

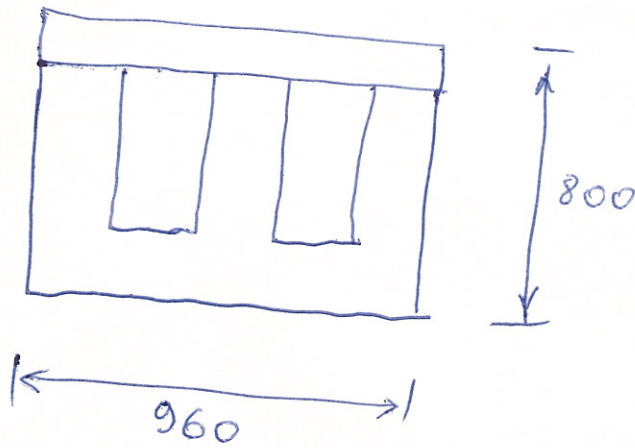
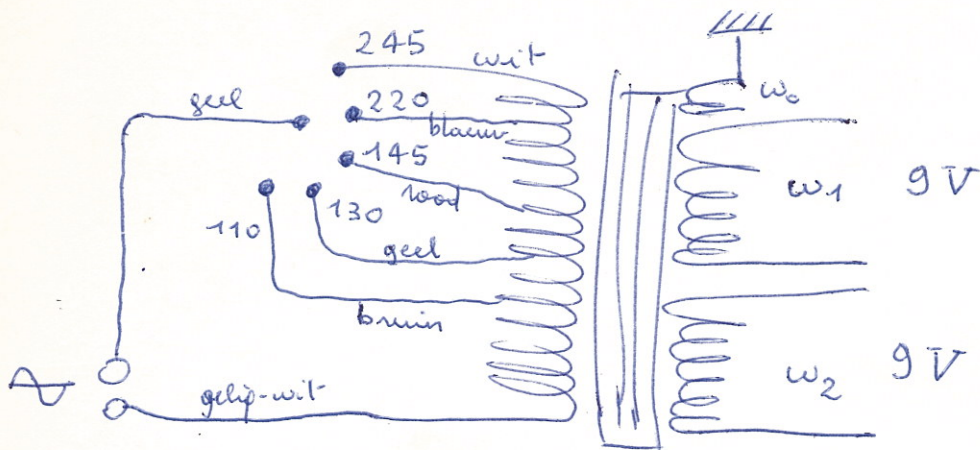
2c RAES - RITMIZATOR

K4FF12 - Y60/Q1

1970-71

Berekening & uitvoering v/h
voedingsgehalte.

Transfo (herwikkeld)



stapelhoogte (E, I om en om)
410 mm

$$\rightarrow P_{\text{sec}} > 100 \text{ VA}$$

- $w_1 = w_2 = 36 \text{ wdg. (voor 9V)}$
- draaddiameter: $0,8 \text{ mm } \phi$
- 4 windstripen per volt

stroomdichtheid	1 A/mm ²	1,5	2,0	2,55	3,0	3,5	4
belastbaarheid	0,3 A	0,42 A	0,6 A	1 A	1,7 A	3 A	5 A

bij w_1 & w_2 parallel en $2,55 \text{ A/mm}^2$: $9 \text{ V} / 2 \text{ A}$
 $= 18 \text{ W}$

bij w_1 & w_2 in serie en $2,55 \text{ A/mm}^2$: $18 \text{ V} / 1 \text{ A}$
 $= 18 \text{ W}$

w_0 : 1 laag afschermwikkelding tussen primair & secundair (aan massa)

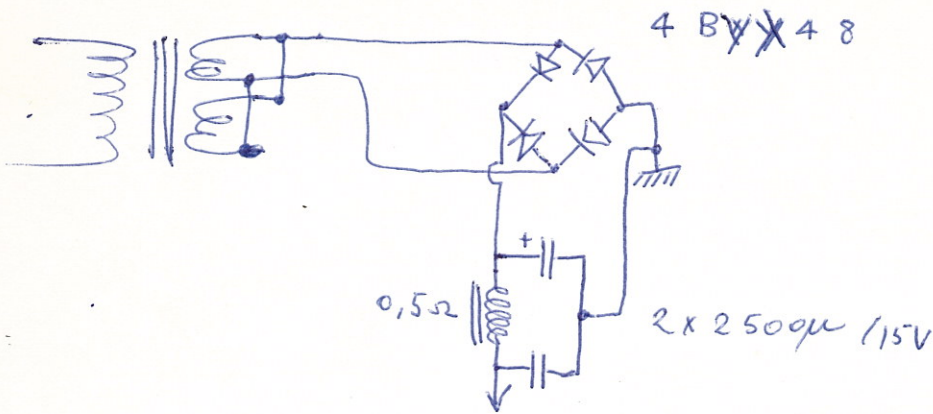
piekwaarden:

- serië of parallel en 4 A/mm^2 : 90 W
($9 \text{ V} / 10 \text{ A}$ of $18 \text{ V} / 5 \text{ A}$)

- primair verbruik: $P_{\text{prim}} = 1,2 P_{\text{sec}}$
 $= 108 \text{ W}$

- primaire zekering: $480 \text{ mA} \approx 0,5 \text{ A}$

Transfo in gebruik



vermogen na bruggelechtschikking: $P_o = \frac{P_{sec}}{\alpha}$

$$\alpha = 1,4$$

$$P_o = \frac{18}{1,4} = 12,8 \text{ W}$$

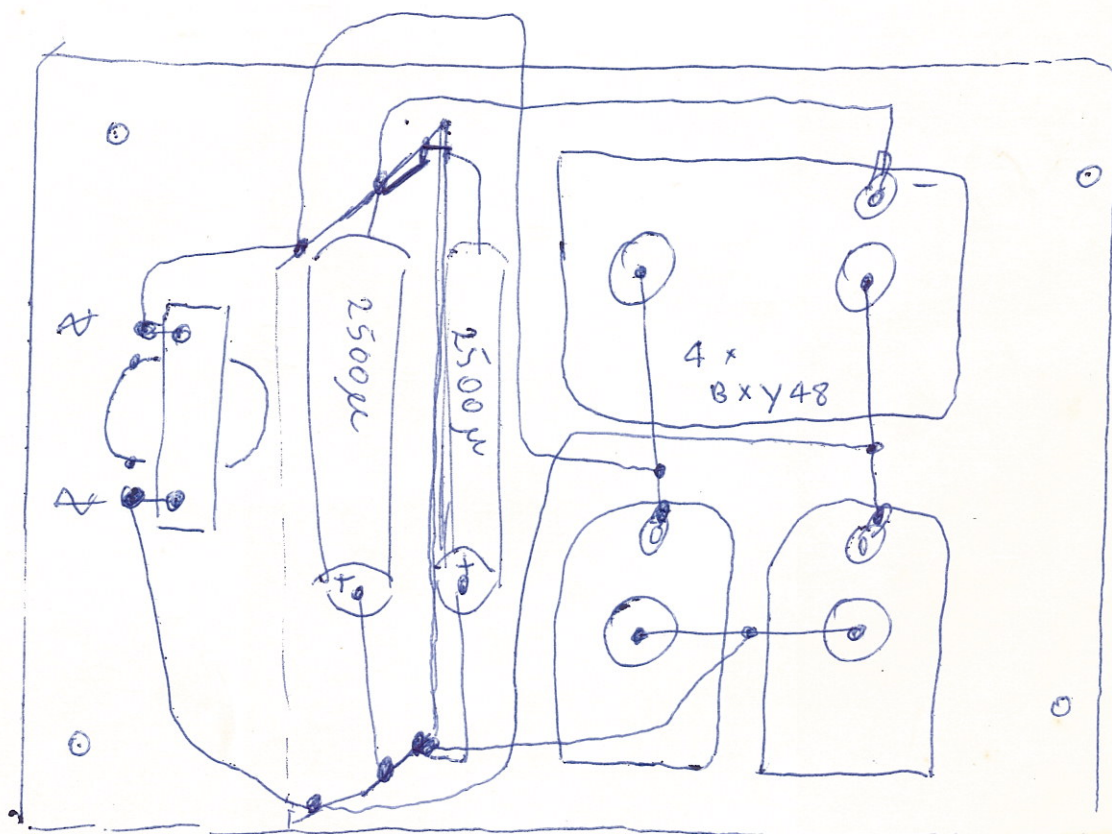
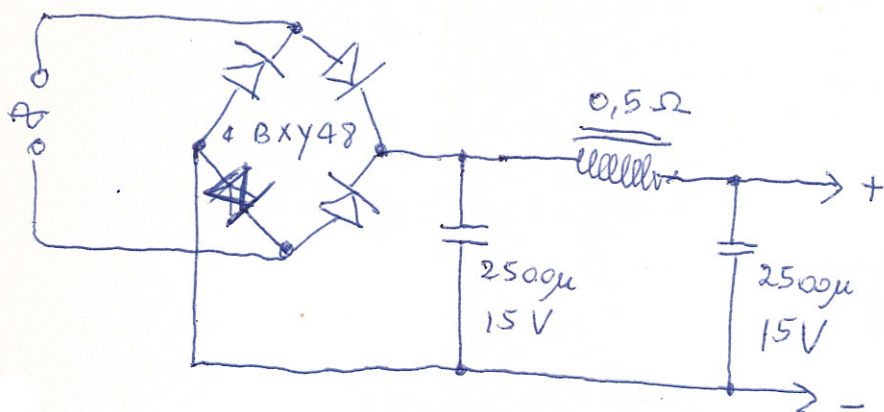
$$I_o = \frac{12,8}{9} = 1,6 \text{ A}$$

piekvermogen: $P_{o,max} = \frac{90}{1,4} = 64 \text{ W} *$

$$I_{o,max} = \frac{64}{9} = 7 \text{ A} *$$

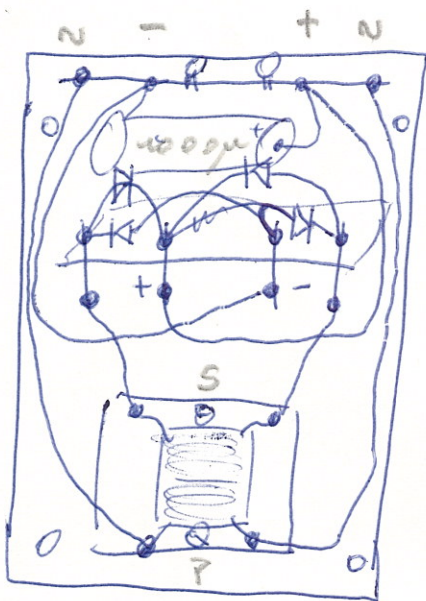
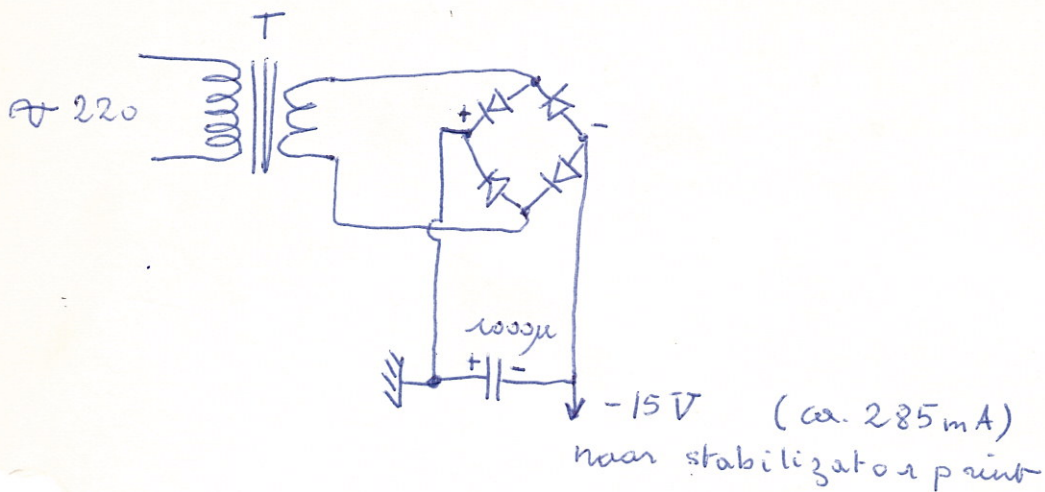
* beperkt door BYX48 tot 6 A en dus 54 W !

zekering: 5 A

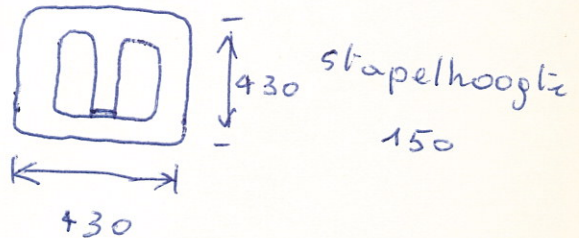


Gewolbt 00/72

II. voeding van de voorversterkers & VCO



T = beltransfo



(diepte M42)

