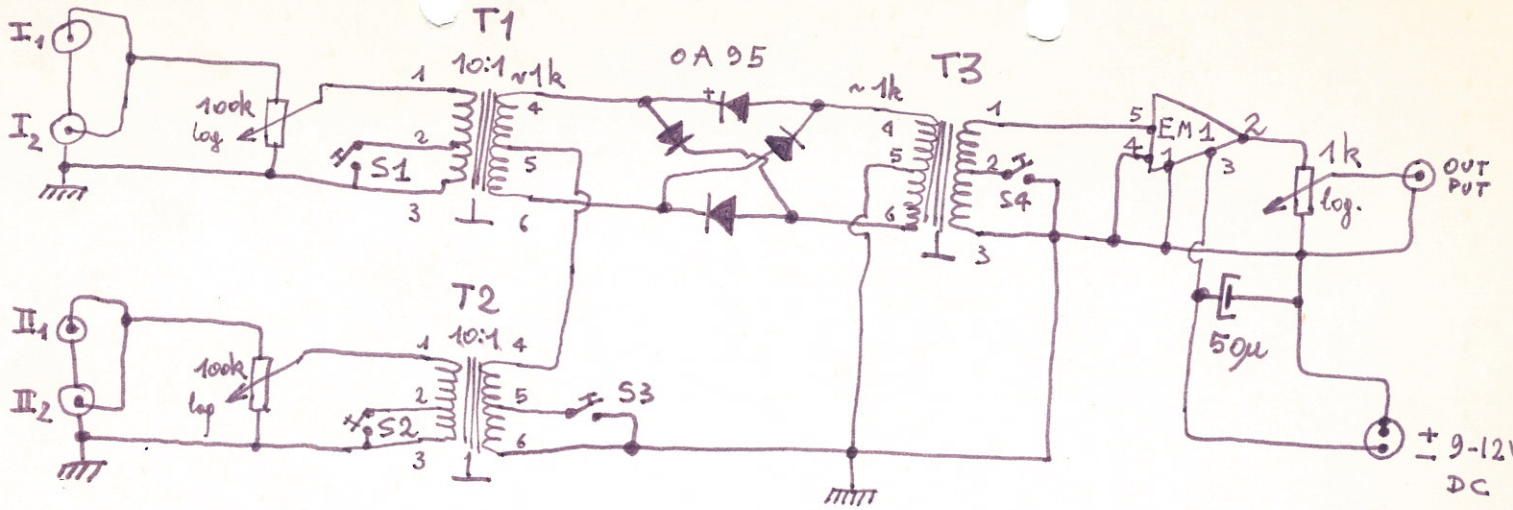
RINGMODULATOR

K1 - T3 - Y30/Q1



1 geel
2 rood
3 zwart
4 wit
5 blauw
6 wit

T1 – T3 : Eagle MT-12

ringmodulatorontwerp
godfried-Willem raes

input's: max. 0,5V
output : max. 1,5V
voeding: 9-12 V D.C.,+aan massa
verbruik: max 6mA.

logos
werkgroep voor geëngazjeerde
avant-garde miziek

Ontwerp

Ruimte - Modulator

voor

weefgroep Logos.

