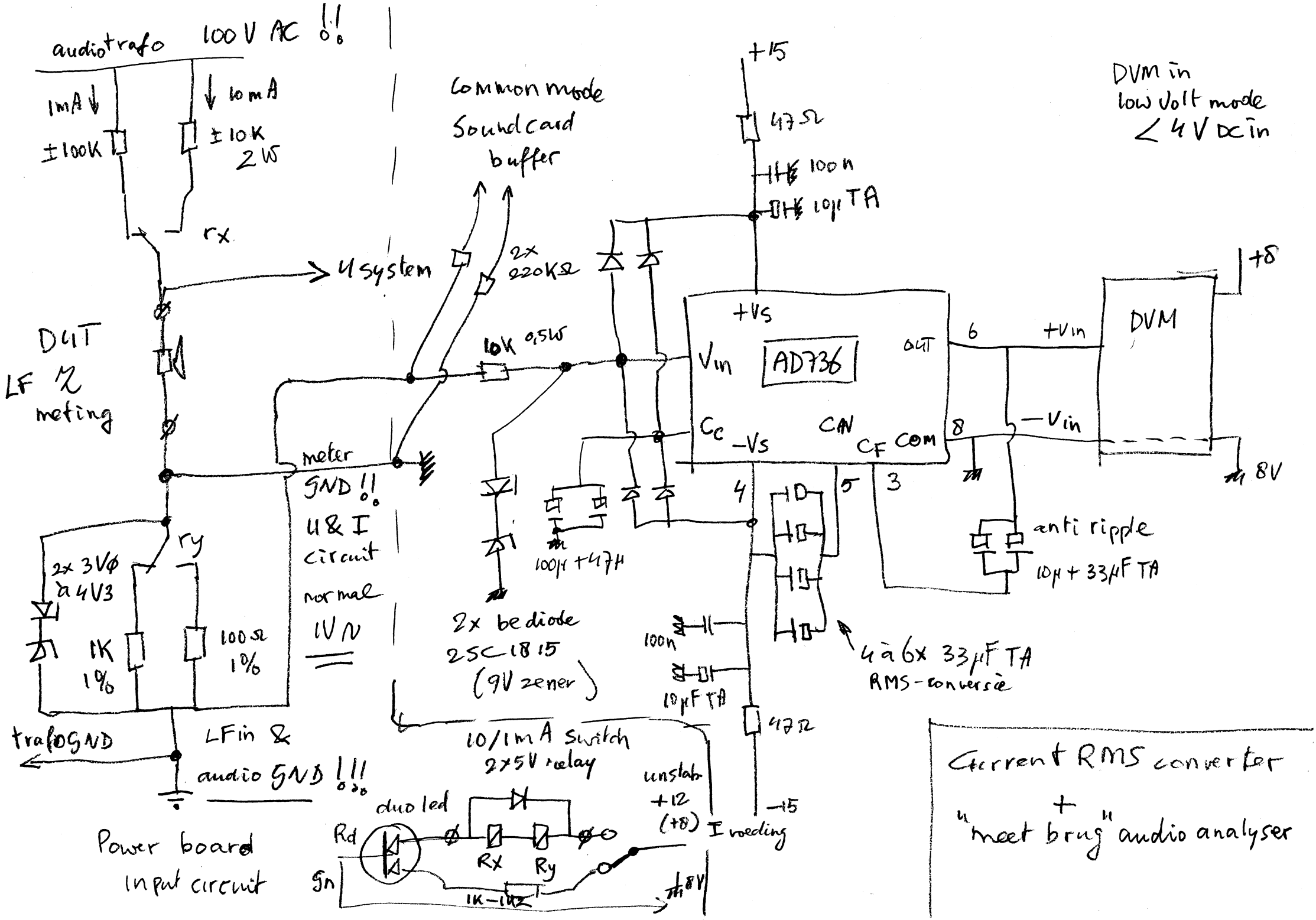
