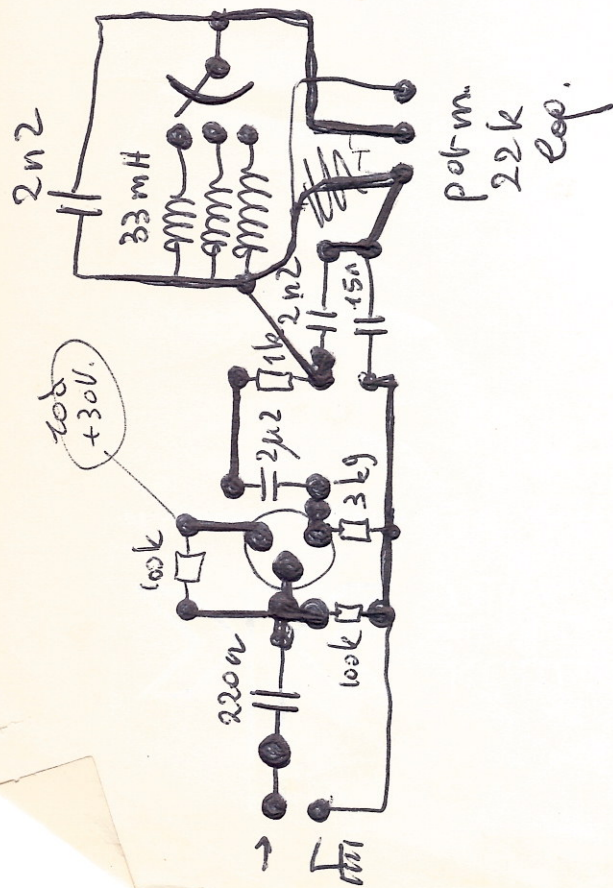


Dual  
Synthelogg  
83.11

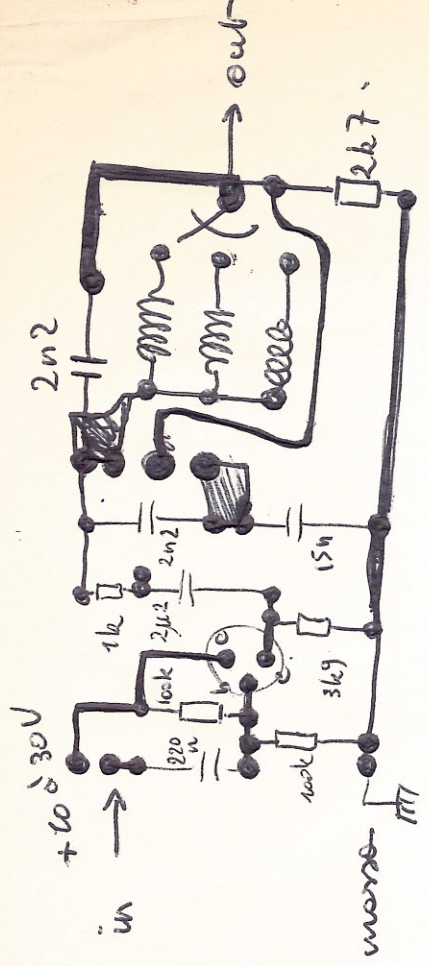
---

Plexicover-model





pot m.  
 22k  
 Exp.





# 5 ruisfilter met regelbare helling

## 6 molestatie-alarm

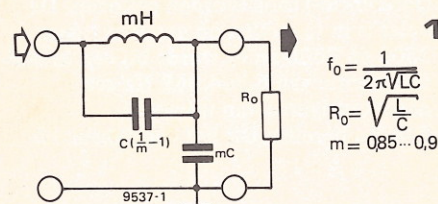
Voor het ijken van de schakeling worden de beide NTC's op een aluminium plaat bevestigd, welke daarna in bijna-kokend water wordt gedompeld. P1 wordt vervolgens zodanig afgeregeld dat de uitgang van het IC laag is als de plaat afkoelt. Hiermee wordt bereikt dat de temperatuur van de 'dak-NTC' altijd hoger moet zijn dan die van de 'reservoir-NTC' om het relais te kunnen laten inschakelen.

**5** Met vast ingestelde RC-ruisfilters ligt de helling van de filterkarakteristiek voor frequenties boven de kantelfrequentie vast. In de duurdere commerciële apparatuur is de steilheid van het laagdoorlaat ('hoog-af') filter vaak 12 dB per oktaaf; simpele versies bestaan veelal uit een enkelvoudig RC-netwerk met een helling van 6 dB per oktaaf.

Er kunnen zich situaties voordoen waarbij 'te veel van het goede' wordt uitgefilterd: ruis of hoogfrequent vervormingen zijn minder hinderlijk hoorbaar, maar er gaat eveneens een groot deel van het hf-guiziespektrum de mist

in. Het is daarom wenselijk om over een filter met een variabele helling te beschikken.

Figuur 2 geeft een schakeling voor een ruisfilter met een kantelfrequentie van ca. 7 kHz en een helling die met P1 instelbaar is tussen 0 en ca. 25 dB per oktaaf. De schakeling is, evenals het soortgelijke filter in de Quad 33 voor-



$$f_0 = \frac{1}{2\pi\sqrt{LC}}$$

$$R_0 = \sqrt{\frac{L}{C}}$$

$$m = 0,85 \dots 0,9$$

versterker, gebaseerd op het m-afgeleide laagdoorlaatfilter van figuur 1, waarbij m een waarde dient te bezitten van 0,85 à 0,9. Het filter dient te worden afgesloten met een weerstand R<sub>0</sub>, welke in ons geval 2k7 is (zie figuur 2). De spoel is een 33 mH-printspoel (5%) van Toko.

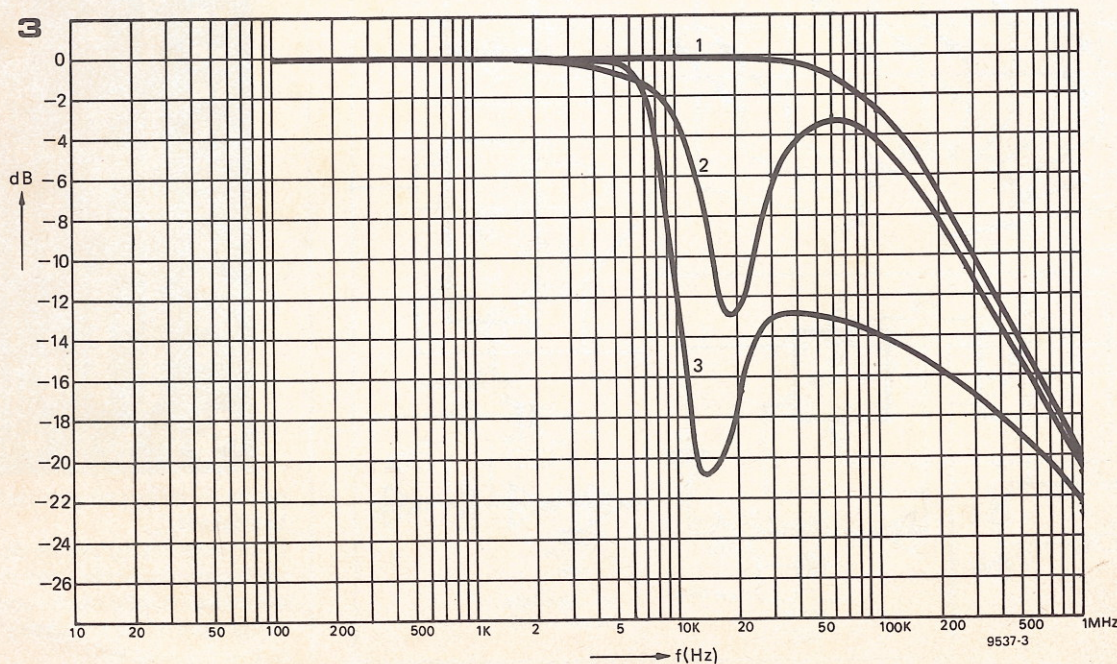
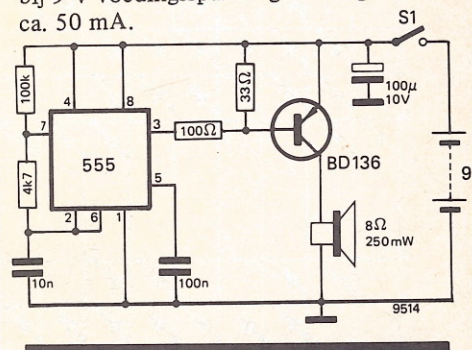
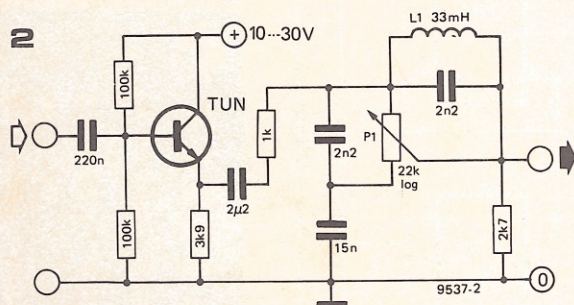
In de grafiek is een drietal karakteristieken opgenomen. Kromme nummer 1 komt overeen met een verzwakking van 0 dB per oktaaf, de loper van P1 staat

dan helemaal 'boven' en de spoel is dan kortgesloten. Kromme 2 geldt voor een loperstand op 50% en kromme 3 is opgenomen bij een maximale shuntweerstand over de spoel.

De doe-het-zelf-ontwerper kan aan de hand van de formules bij figuur 1 het filter aanpassen aan een andere zelf-inductie danwel een andere afsnijfrequentie ( $f_0 = \frac{1}{2} \pi \sqrt{LC}$ ).

**6** De 555 is geschakeld als een astabiele multivib met een duty-cycle van ca. 5% die de BD 136 steurt. Het door de schakeling geproduceerde geluid is van dien aard dat de aanvankelijke neiging van een molesteerder wordt getransformeerd tot de welbekende vluchtneiging, terwijl bij in de omgeving vertoevende personen nieuwsgierigheid wordt gewekt, al dan niet gepaard gaande met de wens de geluidsbron op te sporen en te elimineren.

De schakeling kan zeer compact worden gebouwd; het stroomverbruik bij 9 V voedingsspanning bedraagt ca. 50 mA.





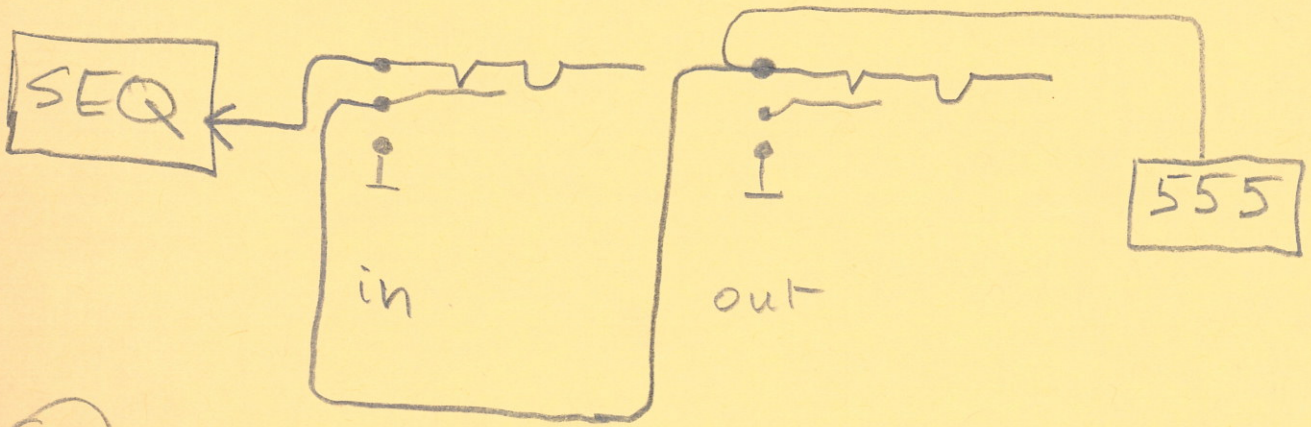
# Syntheskop - Dual VI

$\Delta$ 's

\*  $\tau_{0.72}$  : + input of  $\Delta$ , potential  
breaken

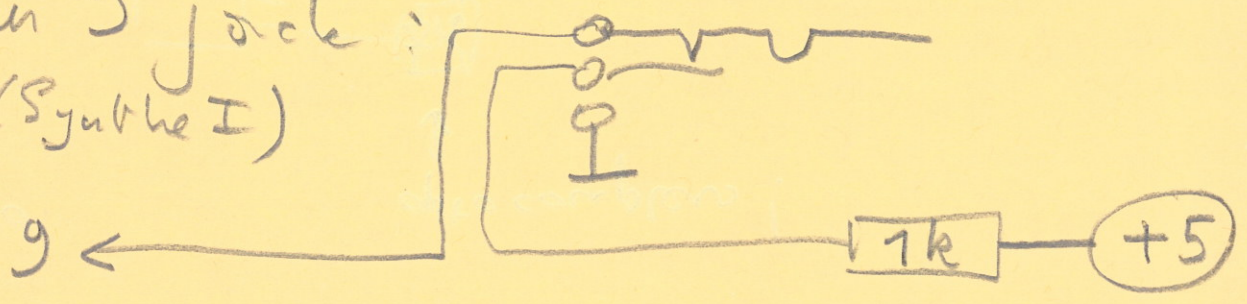
\*  $k_{ew}$ .  $A_V$  verproben.

clock's in - out:



\* clock pot meters: Extreme  
standen  
trimmen  
met serie R

\* pin 9 jack:  
(Synthe I)

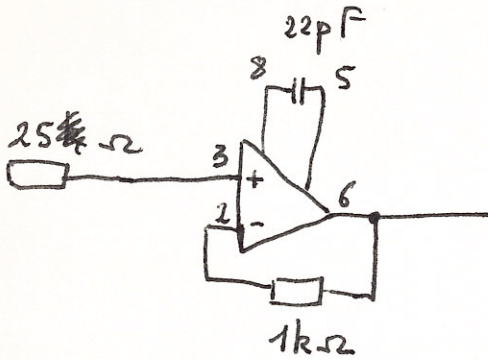




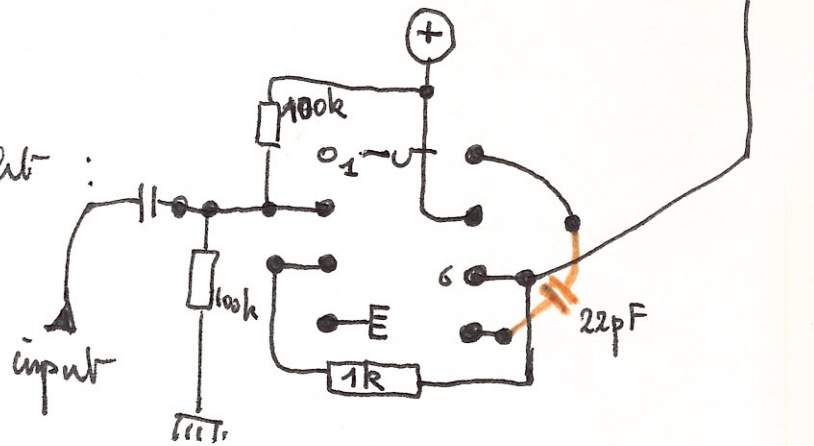
# Synthelop 83 Plexi

output buffer .

