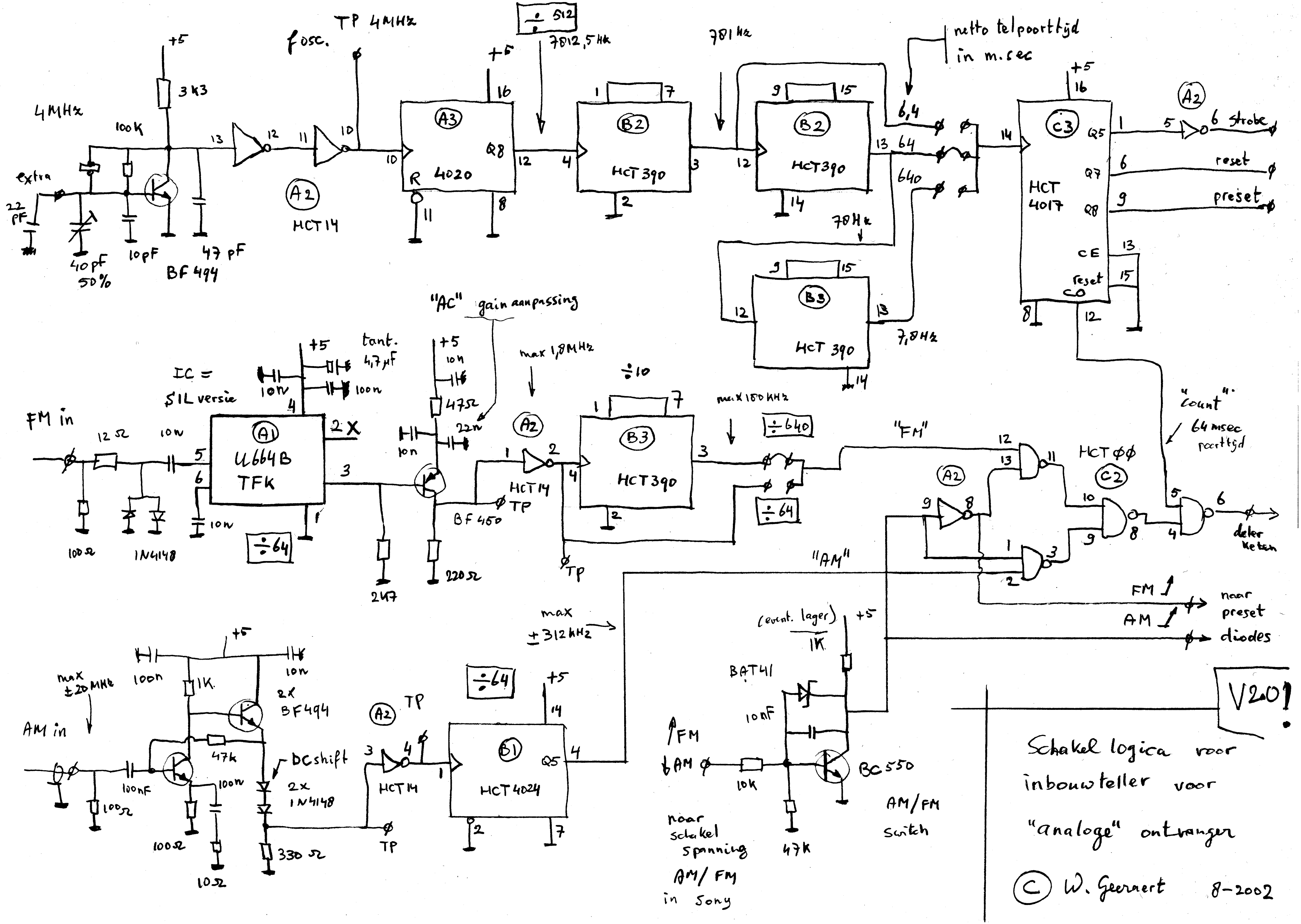
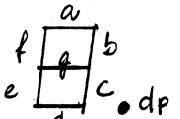
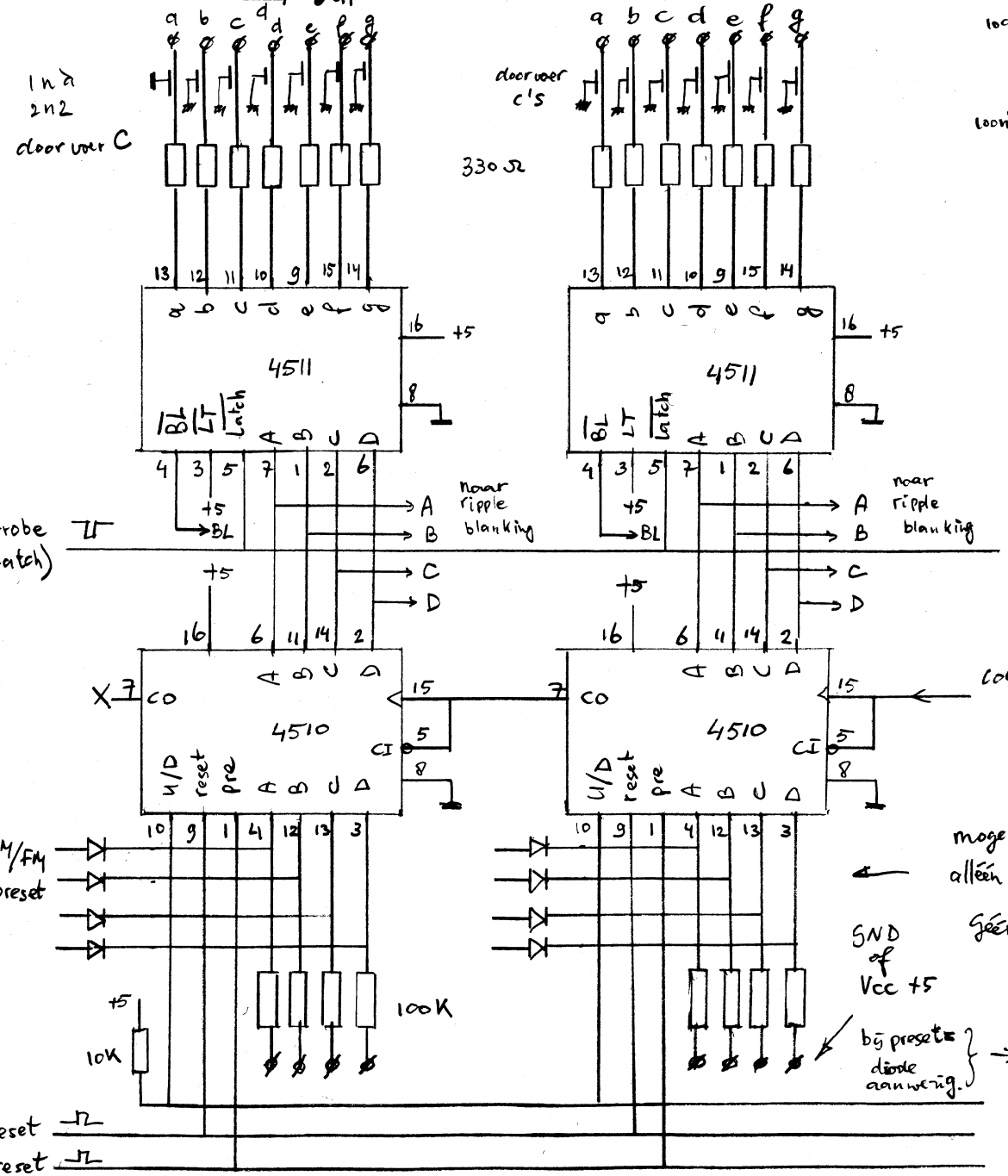