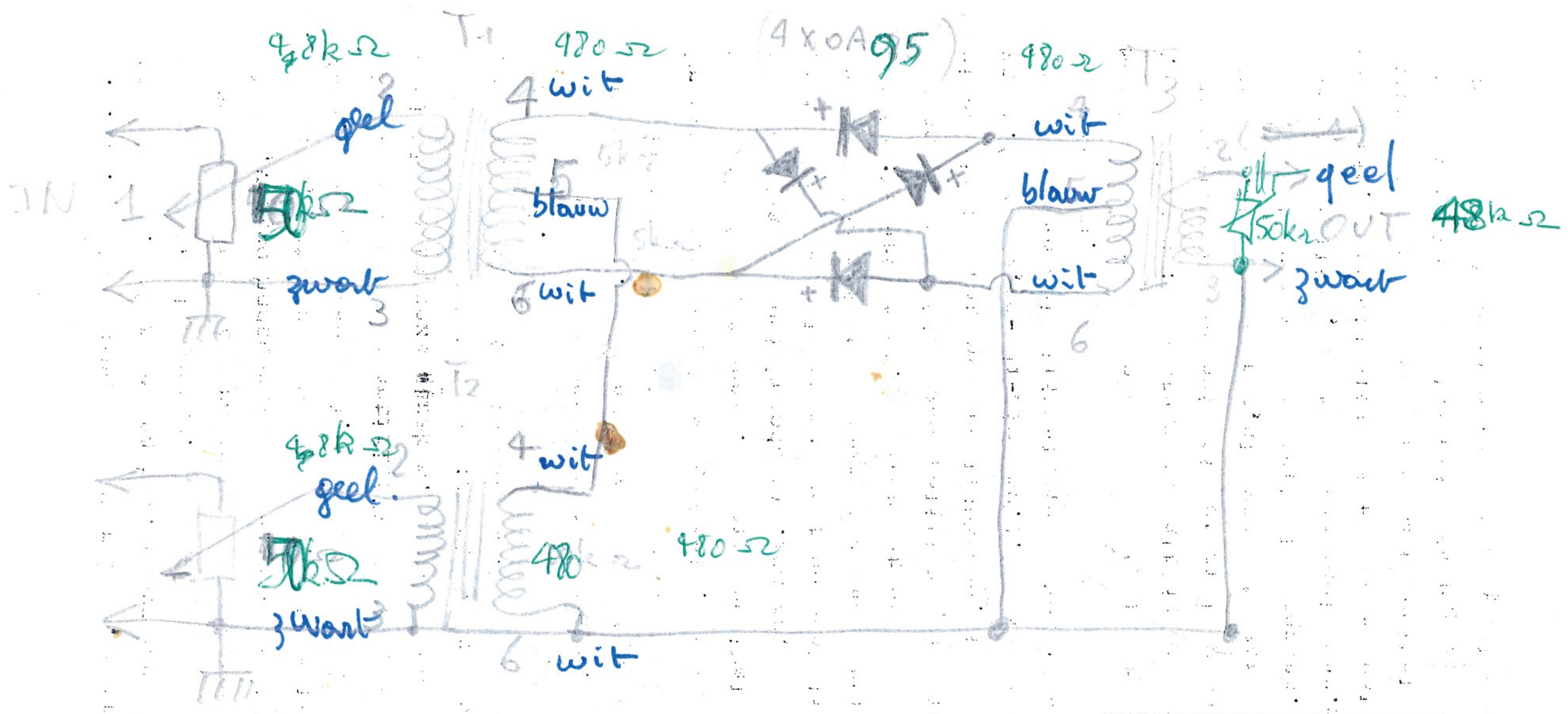
RAES

09.09.70

I Voor-ontwerpen

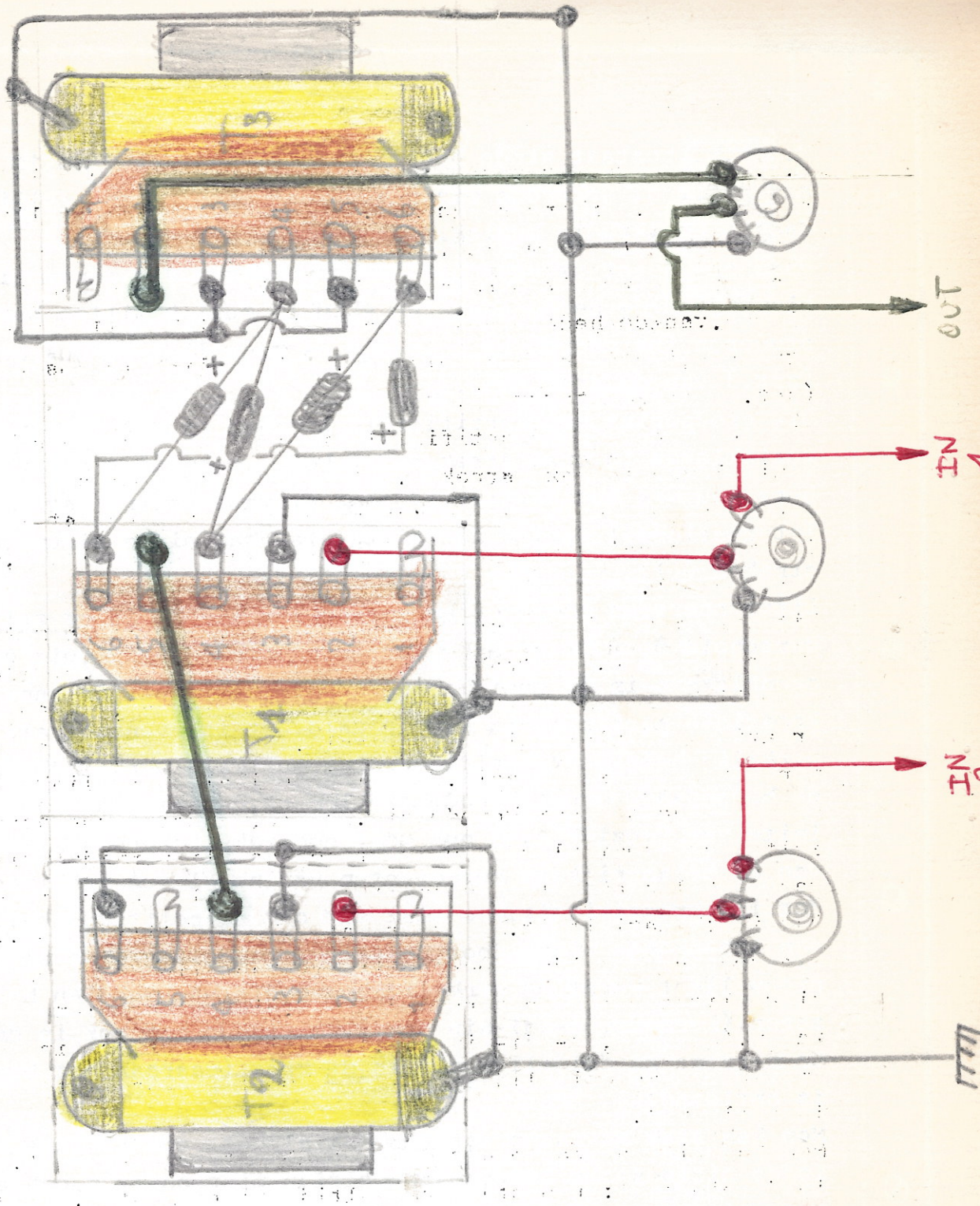
&

Eksperimente



$T_1 \equiv T_2 \equiv T_3$ = Mains Transformer
MT-12
240 V — 12·0·12 50mA
Eagle Products