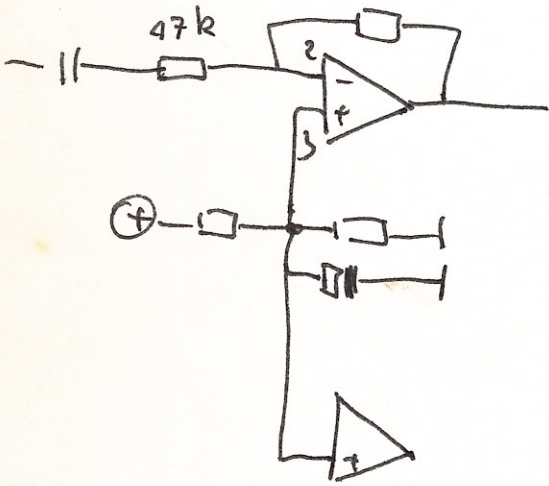
NE5534



top aanzicht :



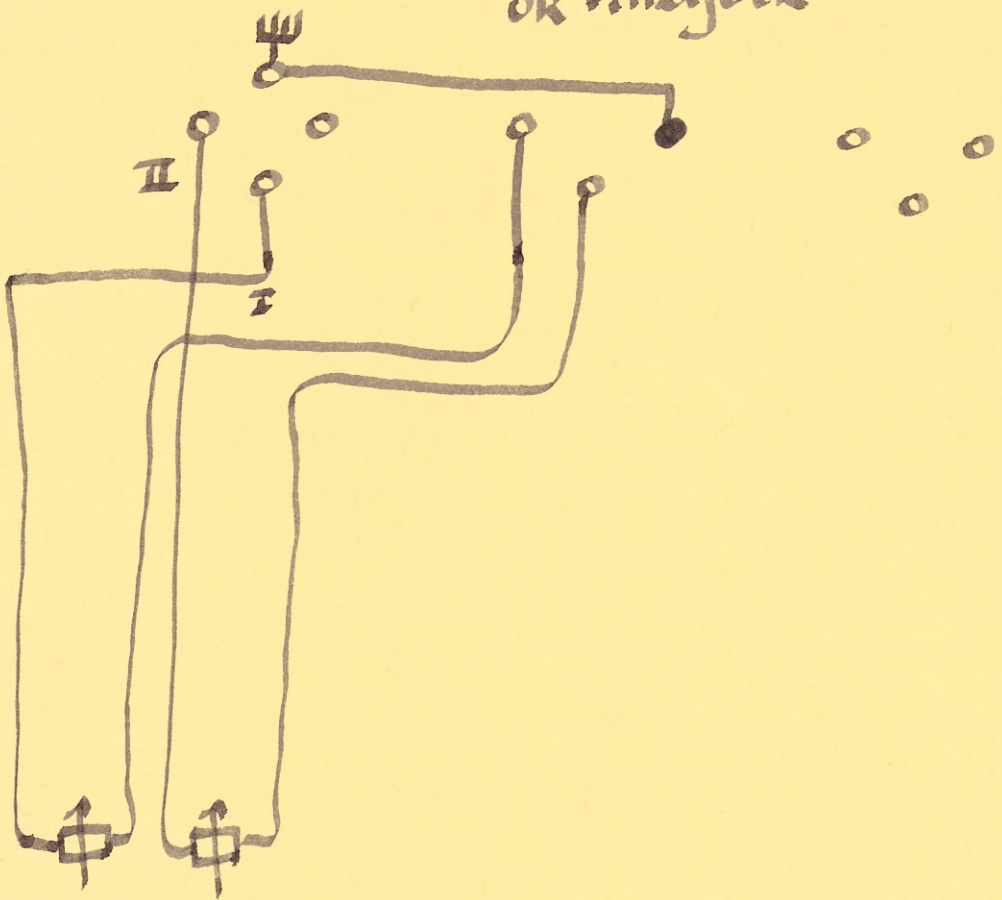
beten: invertering 47k Buffer:





Bedroom  
output.

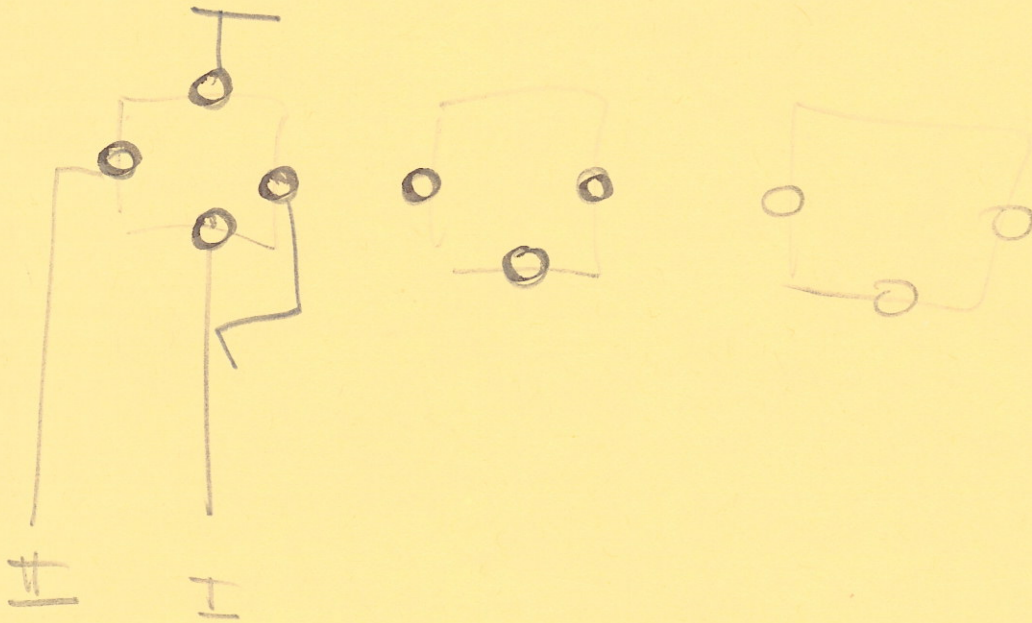
III & IV out  
OR Filterjack





\* draad eindjes solderen op uitgangsjacks !!!

print aanzicht



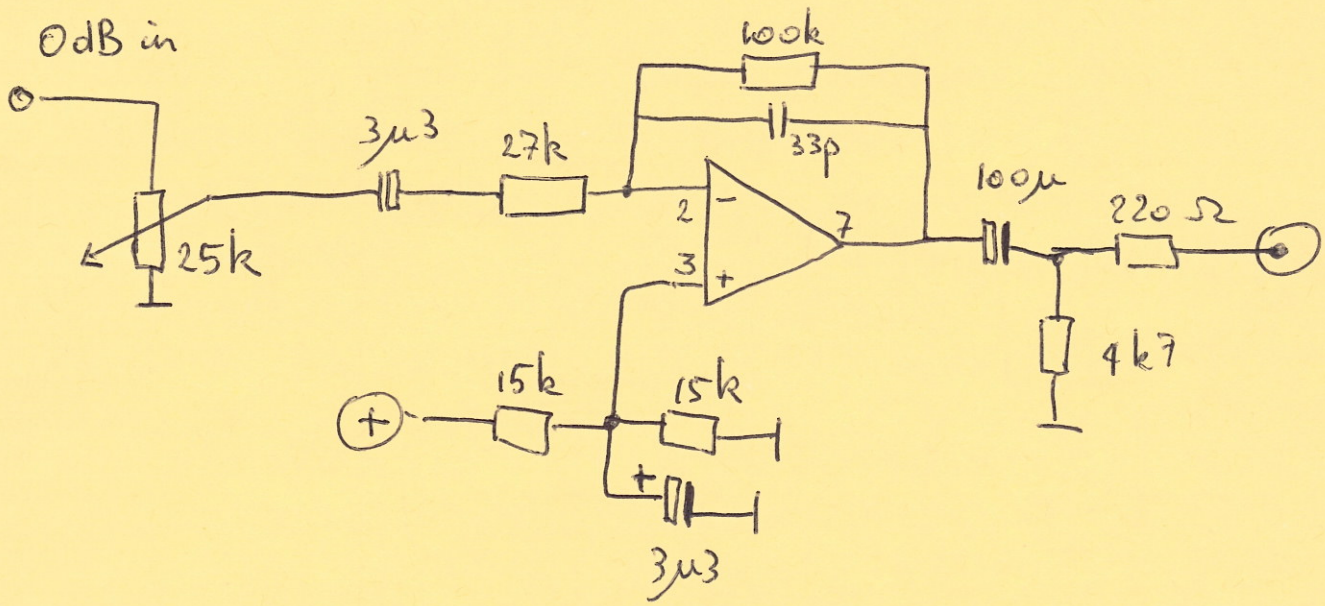




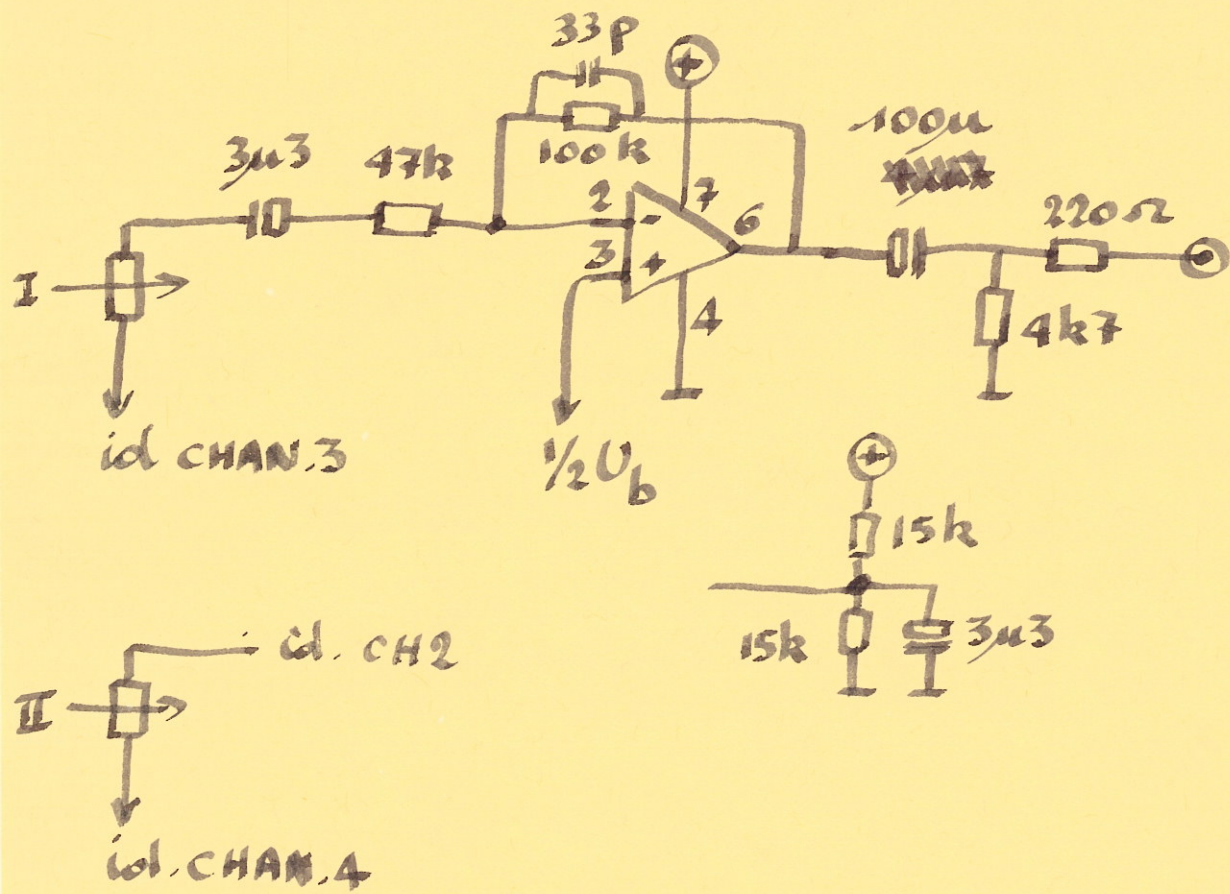


# Headphone Amp PR99

RC4558P



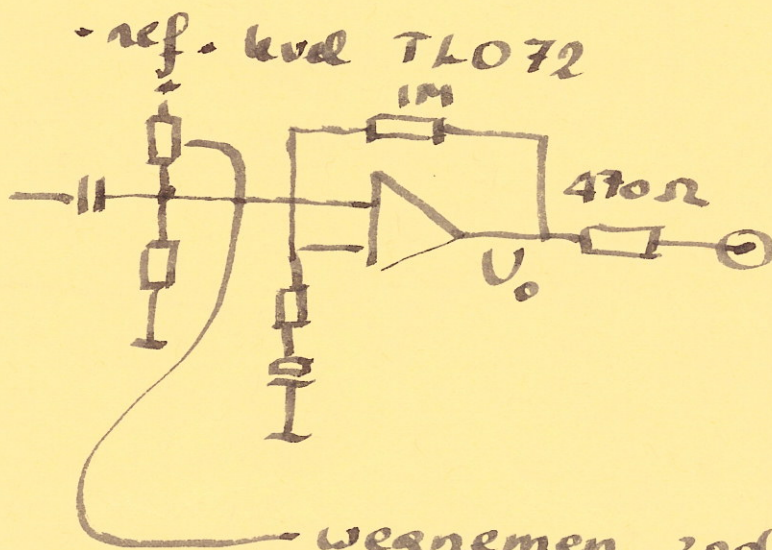
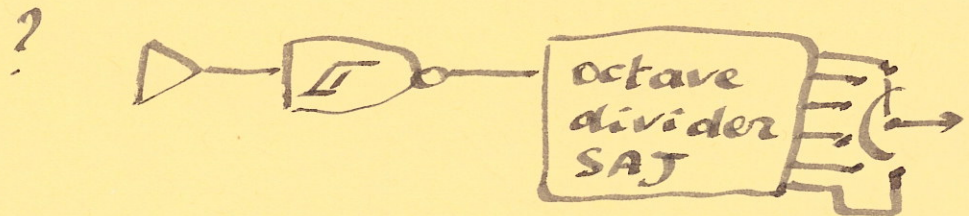






nazien: clock 1 & 2 ? draden pot's verwisseld

- massa's doorverbinden OK.
- output-versterker
- external input - control



wegnemen, zodat  $V_o$  in rust = 0V  
konditie: latch-up free op-amp.

! VCO potmeter nazien!

(VCO zelf werken)

→ pins in rust hoog laten  
op Synthe 1.