$$P_{sec} = 4W$$

$$U = 10V$$

$$I = 400mA$$

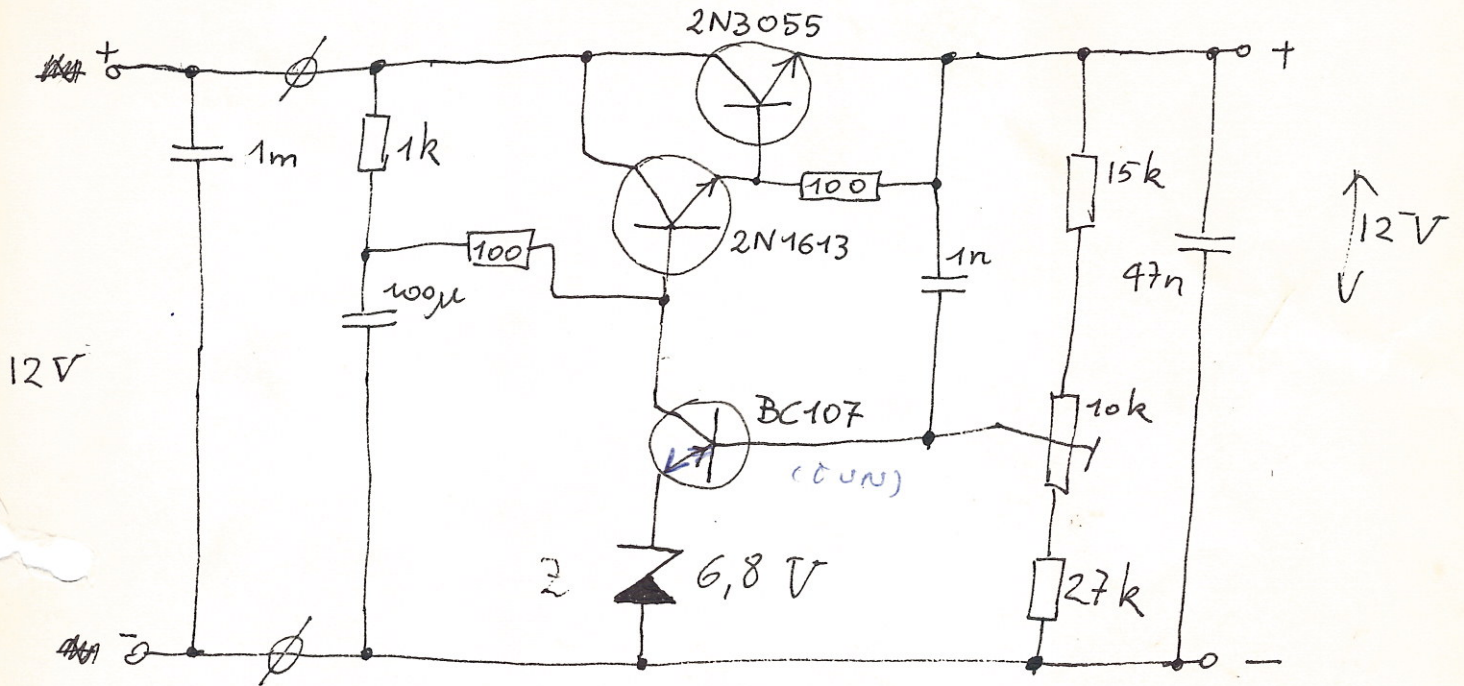
28 wikkellussen per volt

ϕ draad sec: 0,3 mm

bij $2,55A/mm^2$ 400mA

Piekstroom: 800mA

STABILIZATOR SCHEMA VOOR
VOEDING VERSTERKERSIRKWIJES

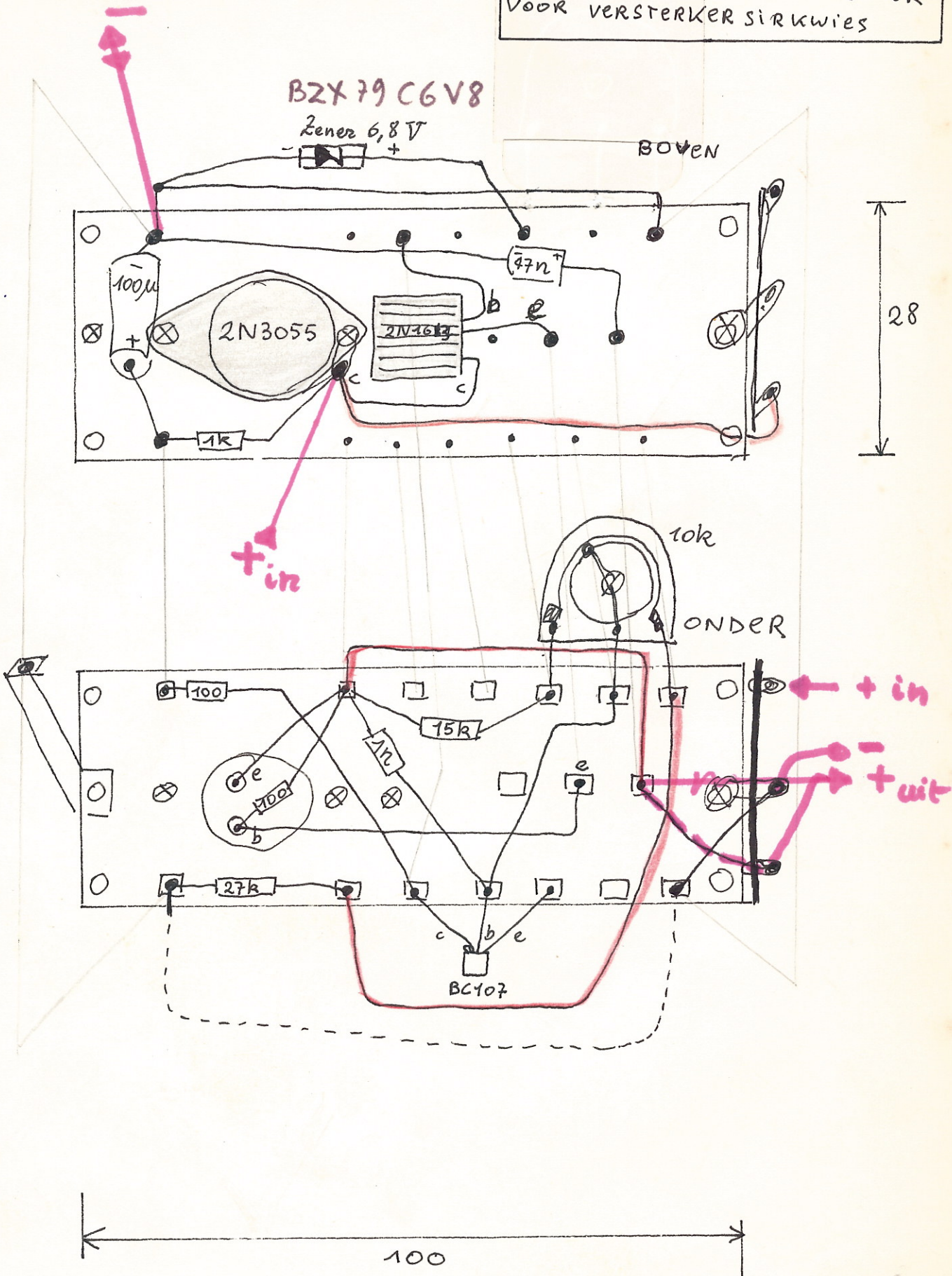


$$Z = 250 \text{ mW} = \text{BZX79 C6}$$

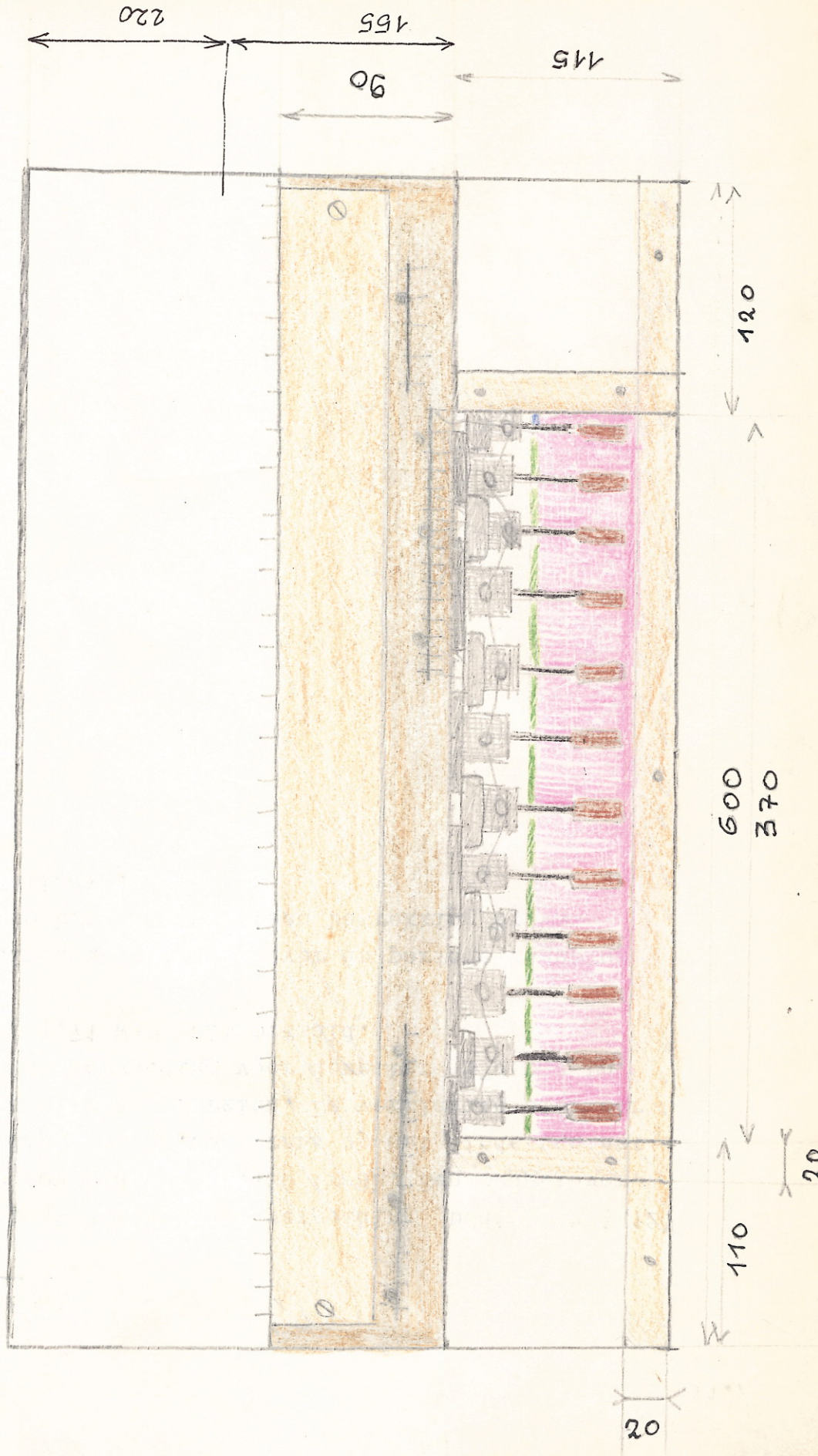
$$I_{\text{max out}} = 500 \text{ mA}$$

bij 12 V / 500 mA is de dissipatie op de 2N3055 2,5 Watt
(→ geen koelmisje nodig op 2N3055) wel nodig op de 2N1613.

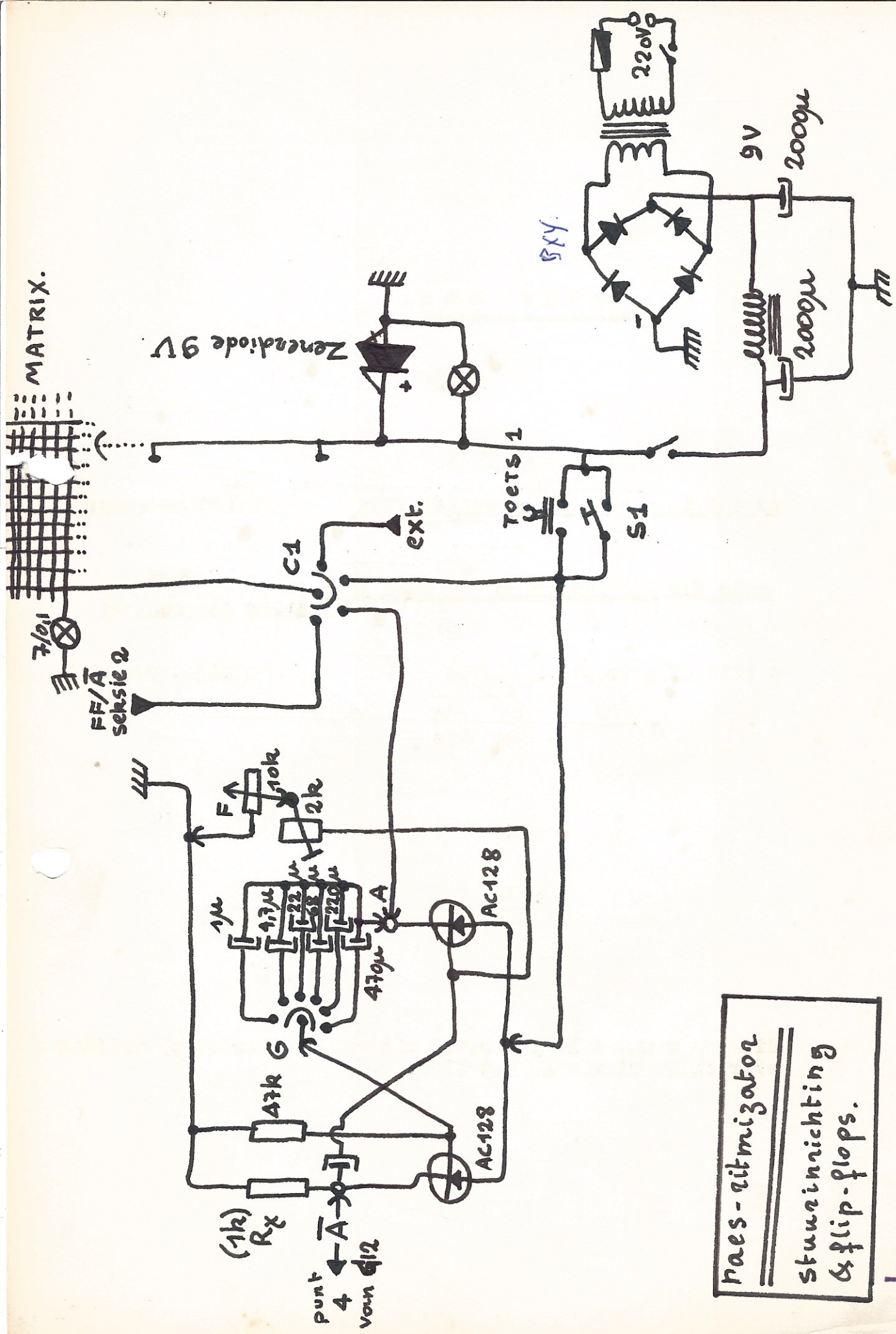
OPBOUWSCHEMA STABILIZATOR
VOOR VERSTERKER SIKKWIJES



logos
werkgroep voor geëngazjeerde
avant-garde muziek



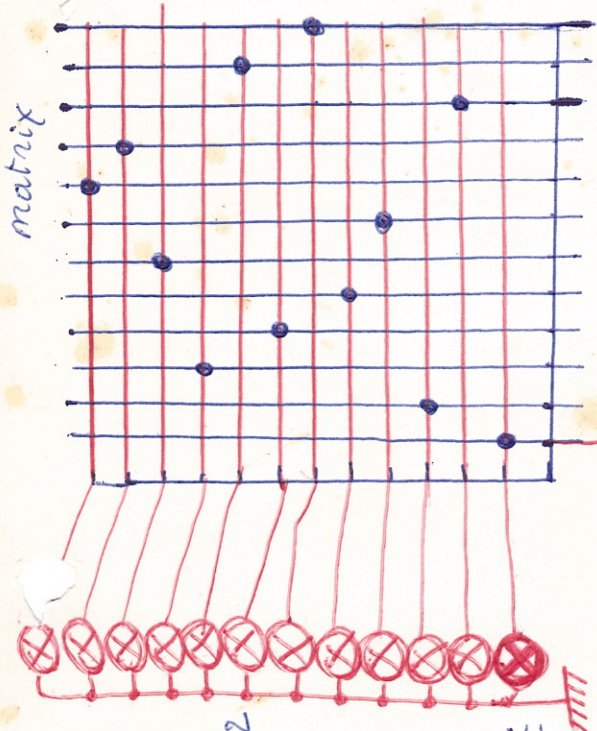
MATRIX.



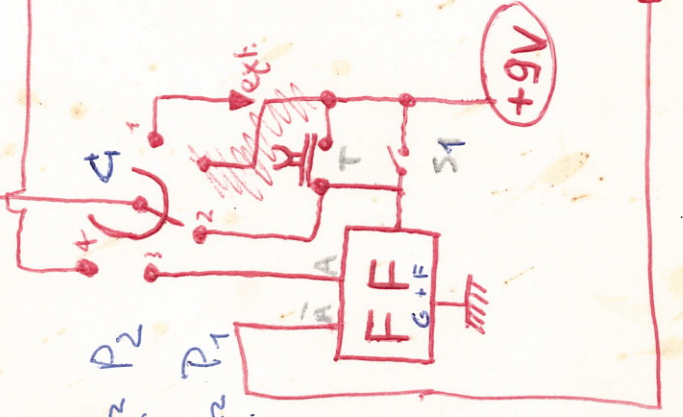
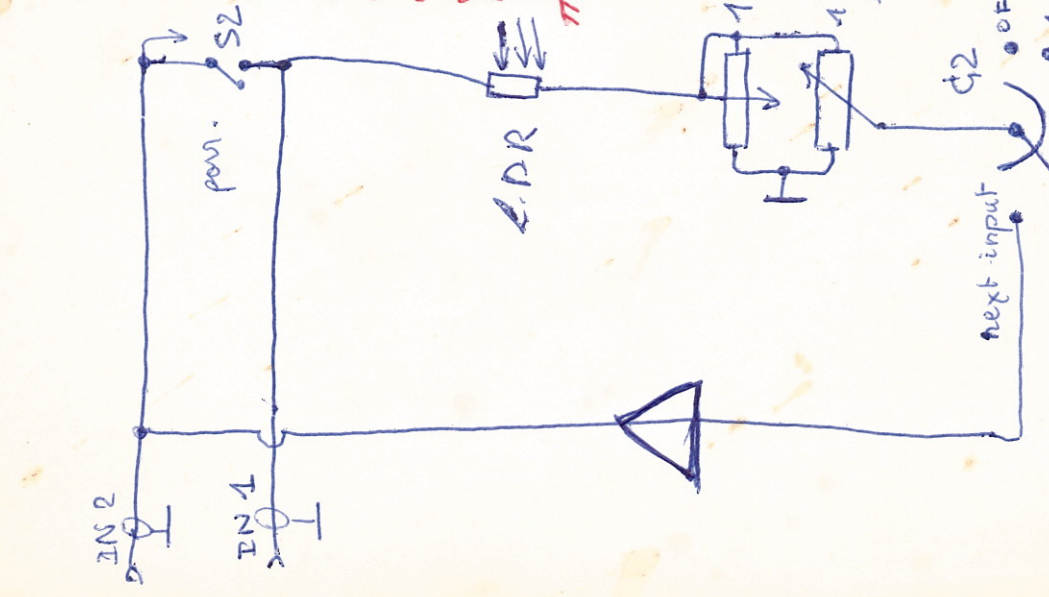
rees-ritmizator
stuurinrichting
& flip-flops.

logos
 werkgroep voor geëngazjeerde,
 avant-garde muziek

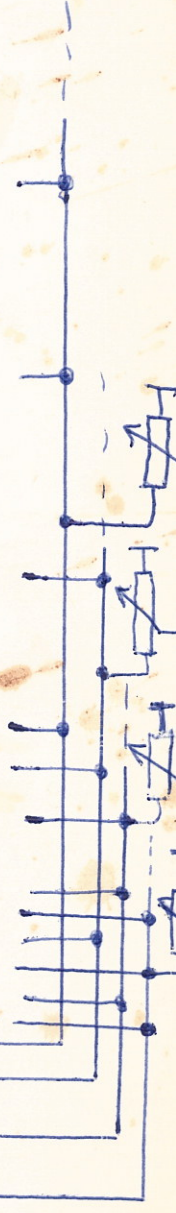
logos
 werkgroep voor geëngazjeerde
 avant-garde muziek



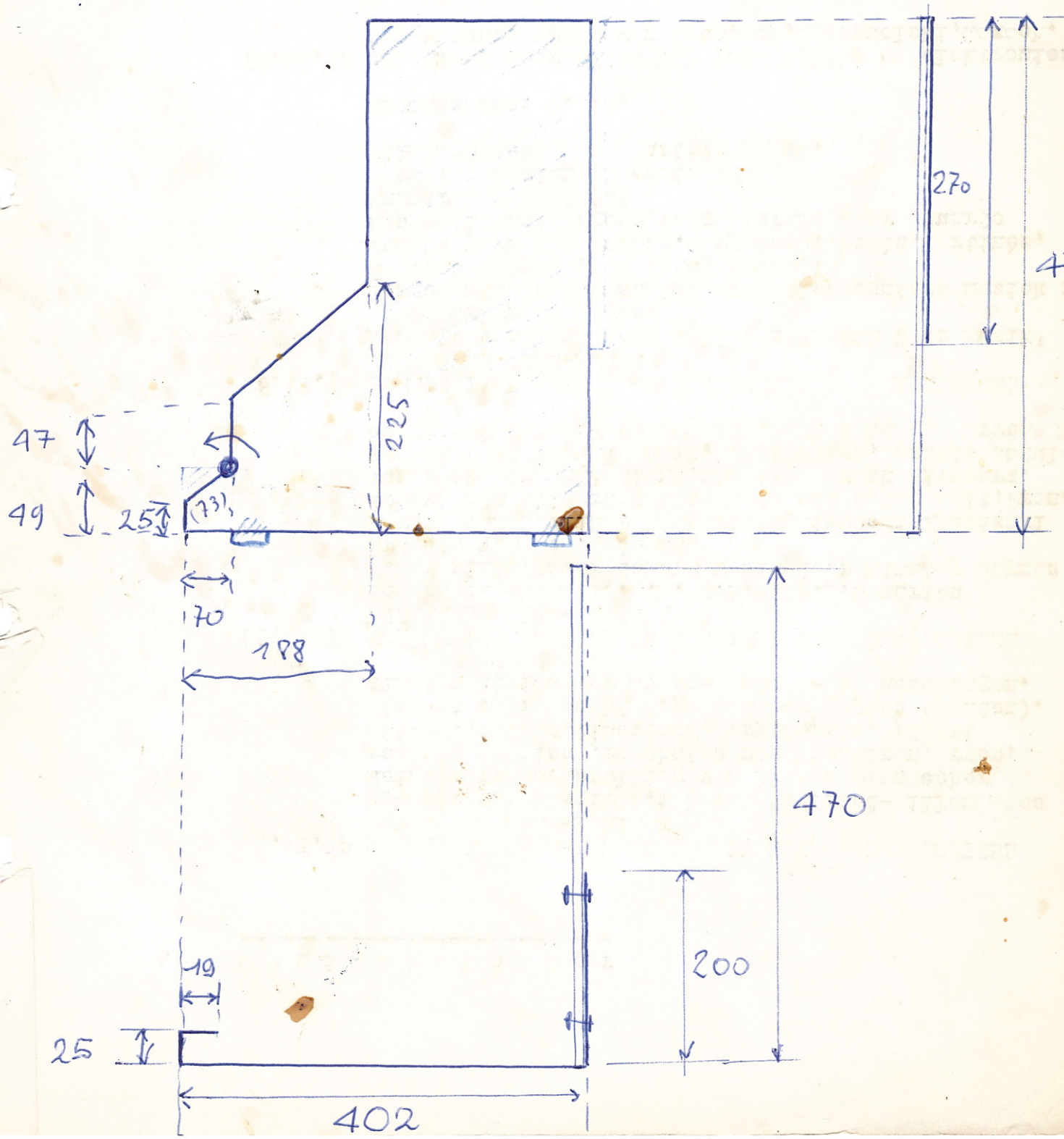
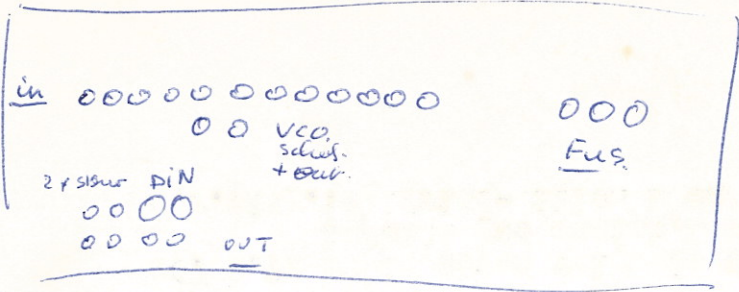
naar FF/A van seksie 2