Ringmodulator
ontwerp
Logos

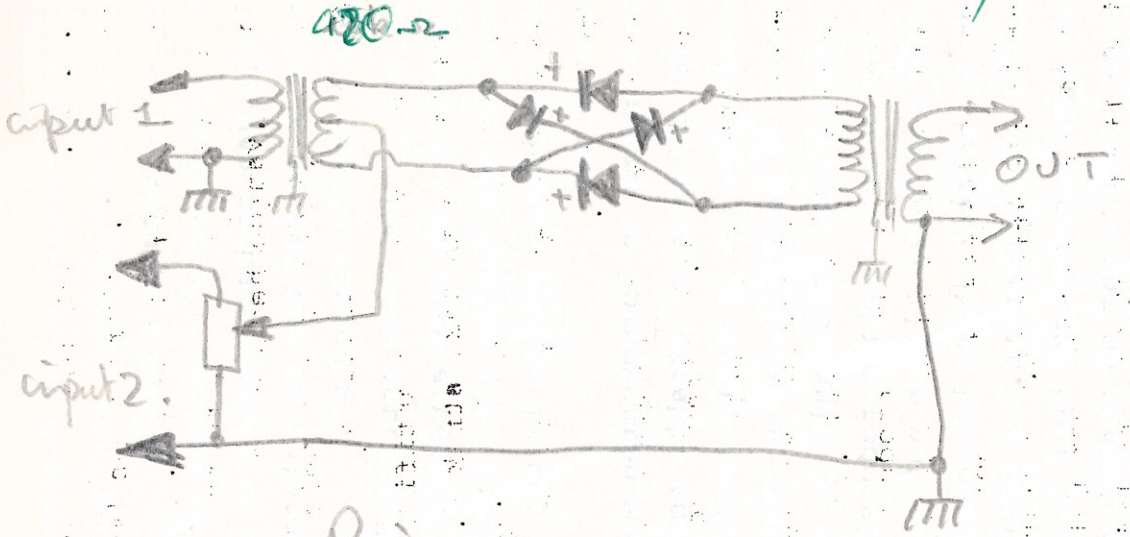

OUT


1
2
level I

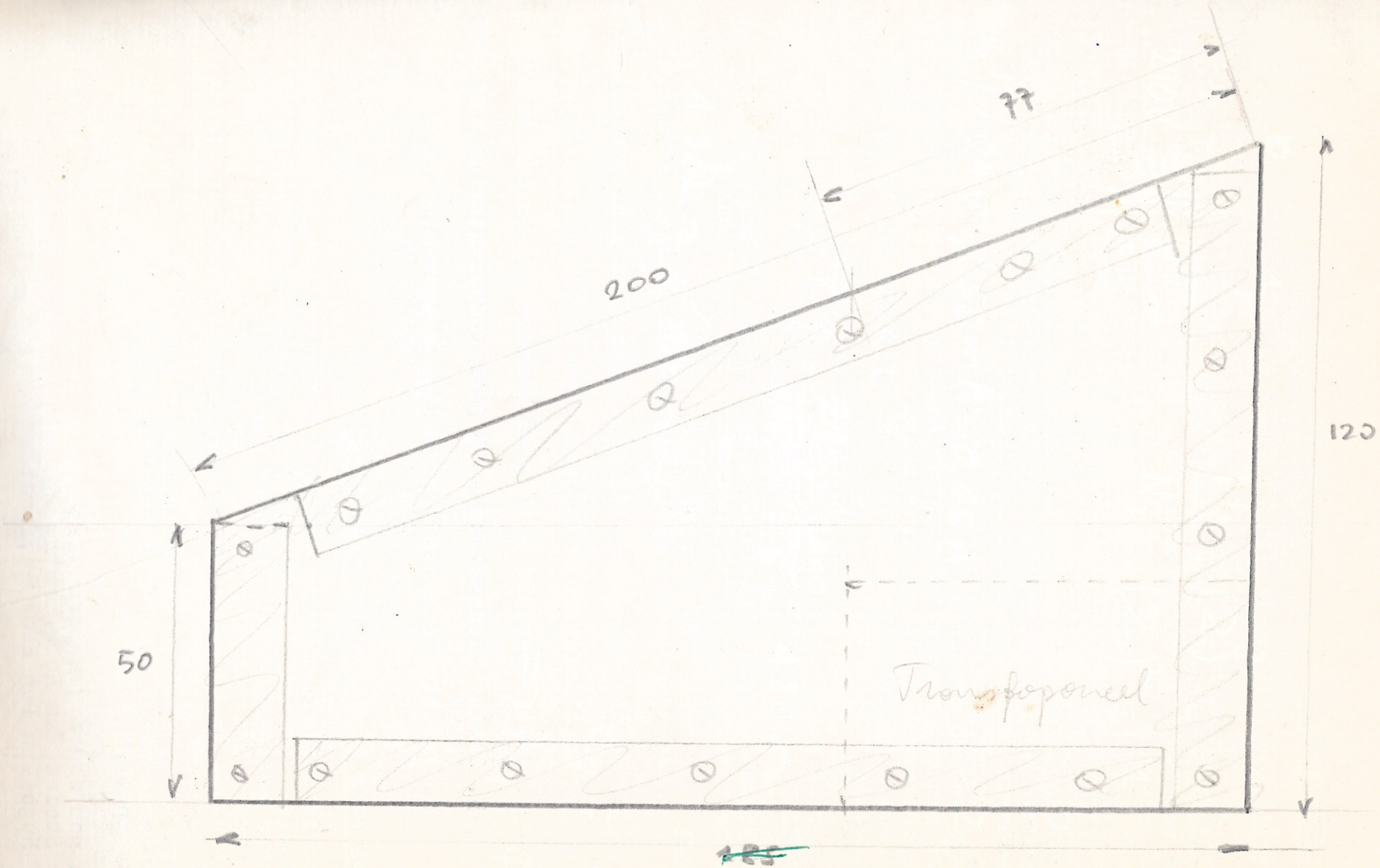

1
2
level II


1
2
level OUT
ON
OFF

Geneomin! OA95.