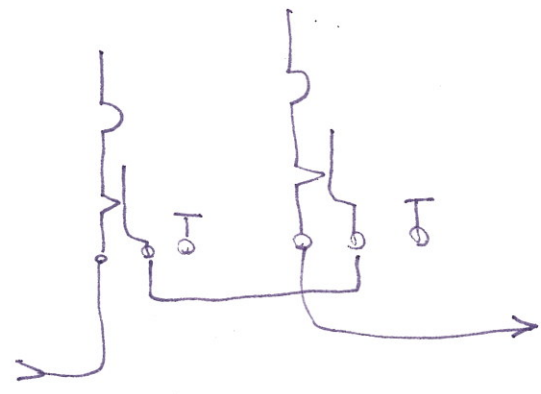
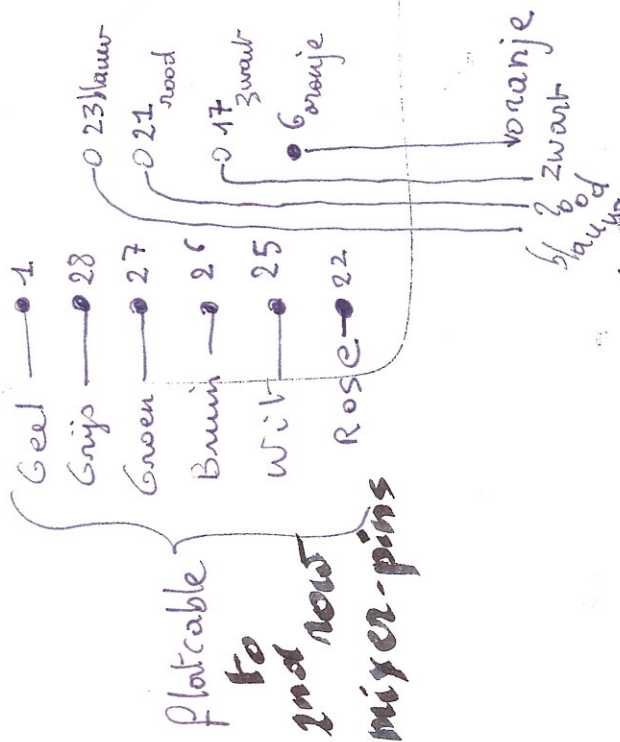
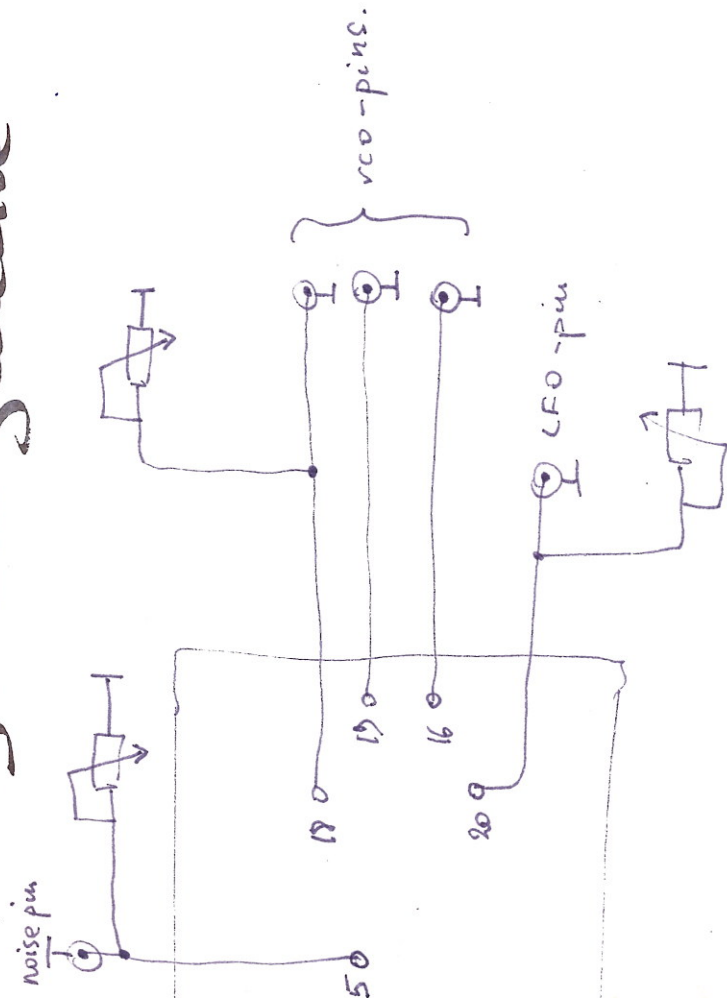






# Synthe II Seokette

bedrading minisynthe



flat cable to C-pins

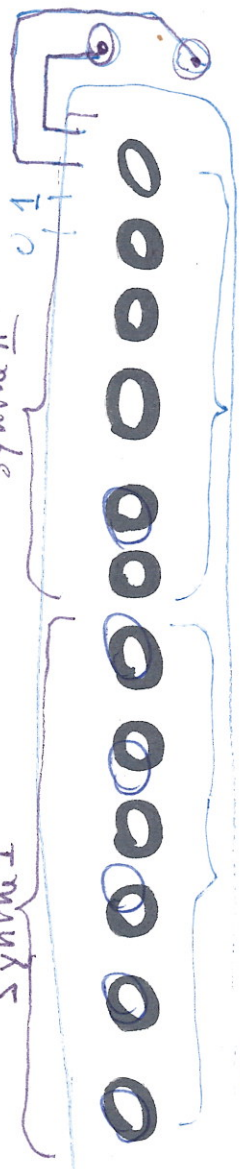




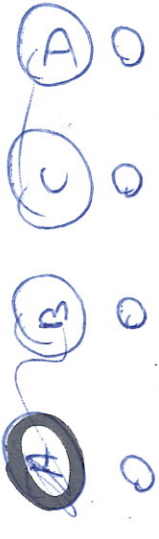


Synthe I

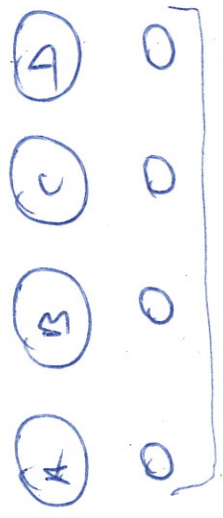
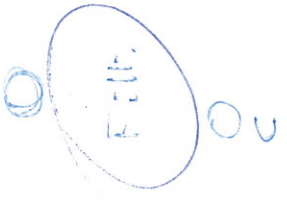
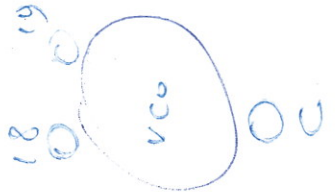
Synthe II



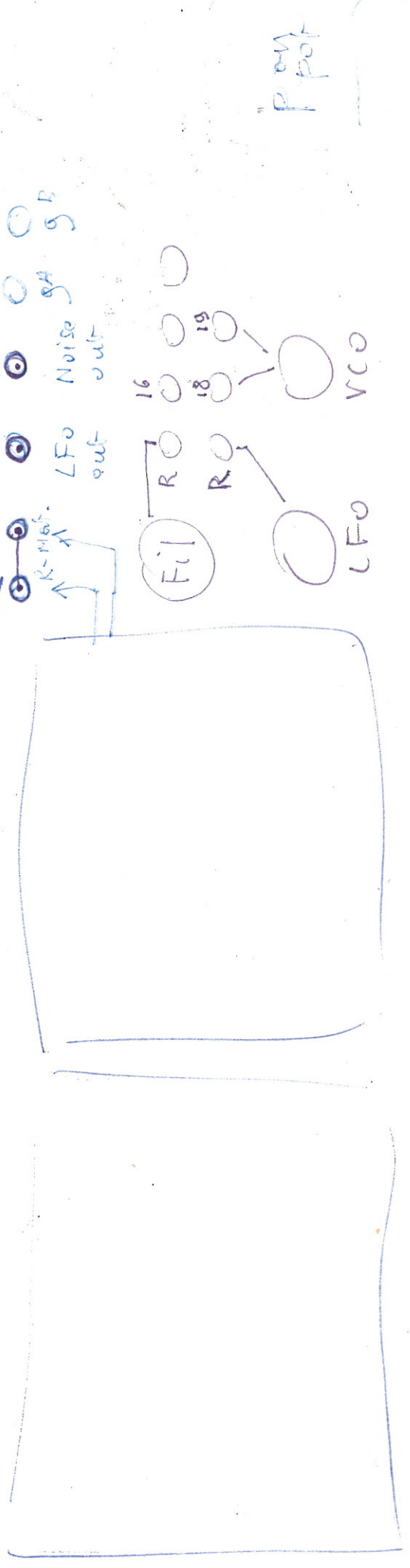
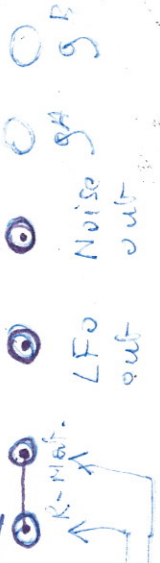
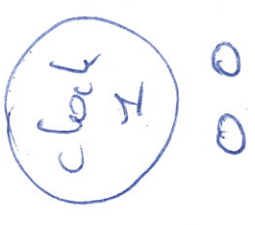
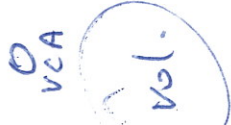
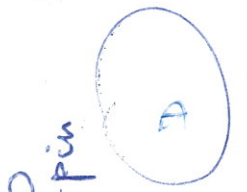
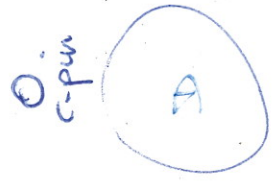
EX



Vol  
Ext. In



15 0  
5L 0





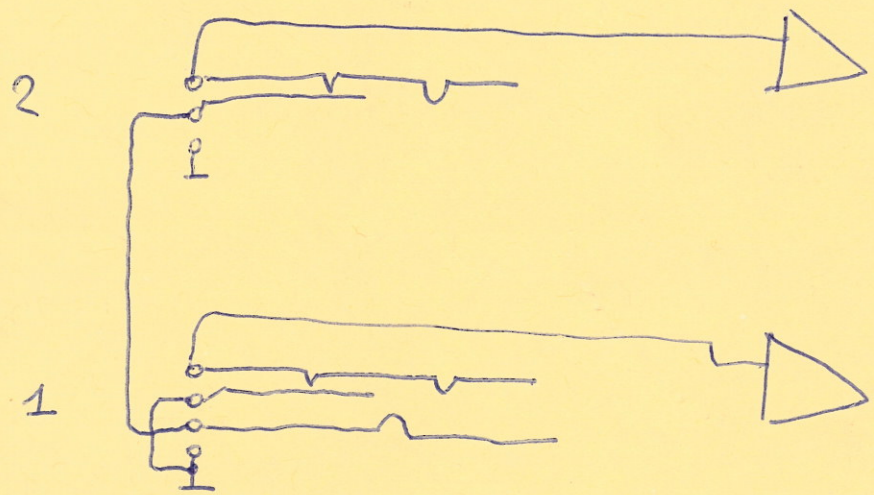
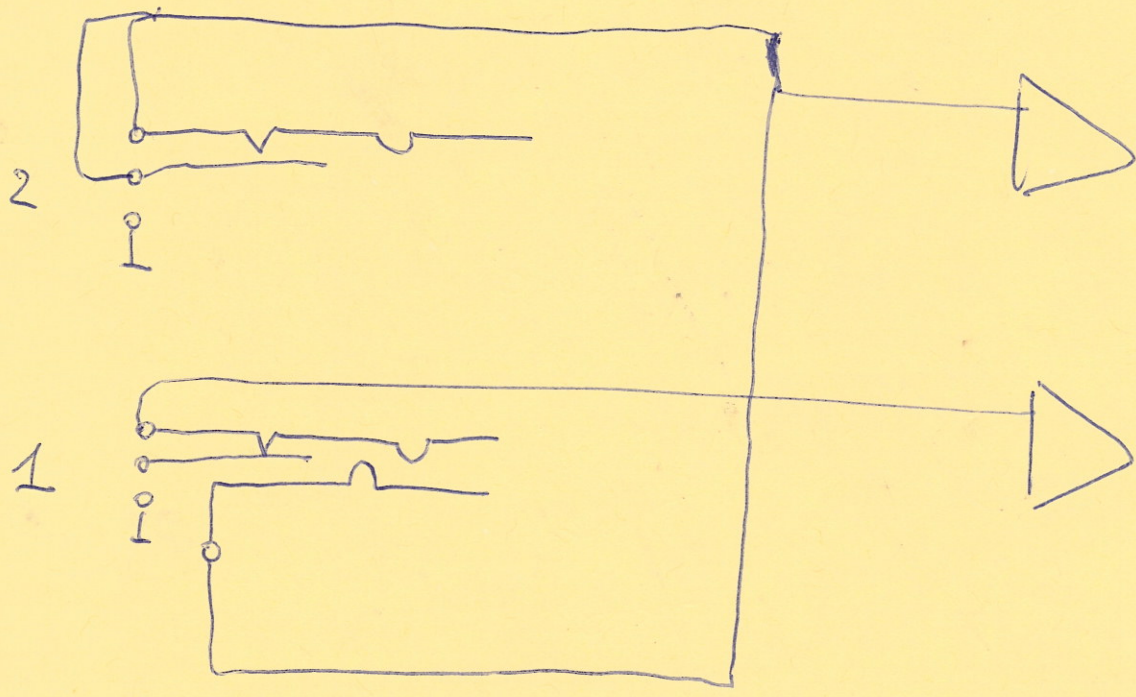
mit Kreisläufen & Anpassungen t. b. v. Punktbedarf.

\*  $\Sigma$  +15 Volt weglassen

## Preisberechnung

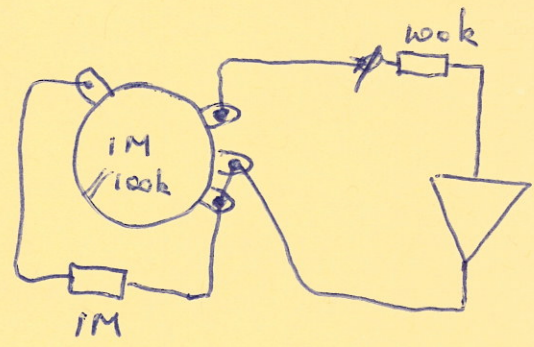
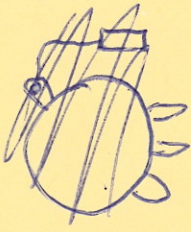
1 pot	35,-
2 minipot	80,-
kop	27,-
2 minikomp	84,-
print	100,-
IC's.	300,-
7805	40,-





Stereo Mike Jack in 1 : → stereo out  
 Mono Mike Jack in 1 : CH1 OK , CH2 : Mono = 0  
 Mono Mike Jack in 2 : CH2 OK , CH1 : Mono = 0  
 Mono jacks in 1 & 2 : CH1 OK , CH2 : OK.









○ ○ ○ ○

clock in  
[○]