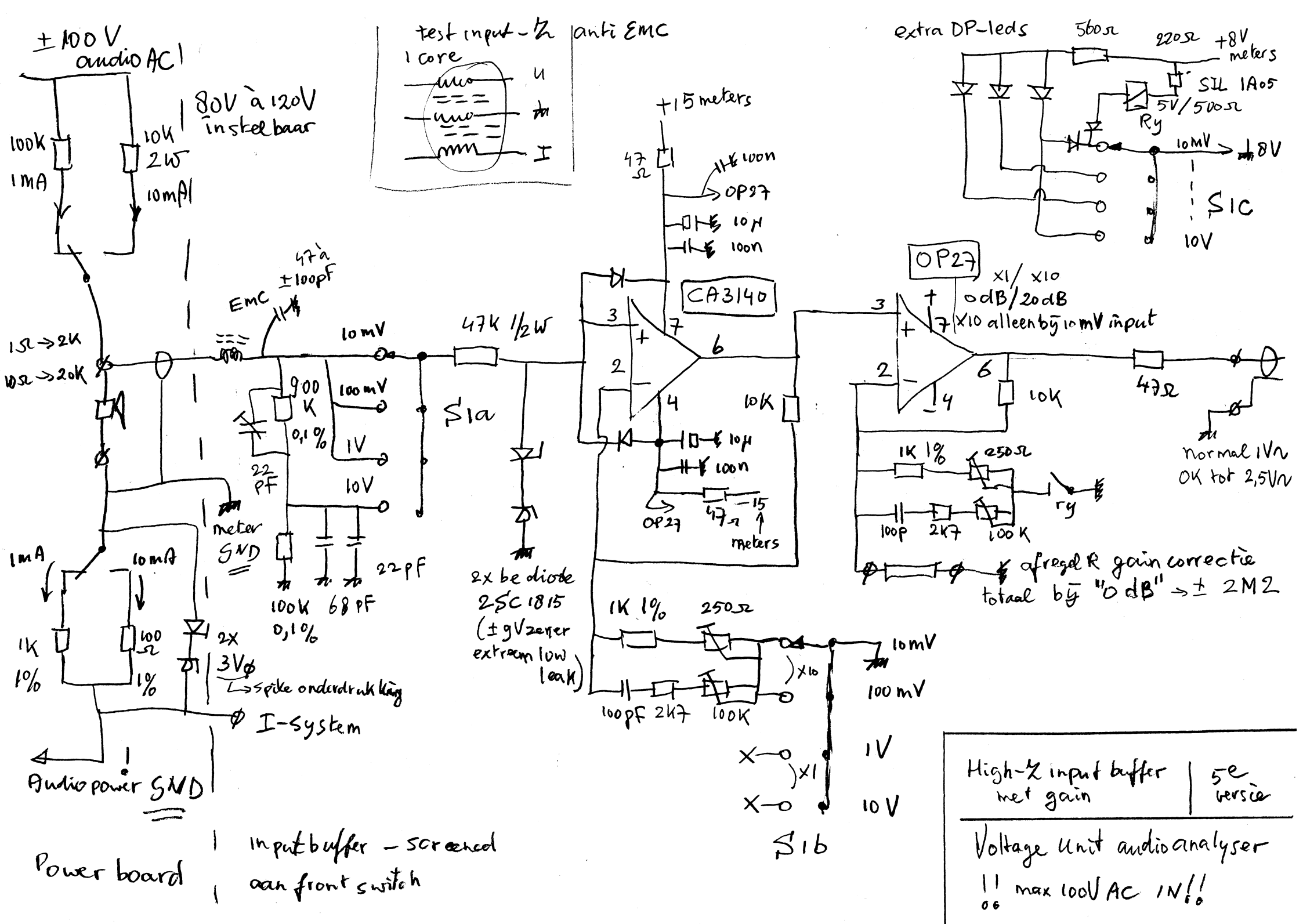
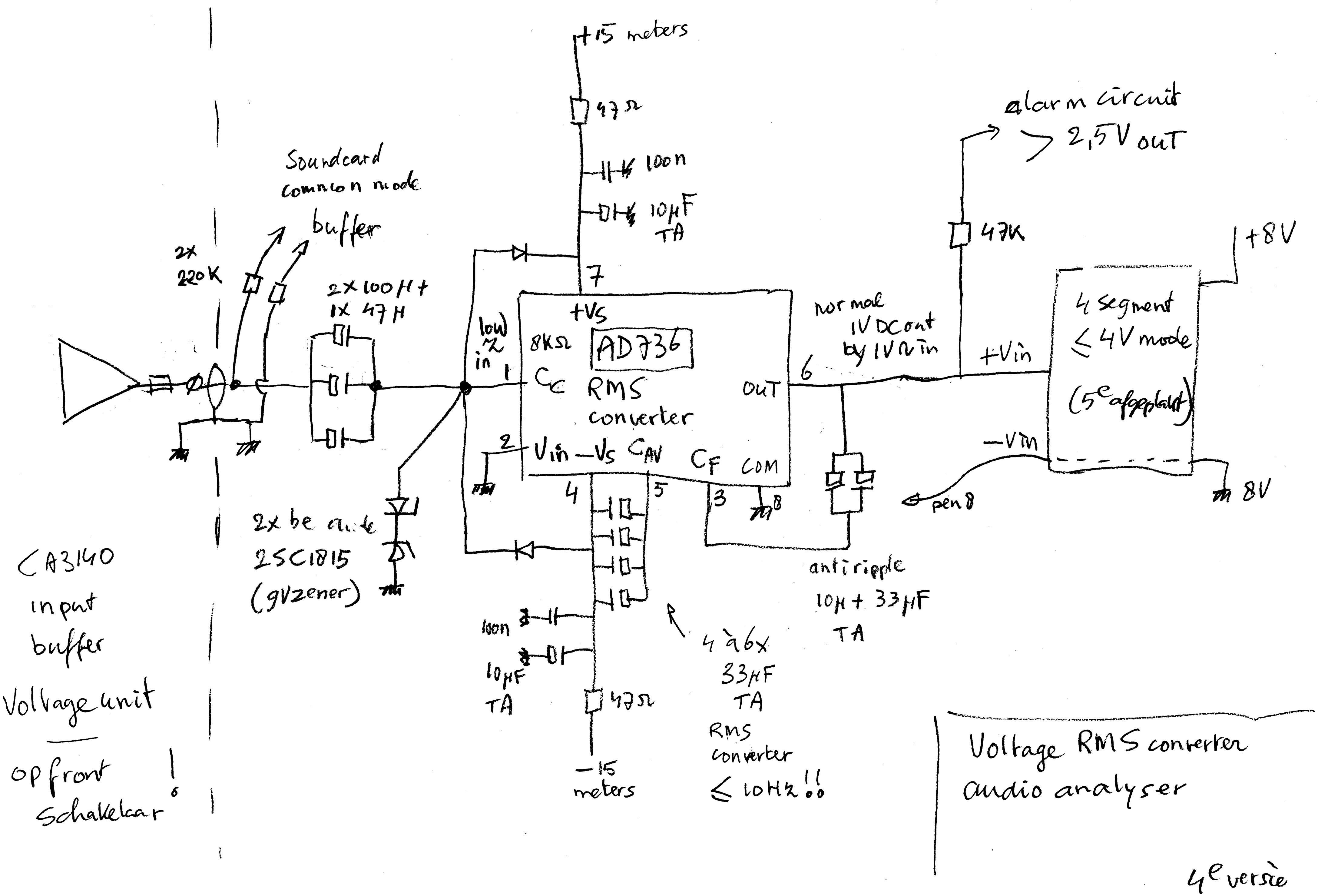
