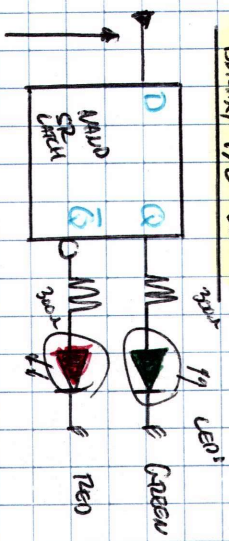


FAST ONBOARD RECORDING

NOTES

BINARY I/O LEADS



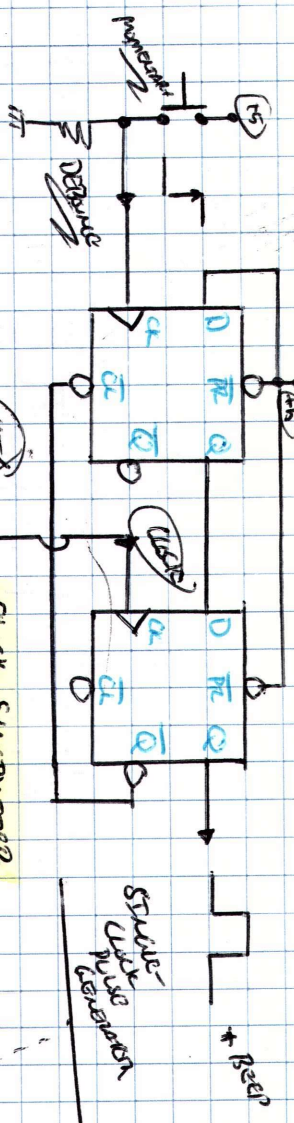
- LEDS
- DATA IN: RED/GREEN
 - DATA OUT: RED/GREEN
 - RECORDABLE
 - READ/WRITE
 - UP/DOWN
 - COMPARE/MATCH



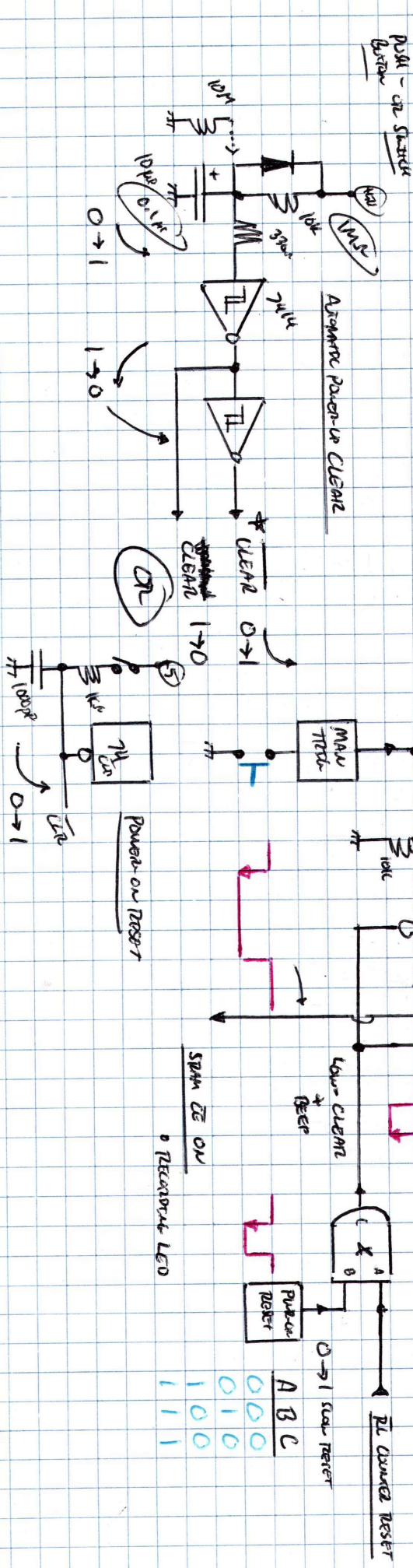
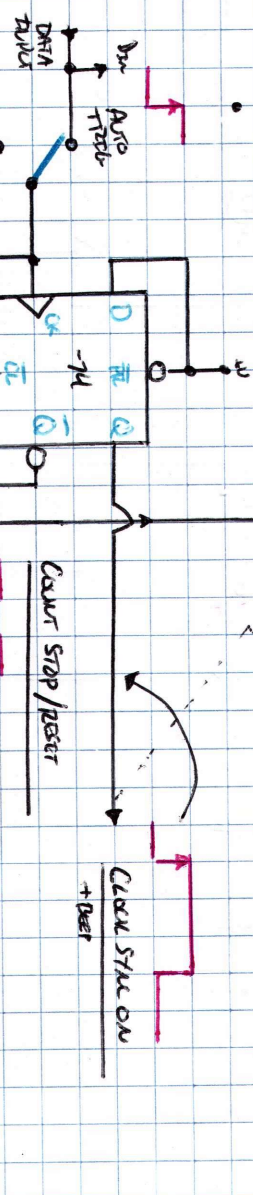
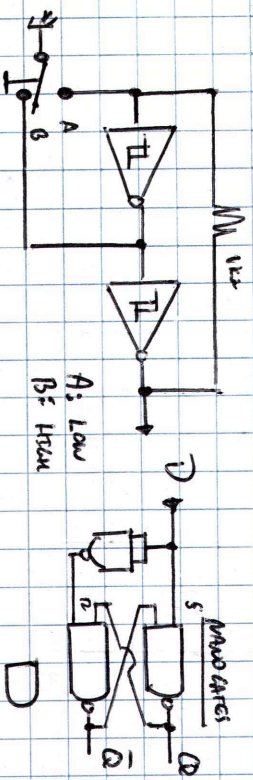
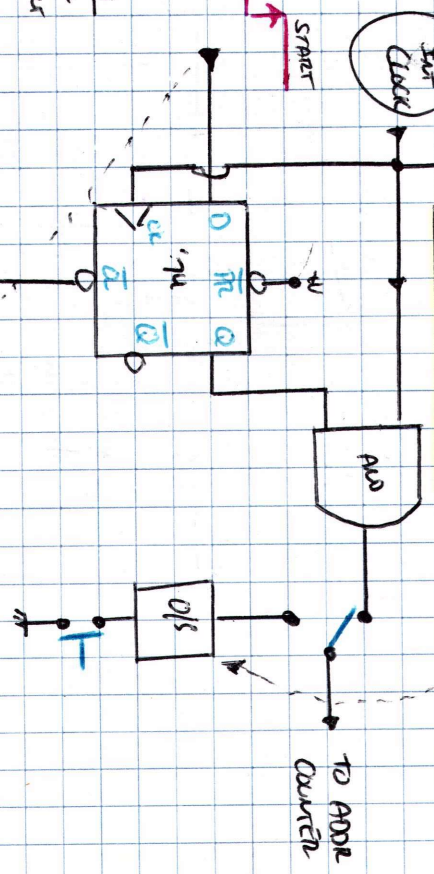
D Q Q MODE