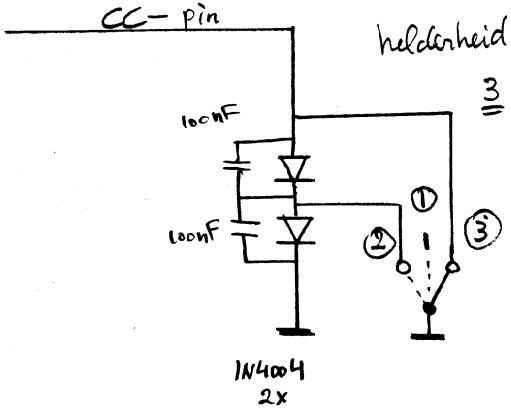
TP 4MHz
fosc.
+5
3k3
4MHz
100k
extra
22 pF
40pF 50%
10pF
47 pF
BF494
13
12
11
10
A2
HCT14
+5
16
A3
4020
Q8
R
11
8
12
÷512
7812,5Hz
1
7
4
B2
HCT390
3
2
781Hz
9
15
B2
12
HCT390
14
13
6,4
64
640
78Hz
B3
HCT 390
7,8Hz
netto telpoorttijd in m.sec
+5
16
C3
HCT 4017
Q5
Q7
Q8
CE
reset
CO
A2
5
6 strobe
reset
preset
"AC" gain aanpassing
FM in
12 Ω
10n
IC = SIL versie
+5
tant. 4,7µF
100n
10n
A1
U664B
TFK
2X
3
÷64
100Ω
1N4148
10n
+5
10n
47Ω
22n
BF450
2k7
220Ω
max 1,8MHz
A2
HCT14
TP
÷10
B3
HCT390
max 150 kHz
÷640
÷64
"FM"
A2
HCT 00
C2
"count" 64 msec poorttijd
deler keten
"AM"
FM
AM
naar preset diodes
max ±312kHz
max ±20MHz
AM in
+5
100n
10n
1K
2x BF494
47k
DC shift
2x 1N4148
100nF
100Ω
100n
10Ω
330 Ω
TP
A2
HCT14
÷64
+5
B1
HCT 4024
Q5
(event. lager)
+5
1K
BAT41
10nF
FM
AM
10k
47k
BC550
noar schakel spanning AM/FM in Sony
AM/FM switch
V2.0!
Schakel logica voor inbouwteller voor "analoge" ontvanger
© W. Geeraert 8-2002