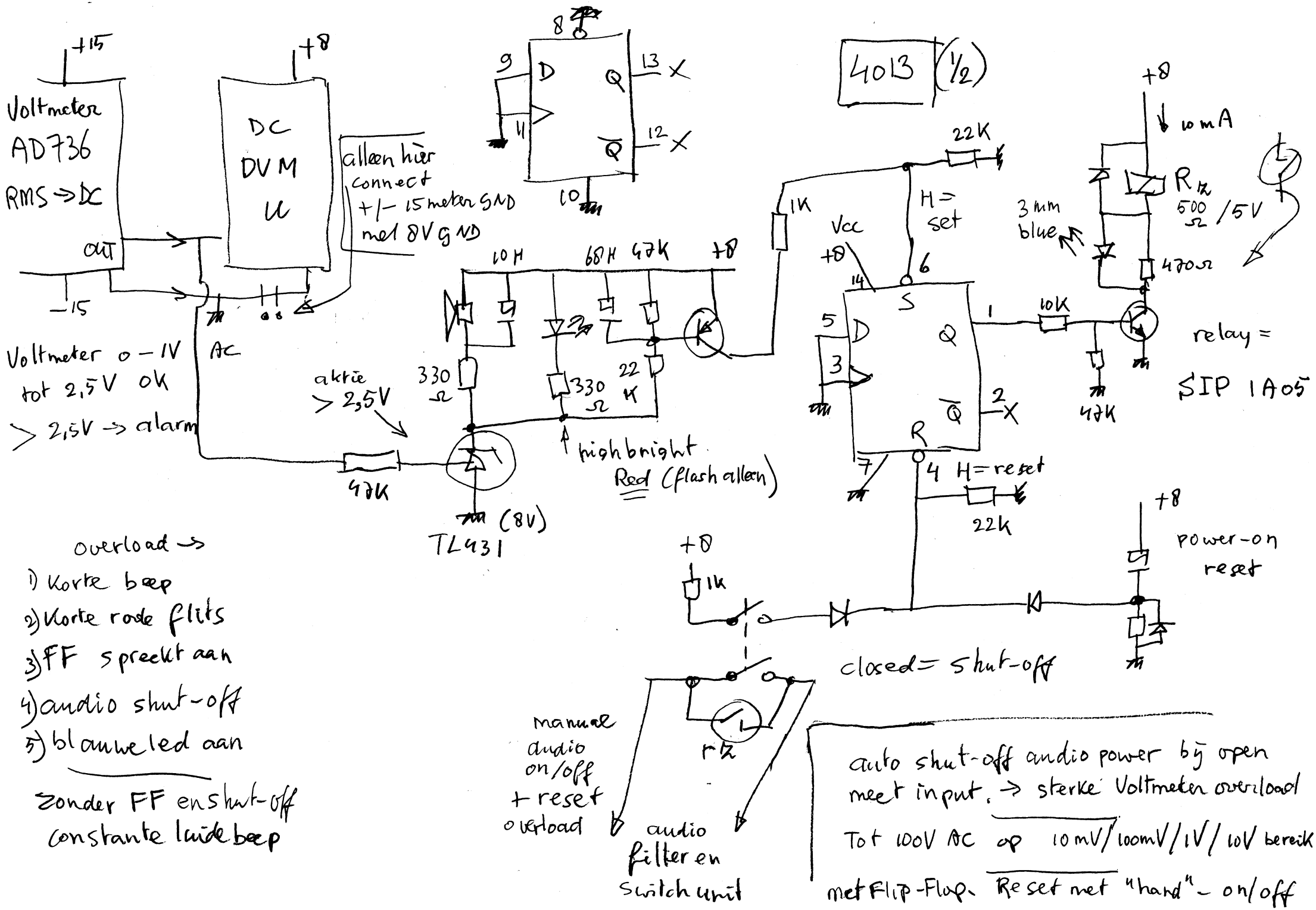