clock B

lifo

lifo

vco

Noise

R  
○  
16  
vco  
c-pin

R  
○  
18  
19

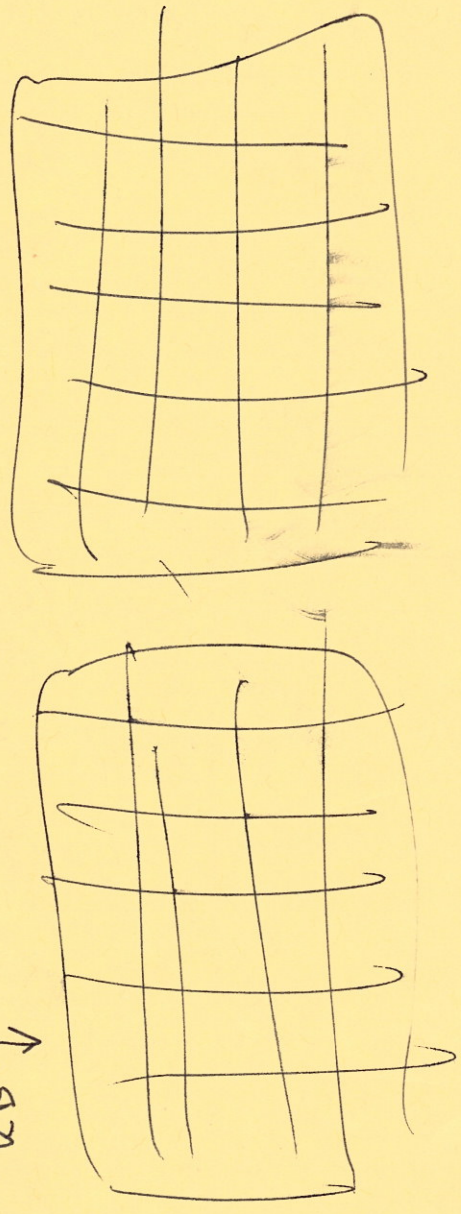
R  
○  
c-pin

○ in  
[○]  
↑

clock A

○ ○ ○ ○ ○ ○

preset  
KB →



lfo out

noise out

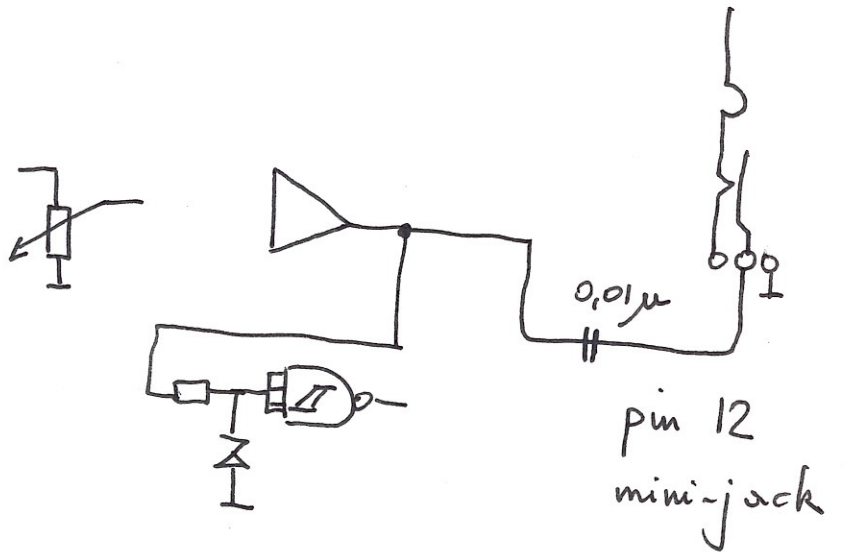
vco matrix out

R matrix out

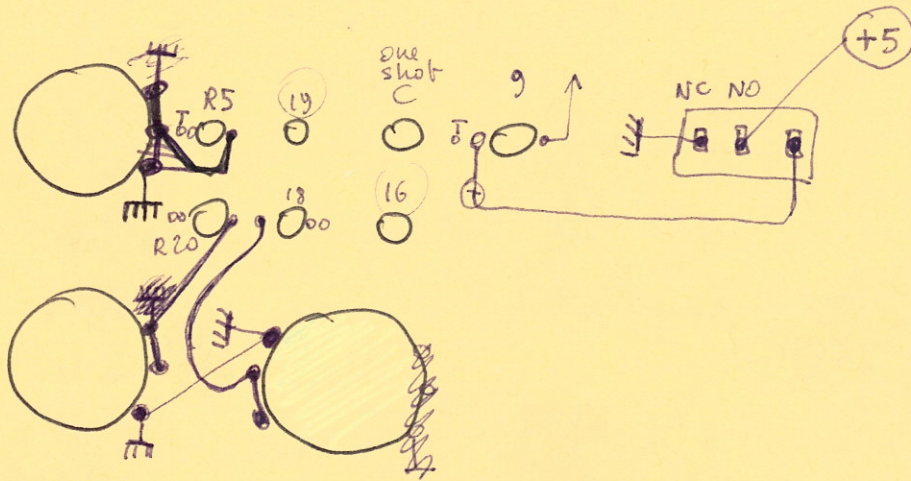
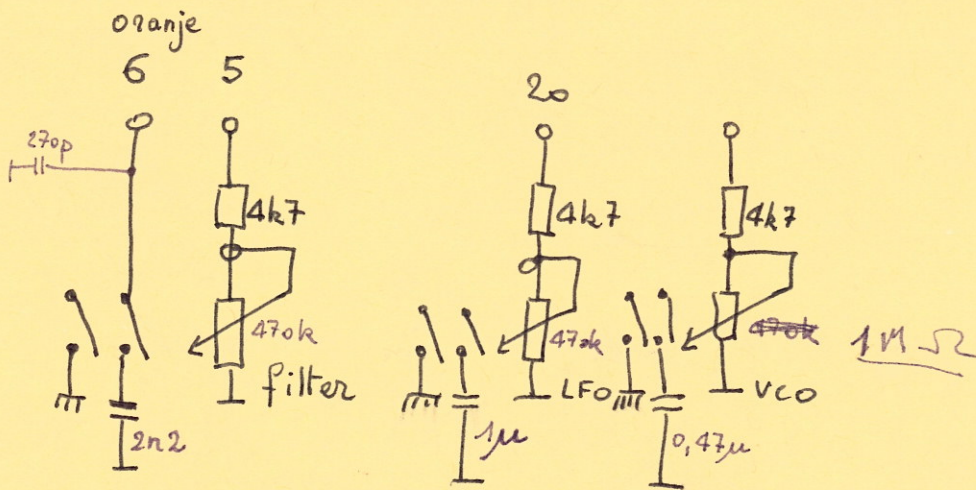
○ ○ ○ ○  
○ ○ ○ ○  
○ ○ ○ ○



External input







onderdelenzijde

15 februari  
 • Vaise projekt  
 Poème Electronique  
 1958  
 + rekonstruktie  
 Philips  
 paviljoen

← BRT  
 dokumentatie

\* circle.

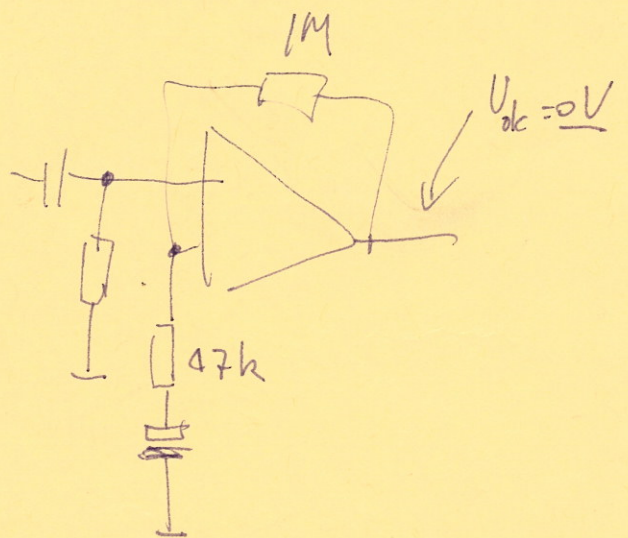
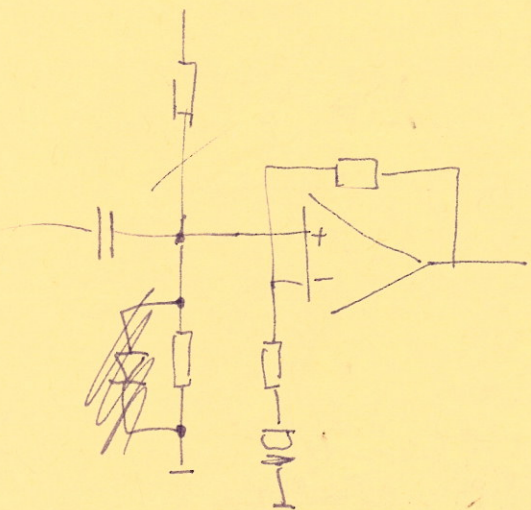
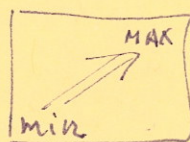
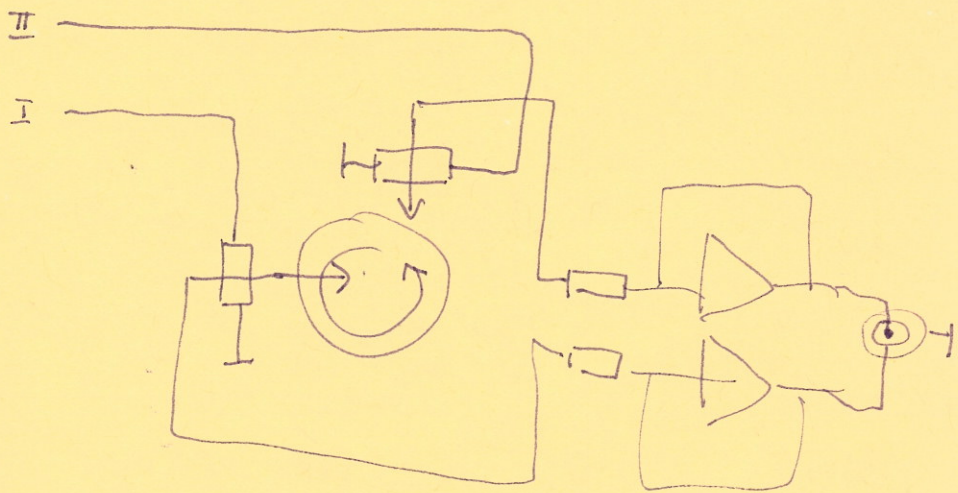


11 februari

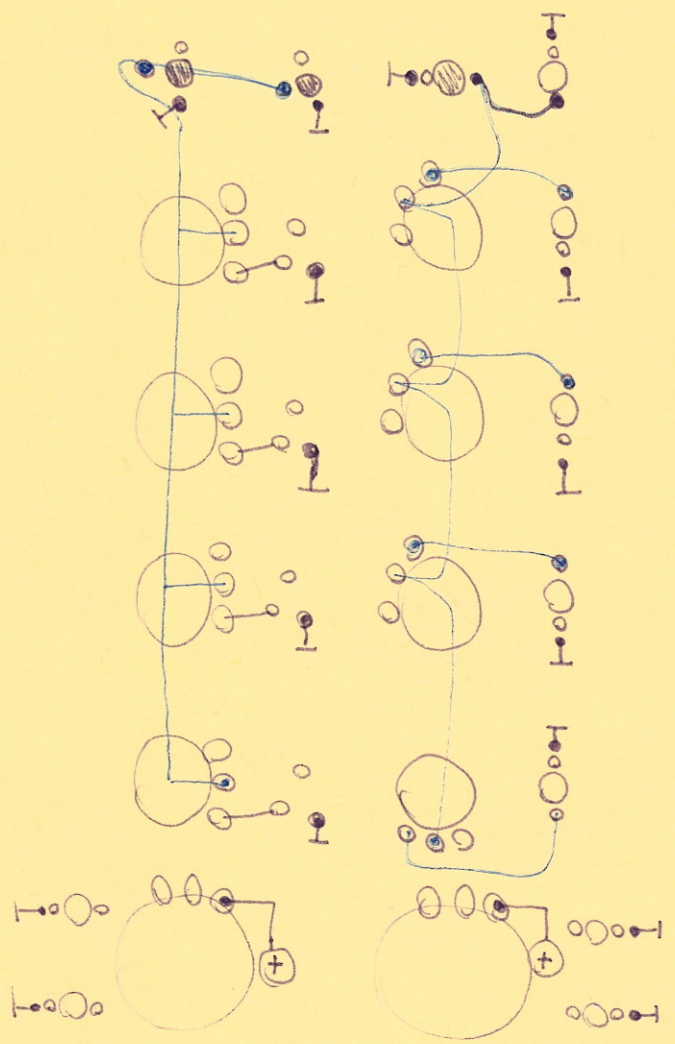
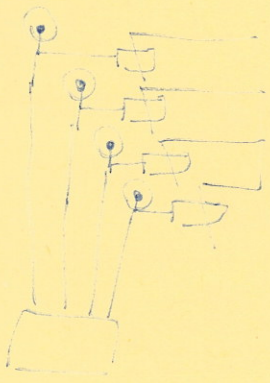








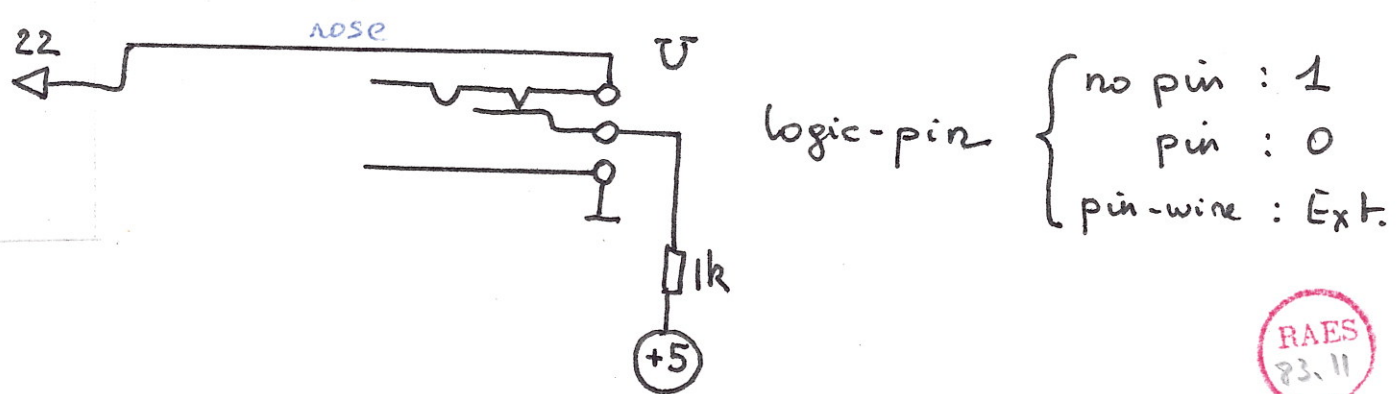
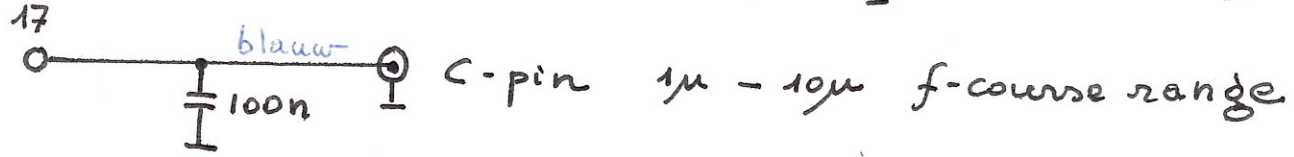
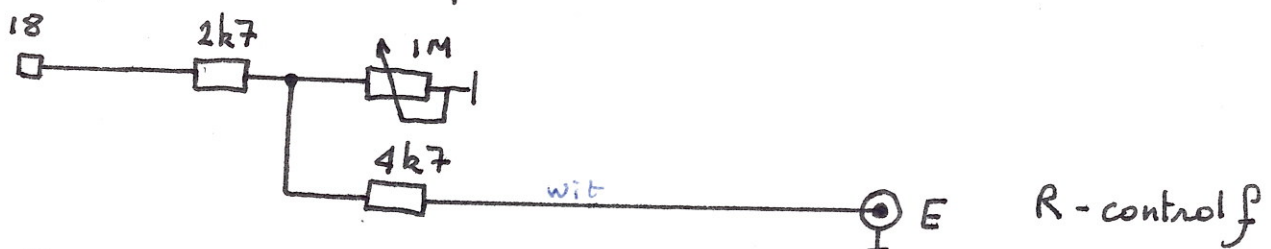
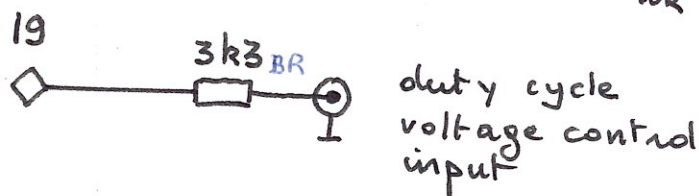
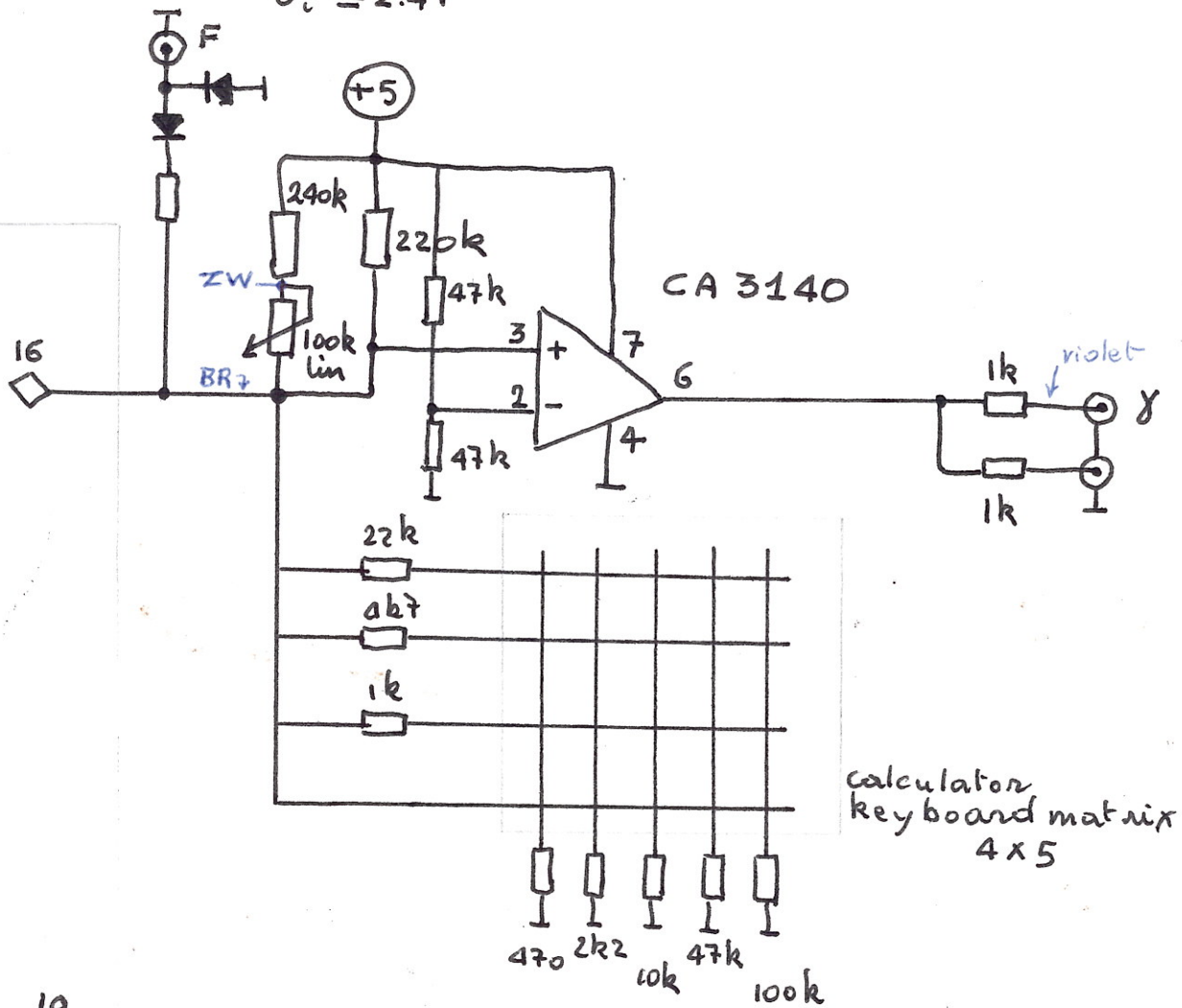