Ring Modulator


77
200
120
50
Transposed
180

10 : 1

$$\frac{N_1}{N_2} = \frac{(2)^2}{(2_2)^2} = \frac{10}{1}$$

$$\frac{2_1}{2_2} = \frac{100}{1}$$

(50Hz.!) 24V / 50mA = 0,05A

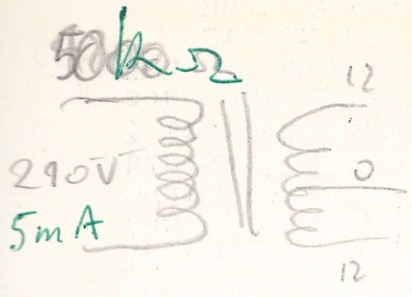
$V = R \cdot I$

$$\Rightarrow R = \frac{24}{0{,}05} = \frac{2400}{5} = 480\,\Omega$$

4.8~~00~~Ω / 480Ω

$Z_2 = 480\,\Omega$

$\Rightarrow Z_1 = 48\,k\Omega$



4800 Ω

24

24
x0,05
1,20 W

40 : 1

→ 24 V x 0,05 =

$\frac{24 \times 5}{100} = 1,2\ W$

240 V / 50mA

0,05 A

$R = \frac{U}{I}$

$U = I \cdot R$

$240 = 0,05\ R$