switch buffer (low-Ω unit)
> 8 Hz
-12 dB
< 30 kHz
-6 dB
< 30 kHz
-12 dB
> 8 Hz
-6 dB
47K
1nF
Power amp
3
2
6
180 nF 2X
220 k
6k8
820 pF
8k2
27K
100
33 pF
150 nF
120 kΩ
47K
10k
20K
set 3-6V~ out
2K2
2X 3 Vϕ
clipping 5 à 8 Vtt
OPAMPS TL 071 →
OP 27
+15 audio
100 Ω
47Ω
pennen 7
+6 VDD 4066
9V1
10μ TA
10K
100n
GND audio
-6
Vss 4066
-15 audio
Pennen 4
1 of 10 mA
by 50% input pot
LF gen of Soundcard
0,5 à 1,5 V eff IN
10 Hz → 25 kHz
| +-15V | LC 4966 |
| +-6V | HEF 4066 |
EMC
1k
100pF
IN
20K
10K
finetune 1 of 10 mA level
10 slag set 50% ≙ 1 of 10 mA
47K
+6V
-6V
reset FFT
ON
OFF
r/l auto shut-off
manual
47K
1k
100n
-6V
Audio Analyser
© PE1ABR
Input safety low/highpass filters
+ switch unit / buffer


audiotrafo
100 V AC !!
1mA
±100K
10mA
±10K
2W
rx
Usystem
DUT
LF %
meting
meter
GND !!
U&I
circuit
normal
UVN
2x 3V6
à 4V3
1K
1%
100Ω
1%
ry
trafoGND
LFin &
audio GND !!!
Power board
input circuit
Common mode
Soundcard
buffer
2x
220KΩ
10K 0,5W
2x bediode
25C1815
(9V zener)
100µ +47µ
+15
47Ω
100n
10µ TA
+Vs
Vin
AD736
OUT
Cc
-Vs
CAV
CF
COM
6
8
4
5
3
+Vin
-Vin
DVM
+8
8V
anti ripple
10µ + 33µF TA
100n
10µF TA
4 à 6x 33µF TA
RMS-conversie
47Ω
10/1mA switch
2x5V relay
unstab
+12
(+8)
-15
I reading
duo led
Rd
Gn
Rx
Ry
1K-1K2
+8V
DVM in
low Volt mode
< 4V DC in
Current RMS converter
+
"meet brug" audio analyser