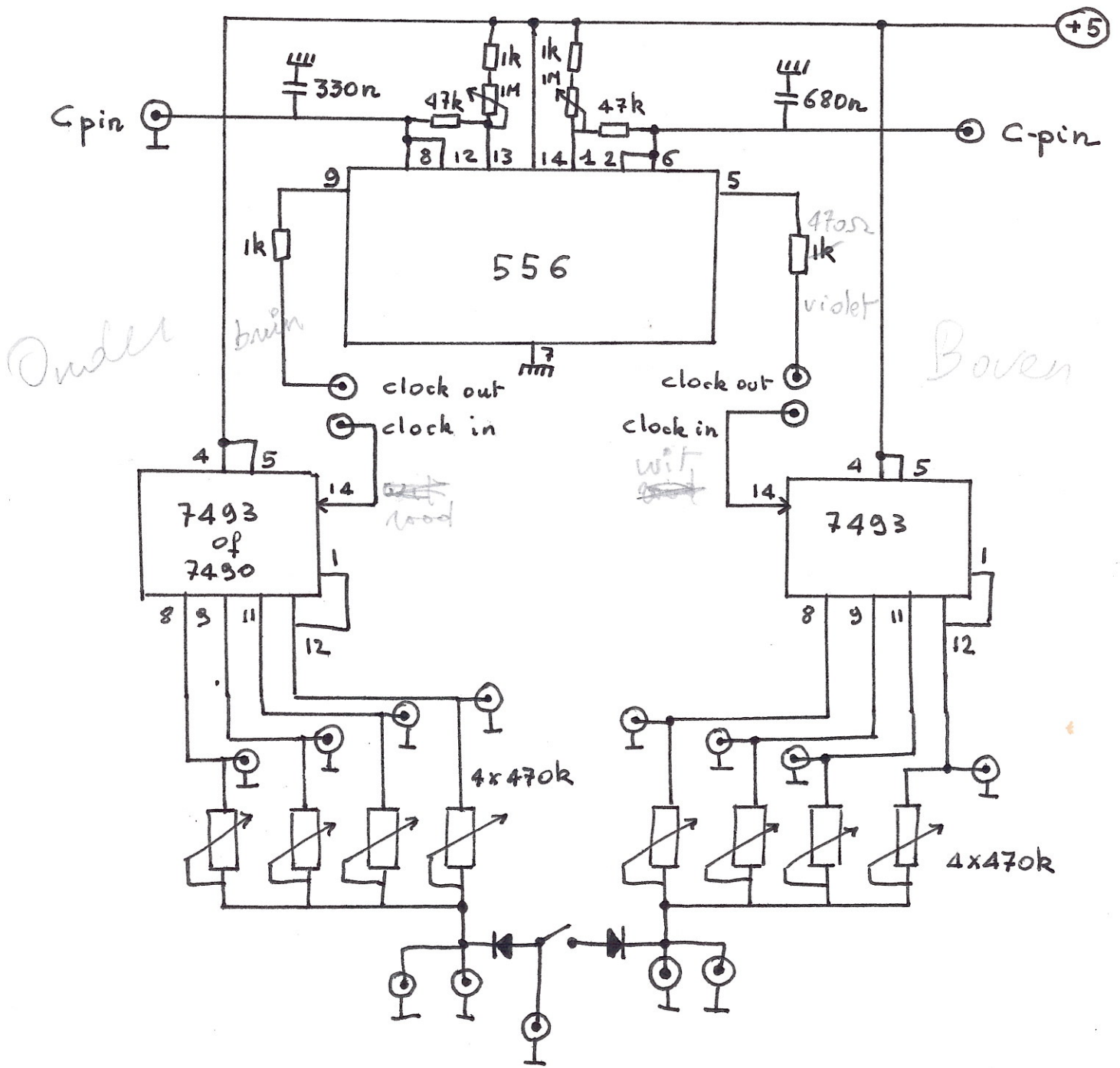
V.C.O.

$U_i \leq 2.4V$



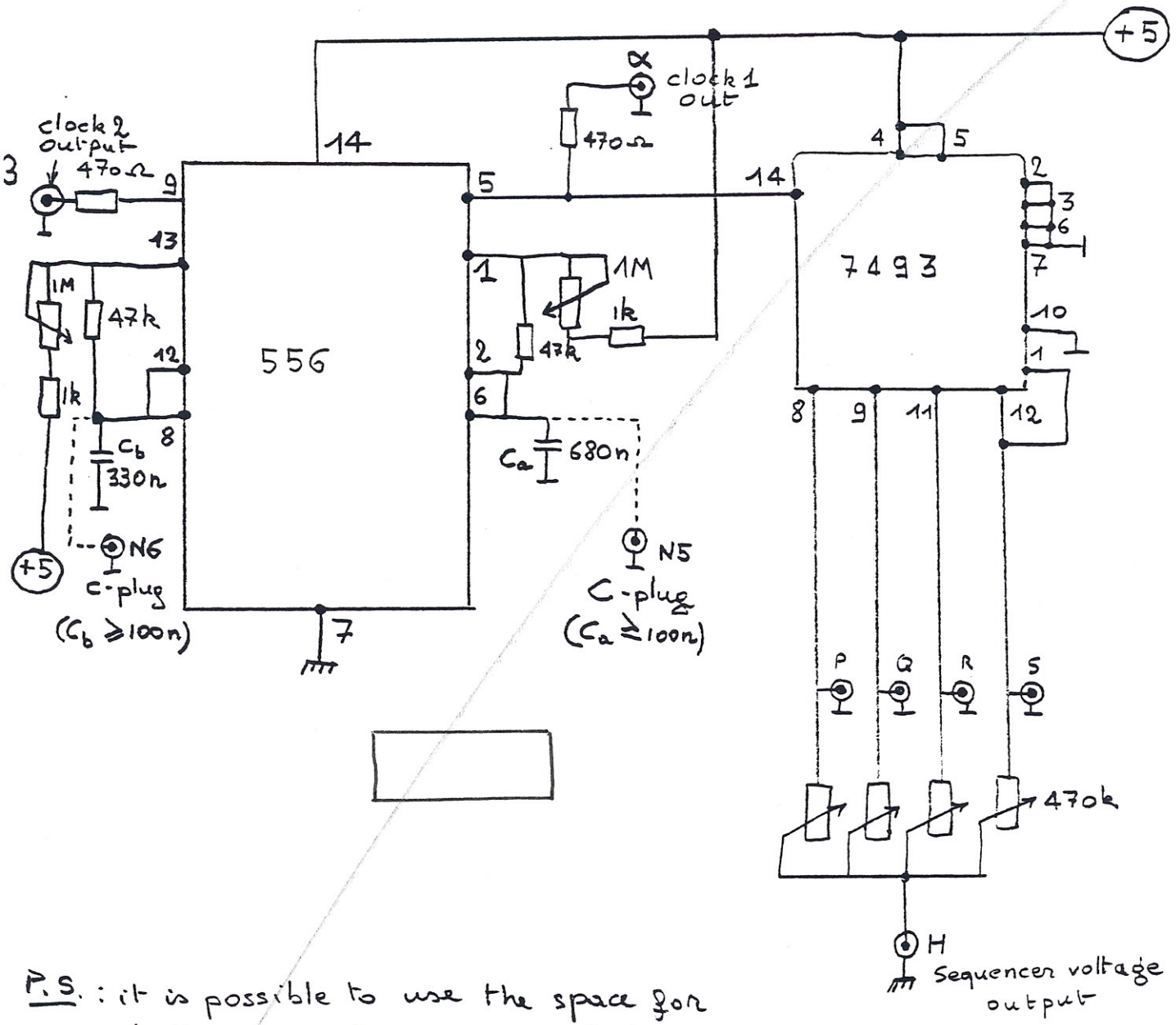


# SEQUENCER





# SEQUENCER



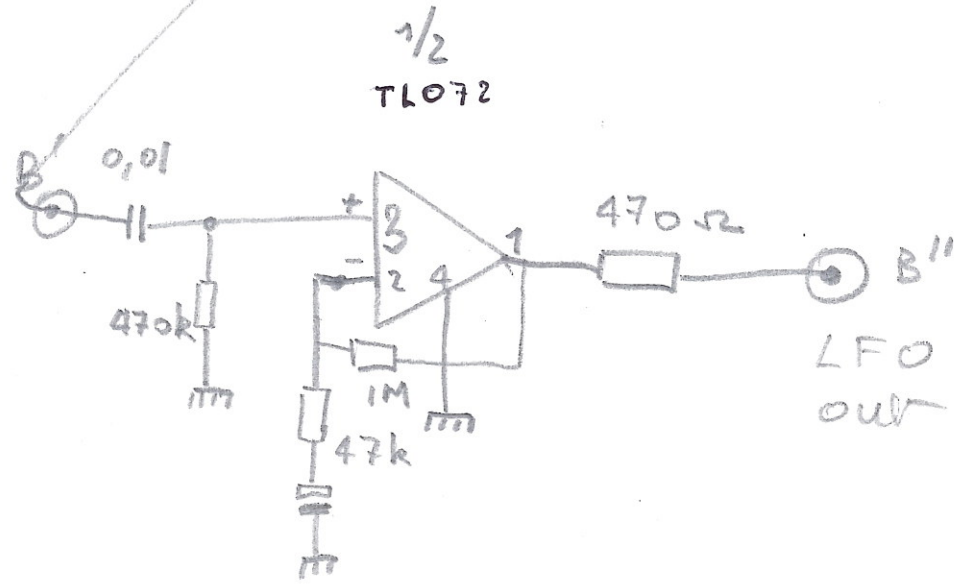
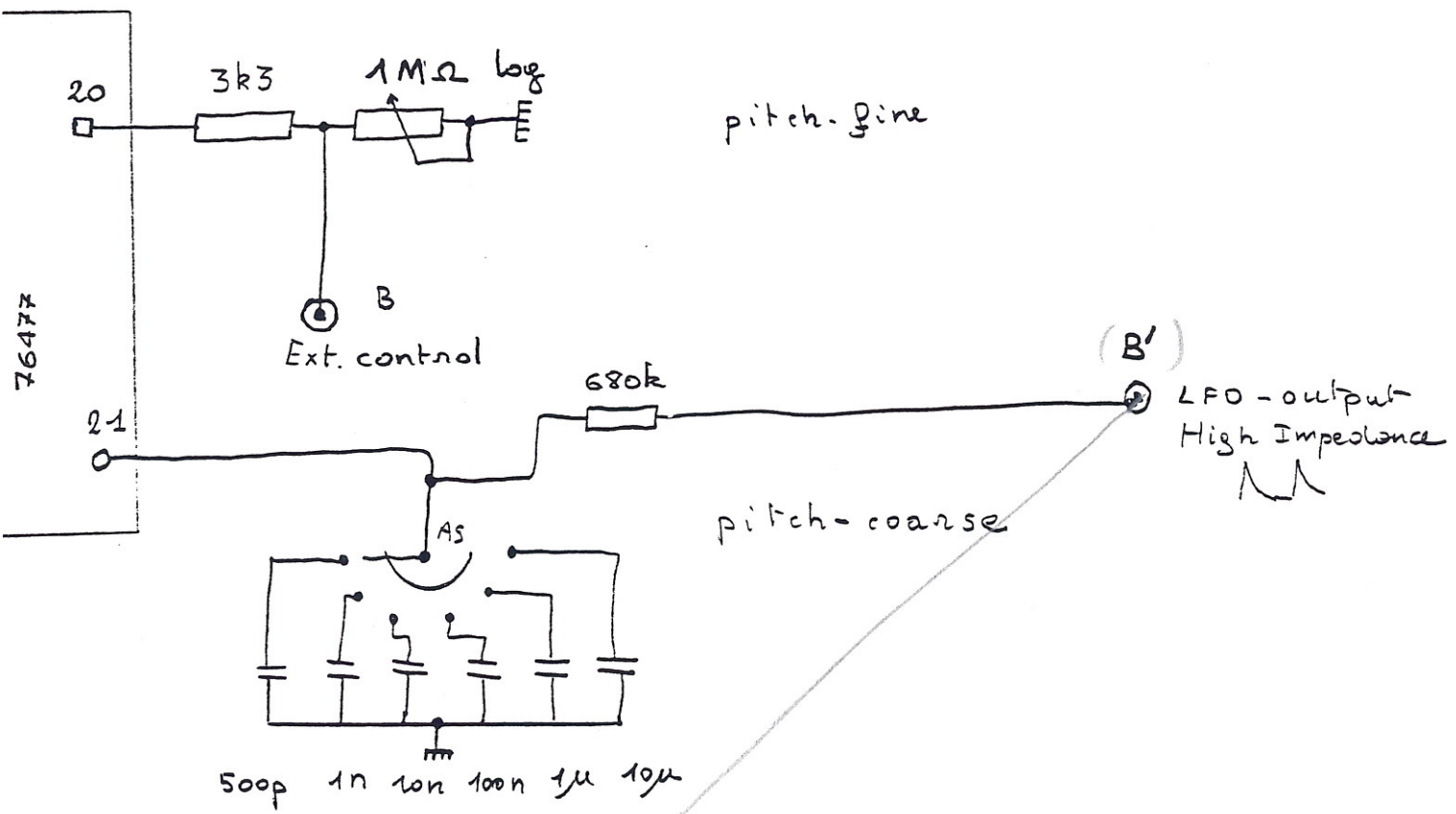
P.S. : it is possible to use the space for 1 I.C. to make a second 13CD sequencer. Use of 7490 chip results in different patterns.