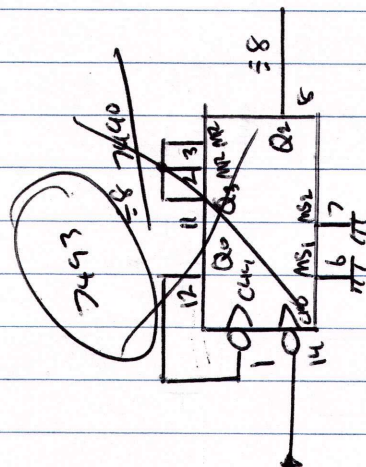
0	0	1	0	0	1	0	0
1	1	1	0	0	1	0	0

- Connections:
- DATA IN
 - DATA OUT
 - DATA IN
 - DATA OUT
 - DATA IN
 - DATA OUT
 - DATA IN
 - DATA OUT



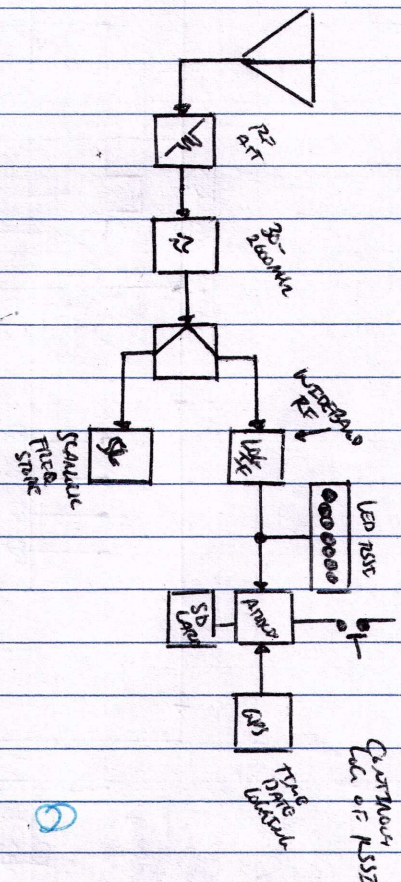
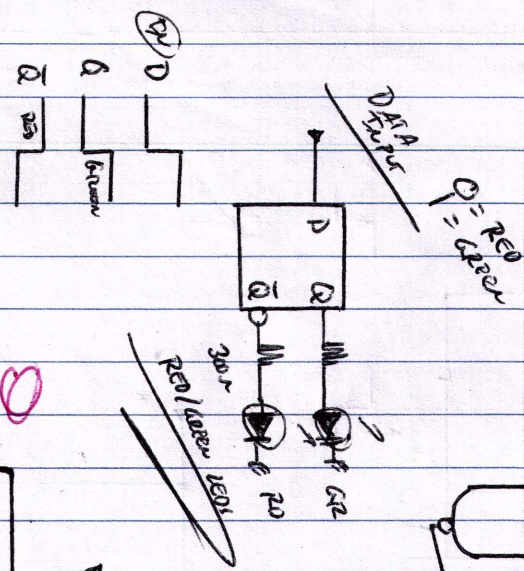
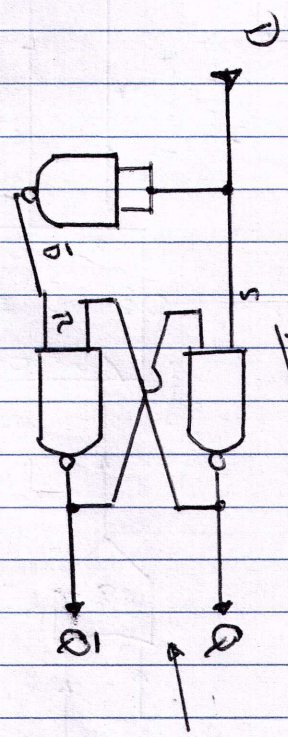
CLOCK SYNCHRONIZER