±100V audio AC
80V à 120V instelbaar
100K
1MA
10K 2W
10mA
test input - hi-Z
1 core
U
I
anti EMC
extra DP-leds
360Ω
220Ω
+8V meters
SIL 1A05
5V/500Ω
Ry
10mV
8V
SIC
10V
+15 meters
47Ω
1K 100n
OP27
10µ
100n
CA3140
OP27
x1/x10
0dB/20dB
x10 alleen bij 10mV input
1Ω→2K
10Ω→20K
47 à ±100pF
EMC
10mV
47K 1/2W
900K
0,1%
100mV
1V
10V
22pF
meter GND
100K 68pF
0,1%
S1a
2x be diode
2SC1815
(±gV zener
extreem low
leak)
10K
47Ω
normal 1Vn
OK tot 2,5Vn
1K 1%
250Ω
ry
100p 2K7 100K
afregel R gain correctie
totaal bij "0 dB" → ± 2MΩ
1K 1%
100Ω 1%
2x 3V6
↳ spike onderdrukking
I-System
Audio power GND
1K 1%
250Ω
100pF 2K7 100K
x10
x1
10mV
100mV
1V
10V
S1b
Power board
Input buffer – screened
aan front switch
High-Z input buffer met gain
5e versie
Voltage Unit audio analyser
!! max 100V AC IN !!