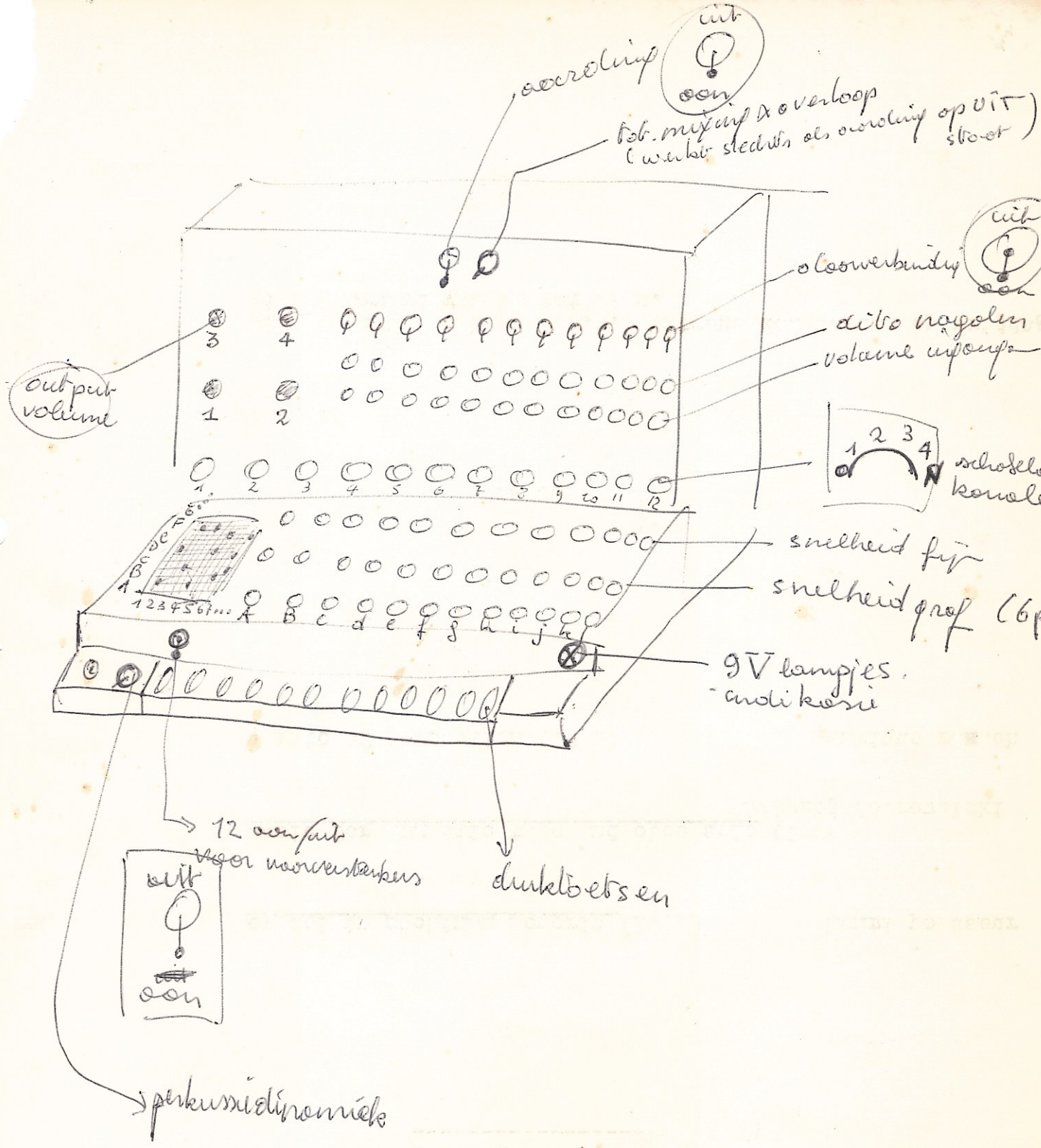


naar punt 4 van G.12



1/15 hour





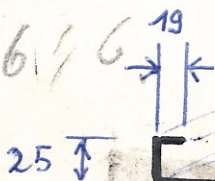
DRINGEND 000

TE MAKEN, ZAGEN, BOREN

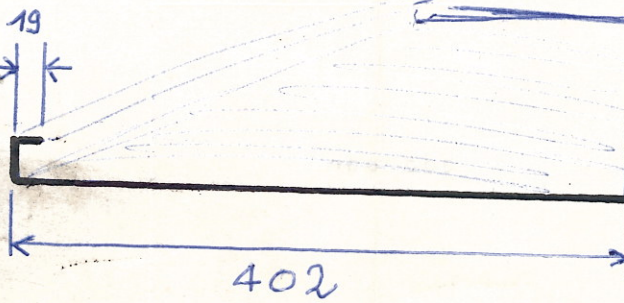
①

602
25
19

616

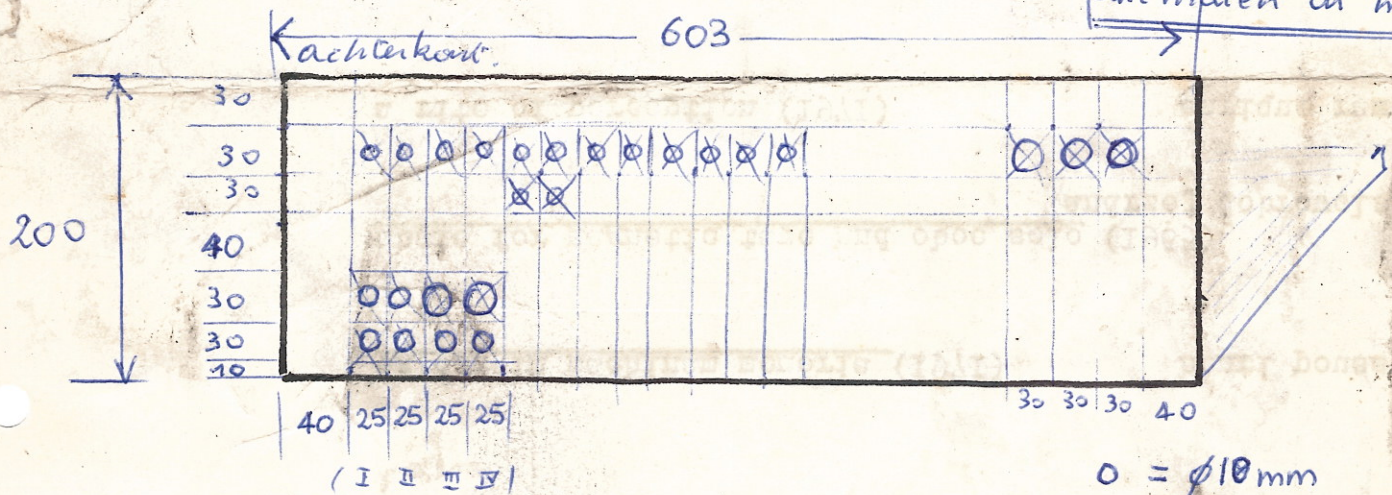


25



breedte: 603mm
(w. 600)

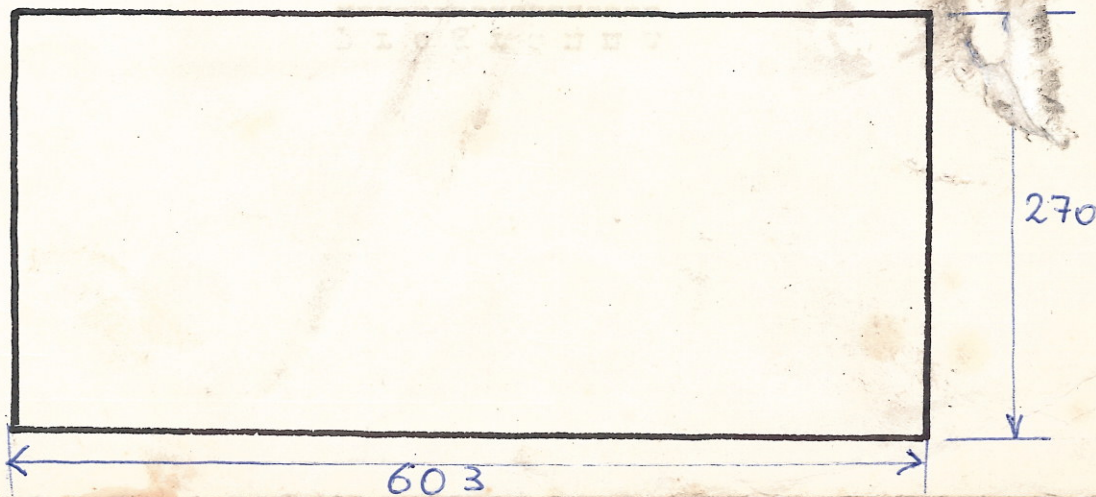
alle maten in mm.



○ = $\phi 10$ mm

○ = $\phi 12$ mm

②



Universiteire Muzieklub Gent

aangesloten bij het cultureel konvent van de RUG

p. a. præsæs : Godfried-Willem RAES

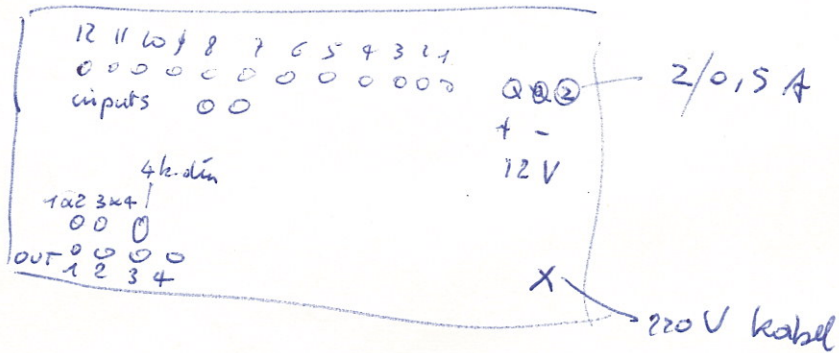
Hofmeierstraat 24

B - 9000 GENT (België)