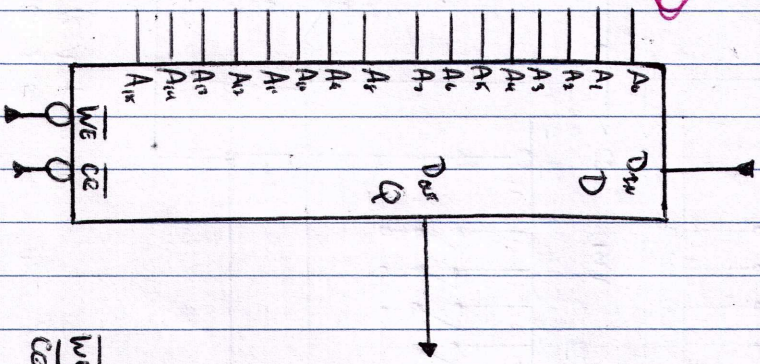


74274 = D flip flop
 SR LATCH
 ALSO S-R flip flop

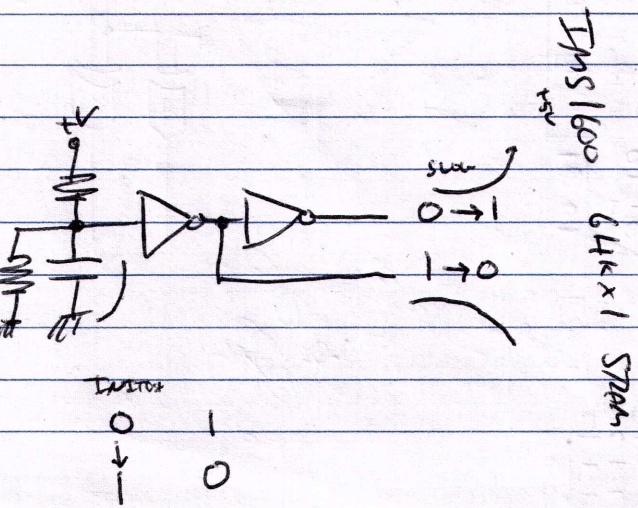
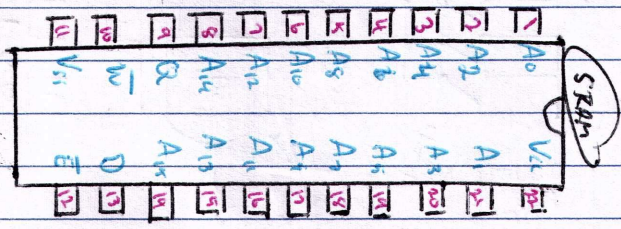
D	Q	Q'	mode
0	0	1	Reset
1	1	0	Set



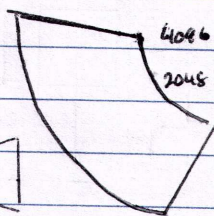
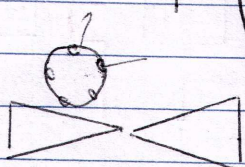
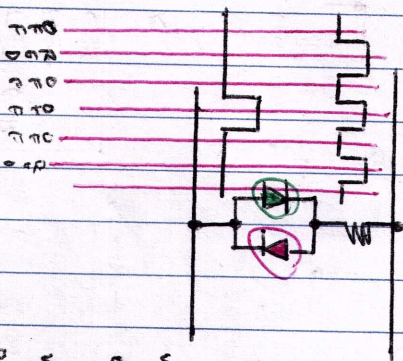
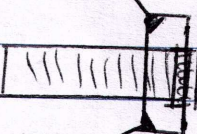
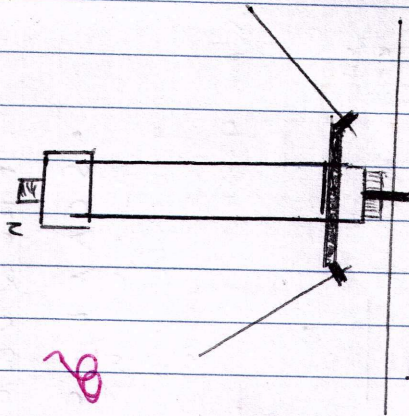
$D=0 = \text{Red}$
 $D=1 = \text{Green}$