+15 meters
47Ω
100n
10μF TA
Soundcard common mode buffer
2x 220K
2x 100μF + 1x 47μF
low Ω in
8kΩ
AD736
+VS
7
1 CC
RMS converter
OUT 6
2 Vin −VS CAV CF COM
4 5 3 8
alarm circuit
> 2,5V out
47K
+8V
normal 1V DC out by 1V~ in
+Vin
4 segment ≤ 4V mode
(5e afgeplakt)
−Vin
pen 8
8V
2x be aute 2SC1815 (9V zener)
antiripple 10μ + 33μF TA
100n
10μF TA
47Ω
−15 meters
4 à 6x 33μF TA
RMS converter ≤ 10Hz!!
CA3140 input buffer
Voltage unit
op front schakelaar
Voltage RMS converter audio analyser
4e versie



overload →

1) Korte beep
2) Korte rode flits
3) FF spreekt aan
4) audio shut-off
5) blauwe led aan

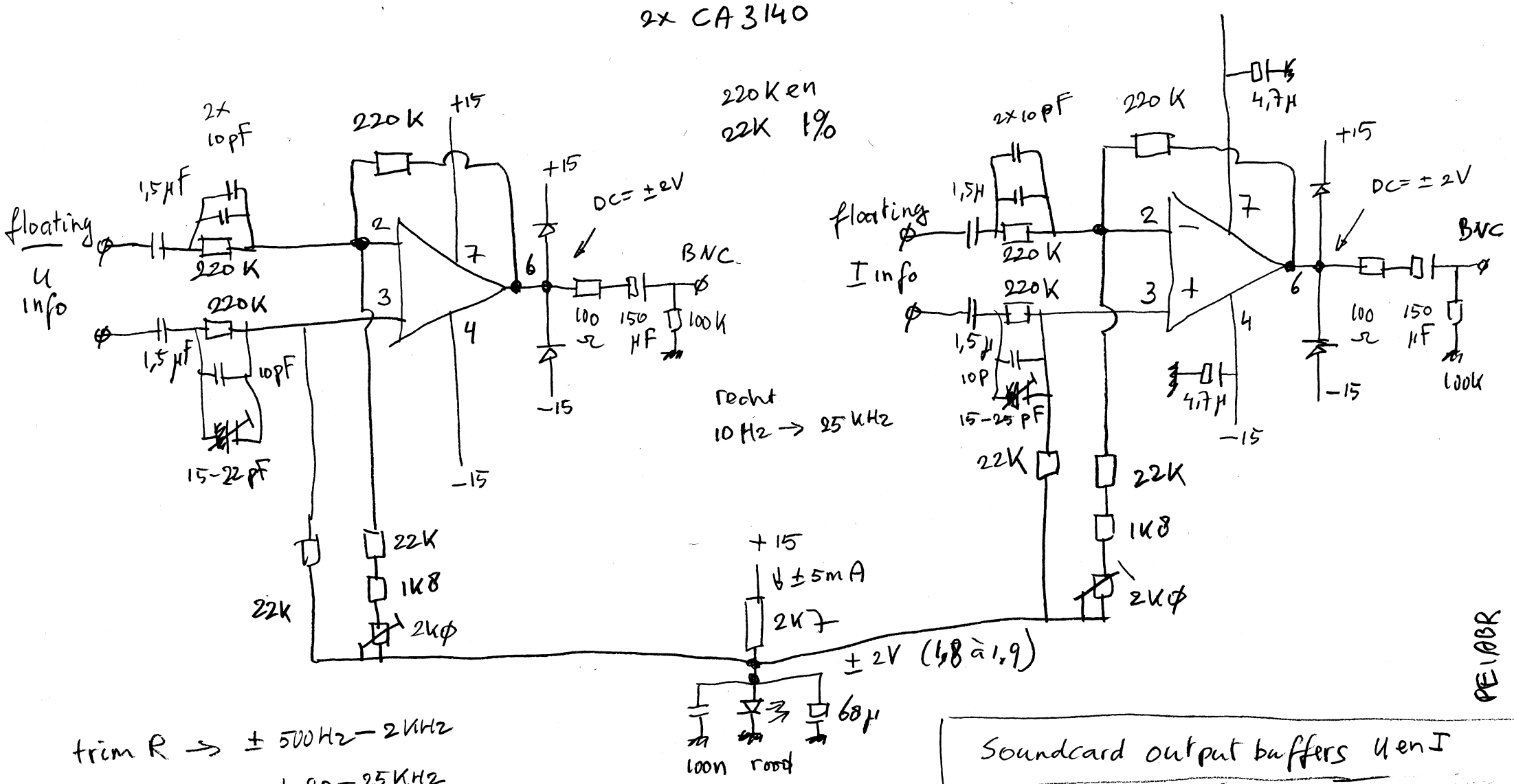
Zonder FF en shut-off
constante luide beep

auto shut-off audio power bij open meet input. → sterke Voltmeter overload

Tot 100V AC op 10mV/100mV/1V/10V bereik

met Flip-Flop. Reset met "hand" - on/off

2x CA3140



trim R → ± 500Hz – 2KHz

trim C → ± 20 – 25KHz

afregel connect to U-unit met U = ∅ (Kortsluit) input

en I = max (1V over I-shunt).