groen 7mm CC displays

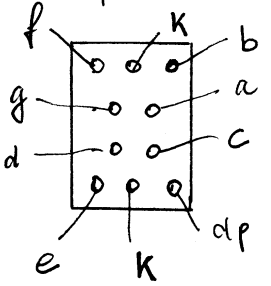
HD1077G

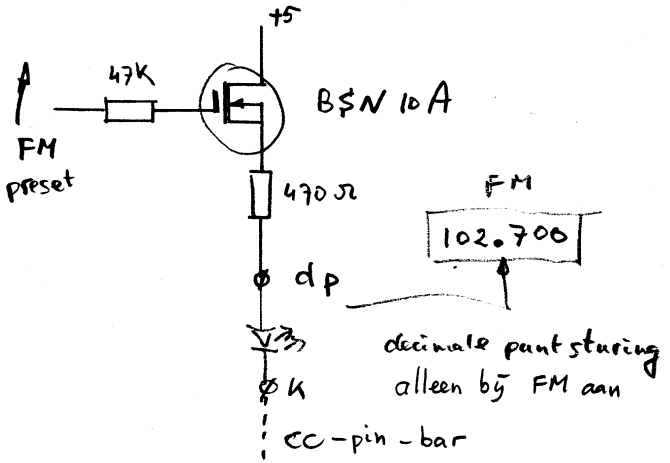






TOP HD1077G





mogelijke preset diodes

alléén aanwezig indien nodig.