Tel. : 09/22.99.32

Bezoek : Posteernestraat 2/4

B - 9000 GENT

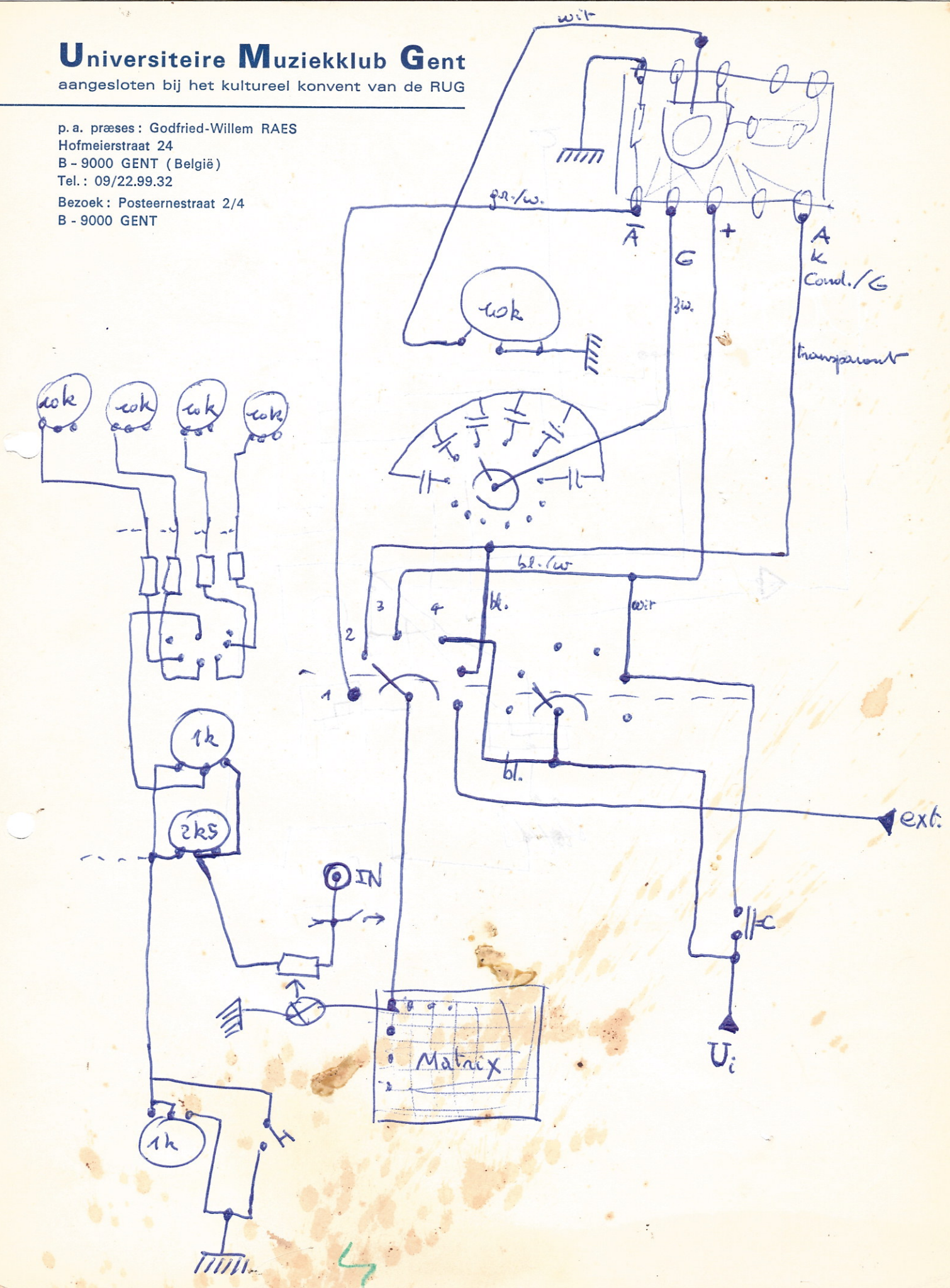


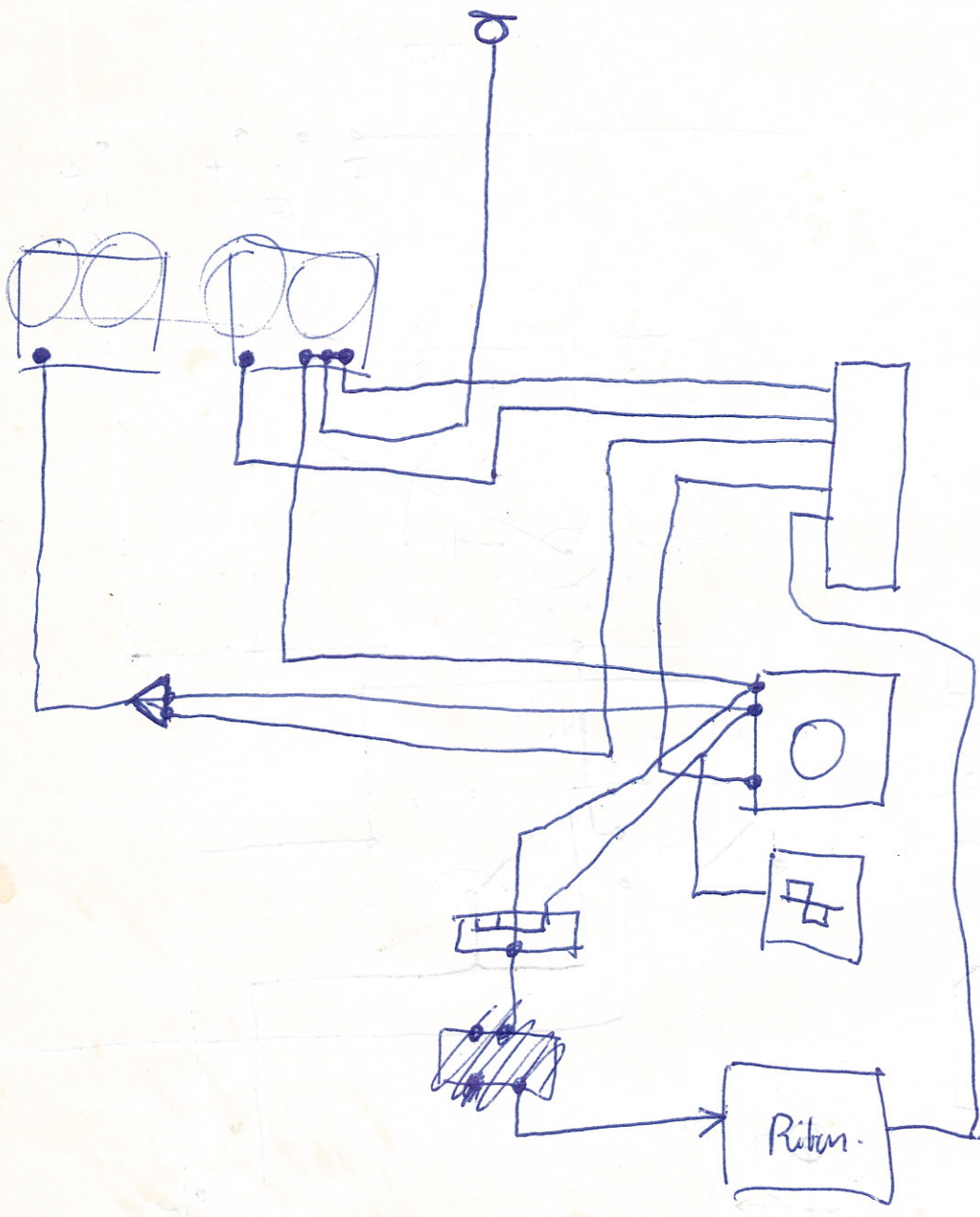
Universiteire Muzieklub Gent

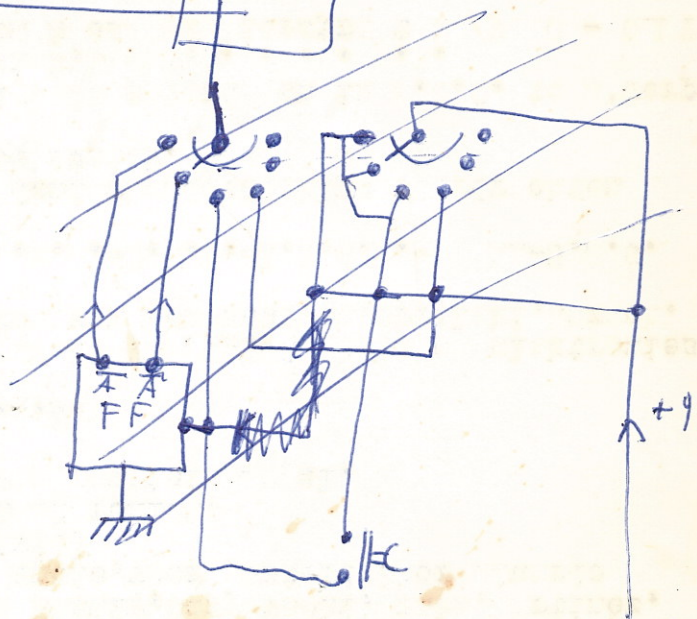
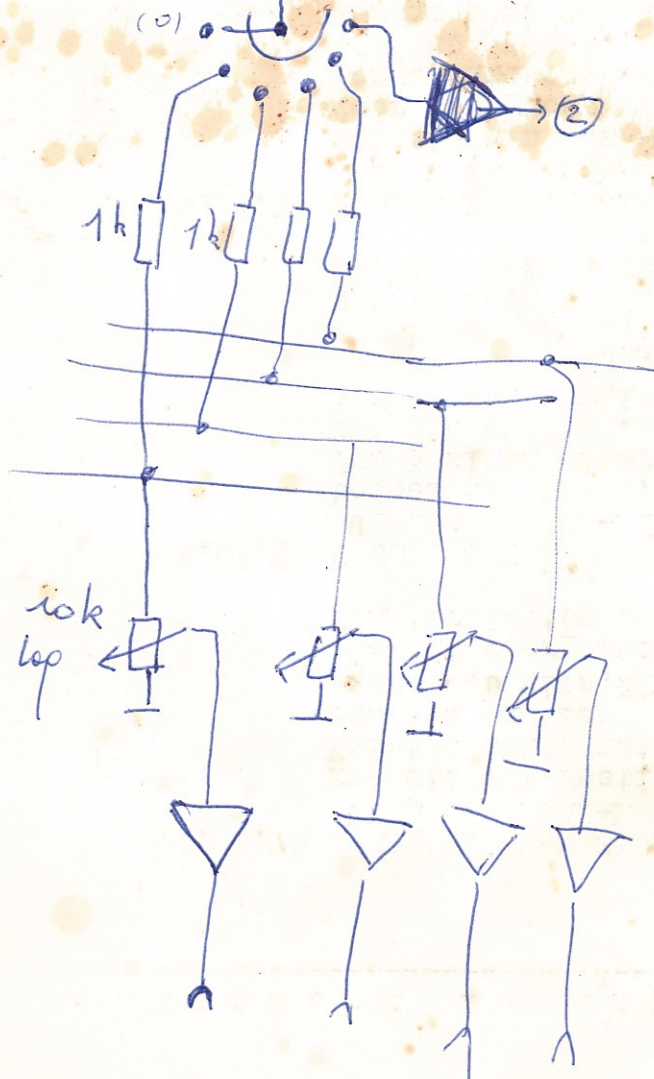
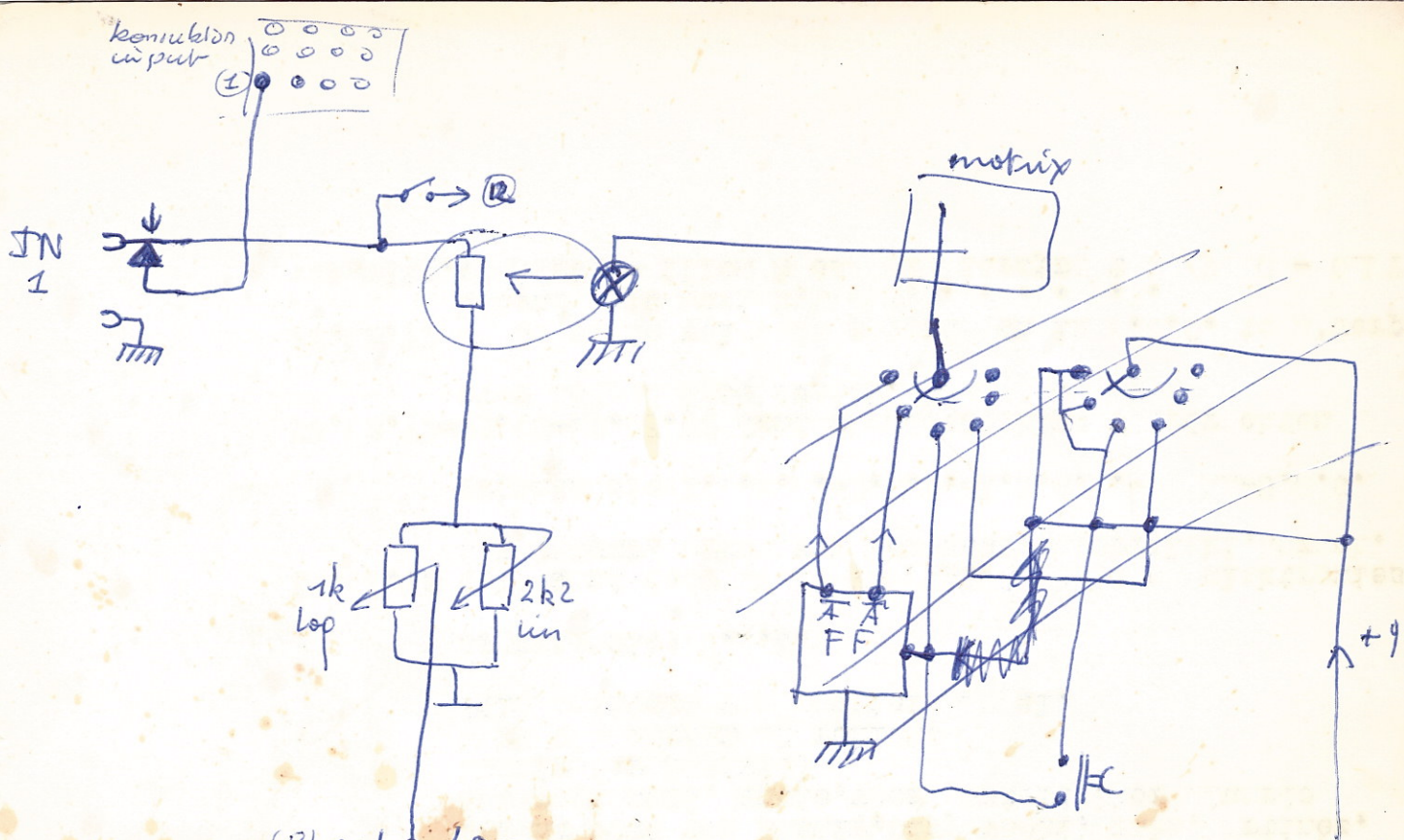
aangesloten bij het cultureel konvent van de RUG

p. a. præs : Godfried-Willem RAES
Hofmeierstraat 24
B - 9000 GENT (België)
Tel. : 09/22.99.32

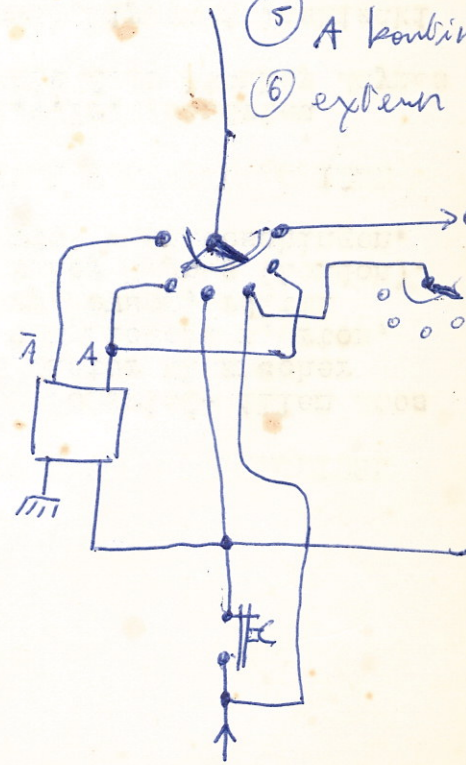
Bezoek : Posteernestraat 2/4
B - 9000 GENT



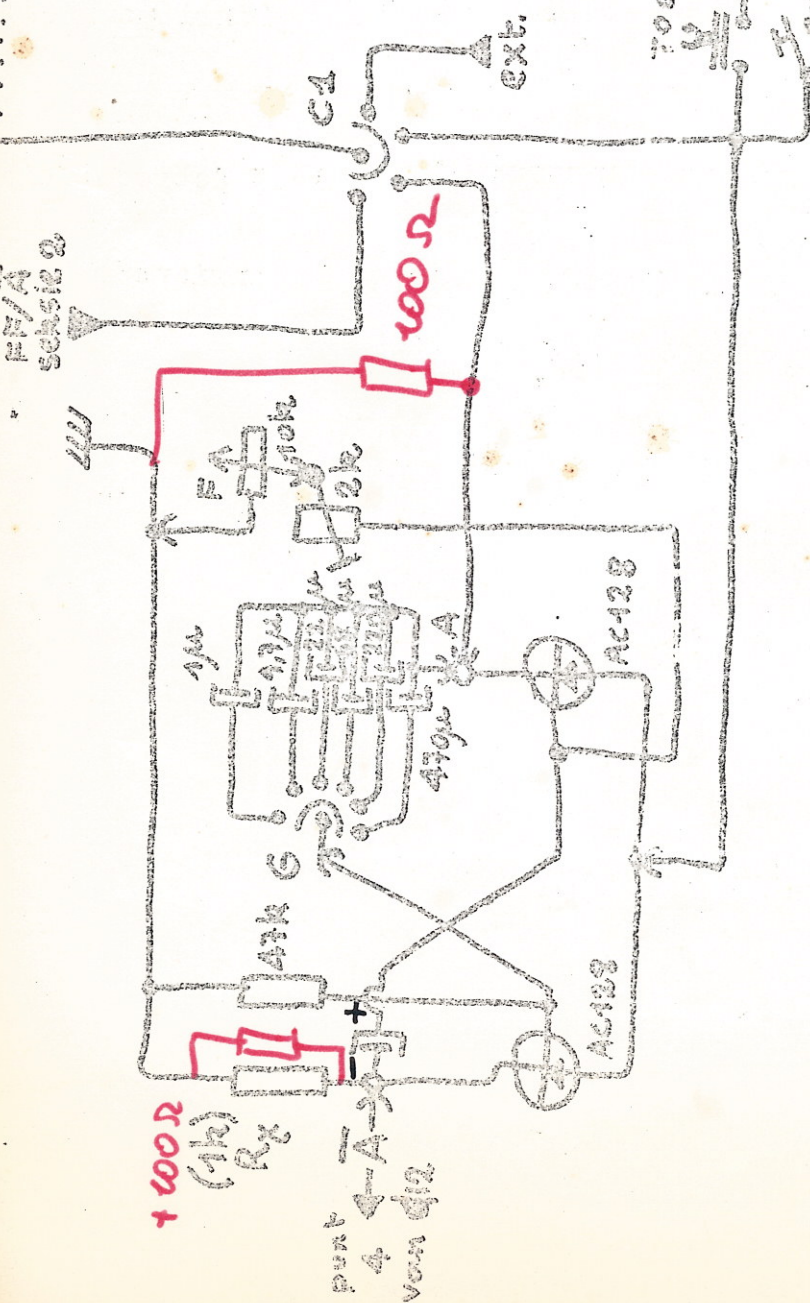
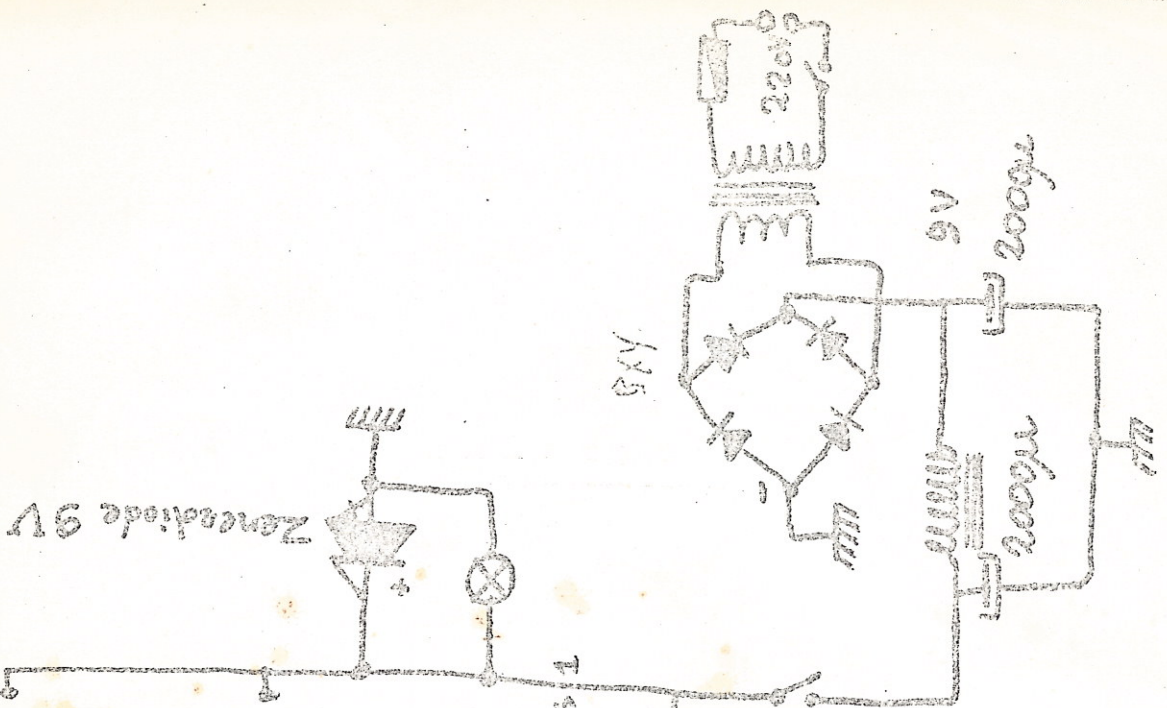




- ① $\bar{A} + \text{toel}$
- ② $A + u$
- ③ toel's
- ④ kontinuu
- ⑤ A kontinuu
- ⑥ eksper



MATRIX.



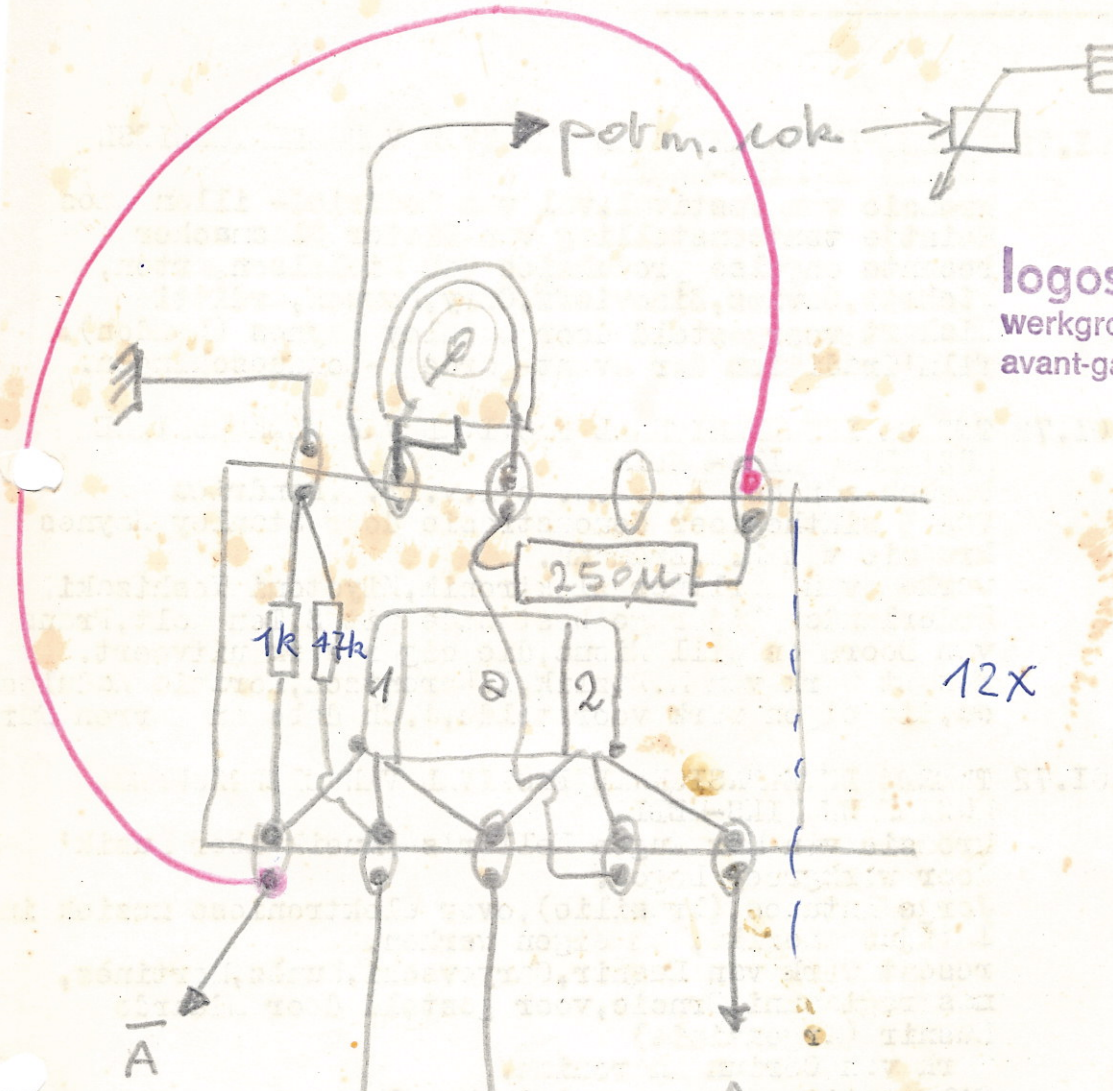
Paes-citrisator
 stuurinrichting
 6-clip-flops.