draai alles op NUL

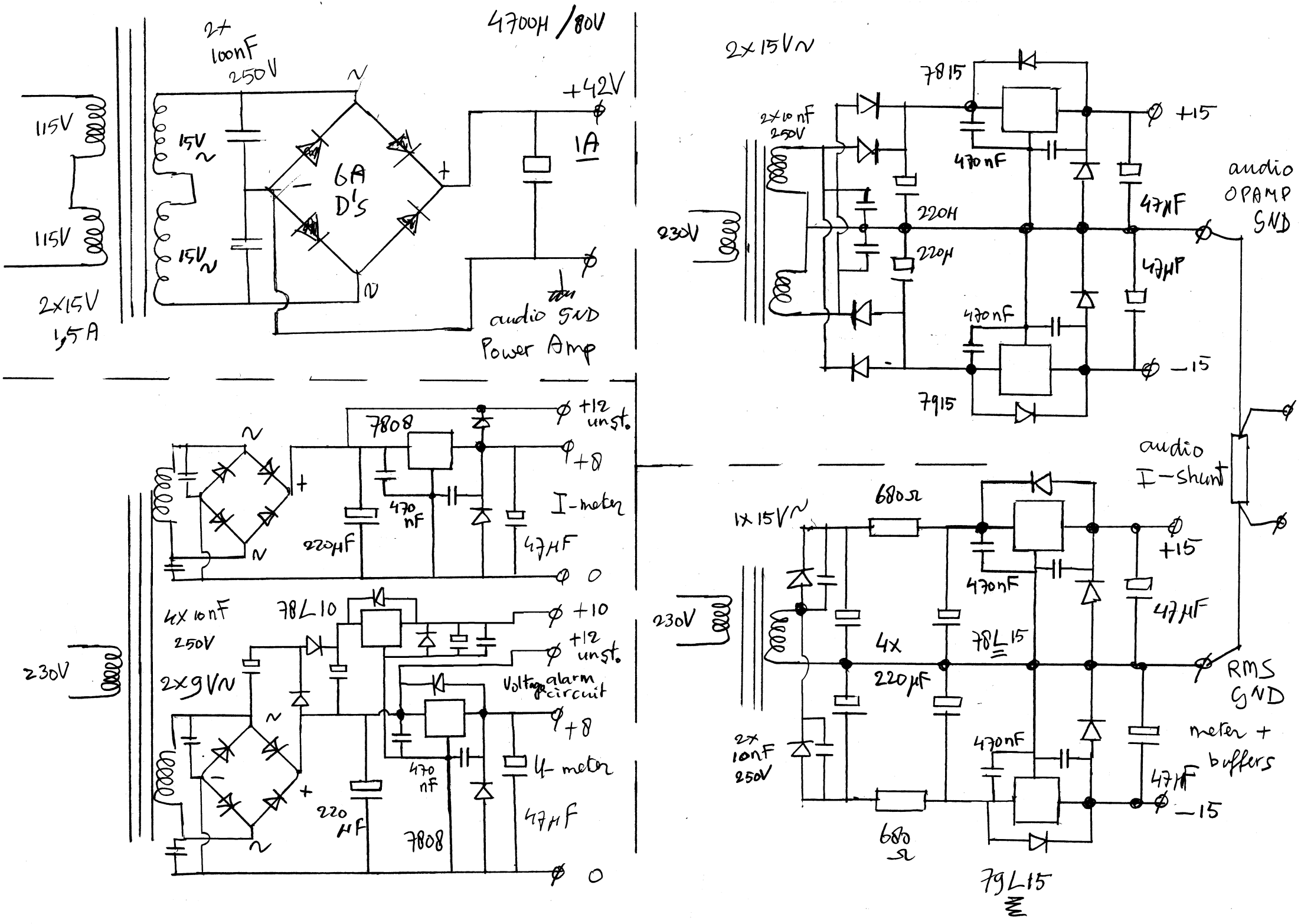
lift-U t.o.v. uitgangselco (± 2V)