géén diode, indien preset NIET nodig is

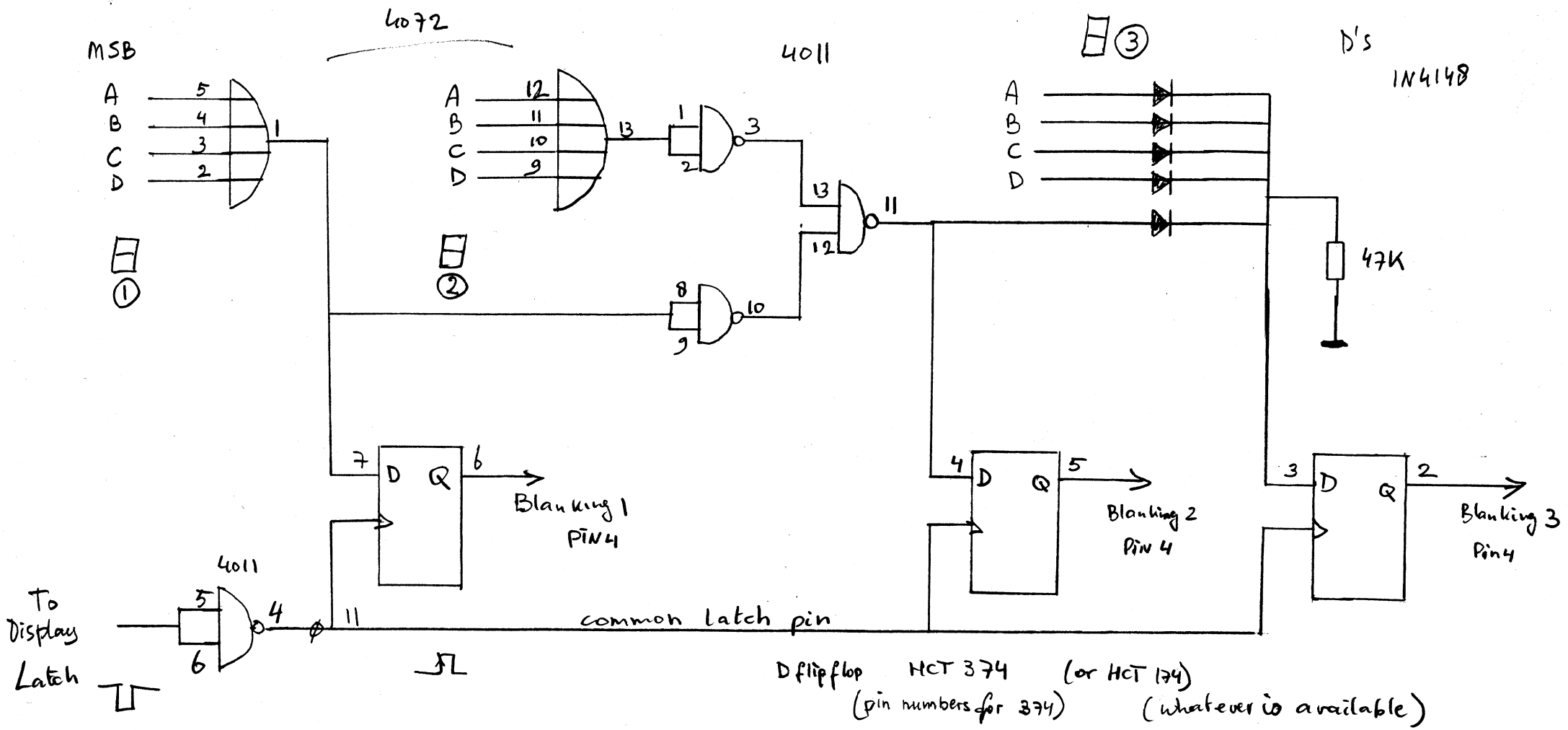
GND of Vcc +5

bij preset diode aanwezig. → alleen GND

gedeelte tel-decaden

3X aanwezig

dus 6 teldecaden