# LFO



**STICHTING LOGOS**  
 instelling van apparatuur met  
 Kongestraat 30  
 B-9000 Gent  
 tel. 091-23.80.89

32.96

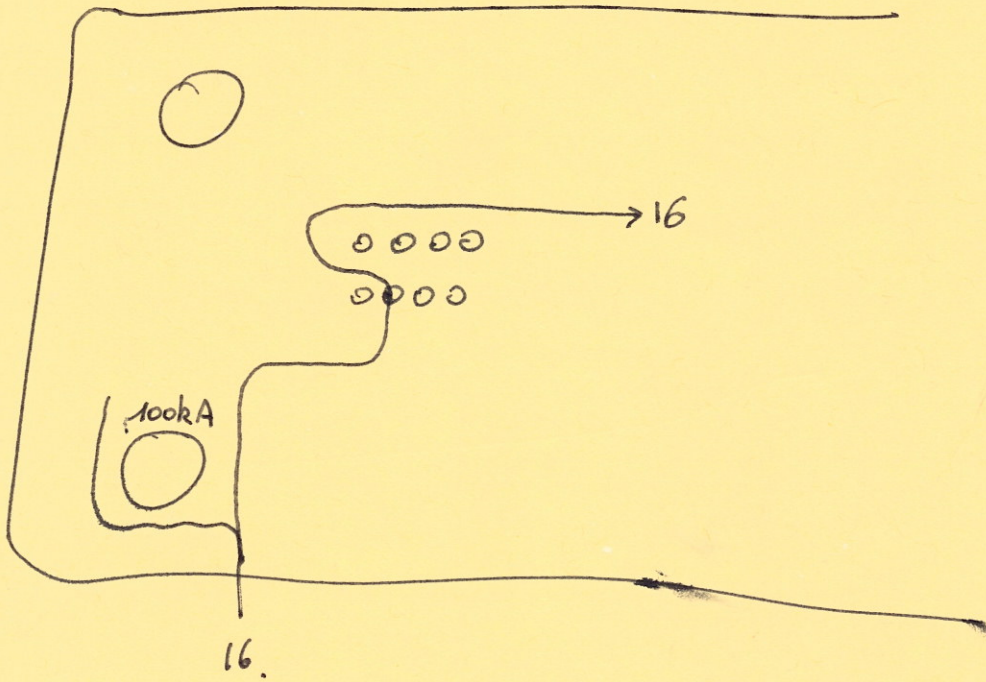




$\Delta's$

\* vco - deel :

pin 2 v6d CA 3140 met 47k naar massa!



Stichting Logos



S Y N T H E L O G III

Type 82.9

Bouwinstructies

Synthelap III

Plexicover

83.11.



Bouwinstructies

## Gebruikte I.C.'s :

SN 76477  
LM 317  
7805  
556  
7493  
7493  
CA 3140  
LF 353  
LM 380

## Diodes :

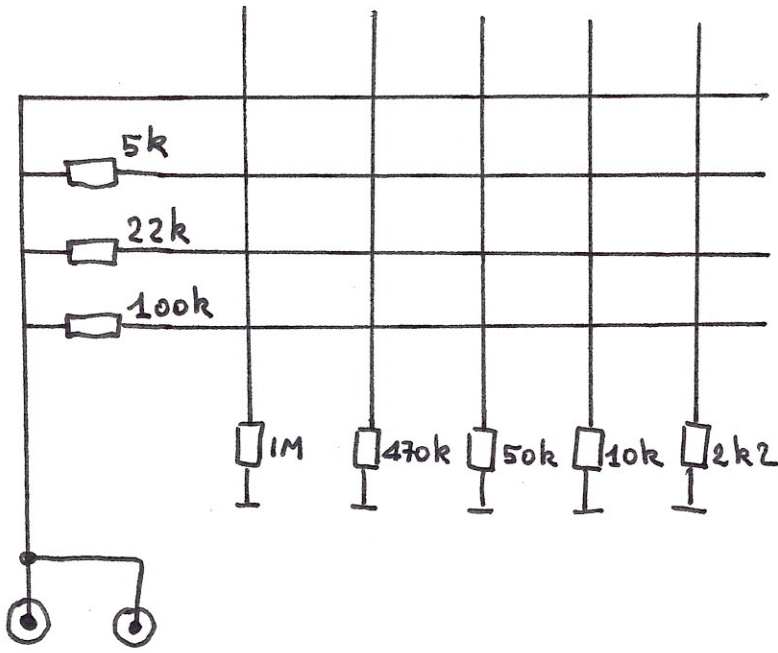
5 stuks 1N4007

## Potmeters:

1 M ohm	vco log.
1 M ohm	lfo log.
470 k ohm	filt.log.
47 k ohm	volume , log.
47 k ohm	vco-preset KB. log
4,7k ohm	trimpot voeding
220kohm	attack log.
1 M ohm	decay log
470 k ohm	hold log
1 M ohm	clock log.
1 M ohm	clock 2 log.
4x 470kohm	sequencer 1 , log.
4x 470kohm	sequencer 2 , log.
ad. lib.:	
100ohm	reverb send
10 k	reverb return , log.



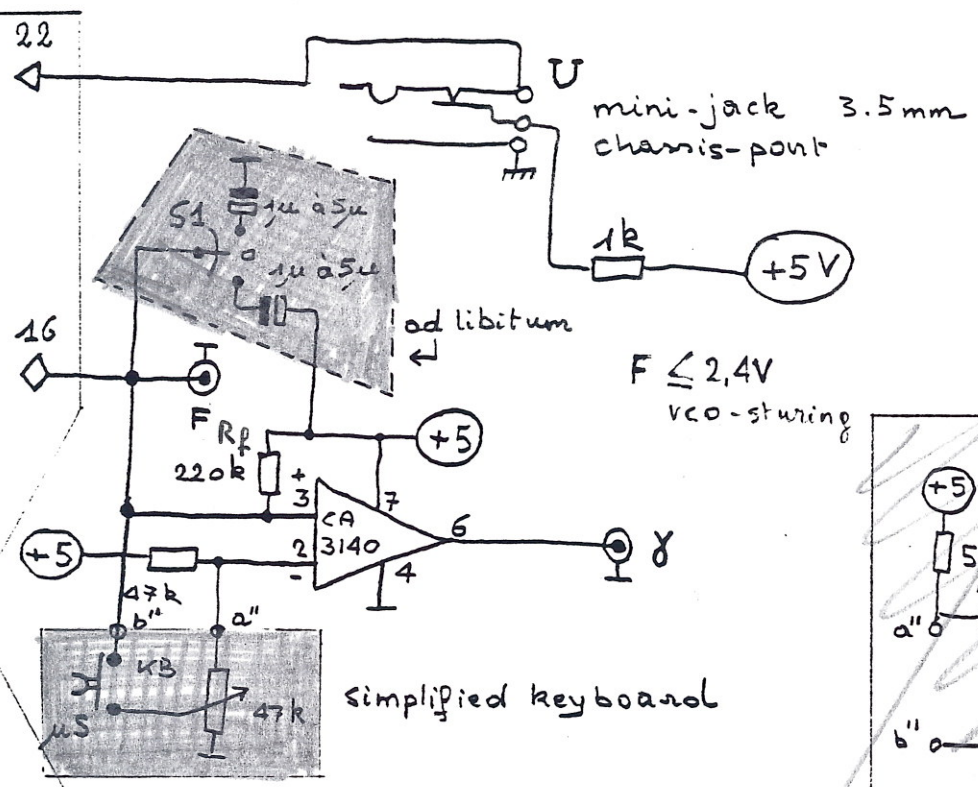
# MATRIX KEYBOARD



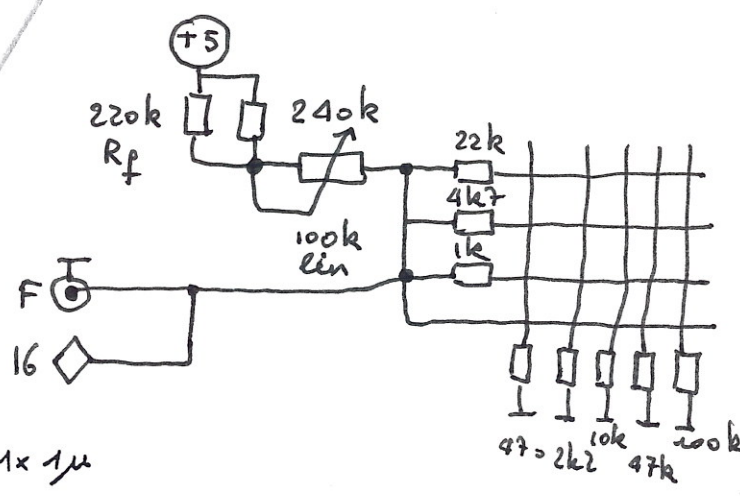
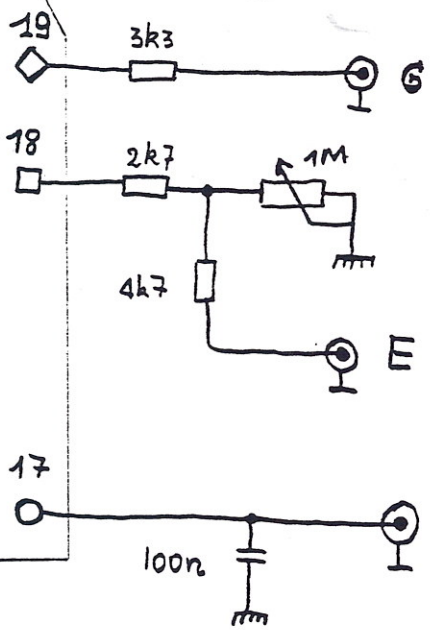
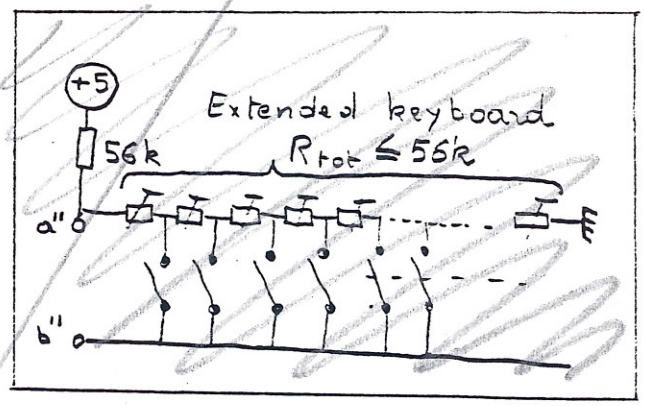
↓  
E, B, C, A



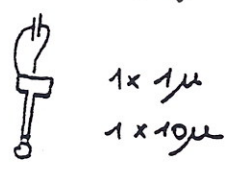
VCO



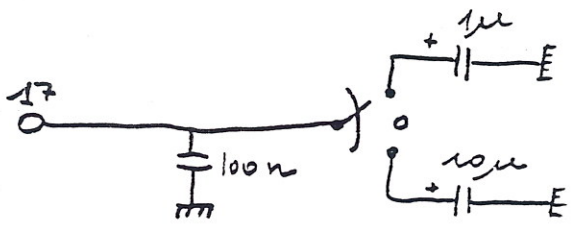
ZONDER PIN: logisch 1  
 MET PIN: logisch 0  
 MET PIN & DRAAD: Extern



C-pin  
N1

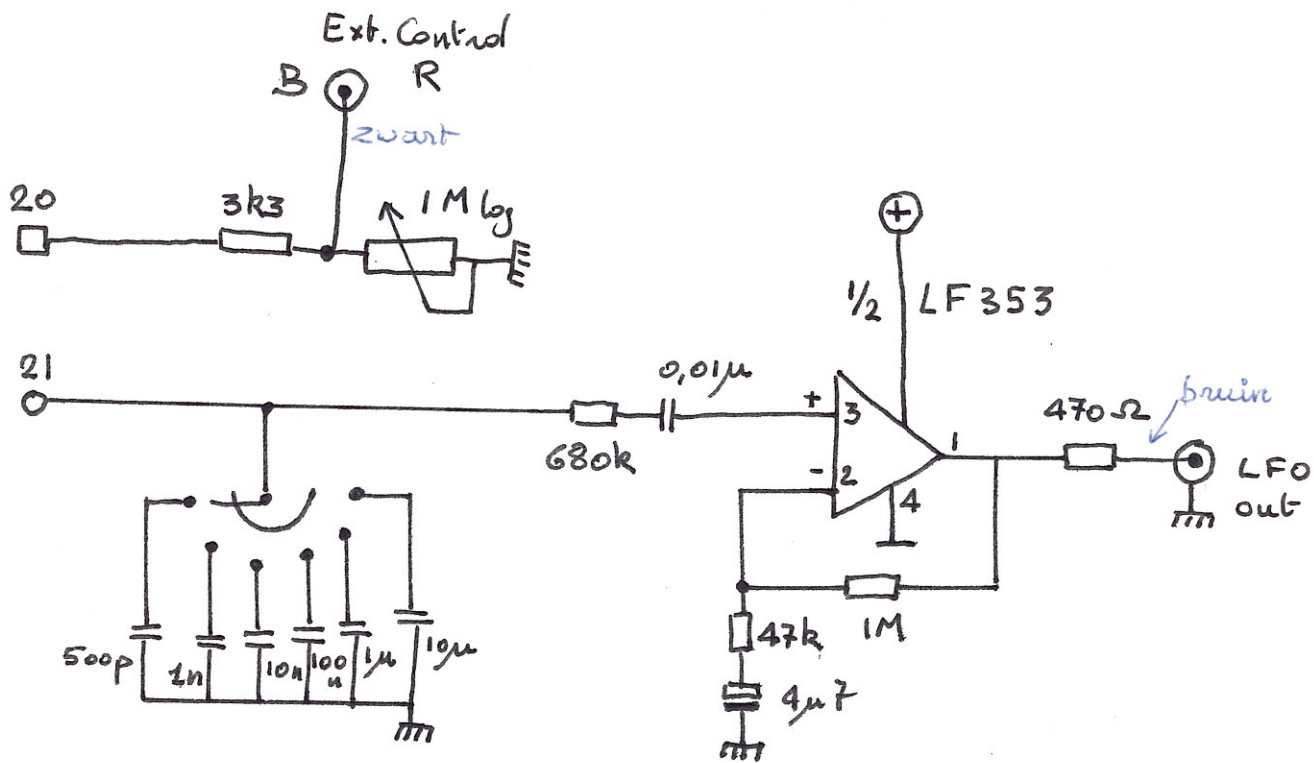


OR :



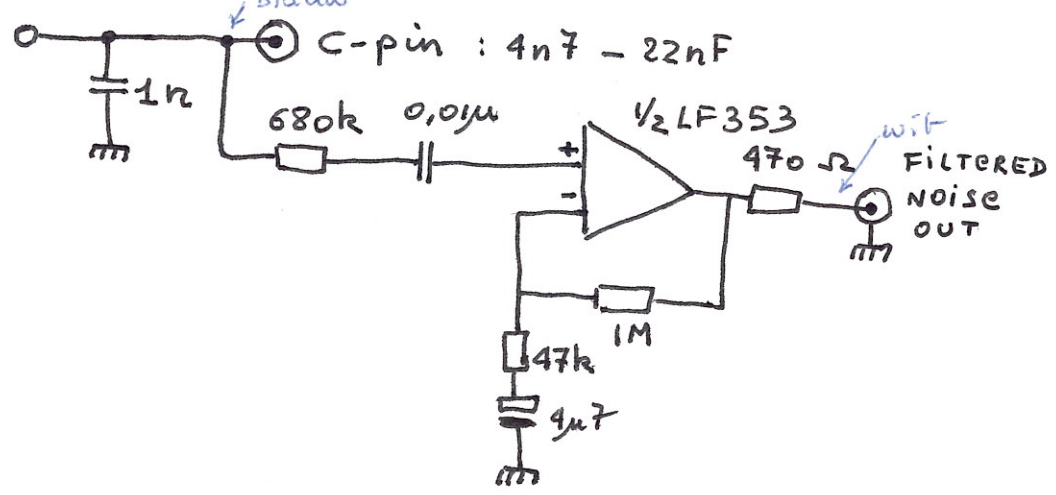
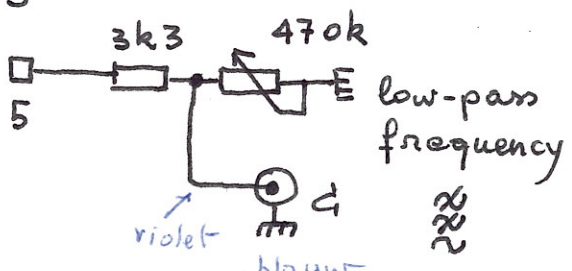
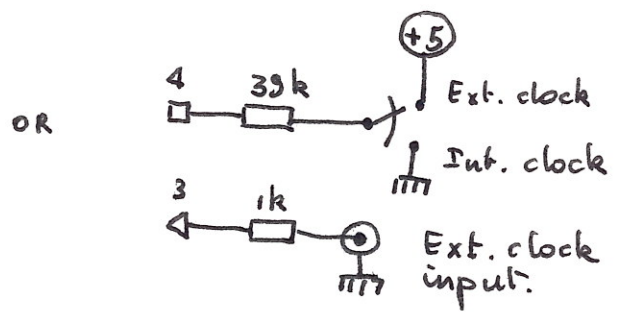
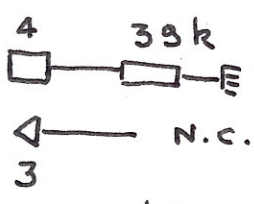
76477

L.F.O.