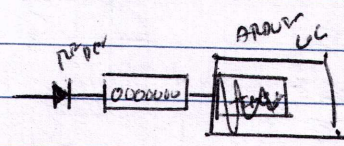
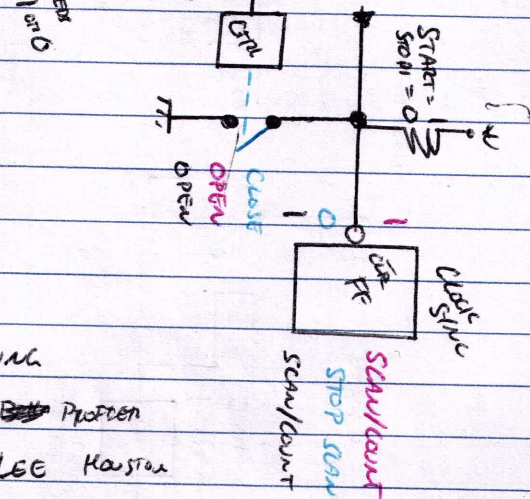
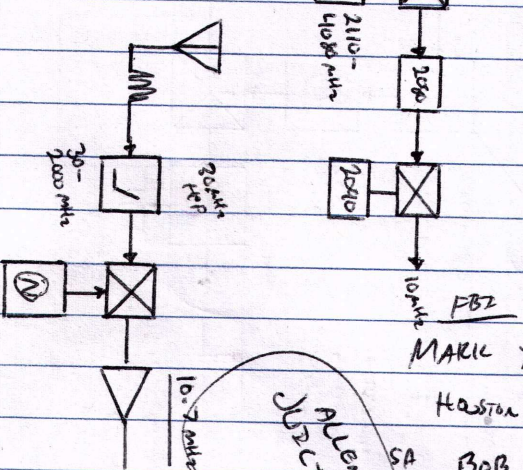
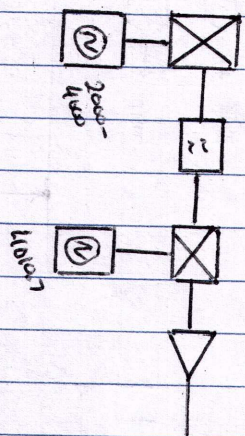
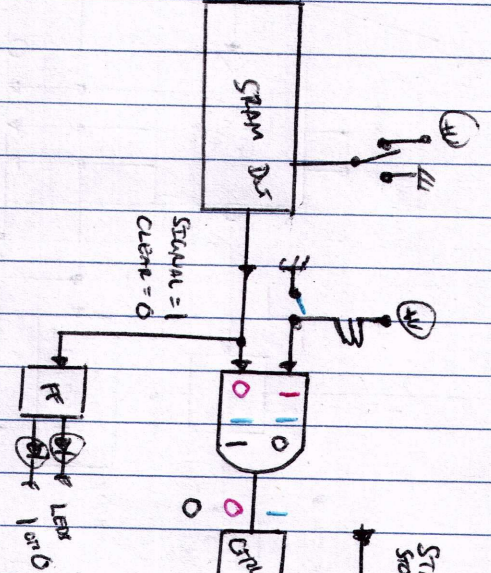
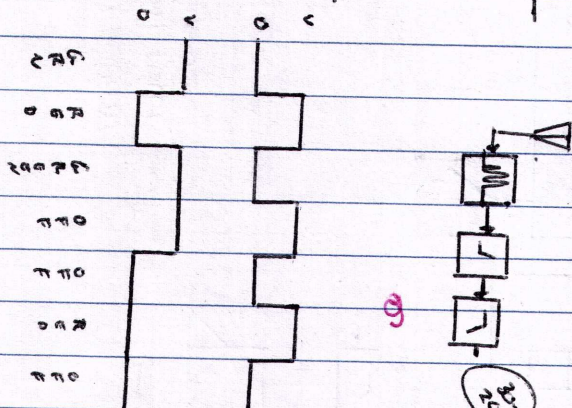
$\overline{WE}$ = Write Enable
 $\overline{CE}$ = Chip Enable



CLOCK FREQ	PERIOD	TIME
1048576 Hz	0.954 μ s	0.0625 sec
524288 Hz	1.907 μ s	0.125 sec
262144 Hz	3.815 μ s	0.25 sec
131072 Hz	7.629 μ s	0.5 sec
65536 Hz	15.259 μ s	1 sec
32768 Hz	30.518 μ s	2 sec
16384 Hz	61.036 μ s	4 sec
8192 Hz	122.07 μ s	8 sec