blanking non-significant zero's with this circuit

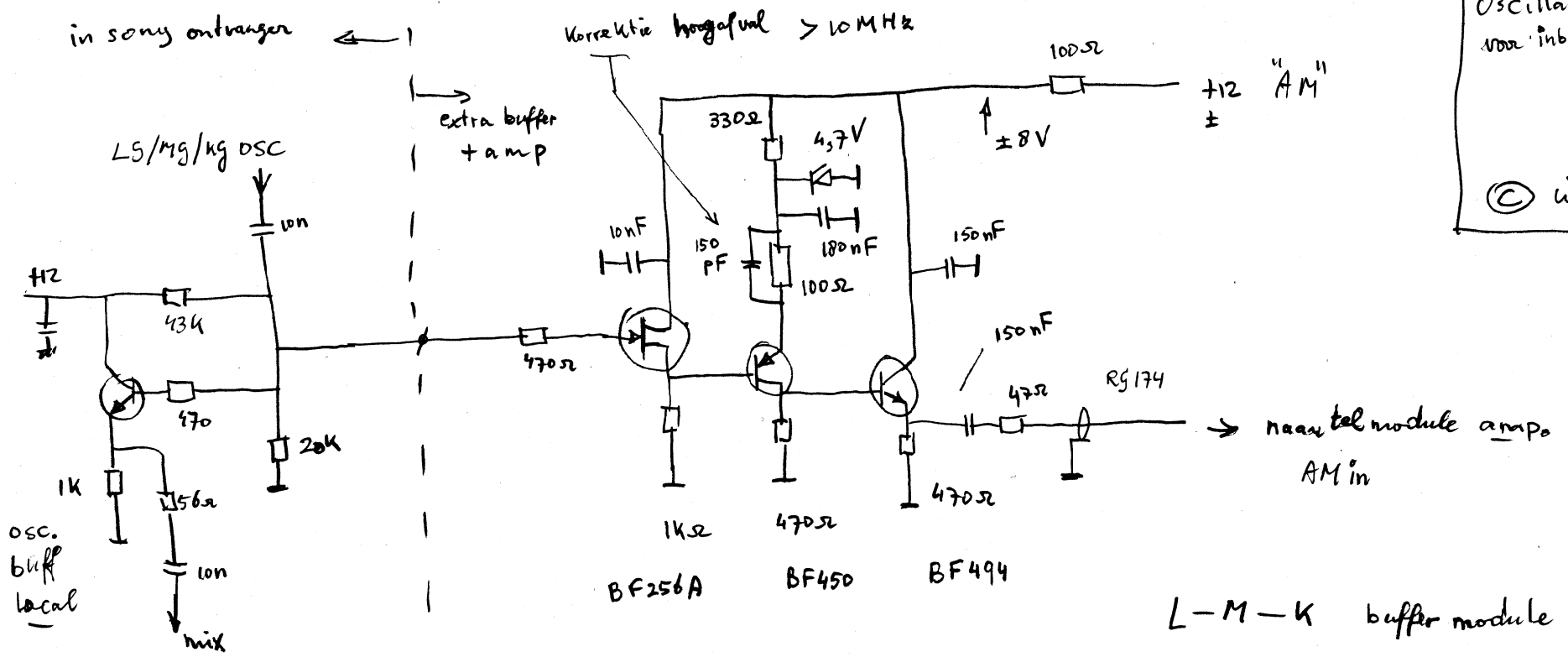
example freq's

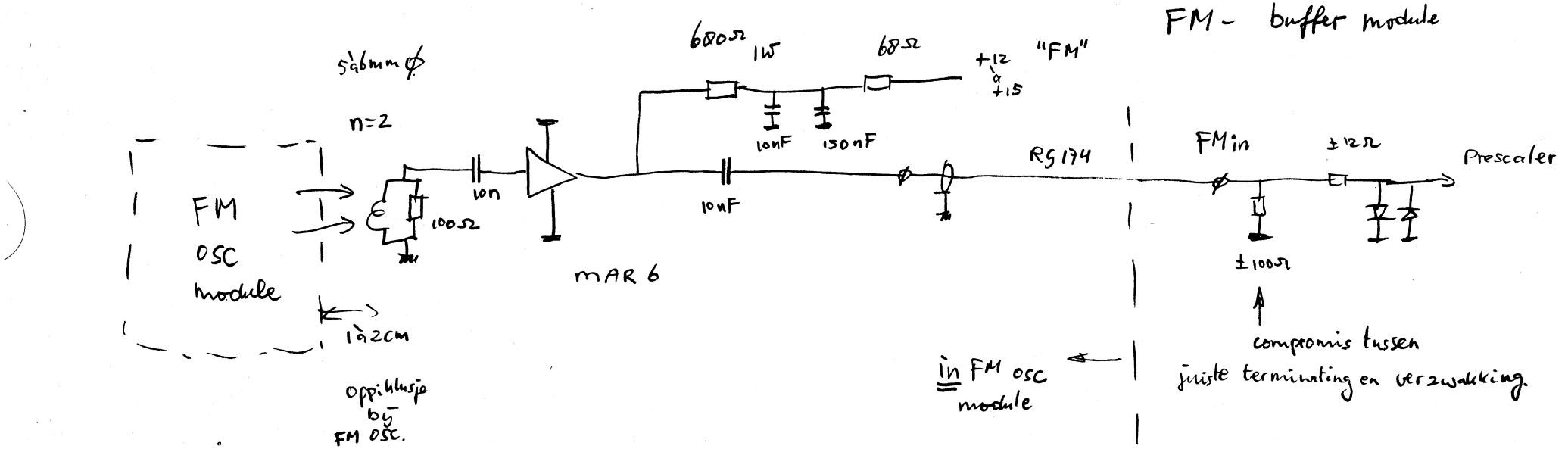
FM	102.700
	093.200
Kg	013 700
Mg	001 512
Lw	000 198