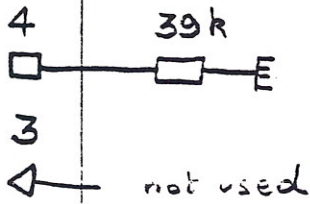




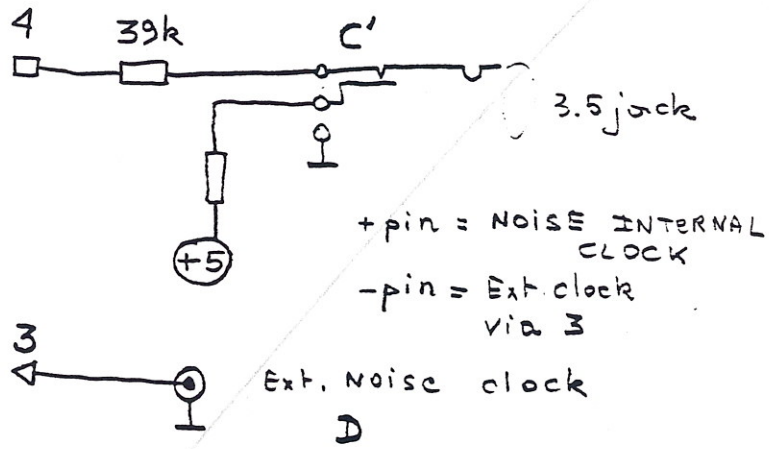
# NOISE & FILTER



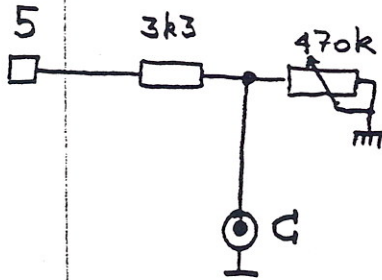
NOISE & FILTER



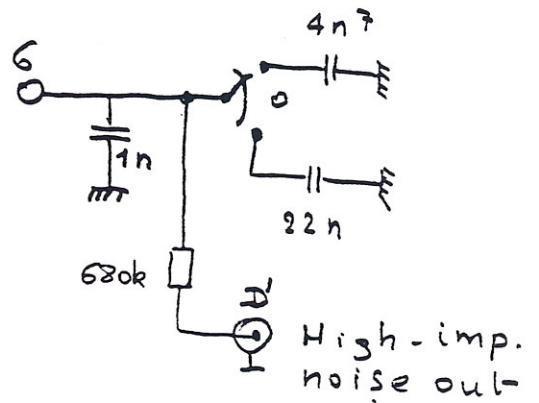
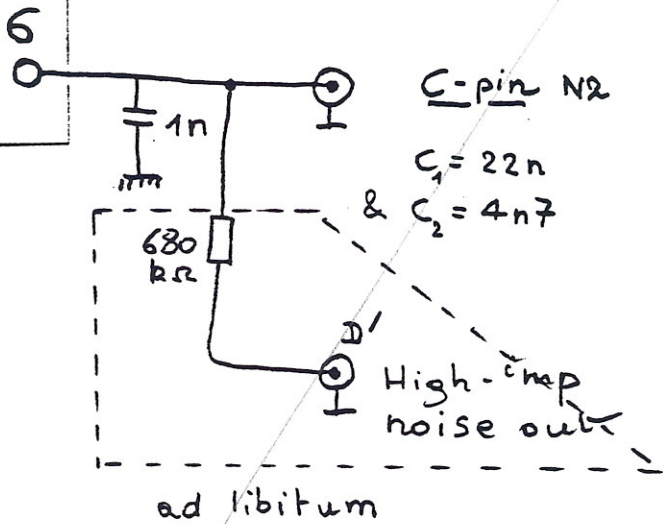
OR



76477



OR



**STICHTING LOGOS**

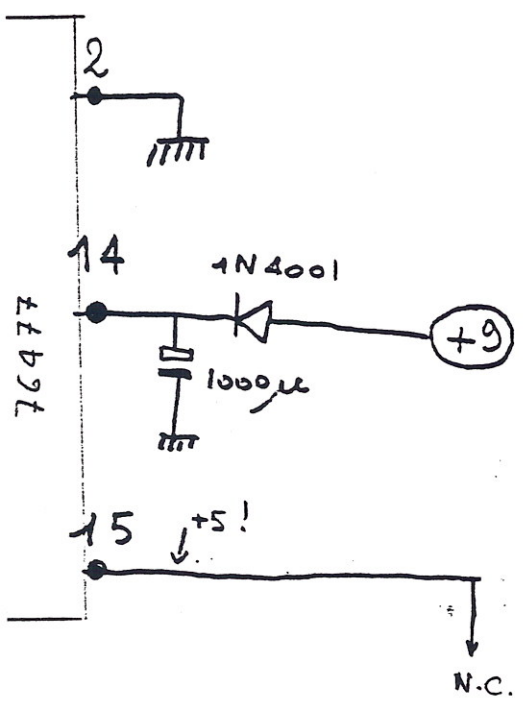
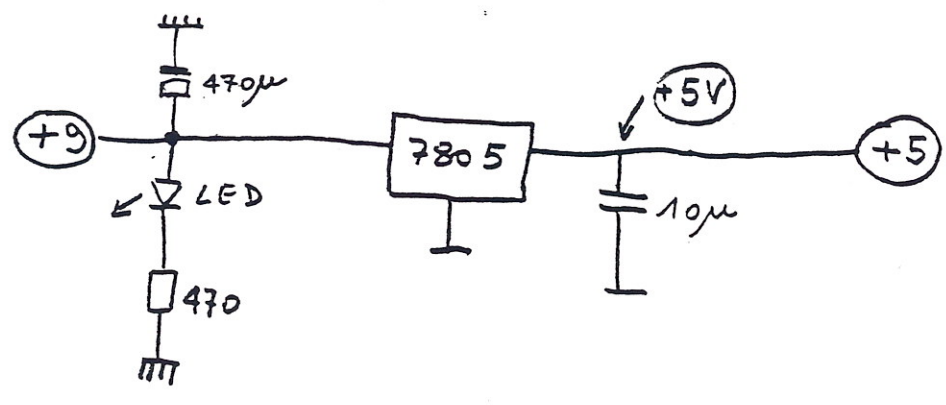
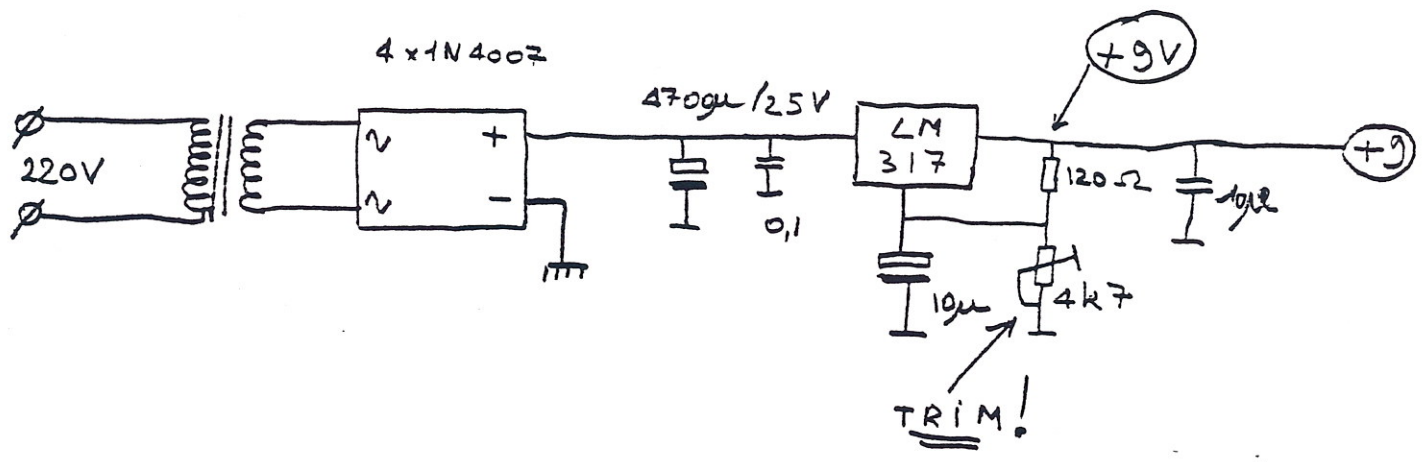
Instelling van openbaar nut  
Kongestraat 35  
B-9000 Gent  
tel. 091-23.80.89

82.99

RAES  
0222



# POWER SUPPLY

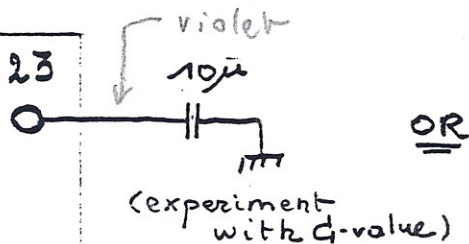


controle: +5V! internal power supply 76477.

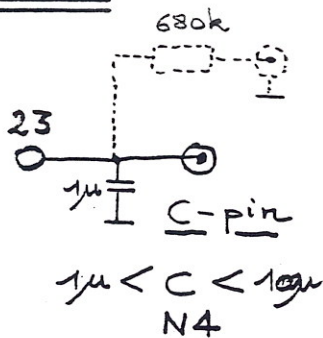
**STICHTING LOGOS**  
 instelling van openbare nut  
 Kongestraat 30  
 B-9000 Gent  
 tel. 091-23.80.89



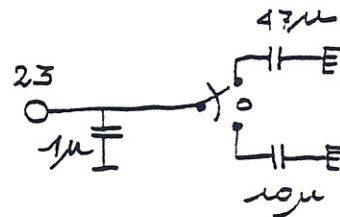
# ONE SHOT & ENVELOPE



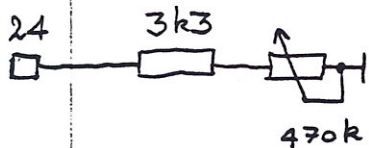
OR



OR

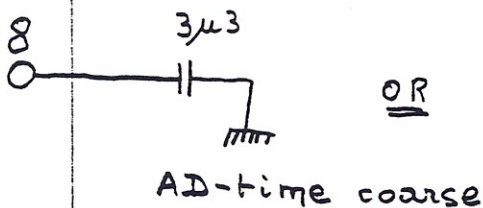


Hold-time coarse

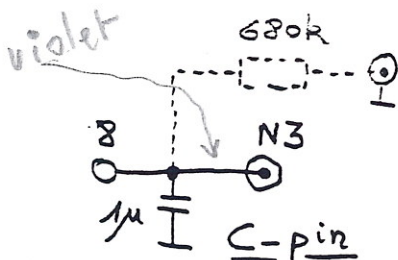


Hold-time fine (one shot)

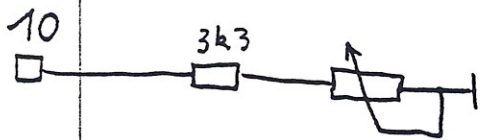
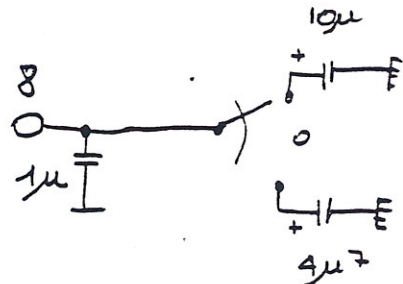
76477



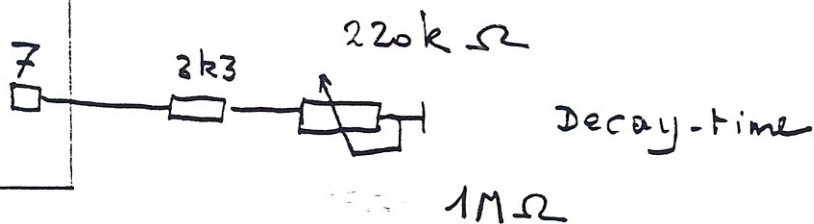
OR



OR



Attack-time



1MΩ

STICHTING LOGOS

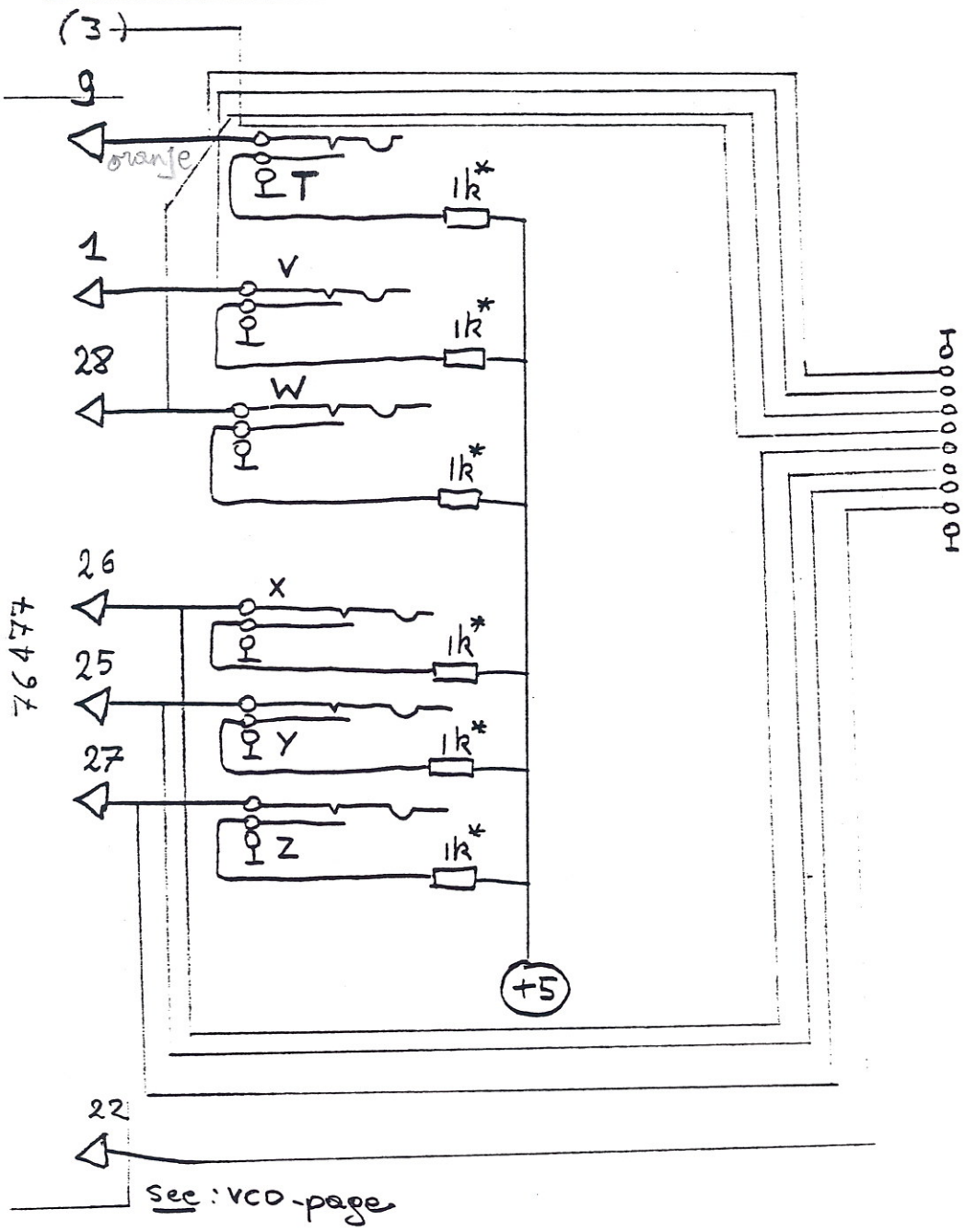
instelling van openbaar ant  
Kongestraat 35  
B-9000 Gent  
tel. 091-23.80.89