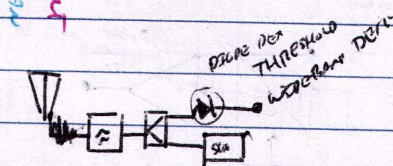


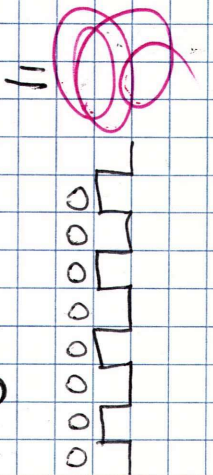
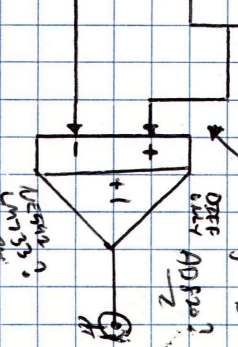
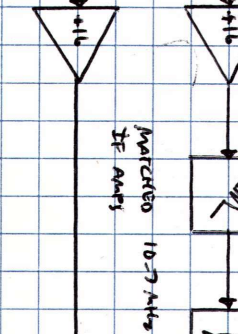
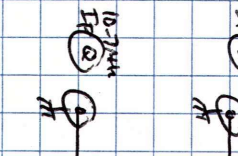
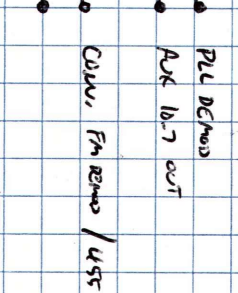
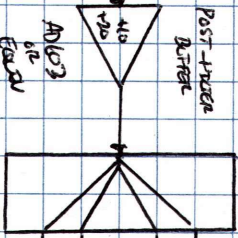
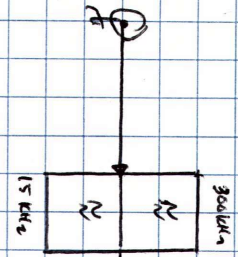
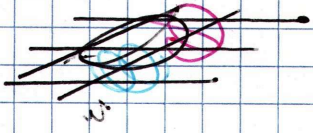
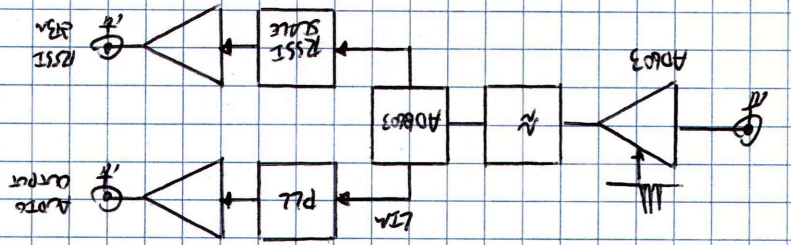
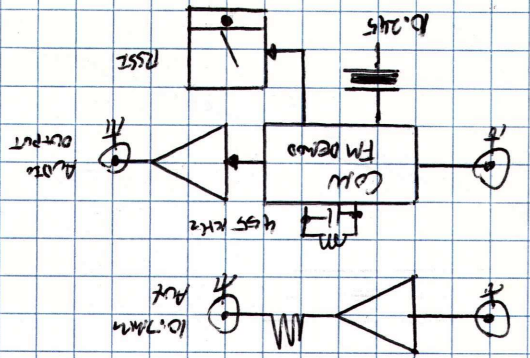
IDEA
 + FABRIC DEVICE
 + Roll-up
 + Umbrella Photocopy
 + Pop-up RCTAD + EAP
 + SENSE
 + PHOTO/LEAD
 + SENSITIVE PAPER
 + TO CAP DATA
 + FROM SENSOR



MARIL YOUNG
 HASTON BOB PROFFEN
 SA BOB LEE HASTON
 ERIC ALPERT

ALLEN DANA LAR
 CLUCCY
 "HEAD-THAT-ONE"
 PHOTOPOLYMER
 TUBING PEEK
 MEXICO-1
 TUBING PEEK
 MILLER MEXICO
 IN BLISS
 CASPER
 MEYER
 TEST
 SENSITIVE
 SELECTOR
 Q-27