logos

werkgroep voor geëngazeerde,
 avant-garde muziek

FF

Revisie
versie 4



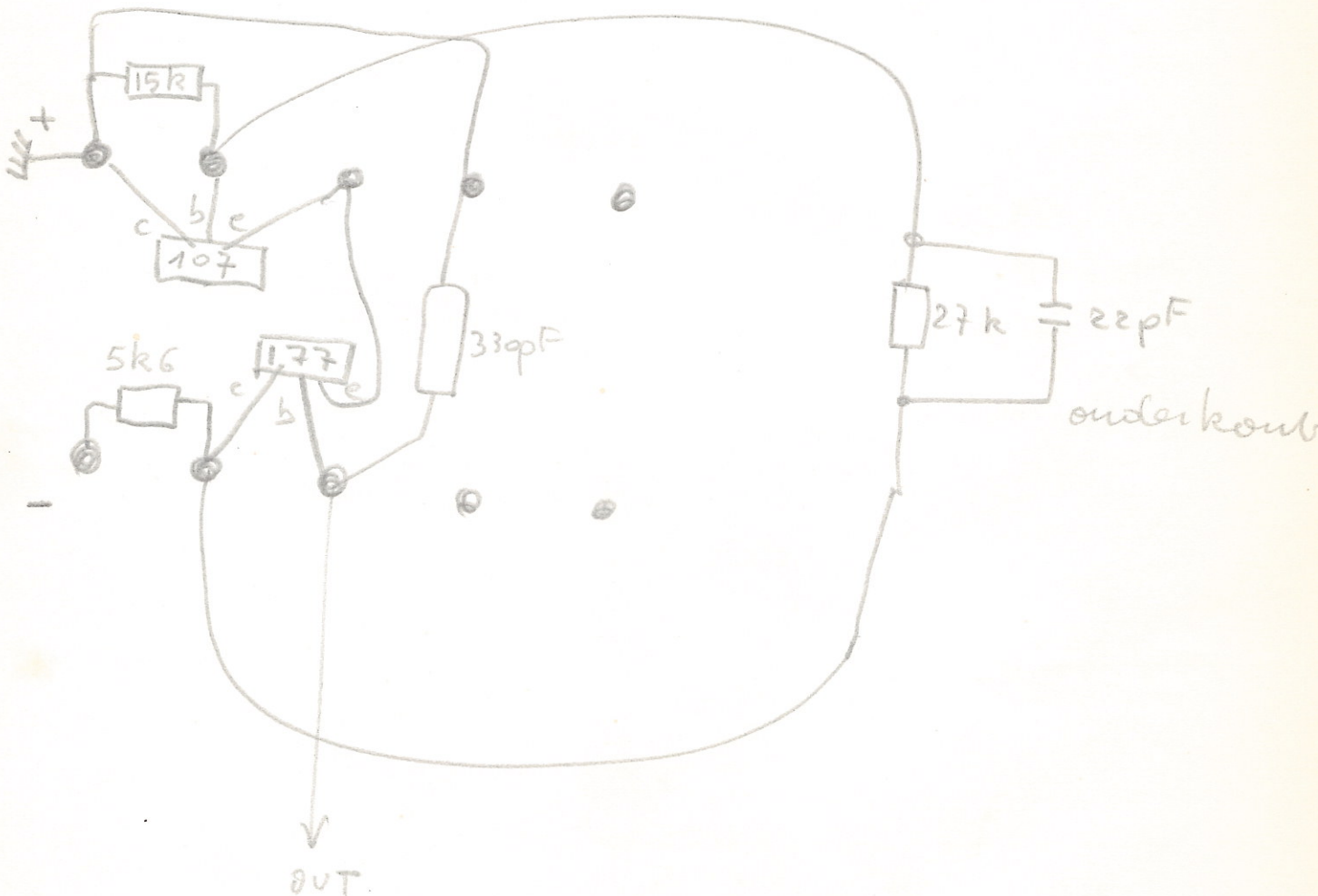
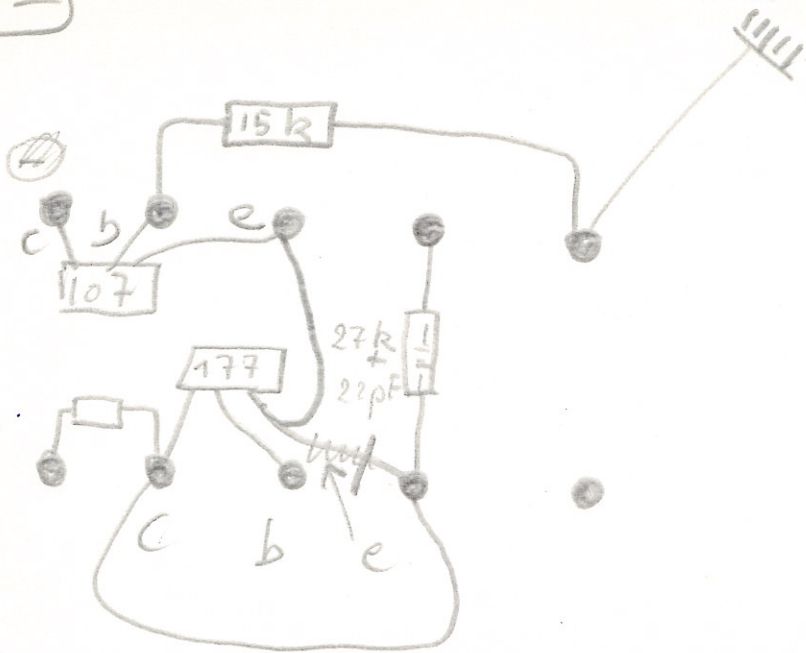
logos
werkgroep voor geëngazjeerde
avant-garde muziek

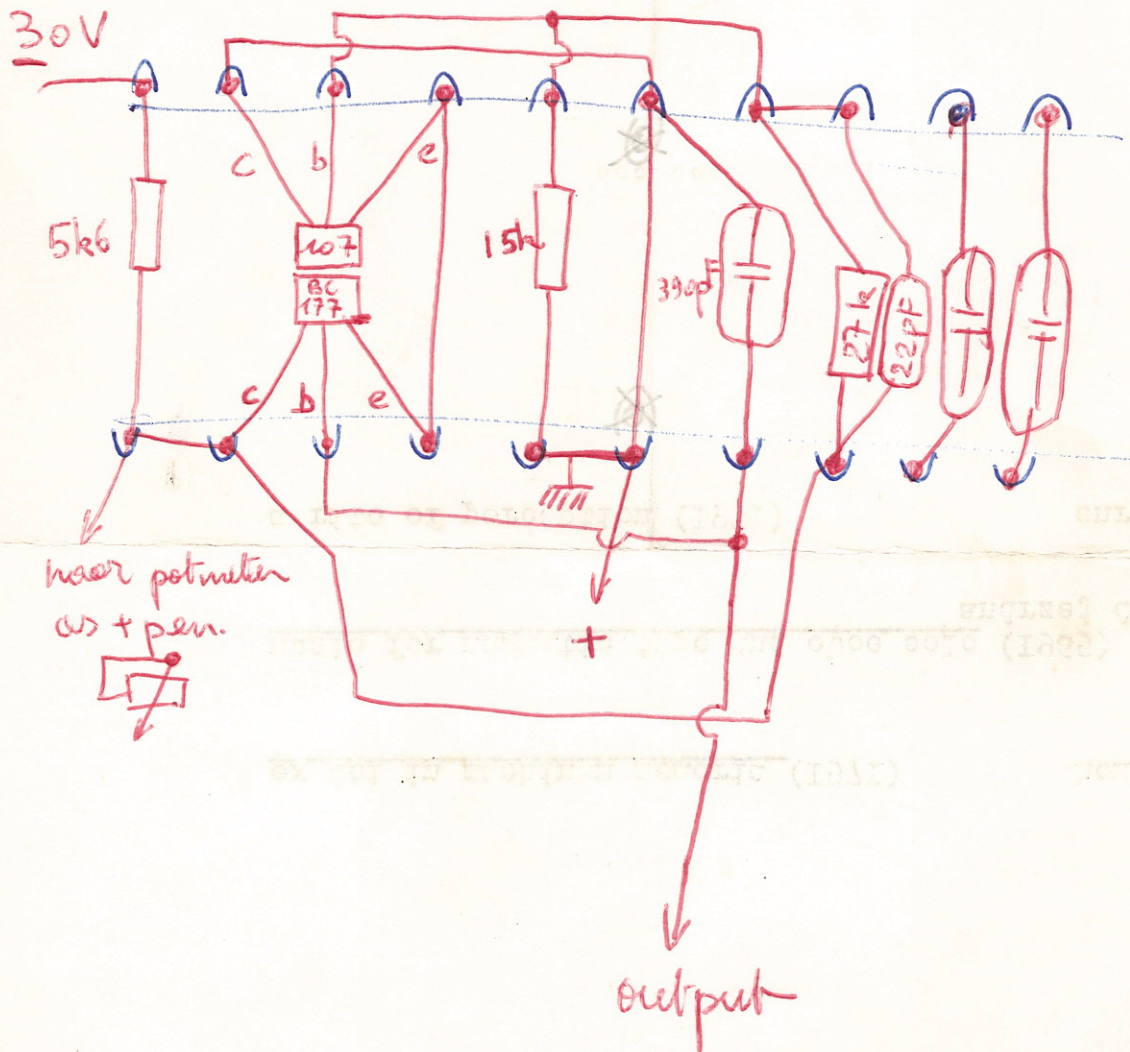
12x

ingezien
uitgevonden

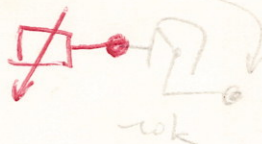
03/02/72

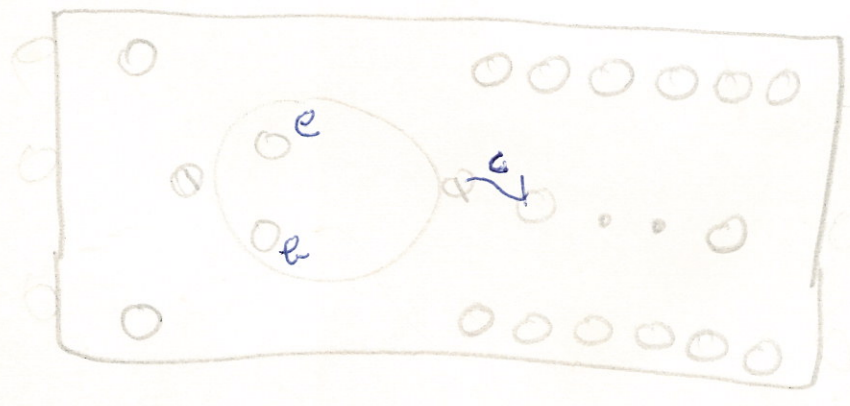
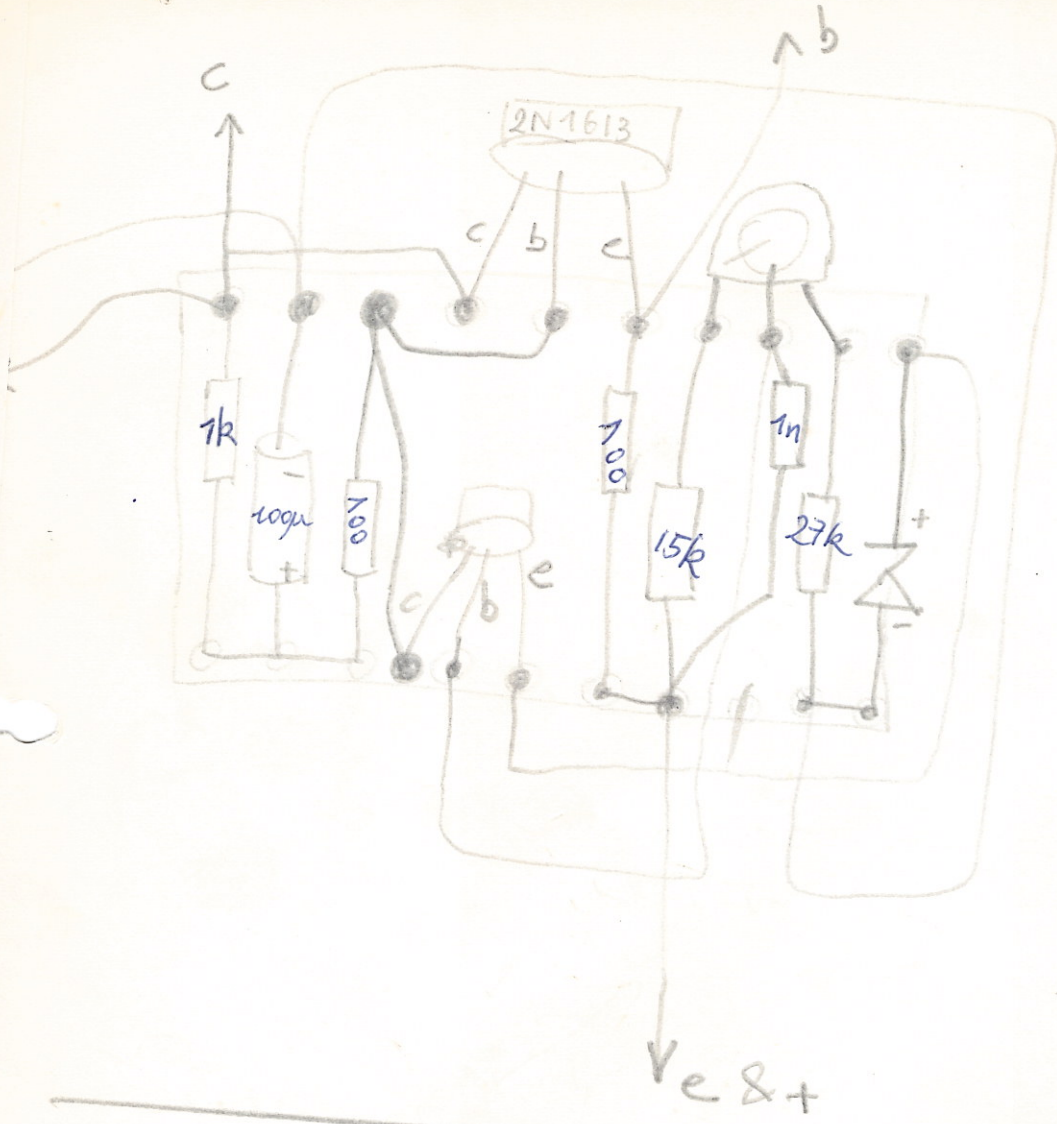
001

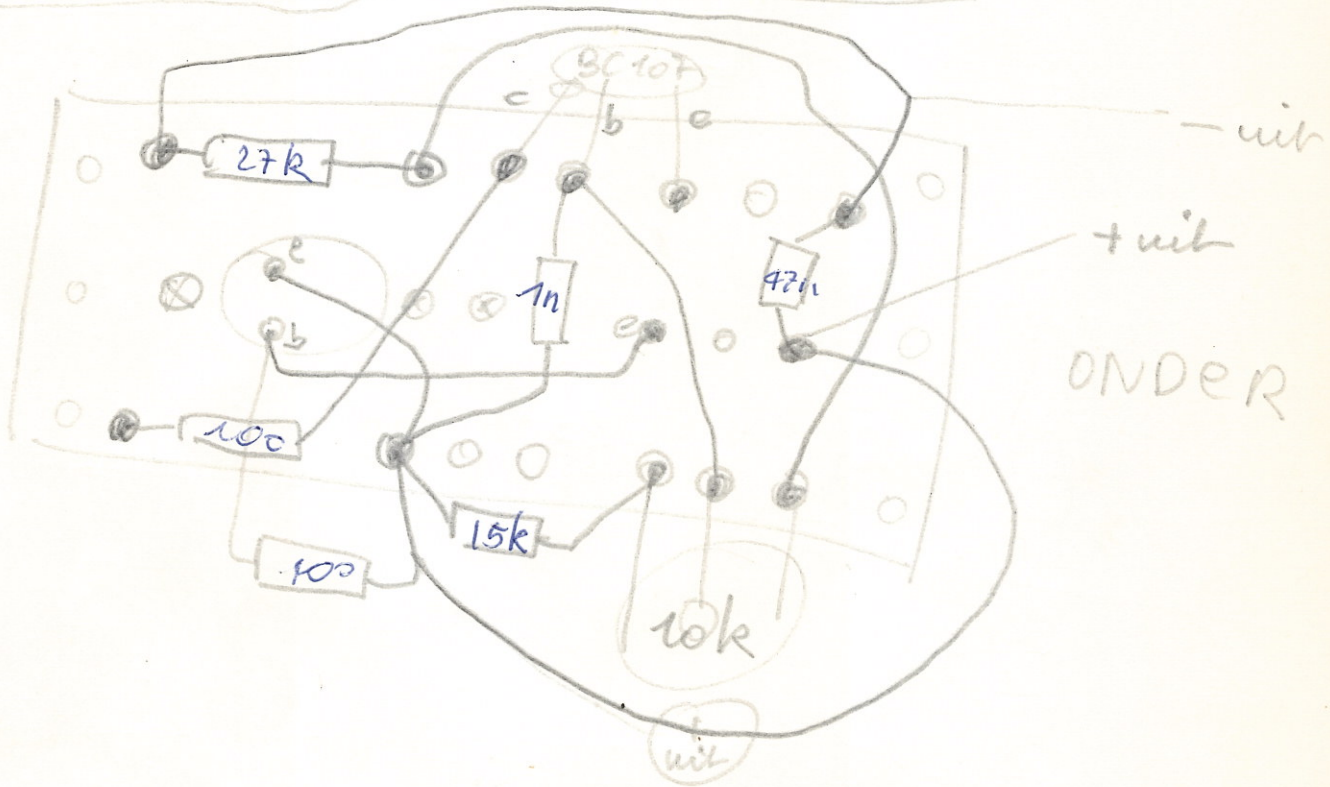
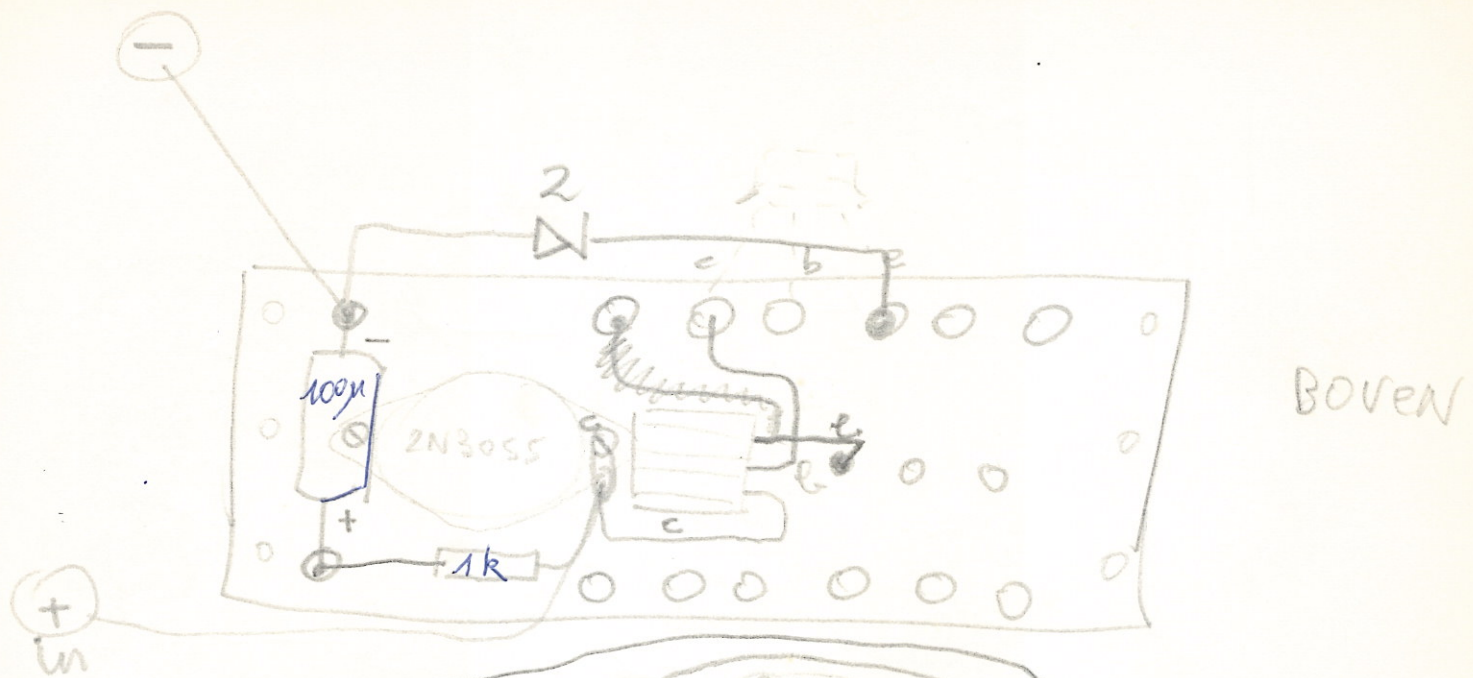