$R = \frac{24000}{0,05} = 4800\ \Omega$

$R = \frac{240}{0,005} = \frac{240000}{5} = 48000\ k\Omega$

1,2 W = 240 x x

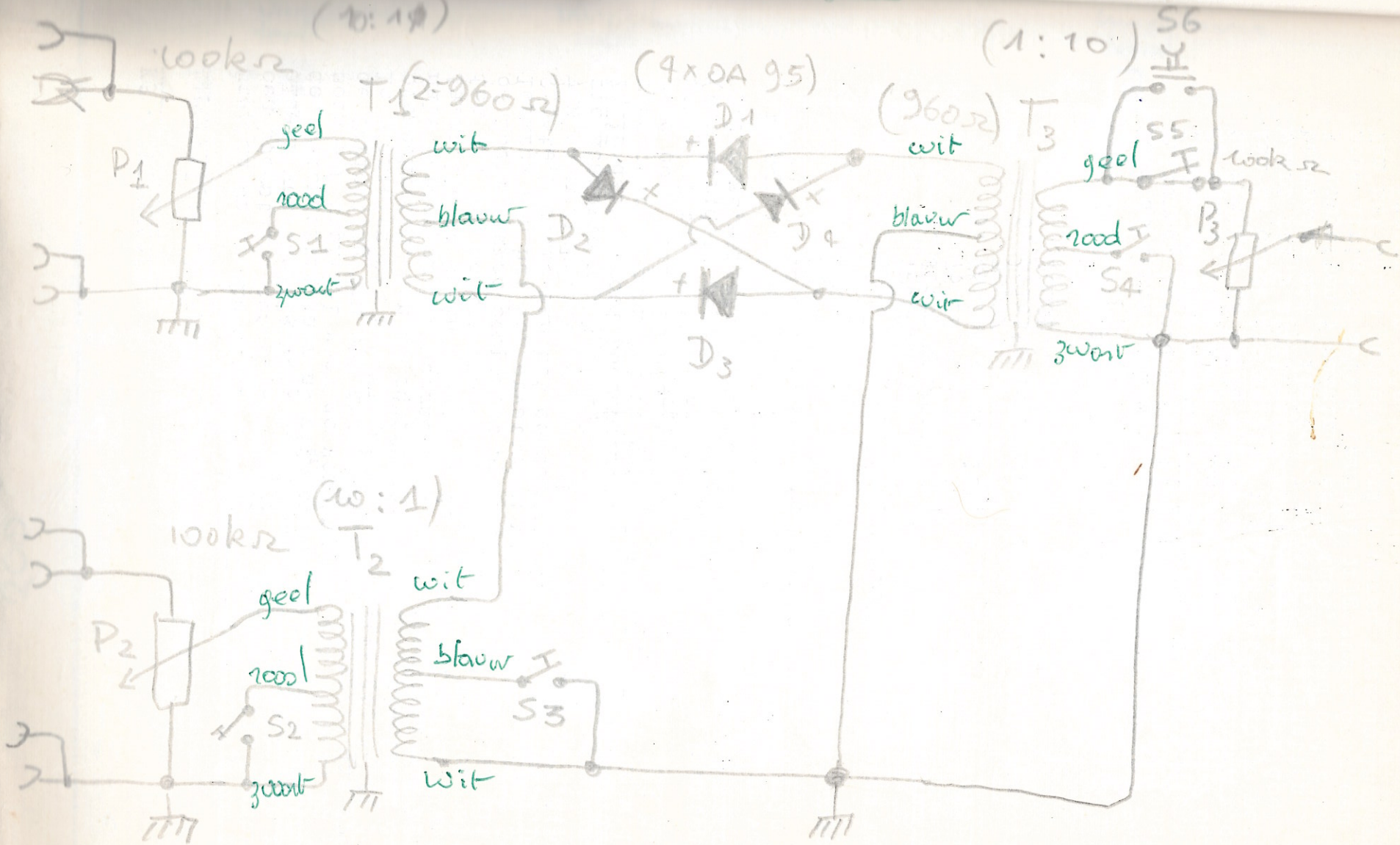
$x = \frac{240}{1,2}$

$= \frac{24000}{24 \times 5}$

$= 200\ A$

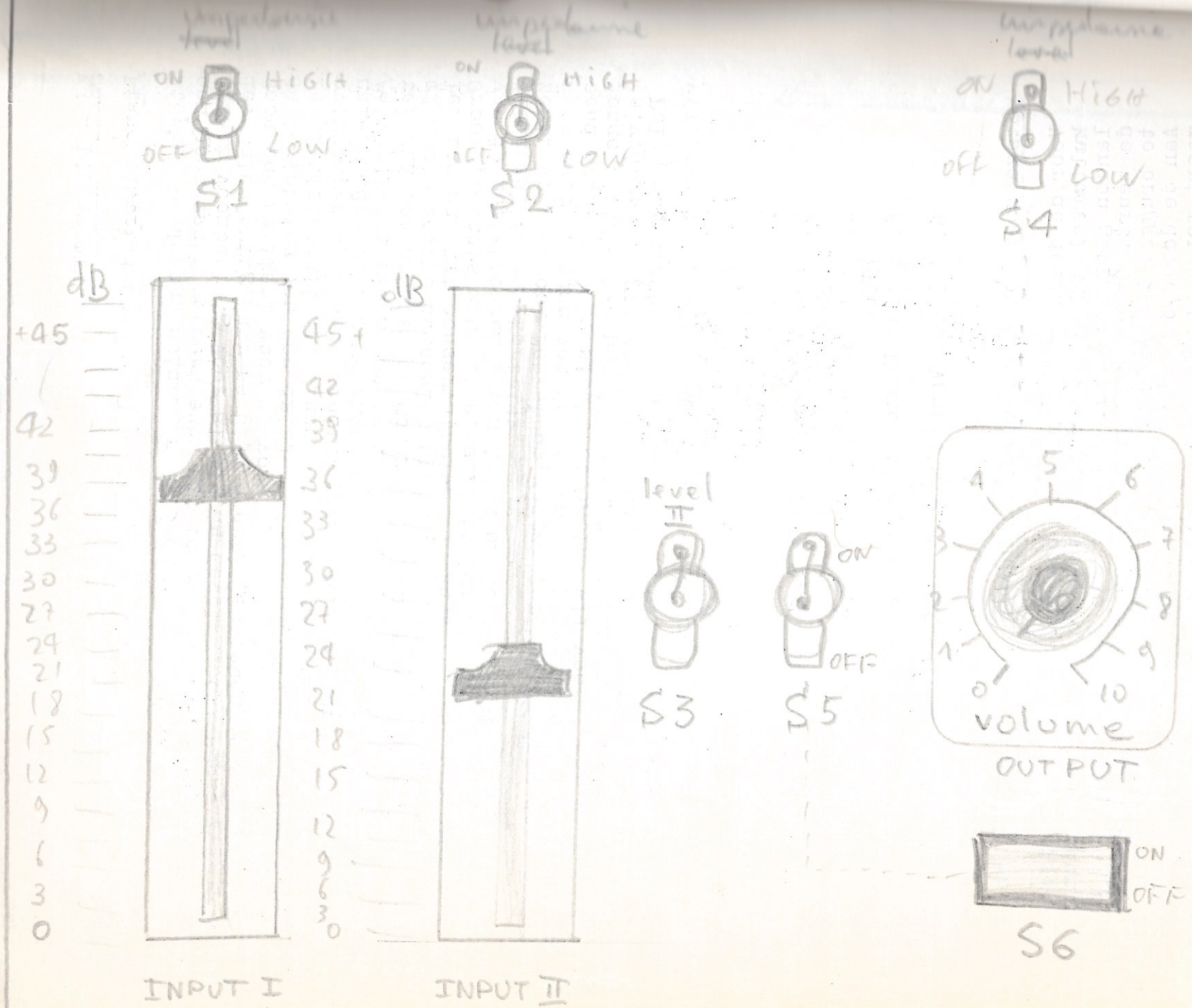
240
x0,005
1200 W

II. Definitieve versie.

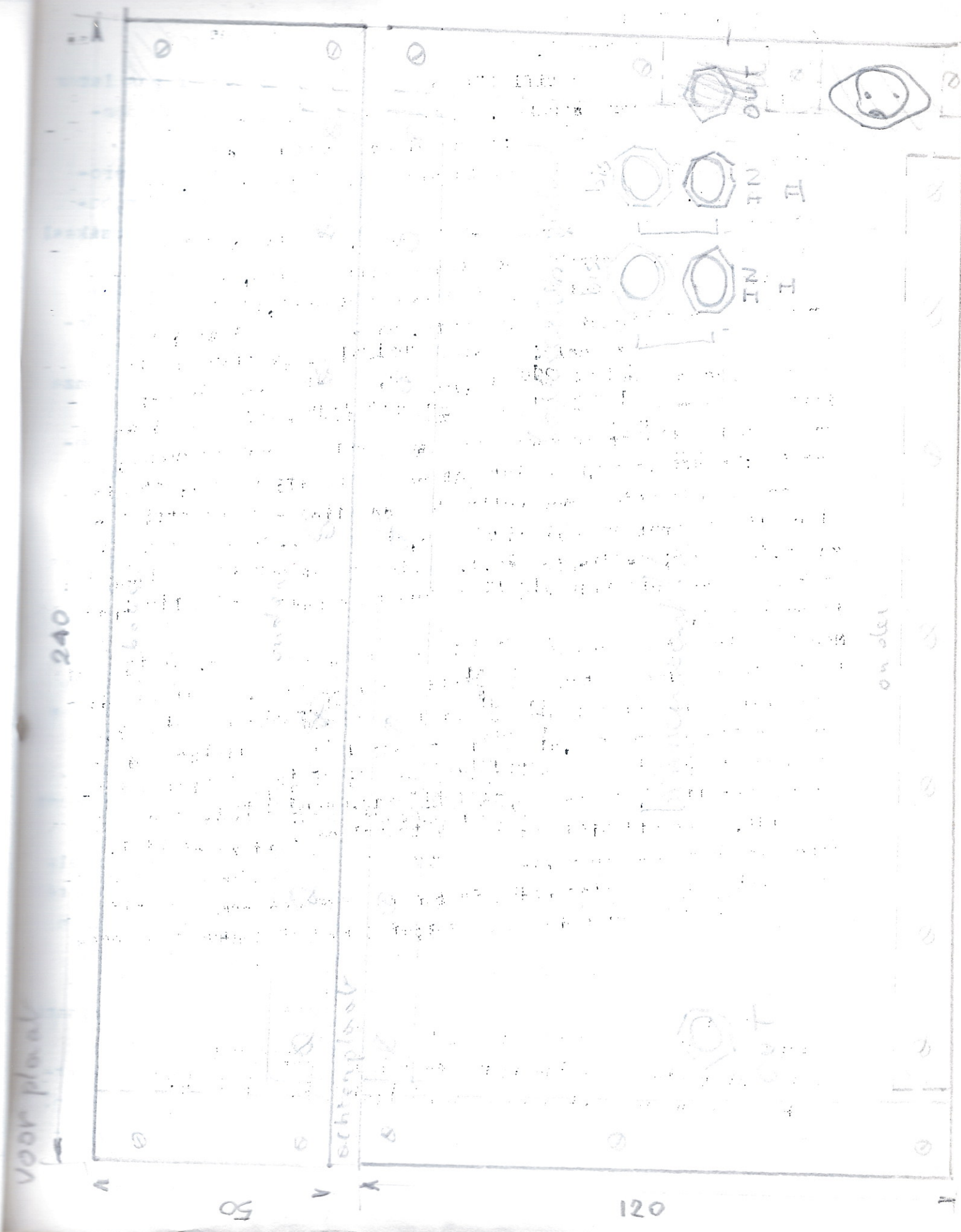


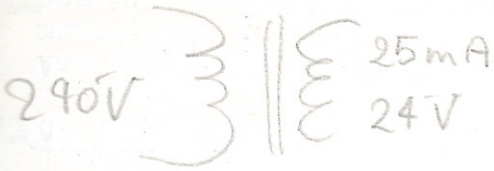
P_1, P_2 = 100kΩ log schuifpotmeters
P_3 = 100kΩ log draaipotmeter
D1, D2, D3, D4 = OA95
S1, S2, S3, S4, S5 : kipschak
S6 = draaischakelaar