$1.2 \approx 2.0$
 $1.2 \approx 1.1$

1	0	1	3	3
2	0	1	3	3

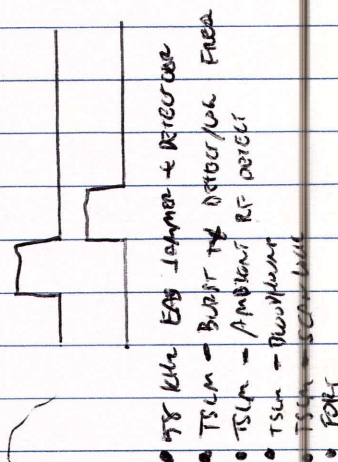
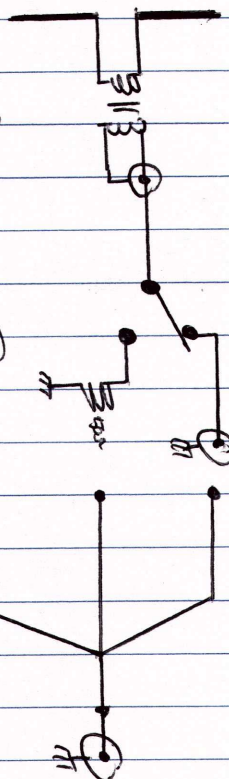
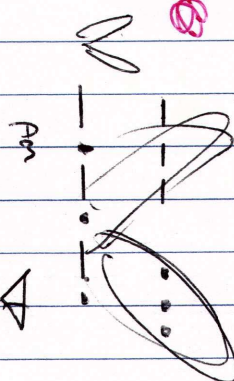
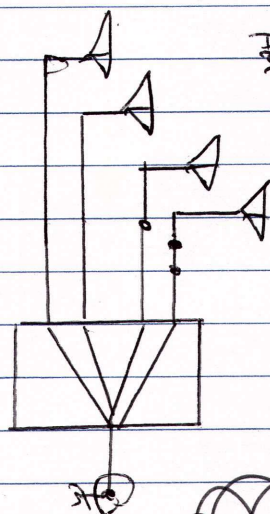
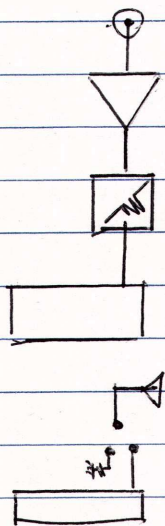
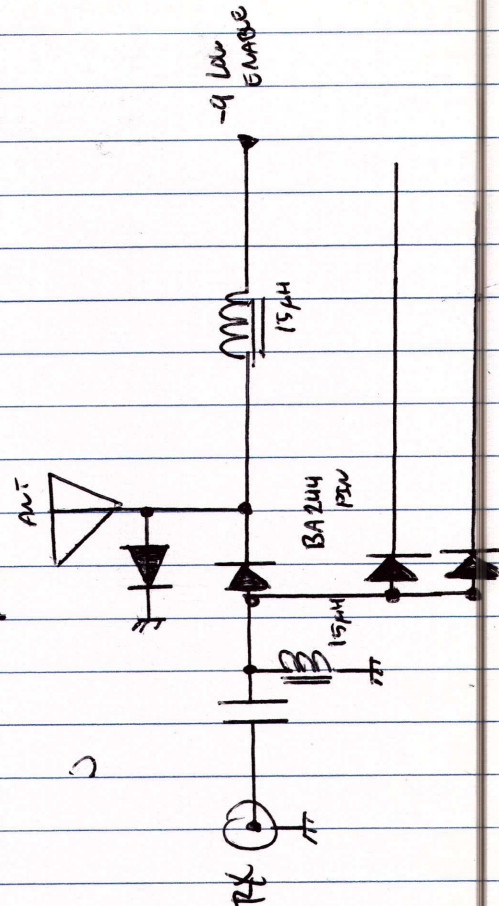
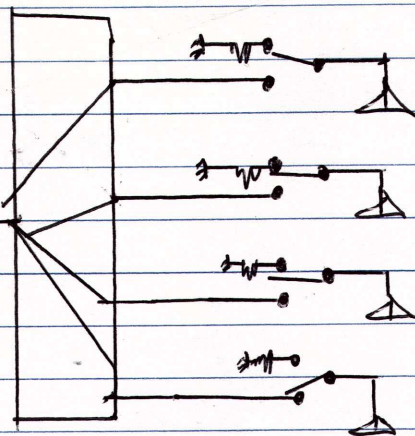
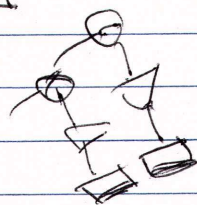
1	0	1	3	3
---	---	---	---	---

1	0	2	4
---	---	---	---

AL312

Match Amplitudes
Match to 0.5 dB

~~Handwritten scribbles~~

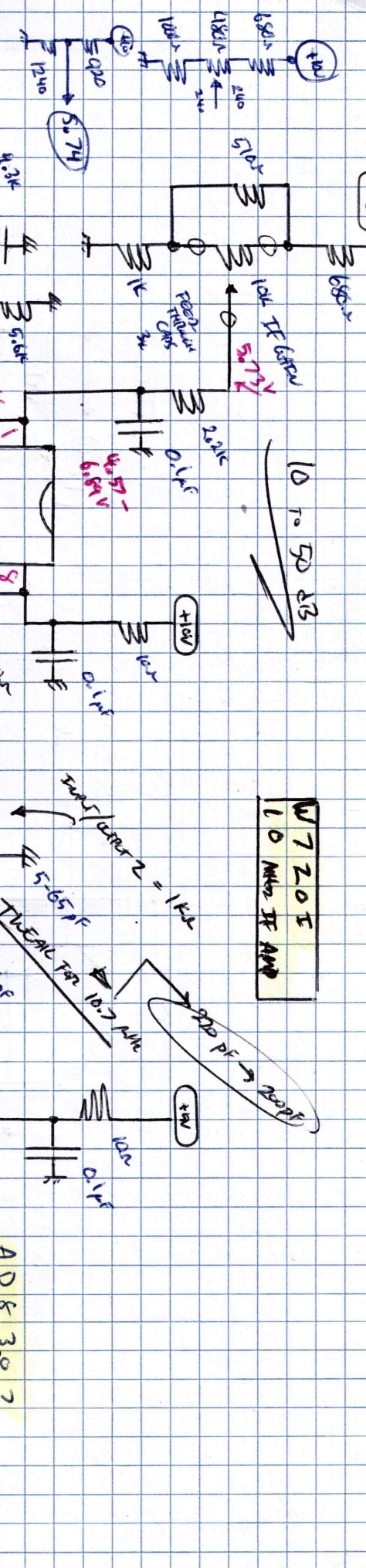


- 78 kWh EAS Jahressumme + Betriebskosten
- TSCM - BUBST + DETECTOR FÜR FÜR
- TSCM - AMSTERDAM R.F. DETEKT
- TSCM - BUNDESPOLIZEI
- TSCM - SEARVILLE
- PDAT