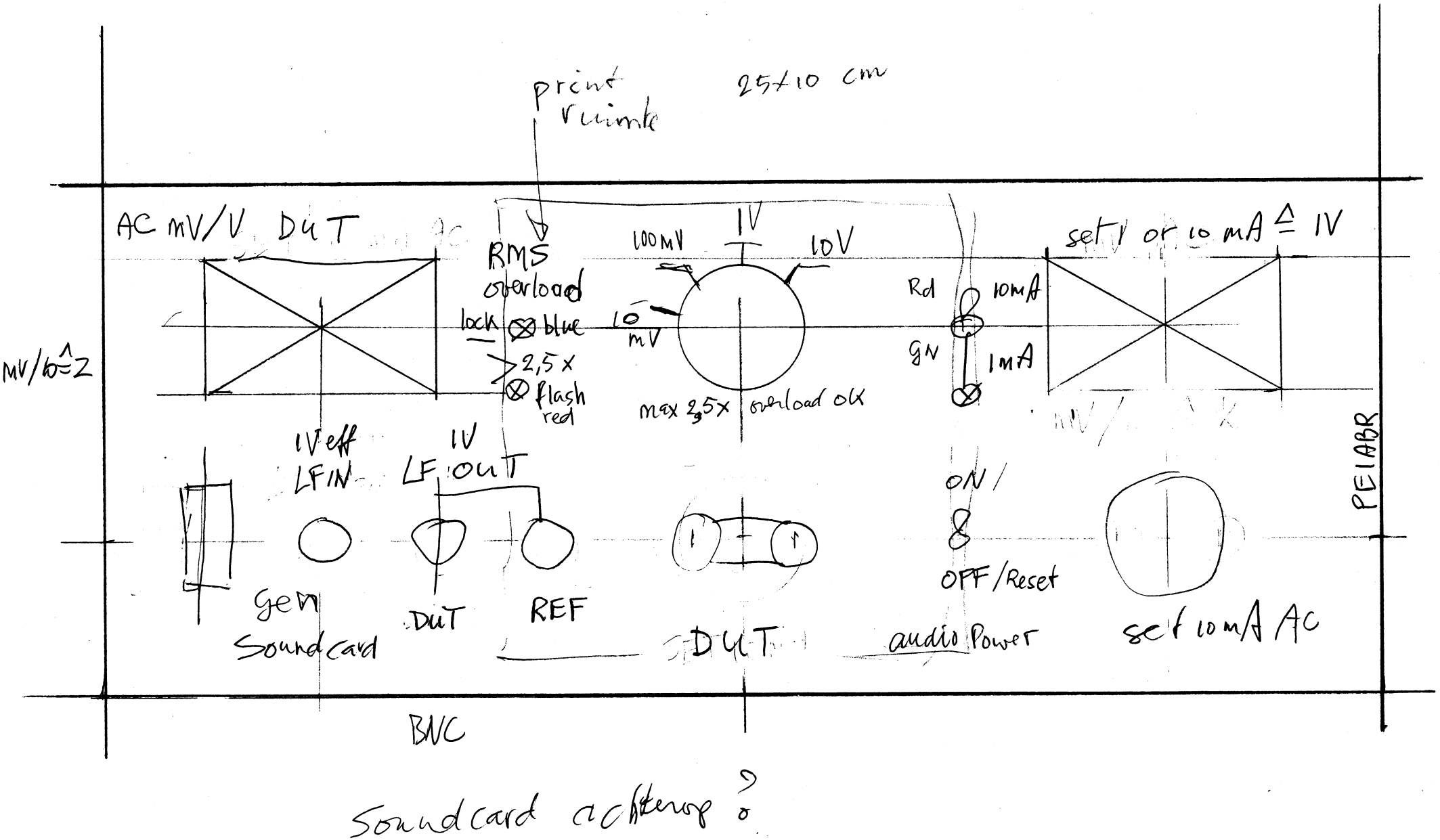
↳ Udiff meterGND en audio GND !!

Soundcard output buffers U en I

massa correctie || OUTPUT GND = BNC input GND

Outputbuffers met common mode onderdrukking shuntspanning tussen Power-GND en meter-GND (≙ 1V)


4700µH / 80V
2x
100nF
250V
115V
115V
15V
15V
6A
D's
+42V
1A
audio GND
Power Amp
2x15V
1,5A
2x15V~
7815
2x 10 nF
250V
470nF
+15
audio
OPAMP
GND
220µH
220µH
47µF
47µF
230V
470nF
7915
-15
audio
I-shunt
7808
+12
unst.
+8
I-meter
470
nF
220µF
47µF
0
1x15V~
680Ω
4x 10nF
250V
78L10
+10
+12
unst.
230V
2x9V~
Voltage alarm
circuit
+8
µ-meter
470
nF
220
µF
47µF
7808
0
4x
220µF
78L15
+15
470nF
47µF
RMS
GND
meter +
buffers
2x
10nF
250V
470nF
47µF
-15
680
Ω
79L15


print
ruimte
25 x 10 cm
AC mV/V DUT
RMS
overload
lock
blue
2,5 x
flash
red
100mV
1V
10V
LO
mV
max 2,5x
overload ok
Rd
10mA
GN
1mA
set V or 10 mA ≙ 1V
mV/Ω≙Ω
1V eff
LF IN
1V
LF OUT
ON /
OFF/Reset
audio Power
PE1ABR
gen
Soundcard
DUT
REF
DUT
set 10mA AC
BNC
Soundcard achterop ?