$T_1 = T_2 = T_3$ = Mainstransformer MT-12
(240V – 12.0.12/50mA)
Eagle products


ON
HIGH
OFF
LOW
S1
ON
HIGH
OFF
LOW
S2
ON
HIGH
OFF
LOW
S4
dB
+45
42
39
36
33
30
27
24
21
18
15
12
9
6
3
0
INPUT I
dB
45
42
39
36
33
30
27
24
21
18
15
12
9
6
3
0
INPUT II
level
II
S3
ON
OFF
S5
4
5
6
3
7
2
8
1
9
0
10
volume
OUTPUT
ON
OFF
S6

200


240
50
120



240
490
1160

~~R = V/I~~

$V = I \cdot R \Rightarrow R = \frac{V}{I} = \frac{24000}{0,025} = 1160\,\Omega$

1160000 Ω

≈ 1,6 kΩ.

Kostprijs raming voor impulsoscillator

3 transfos à 65,- à 50,- 65,- 50,-

65,- 50,-

65,- 50,-

schuif-

2 potmeters (draad) 10 Ω 25,- à 60,- 50,- 120,-

3 (5) ~~[illegible]~~ à 10,- 30,- (50,-) 50,-

3 (1) knoppen à 10,- 30,- 10,-

3 (1) plaatjes à 5 15,- 5,-

4 diodes OA 85 40,- 40,-

2 transistorversterkers à 350,- ~~350,-~~

~~350,-~~

1 outputpotmeter 20,- 20,-

bedrading 20,- 20,-

chassis 150,- 120,-

zonder transistoramplis: 523,- 535,-

5 Schakelaars ~~kast~~ à 14,- ~~1223,-~~ 80,-

1 drukschakelaar à 20,- 20,-

625,-

nodige ijzeren stukken

grondplaat : 185 / 240 bij

achterplaat : 120 / 240

voorplaat : 50 / 240

bovenplaat : 200 / 240

1 deel

2 zijplaten : 50 / 200 / 120 / 185

1 deel

(stukken nodig van 185 / 120) of 1 van 185 / 240

verbindingen : 

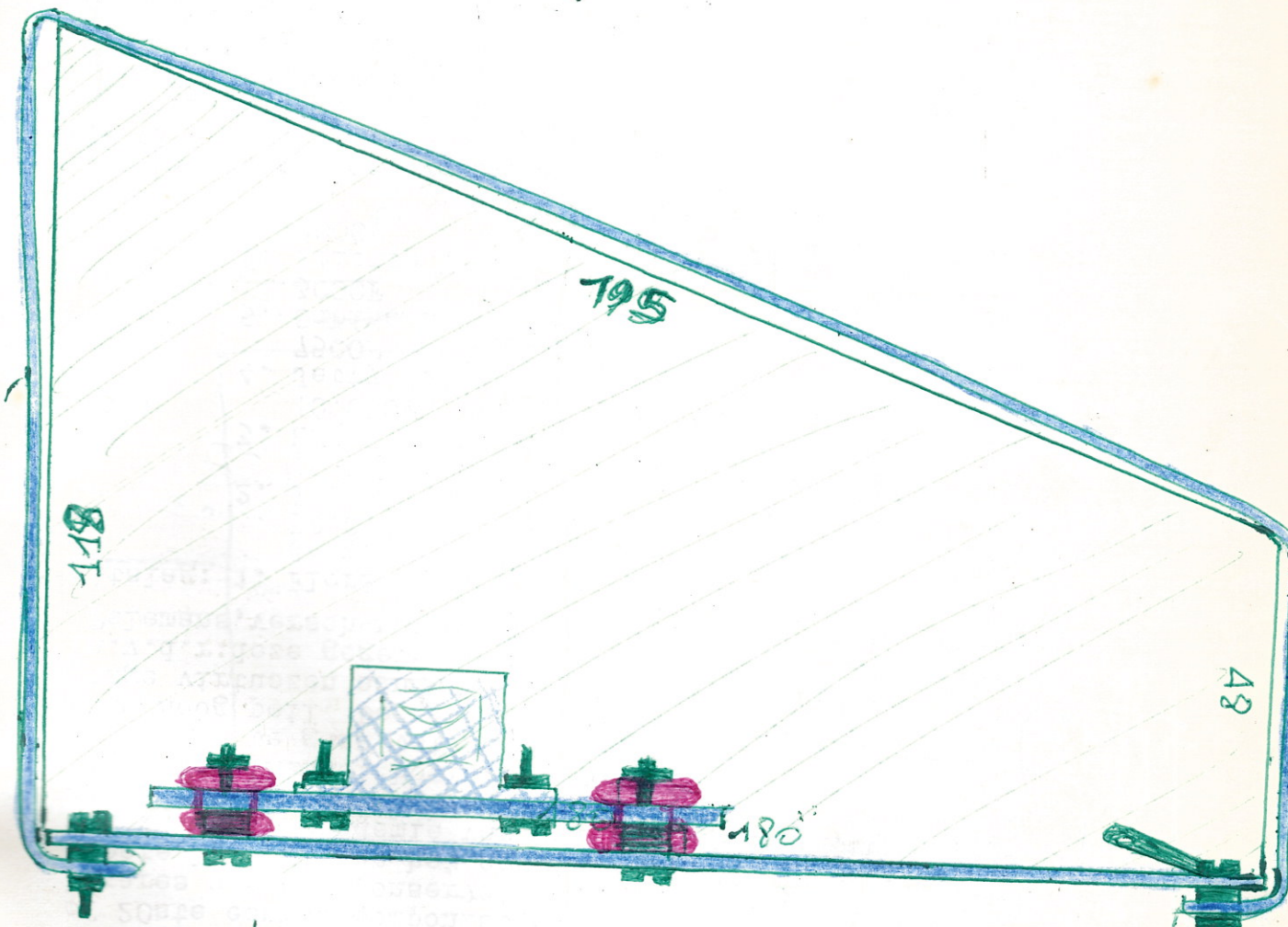
2 x 50
2 x 119
2 x 196
2 x 180
zijplatten