- TITANIUM DIOXIDE
 - ZINC OXIDE
- SUN SCREEN
- ALUMINUM DIOXIDE

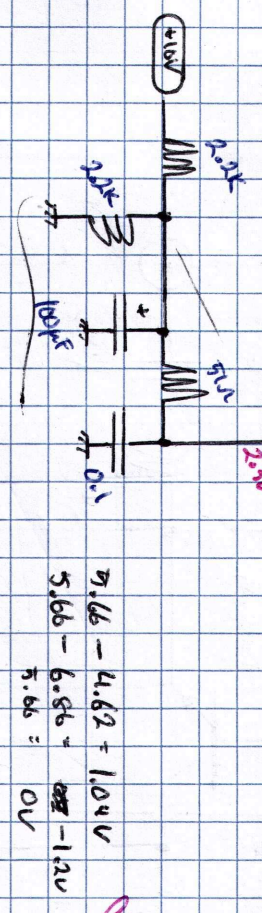
10 to 50 dB

W720I
10 MHz IF Amp



10.7
TF
IN

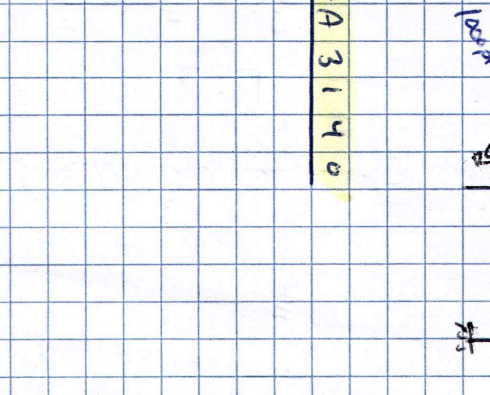
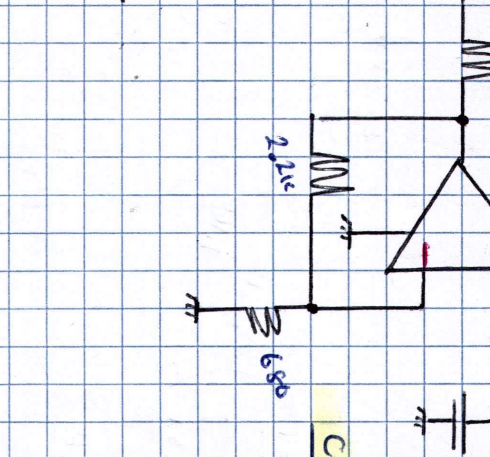
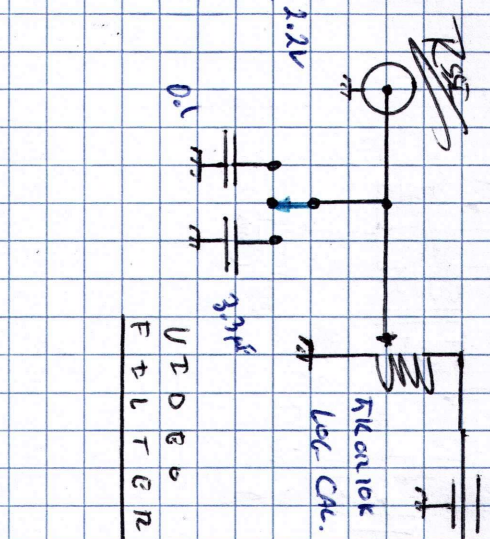
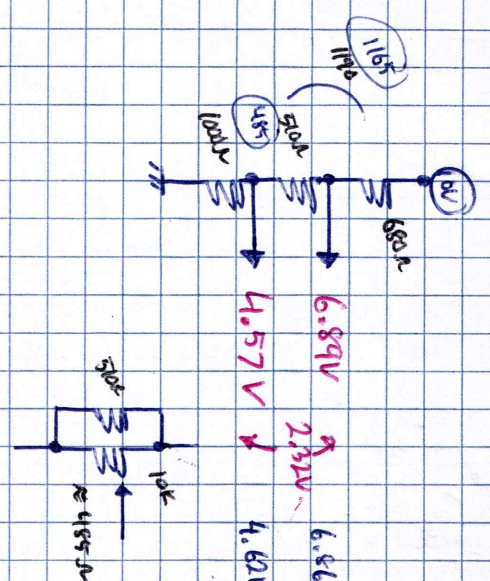
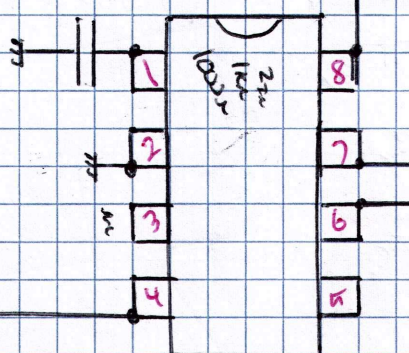
A0603