# LOGIC - CONTROL



µP-bus  
 or RAM-memory  
 read-write 3-state  
 logic

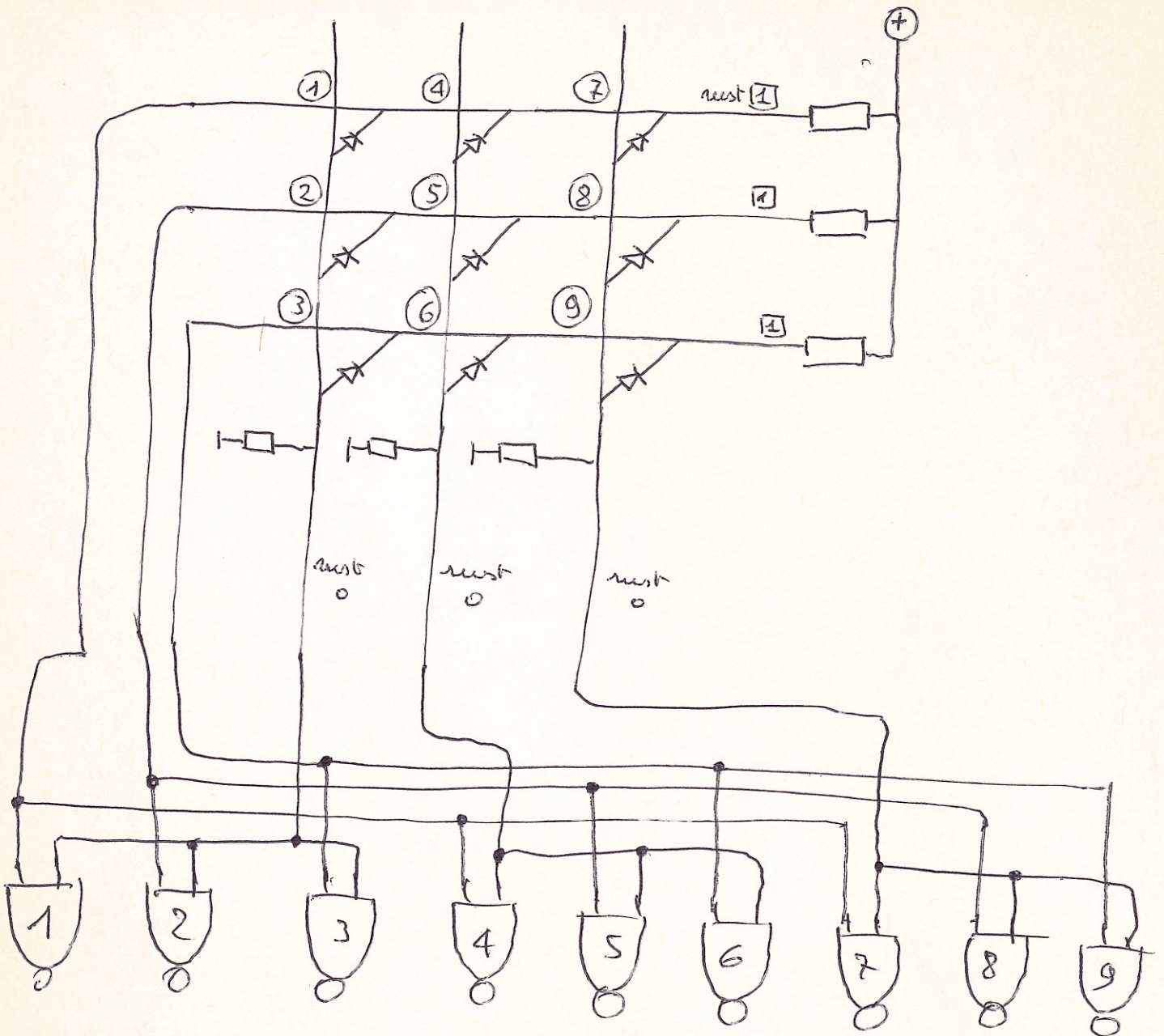
\* For µP interfacing,  
 higher values may  
 be required.  
 (OR) when µP is used,  
 plugs should be  
 inserted in the  
 sockets.

**STICHTING LOGOS**  
 Instelling van openbaar nut  
 Kongostreet 10  
 B-9000 Gent  
 tel. 091-23.80.89

82.9  
 RAES  
 0282



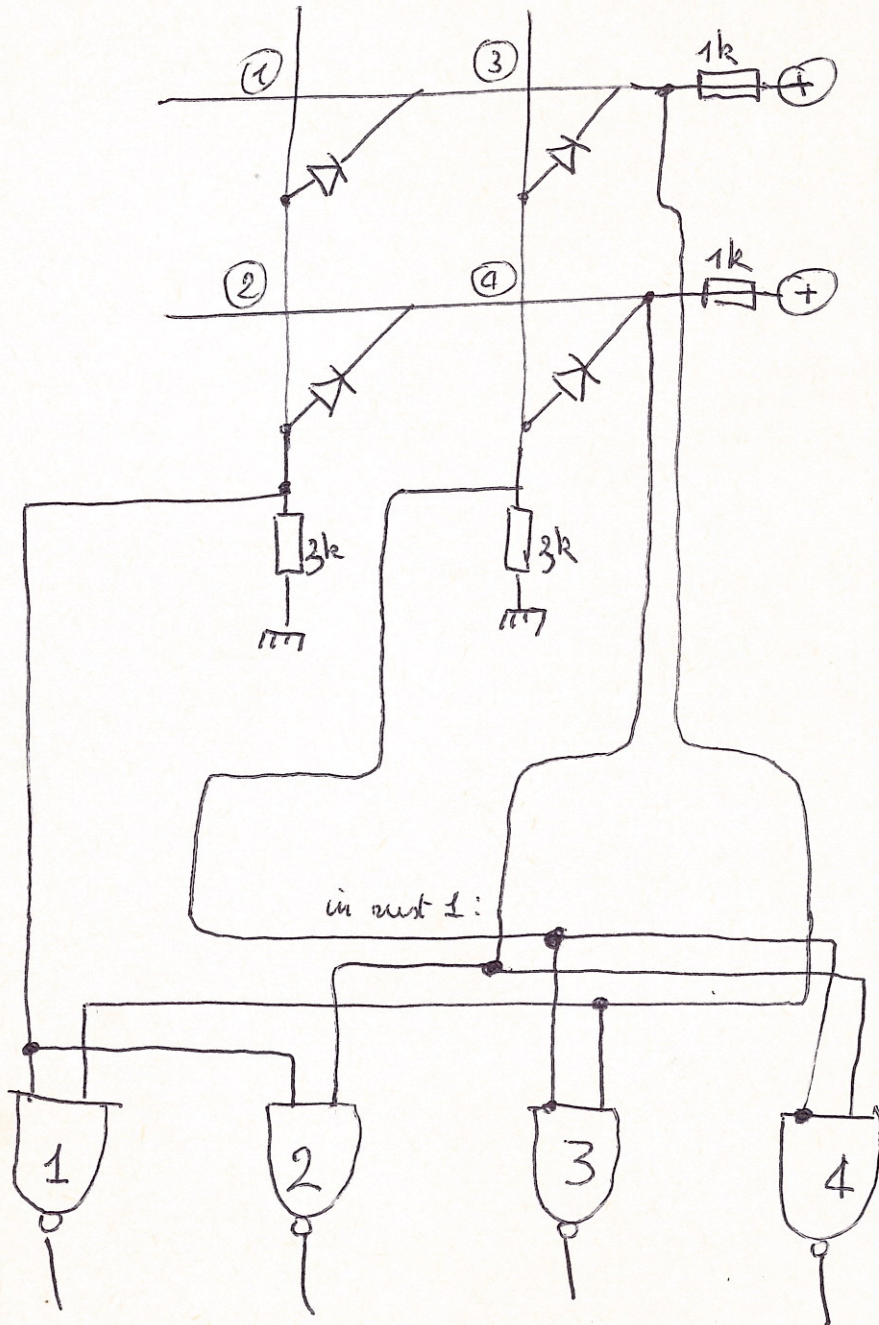
3 x 3 matrix.





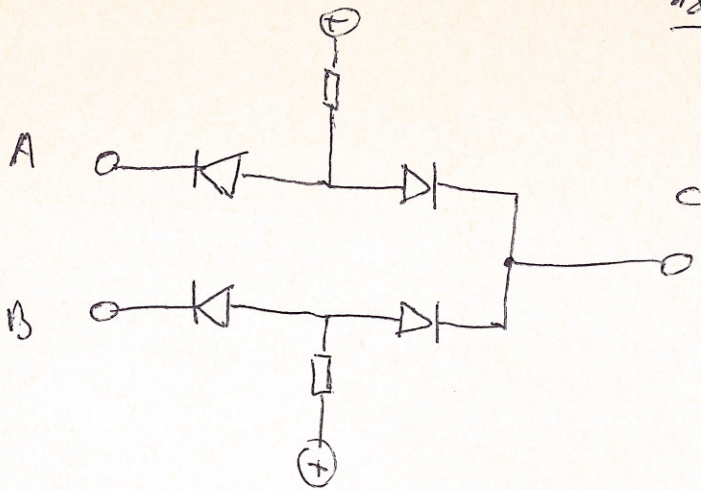
2 x 2 matrix.

in rest 0 :

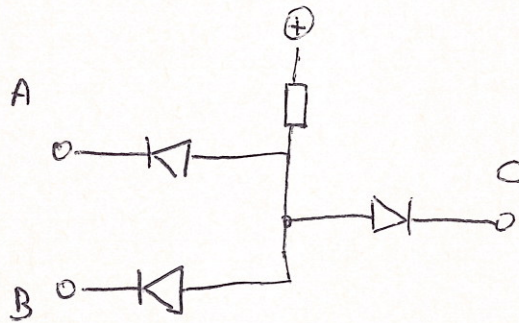




~~AND~~ OR



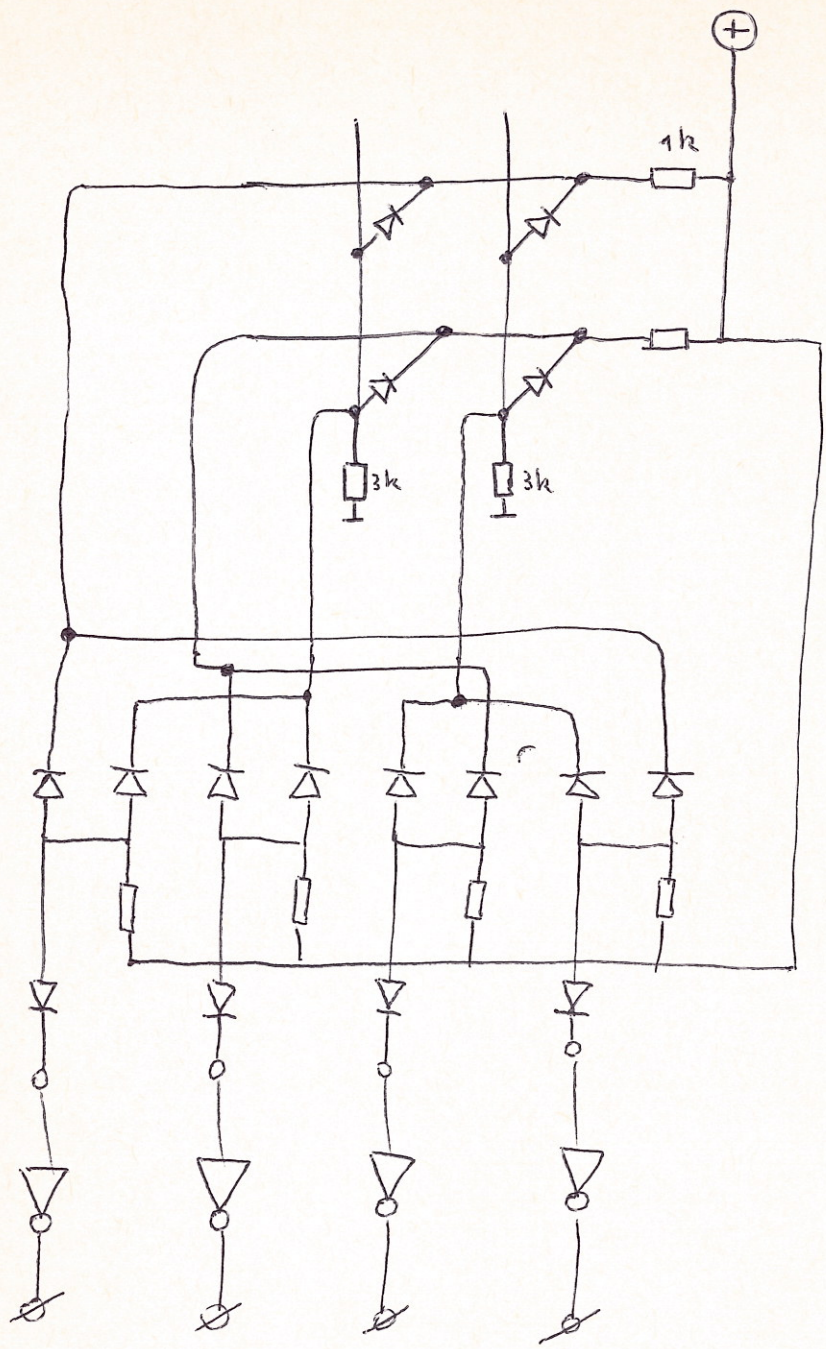
A	B	C
1	0	1
0	0	0
1	1	1
0	1	1



AND

A	B	C
1	0	0
0	0	0
1	1	1
0	1	0







4 x 5 matrix.

	1	2	3	4
A				
B				
C				
D				
E				

~~A1 B1 C1 D1~~

---

$$A_1 = (1)$$

$$A_2 = (6)$$

$$A_3 = (11)$$

$$A_4 = (16)$$

$$B_1 = (2)$$

$$B_2 = (7)$$

$$B_3 = (12)$$

$$B_4 = (17)$$

$$C_1 = (3)$$

$$C_2 = (8)$$

$$C_3 = (13)$$

$$C_4 = (18)$$

$$D_1 = (4)$$

$$D_2 = (9)$$

$$D_3 = (14)$$

$$D_4 = (19)$$

$$E_1 = (5)$$

$$E_2 = (10)$$

$$E_3 = (15)$$

$$E_4 = (20)$$