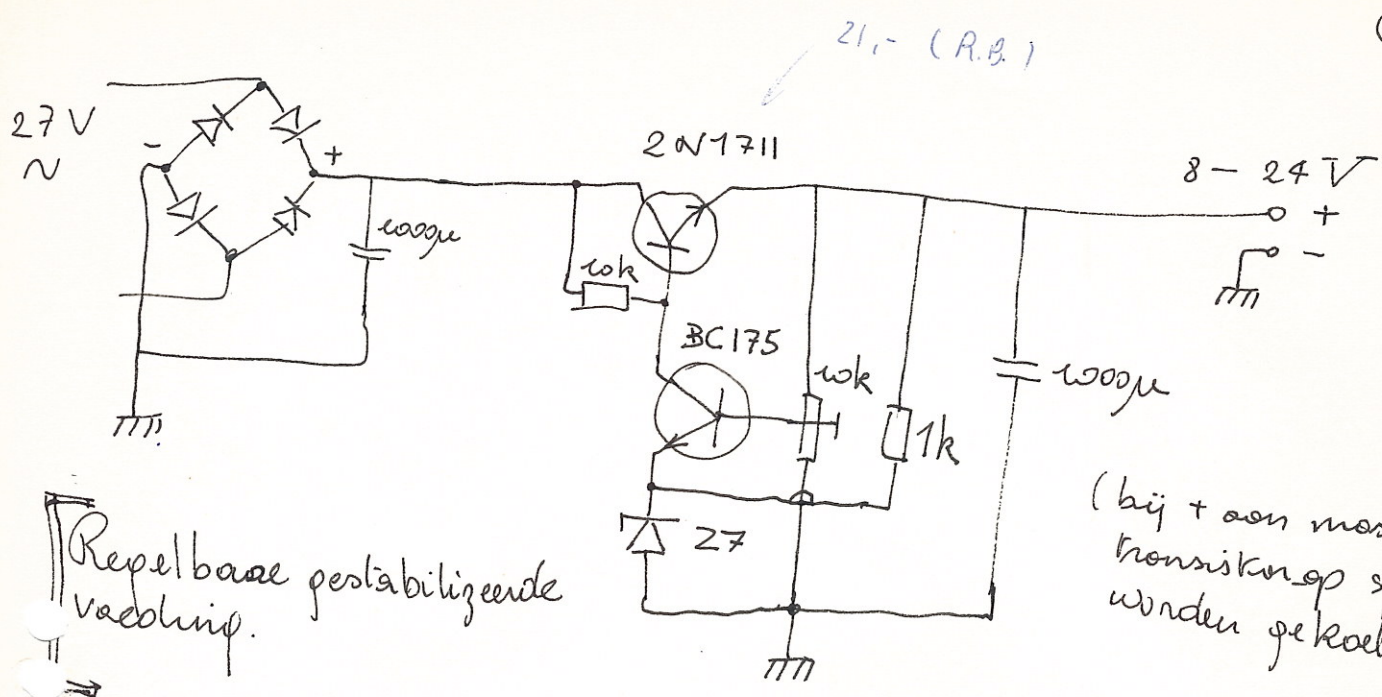
+ pen potmeter (trim +







NPN

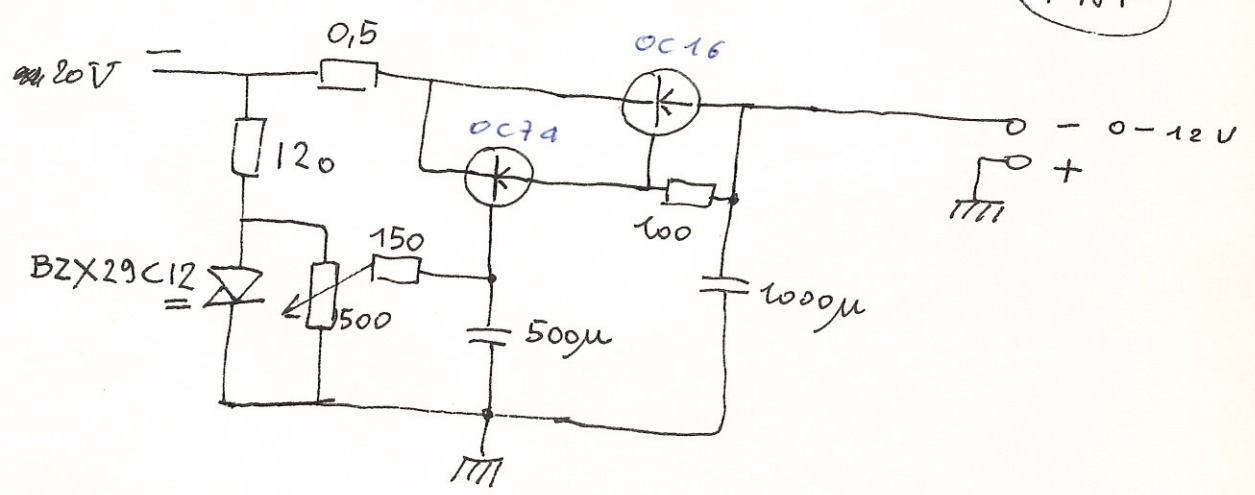


21,- (R.B.)

Regelbare gestabilizeerde voeding.

(bij + aan massa, kon transistor op sjassis worden gekoeld !!)

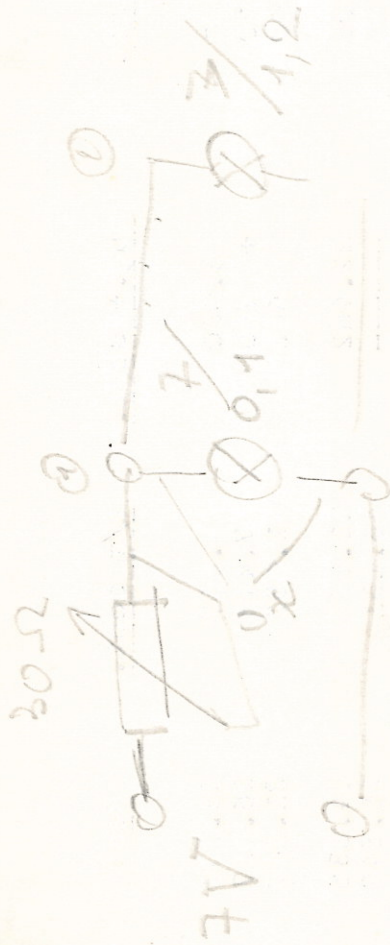
PNP



U_x

$$\frac{70 \cdot 12}{60 \cdot 5,8} = 1,2$$

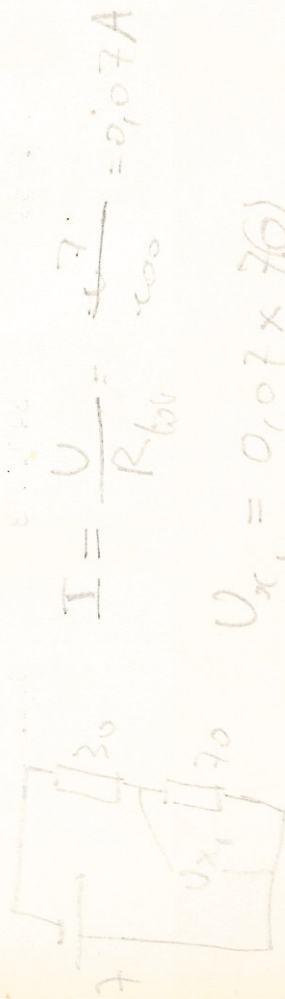
$$P_{\max} = 7 \times 1,2 = 8,4 \text{ W}$$



$$R_x = \frac{7}{0,1} = 70 \Omega$$

$$R_{\text{ext}} = \frac{7}{1,2} = 5,8 \Omega$$

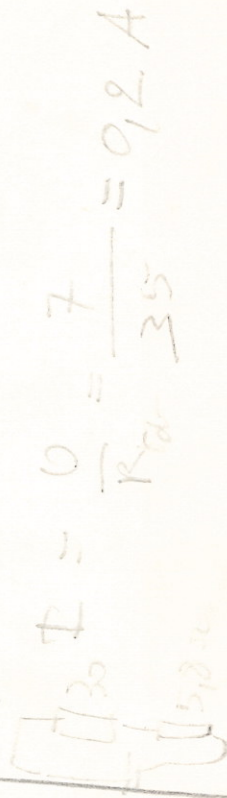
gevel 1: U_{x1}



$$I = \frac{U}{R_{\text{tot}}} = \frac{7}{100} = 0,07 \text{ A}$$

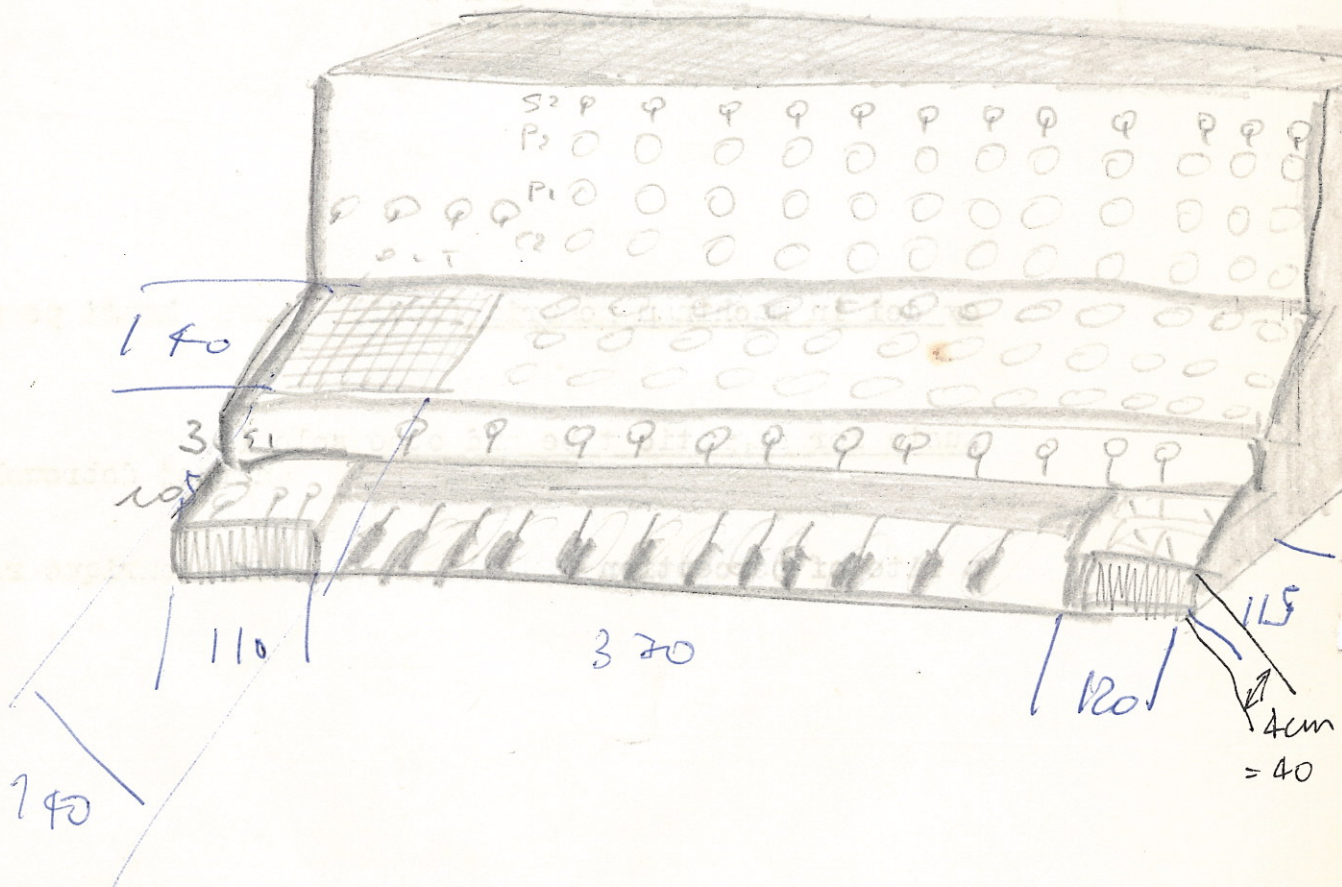
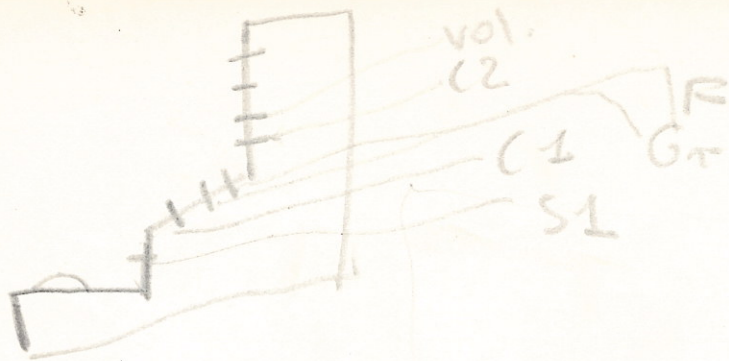
$$U_{x1} = 0,07 \times 70 = 4,9 \text{ V}$$

gevel 2: U_{x2}



$$I = \frac{U}{R_{\text{tot}}} = \frac{7}{35} = 0,2 \text{ A}$$

$$U_{x1} = 0,2 \times 7 = 1,4 \text{ V}$$



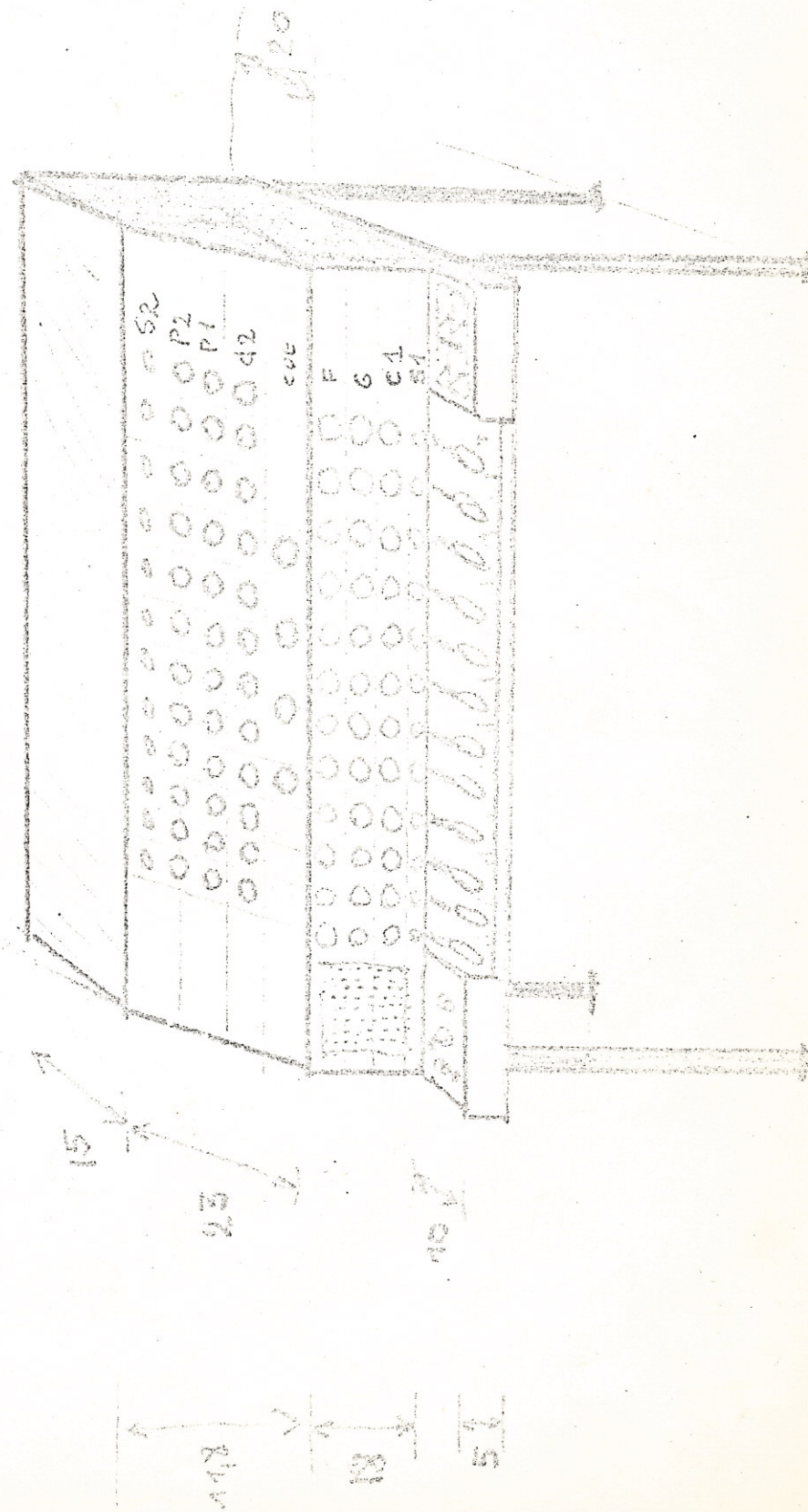
$$150 - 600 = 450 \begin{array}{r} \frac{12}{36} \\ \hline 90 \\ \frac{84}{60} \end{array} \quad \begin{array}{r} 37,5 \\ \hline \end{array}$$

150

$$\begin{array}{r} 37 \\ \frac{12}{24} \\ \hline 37 \\ \hline 444 \end{array}$$

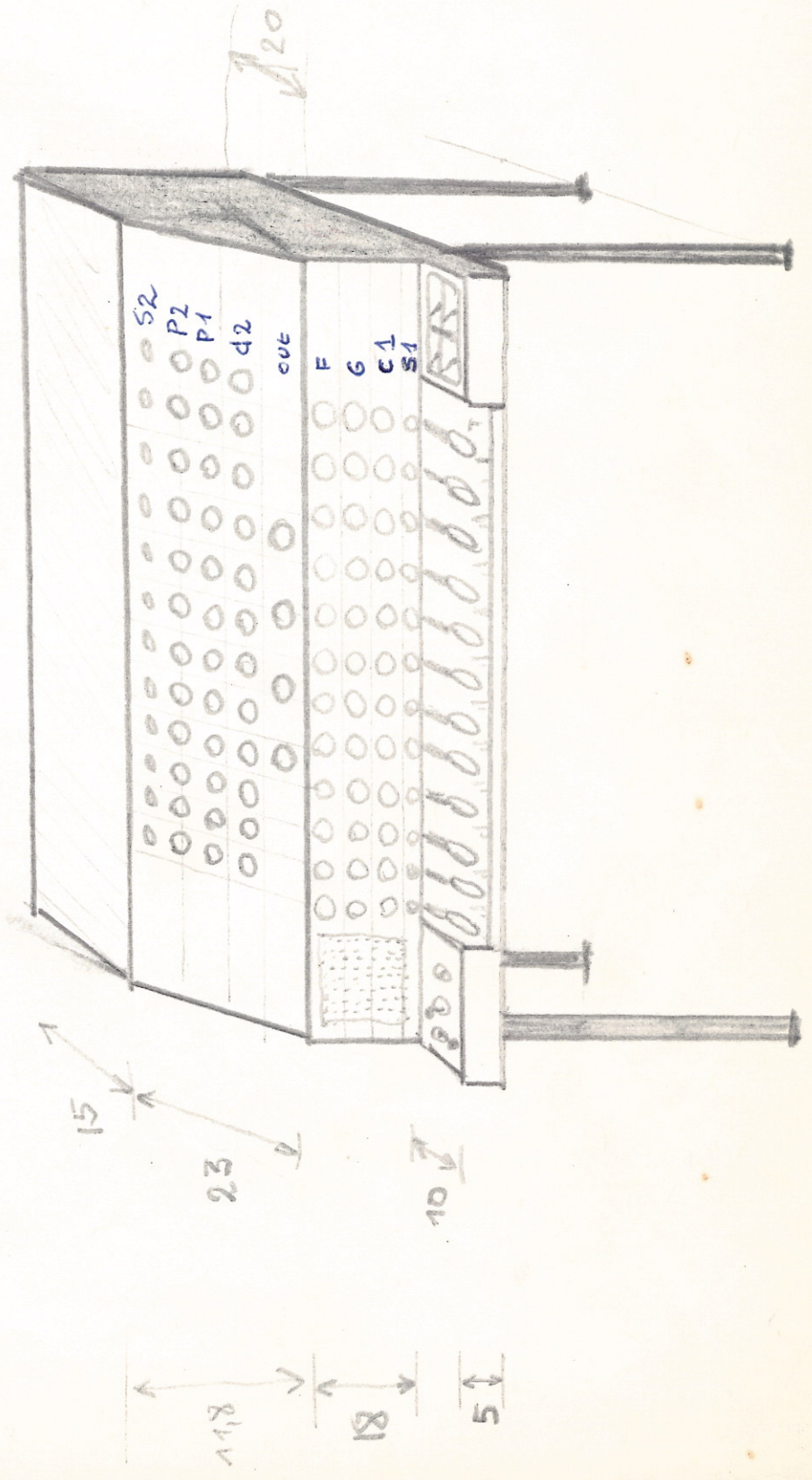
hoogte : 35 cm
 breedte : 60 cm
 diepte : 35 cm

logos
 werkgroep voor geëngazjeerde
 avant-garde muziek



hoogte : 35 cm
 breedte : 60 cm
 diepte : 35 cm

logos
 werkgroep voor geëngazjeerde
 avant-garde muziek



Materiaal lijst (reeds aangekochte componenten)