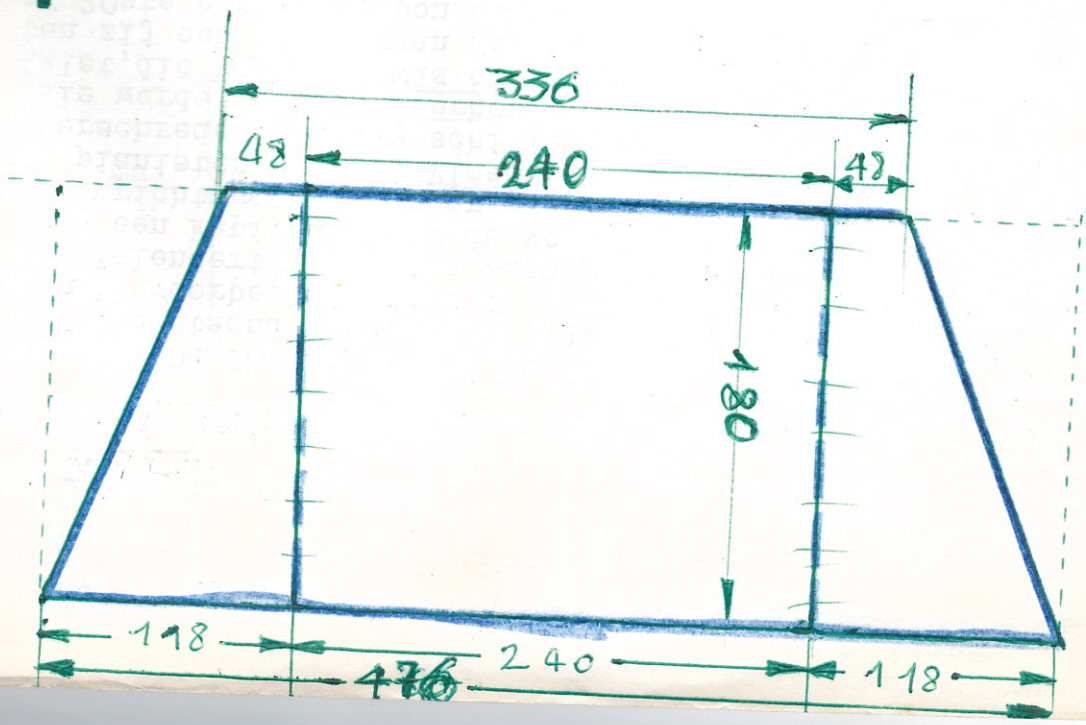
4 x 236 | demontage
~~2 x 236~~

totale plaat Aluminium : 740 / 240

of 1 stuk (voor, boven, achter) van 370 / 240

en 2 stuks 185 / 240. ~~+ 1 stuk~~ 1 (onder + 2 x zij)