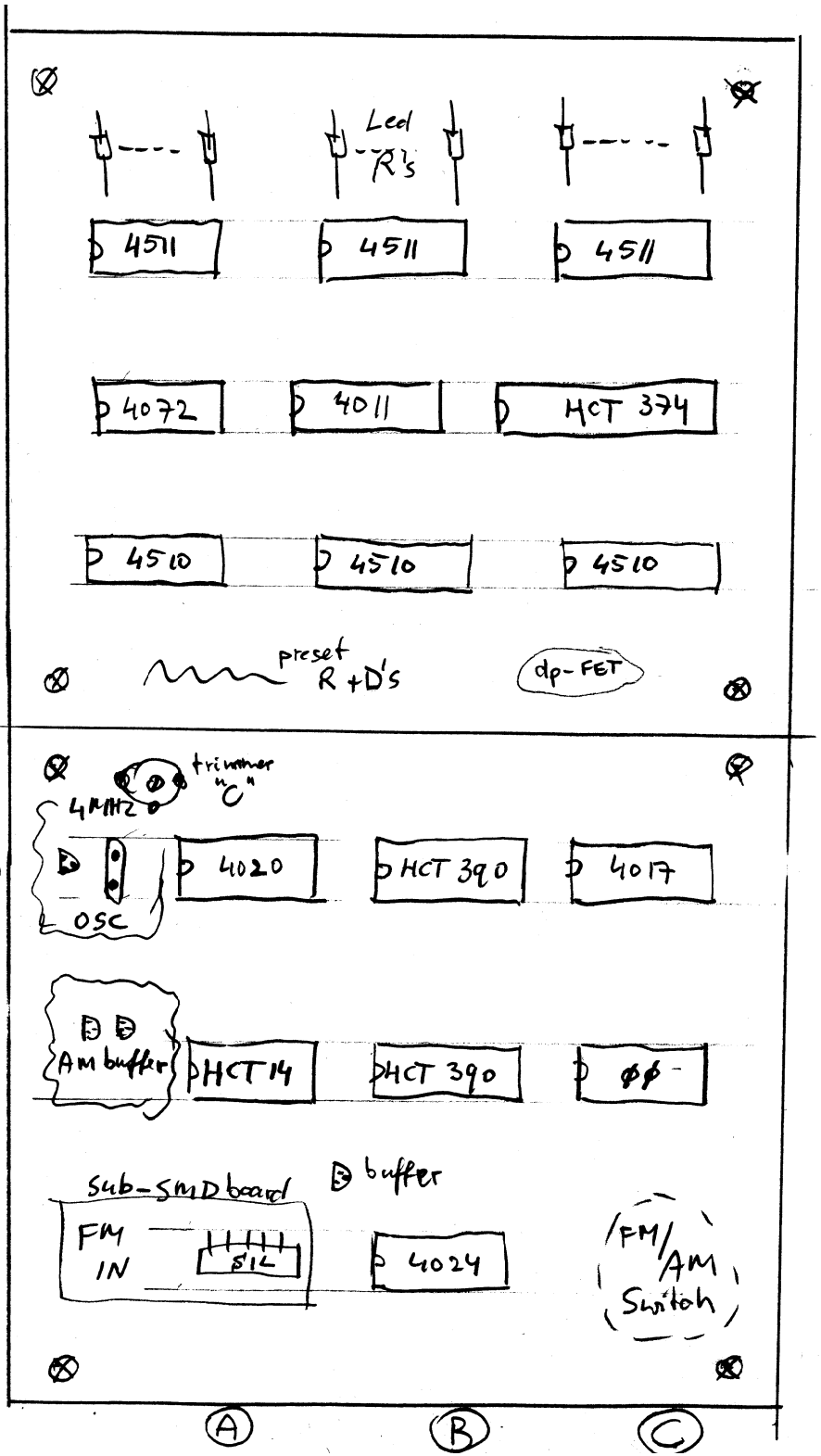
Ripple blanking
first 3 digits

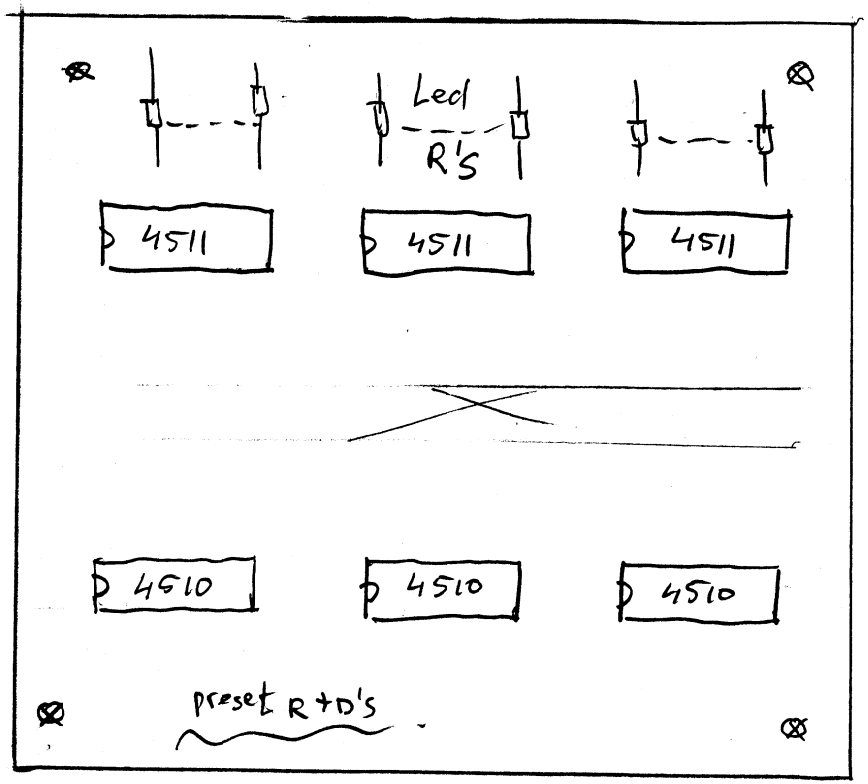
© W. Seeraert

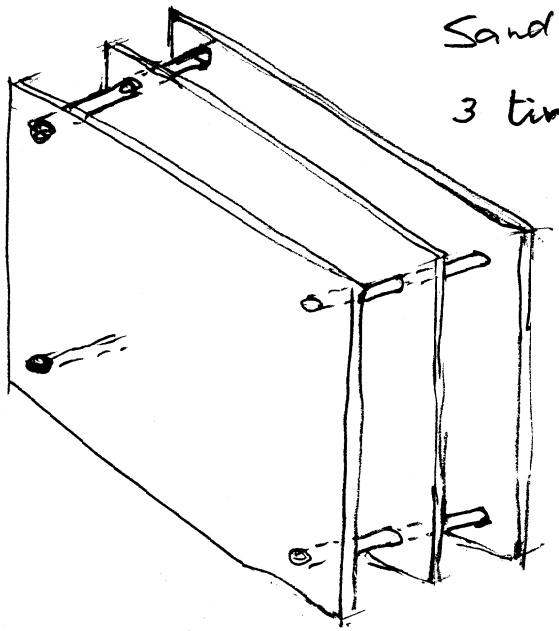
Oscillator buffers
voor inbouw teller











Sandwich construction

3 tiny boards stacked

and in a screened

PCB-board box

non-coax (all leads!).

via feed-through

capacitors

Preset settings example

Oscillator	666	kHz		
Long wave Rx	198	kHz		
	------	–		
IF - AM	468	kHz	----	NO 455 kHz

Counter
Preload AM (1)000 000
468
---
999 532

IF-filter in Sony receiver appears NOT exactly 468 kHz, or maybe one count on/off pulse is added each count cycle. Counter counts 1 digit too high. That is for example: AM 1512 is indicated at exact tuning as 1513. The transmitter frequency is OK.
So: preload is corrected in AM from 999532 to 999531, one lower below zero. All OK than.

For a 455 kHz IF the preload will be 1000000 – 455 = 999545. If the filter is not correct it could be 999544 or 999546.

For FM Rx it will be:

Oscillator	110.700	MHz		
FM Rx	100.000	MHz		
	----------	–		
IF - FM	10.700	MHz	---	as expected….

Counter
FM preload (1)000 000
10 700
---
989 300

Action:

If the upper and lower value in the same column in a D-C-B-A row both have a zero or a one, no diode is needed, only a direct pull-down (for 0) or pull-up (for 1). If one of them has a "1" and the other a "0" a pull down is placed and a diode to FM or AM "1" to force the "1" preset.

AM	**9**	**9**	**9**	**5**	**3**	**1**
	1 0 0 1	**1 0 0 1**	**1 0 0 1**	**0 1 0 1**	**0 0 1 1**	**0 0 0 1**
	D C B A	**D C B A**	**D C B A**	**D C B A**	**D C B A**	**D C B A**
	1 0 0 1	**1 0 0 0**	**1 0 0 1**	**0 0 1 1**	**0 0 0 0**	**0 0 0 0**
FM	**9**	**8**	**9**	**3**	**0**	**0**