Roes-Rhythmisator

logos

werkgroep voor geëngazjeerde
cyan-garde muziek

- 12 x 1μ
- 12 x 5μ
- 12 x 22μ
- 12 x 220μ
- 12 x 470μ
- 12 x loetsen
- 12 x 7V/0,1A
- 12 x LDR-res.
- 12 x lamphouderlijst
- 1 x basis-eik plaat
- 12 x dubbelkoelvinnen
- 2 x contact-schakelaar
- 12 x metrisch stekker
- 2 x zekeringhouder
- 12 x 68μ
- 4 x AC128
- 4 x $10k\Omega$ potm.
- 5 m soldeer
- 100 pens draadstieren (dub)
- " " " (eend)

- 12 x 68087 kneps
- 36 x 69163 "
- 20 x AC128
- 1 x 2N1613
- 1 x 2N3055
- 6 x $220\mu/35V$
- 1 x L-D.R. res.
- 4 x 1N914
- 6 x 69163
- 6 x $220\mu/25V$
- 8 x $10k\Omega$ lin
- 12 x $2,2k\Omega$ trimmer
- 3 x $2200\mu F$
- 1 x BZV19 C6V4
- 1 x BC107
- 1 x roep
- 3 x 100μ

Bestell Amount

6	220 μF	35V	à 9,-	54,-	54,-
3	2200 μF	15V	à 18,-	54,-	54,-
3	2N1613		à 20,-	60,-	
36	69089		à 5,-	180,-	
6	69163		à 3,-	18,-	18,-
50	100 Ω	1/2 W	à 1,-	50,-	
4	68090			72,-	
12	2k Ω	lin	à 5,-	60,-	60,-
8	10k Ω	lin	à 13,-	104,-	104,-
12	1k Ω	lep	"	156,-	-
13	1k Ω	lin	"	169,-	-
4	1N914		à 4,-	16,-	16,-

993,-

→ mit lieferbar. (q.m. API)

knoppen

- | | | | | |
|----|---|--------|------------------|---|
| 1. | 4 stuks 69080
(G1 & G2) | à 18,- | 72,- | - |
| 2. | 36 stuks 69163
pijpknop zwart, 32 mm
(G1 & G2 & G) | à 3,- | 108,- | - |
| 3. | 12 stuks 69087
(P2) | à 10,- | 120,- | - |
| 4. | 24 stuks 69089
(F & P1 & P2) | à 5,- | 180,- | - |
| | | | <u>480,-</u> | |

kondensatoren (cor. FF'ps)

- | | | | | |
|------|----------------------|------|--------|--------------|
| 12 x | 1 μ F | 100V | à 5,- | 60,- |
| 12 x | 5 μ F | 30V | à 5,- | 60,- |
| 12 x | 22 μ F | 35V | à 5,- | 60,- |
| 12 x | 68 μ F | 20V | à 6,- | 72,- |
| 12 x | 220 μ F | 35V | à 9,- | 111,- |
| 12 x | 470 μ F | 25V | à 10,- | 120,- |
| | | | | <u>483,-</u> |

- matruip 24 koper strips, -
- solderlijp per ca 20,-
- 20 AC 128 \ddot{a} 18,- 360,- besteld over
- 12 1k Ω laag koelpot \ddot{a} 13,- 156,-
- 1 LDR B8 731 05 \ddot{a} 19,- 19,- besteld Amorex
- ~~8 1k Ω lin koelpot \ddot{a} 13,- 104,- besteld Amorex~~
- 12 draaistuur 6 stouwen
- 12 " 4 "
- 16 mono spassis & pöck's
- 2 stereo pöck's
- 2 konnektion 13 kontaktten minimaal
- 4 potmetiers 1k Ω laag
- ~~48 weerstouwen 100 Ω besteld~~
- ~~12 kyp schakelaars o.k.~~
- 12 schuif schakelaars
- ~~12 250 μ F 220 μ besteld Amorex 111,-~~
- 1 transformator 220V/9V-2A
- bruggelijfs richte 2A
- ~~3 x 2000 μ F / 16V besteld Amorex 54,-~~
- ~~12 2k Ω trimmen per " " 60,-~~
- 12 1k Ω lin koelpot \ddot{a} 13,- 156,- 156,-
- " " " "

nodig: - matrix: 24 koper strips.

~~12 stekkers & bogen~~

~~12 x 47kΩ~~

~~12 x 1kΩ~~

~~12 x 250μ~~

~~20 AC 128 à 18,-~~

~~12 schaklampjes 7V/0,1A 40,-~~

~~12 bandenstelkens rood 3,- 36,-~~

~~12 1kΩ kop potmeters zonder-schakel à 13,- 156,-~~

~~12 B8 731 05 L.D.R.'s à 19,- 228,-~~

~~8 10kΩ lin. kop potm à 13,- 156,-~~

- 12 draaischakelaars 6 standen 1kring

- 12 draaischakelaars 3 of 4 standen 1kring

- 72 knoppen klein

- 4 out-knoppen

- 16 mono draais potjes

- 1 stereo potje

- 2 kammeters 13 contacten

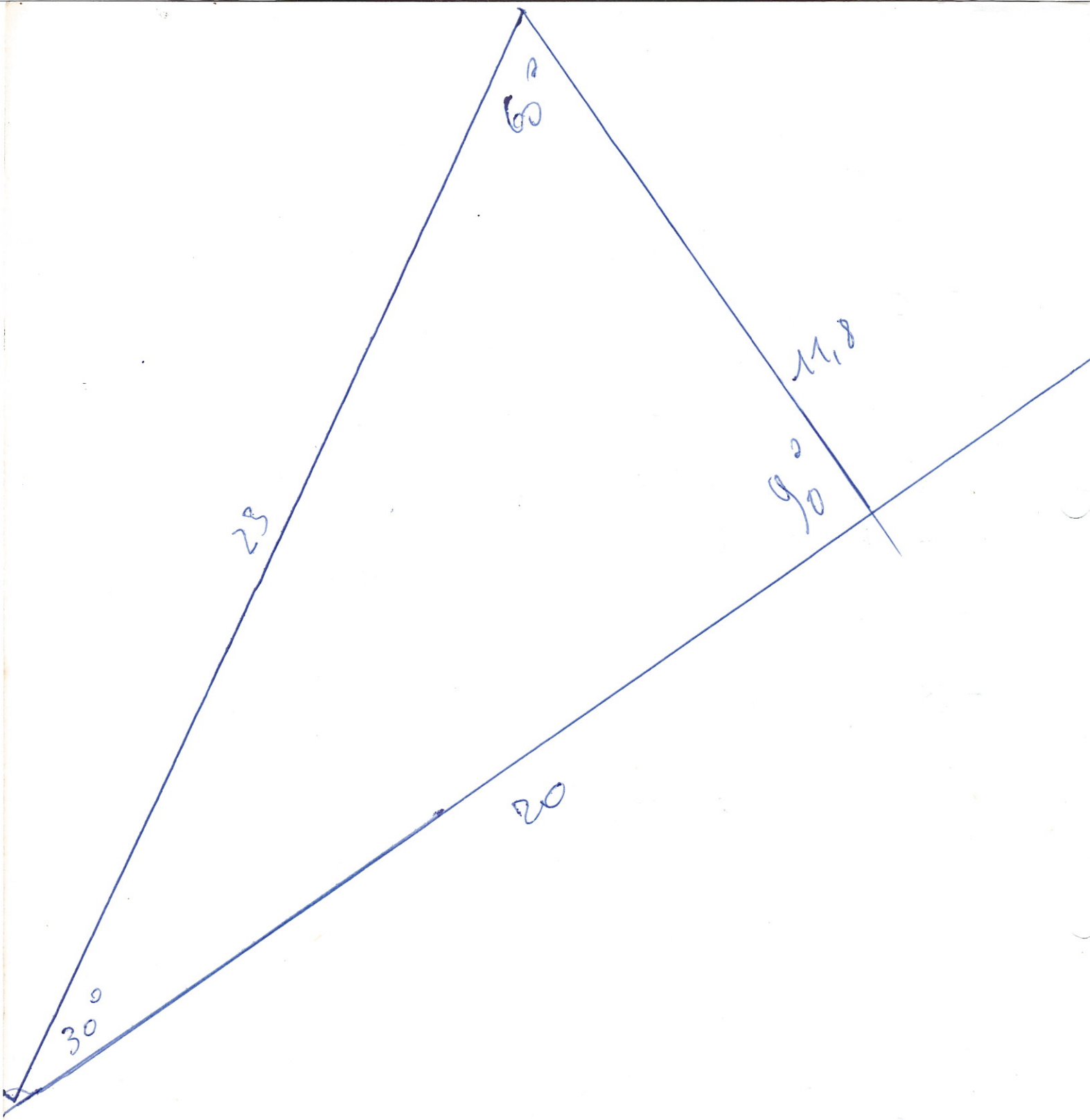
- 4 potmeters 1kΩ kop.

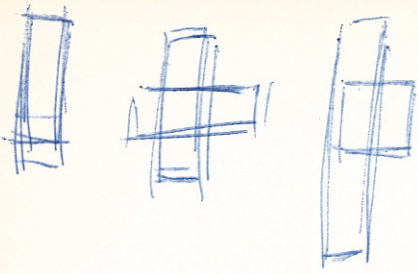
- 48 weerstanden 100Ω

- 12 schuifschakelaars

- 12 kippschakelaars

17
8
254





als generator impedanti = ingangsimp. onfli
→ 6dB verlies + ruis !!!

⇒ input steeds laagdrunig met
den generator impedantie

— = wat je erin stop

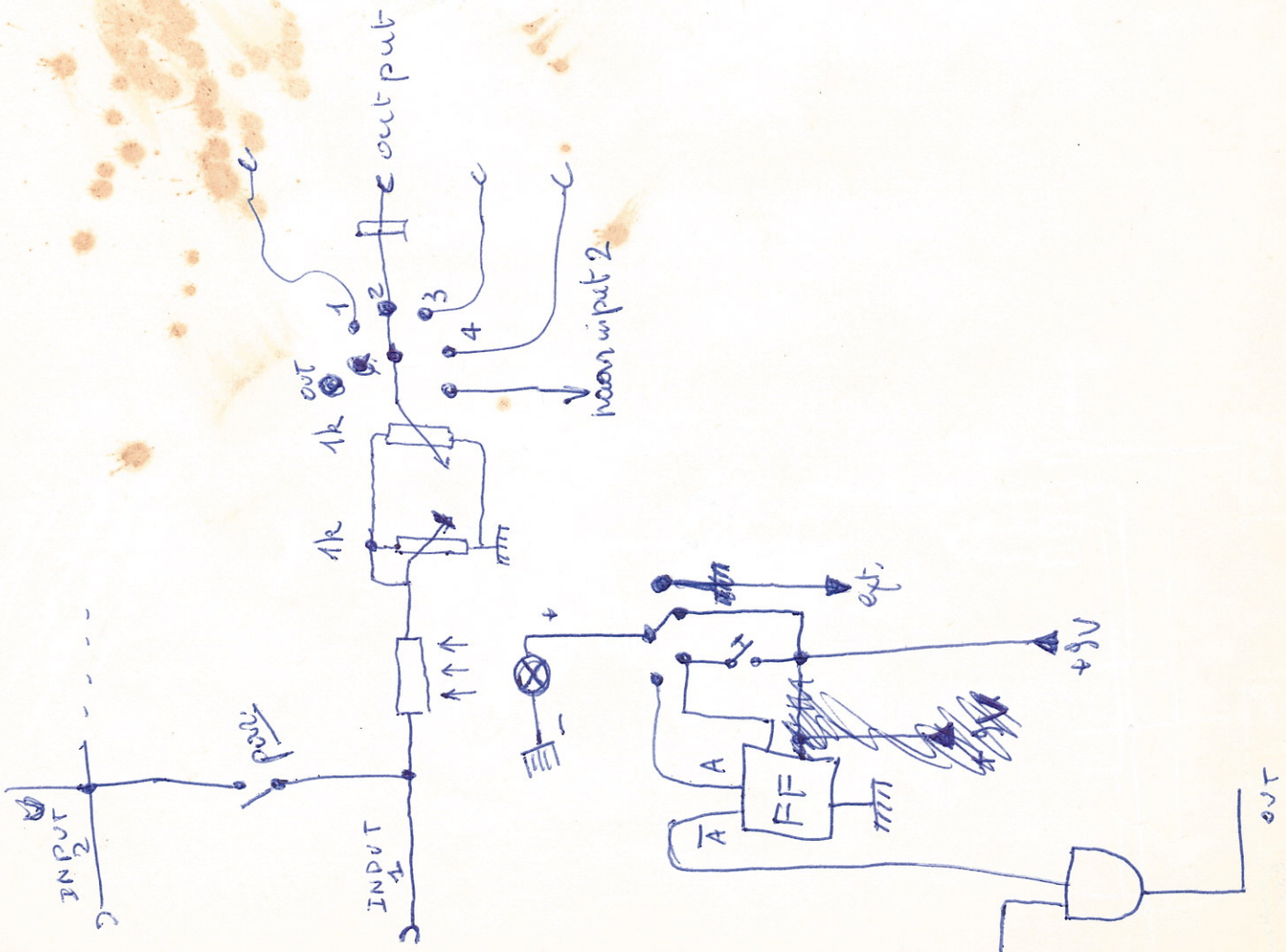
600
 - 229,-

 371,-

1 megapiksel: 40W = 40 liter box

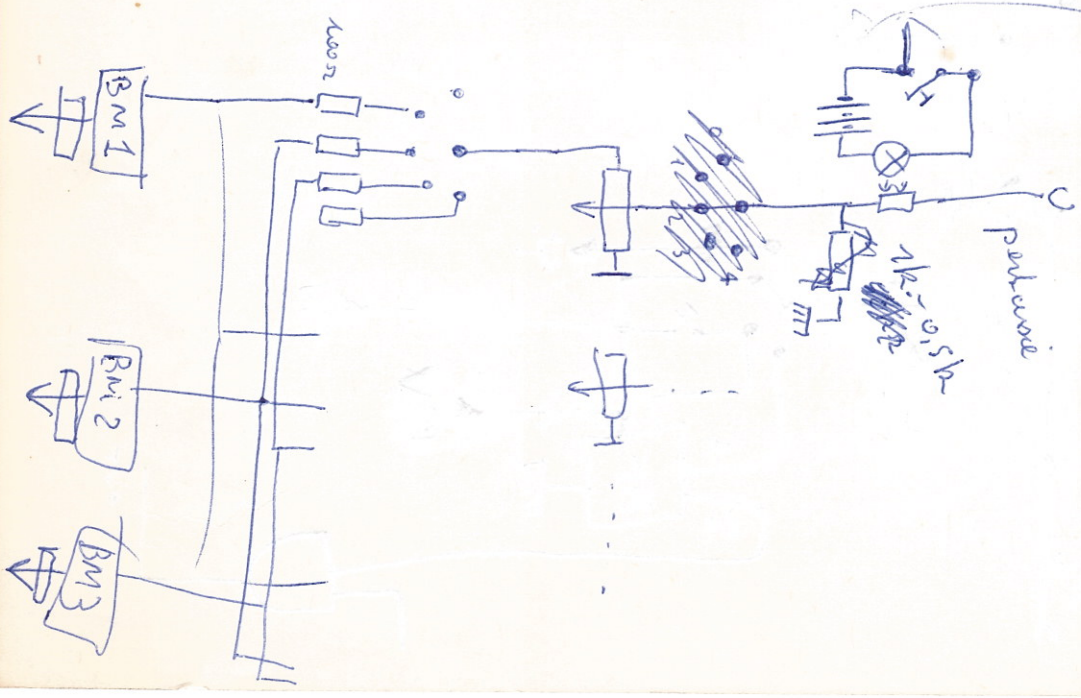
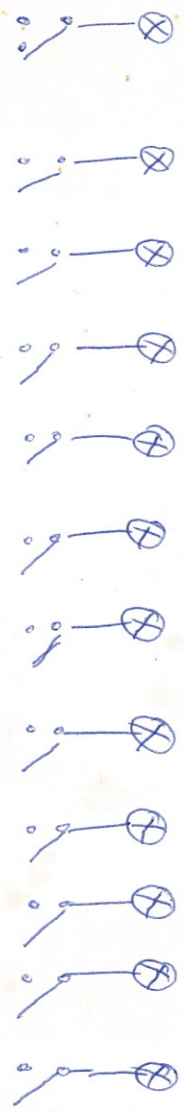
40 cm / 62 cm / 18 cm)