195
118
48
180°

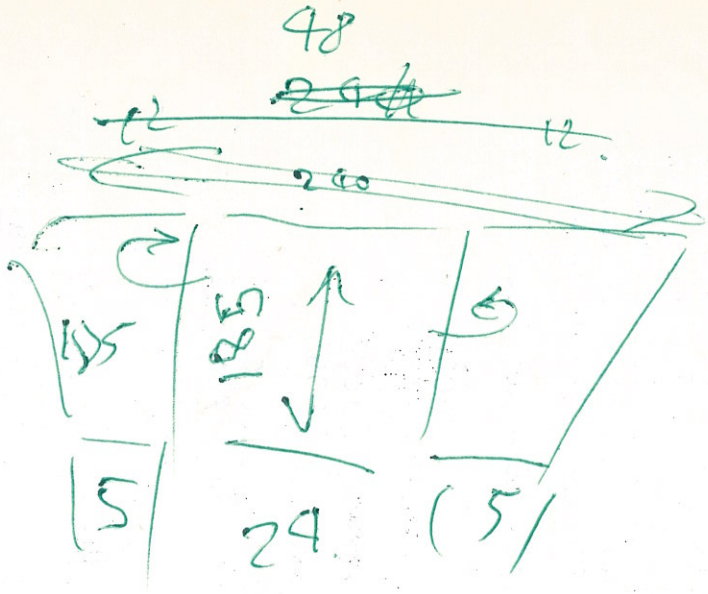

336
48
240
48
180
118
240
118
476

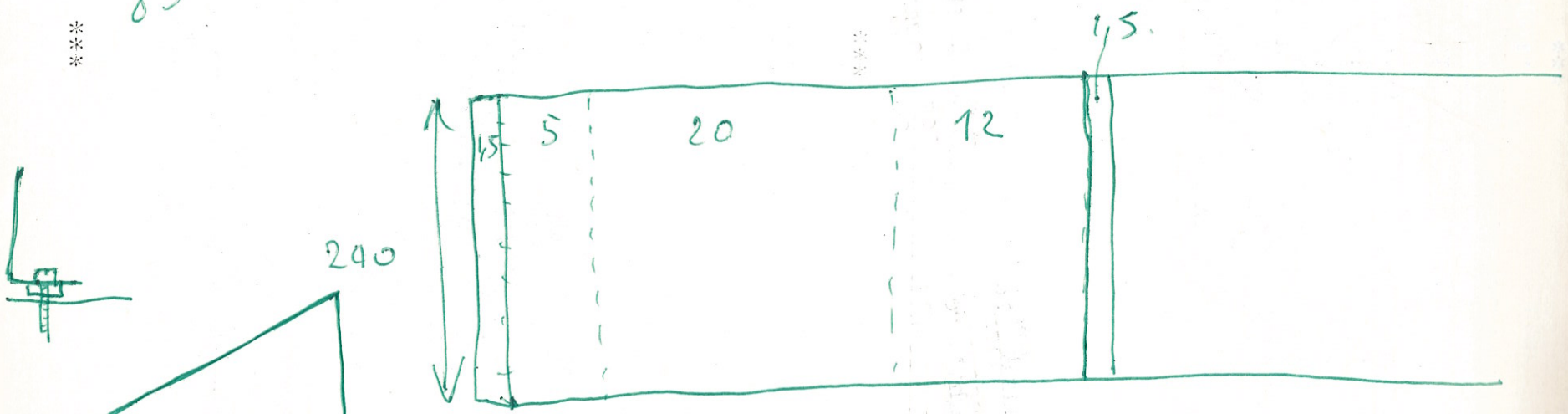
20
12
5
37

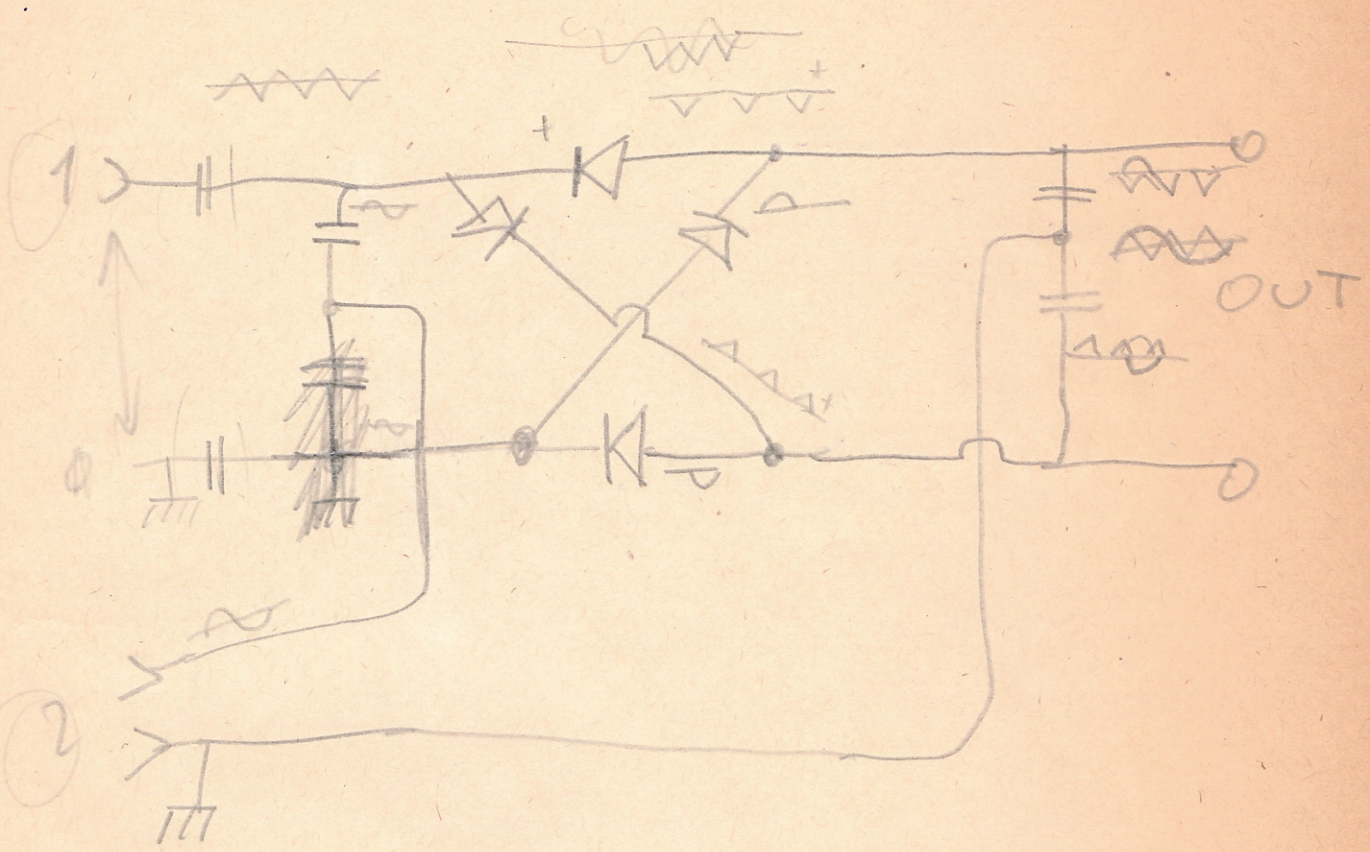
48
37
85

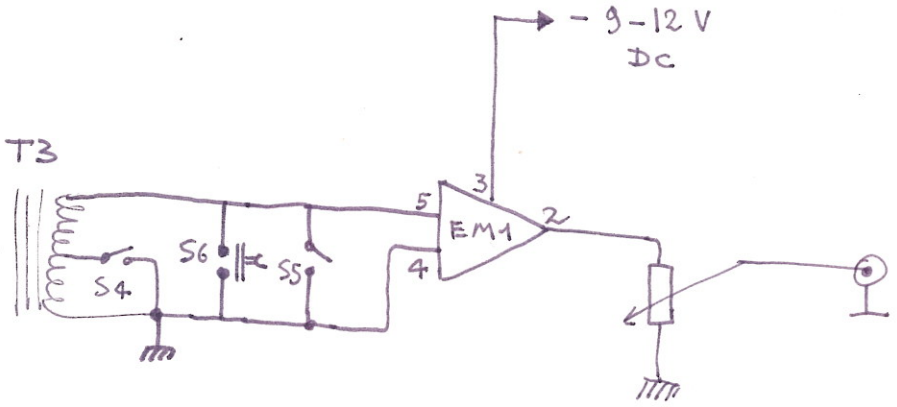
37
24
61

***






1
2
OUT



plug 1 : -

3 : massa +

EM-1