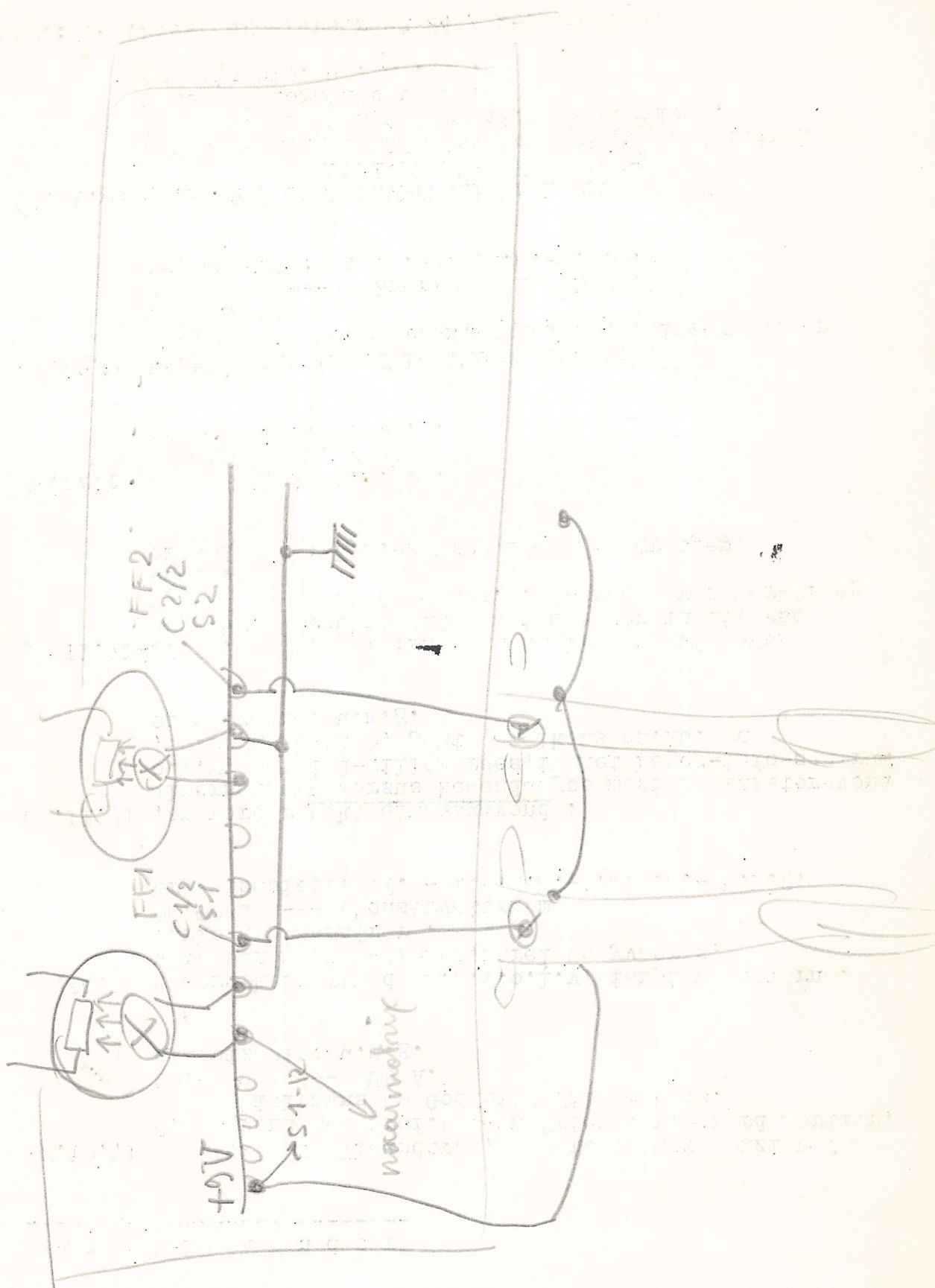
86 cm / 70 cm / 22 cm / 80 liter



35 वाचक
 पुरातन
 काल

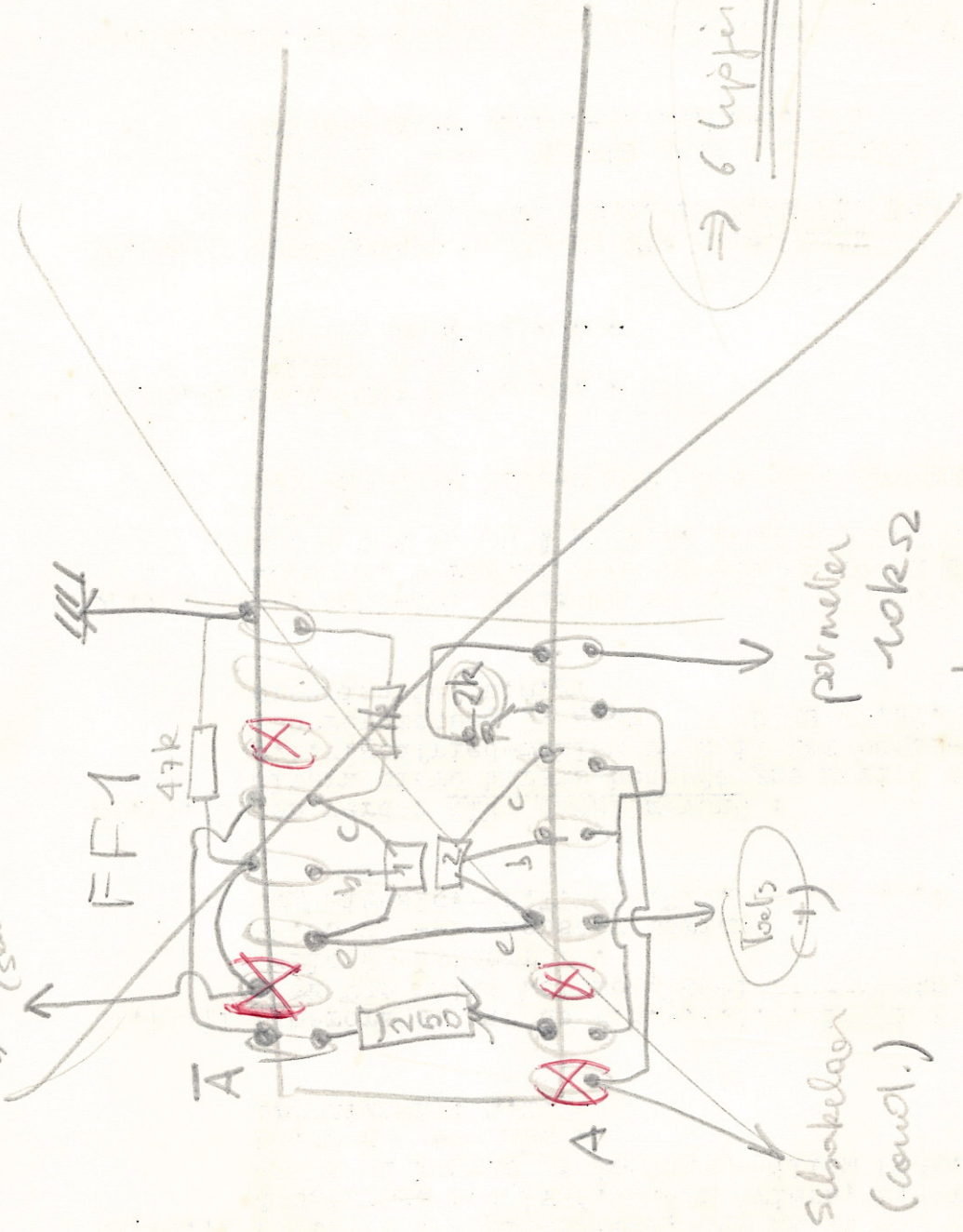
निष्कर्ष





16
16
12
6 P

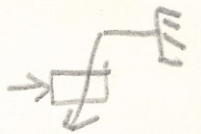
Schakelaar
(sensit.)



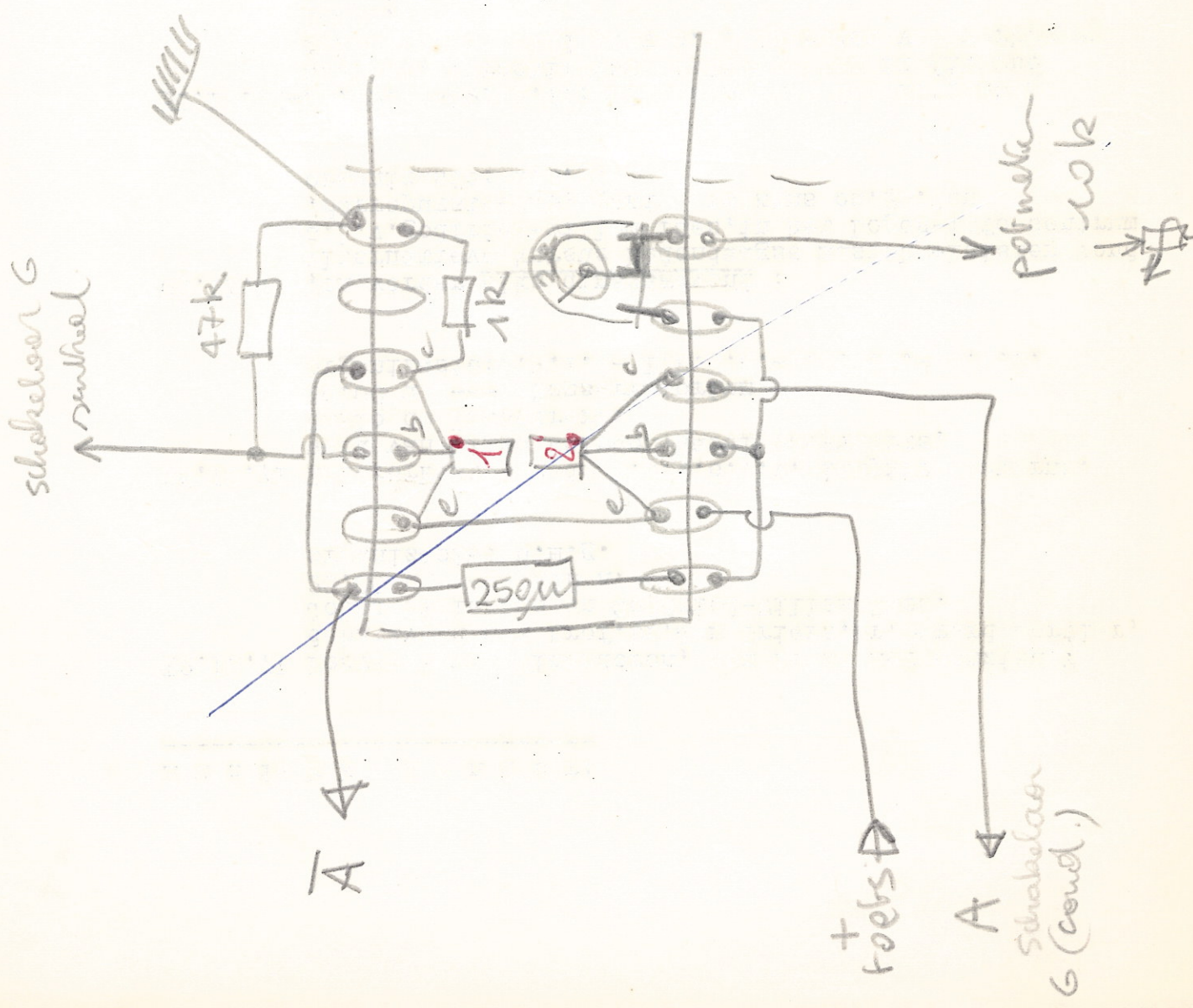
potmeter
10kΩ

=> 6 lippen woolly

Schakelaar
(cond.)

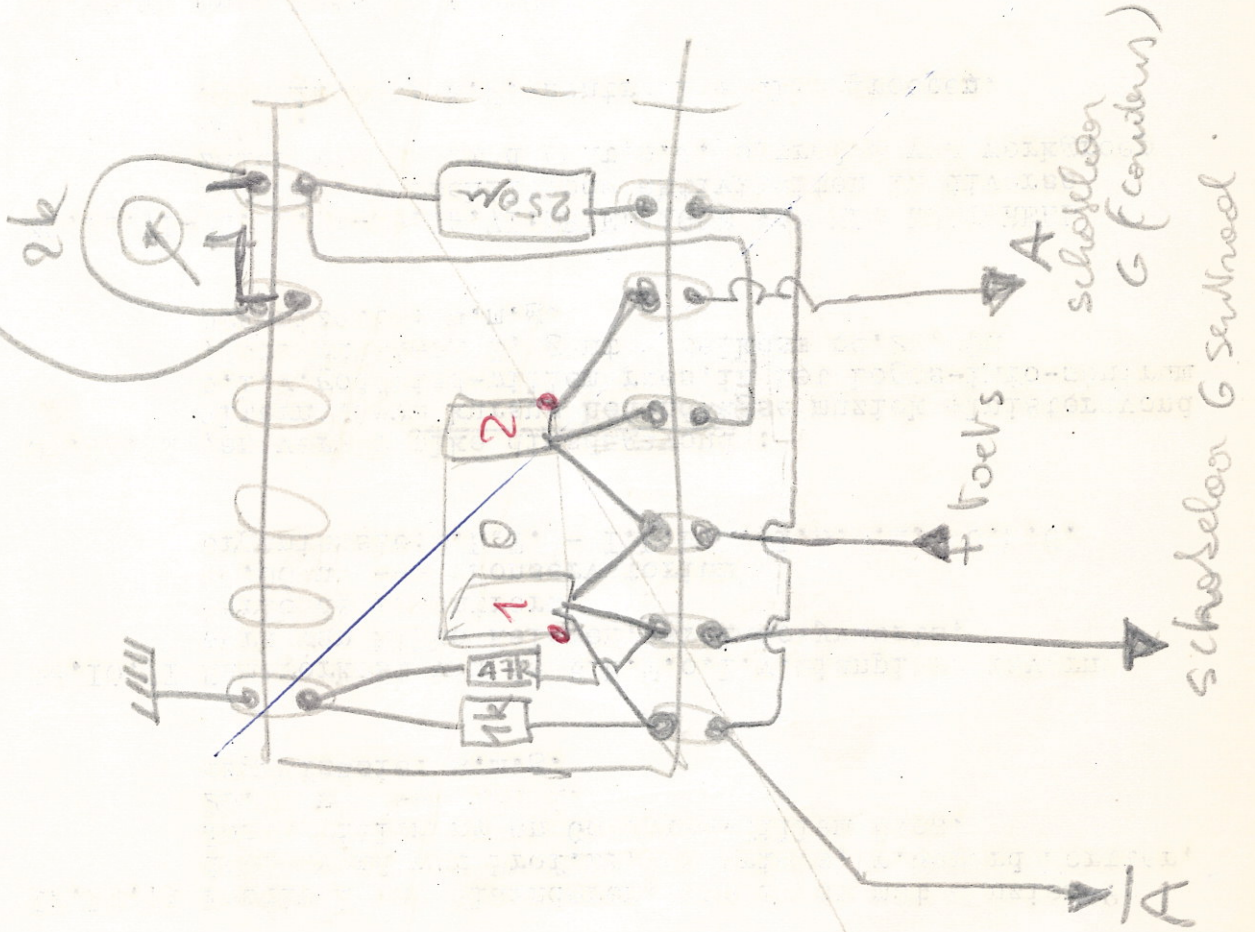


versi 2

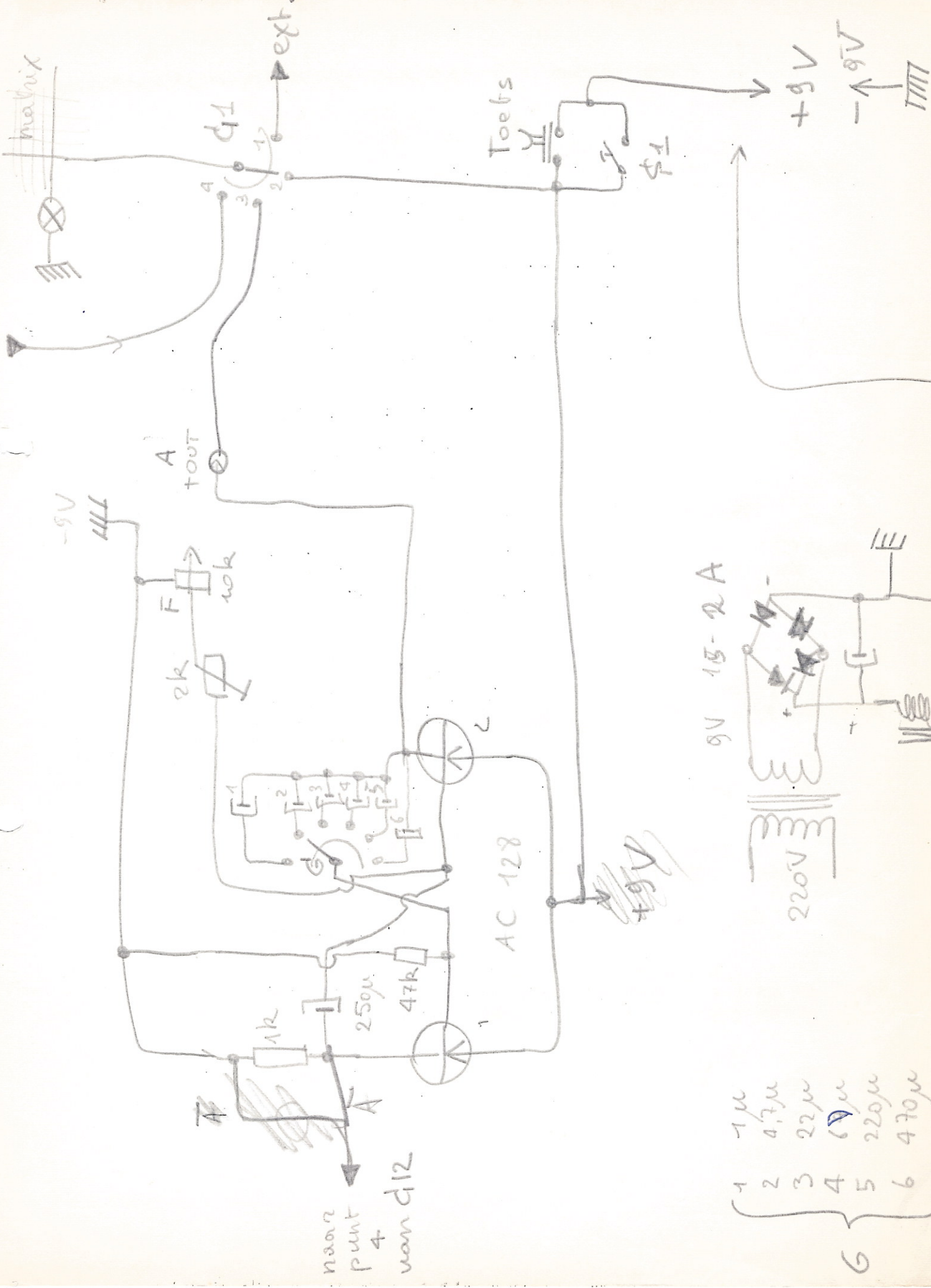


versie 3

potmeter ok →

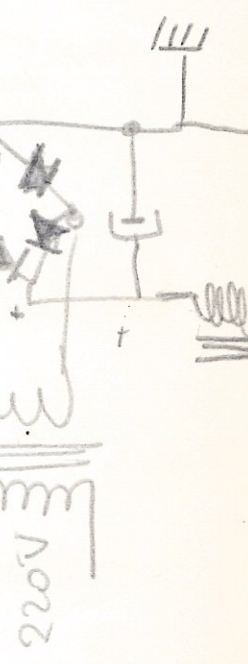


van FF/A naar sekr 2



- 1 1μ
 - 2 4.7μ
 - 3 22μ
 - 4 69μ
 - 5 220μ
 - 6 470μ
- 6

naar punt 4 van d12



9V 15-2A

220V

9V