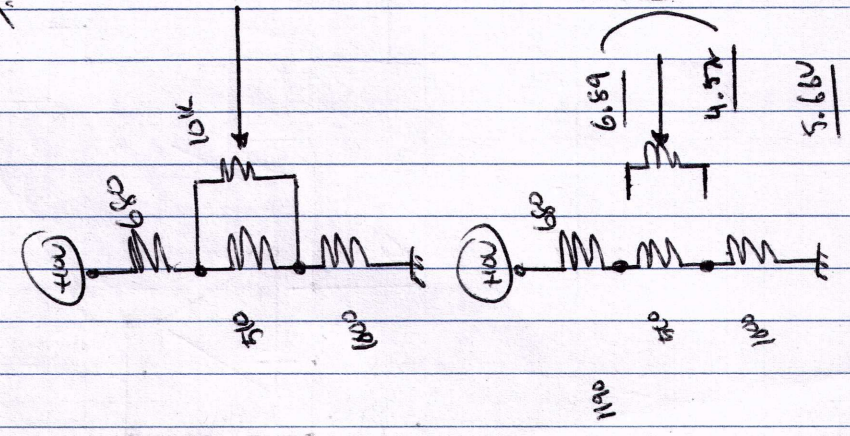
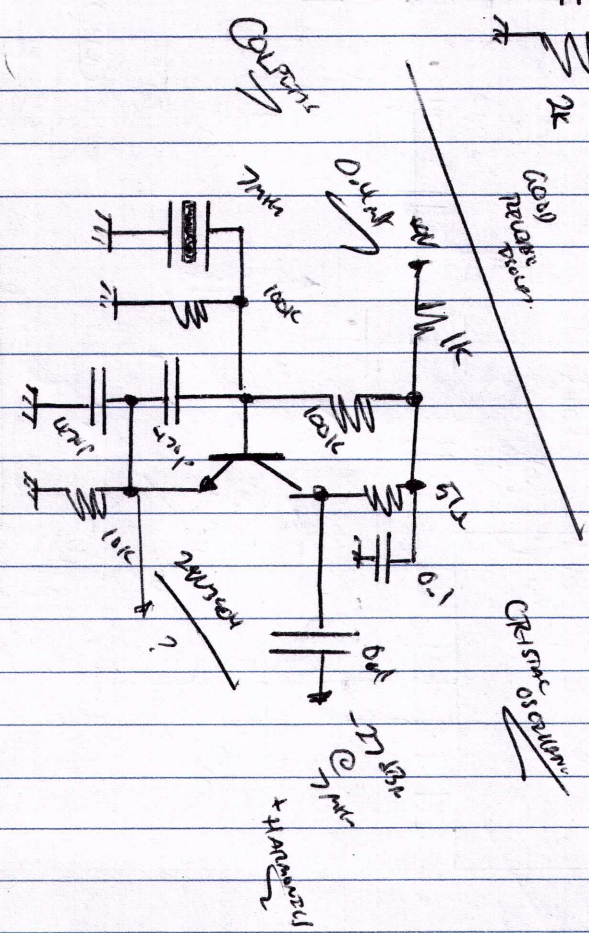
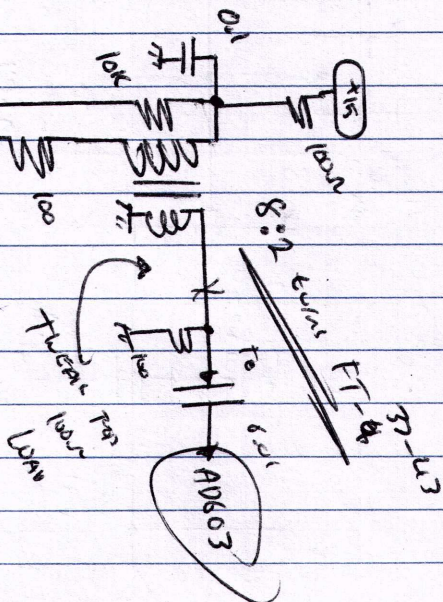
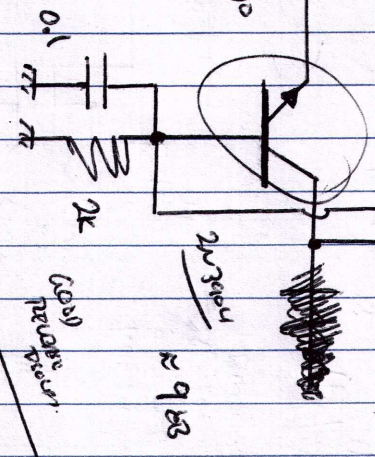
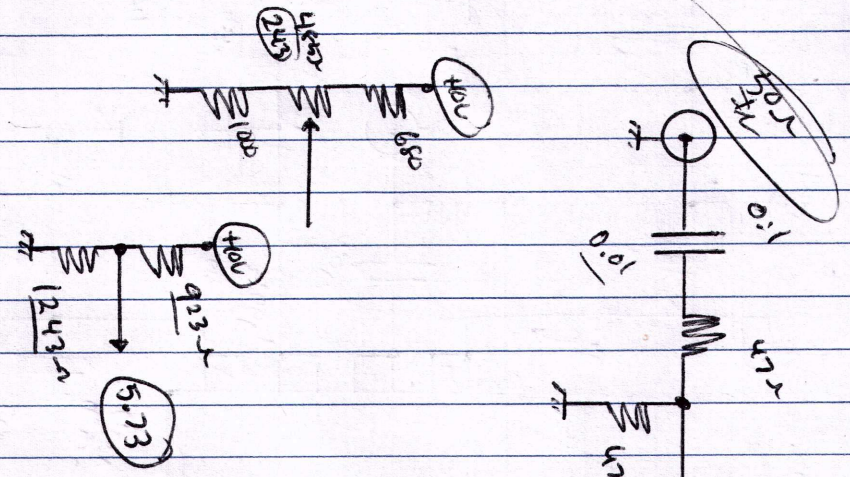
$7.46 - 4.62 = 1.04V$
 $5.66 - 6.86 = -1.2V$
 $7.66 = 0V$

$1.05 \mu H$
 $6V T-206$
 $80W \times 200kHz$

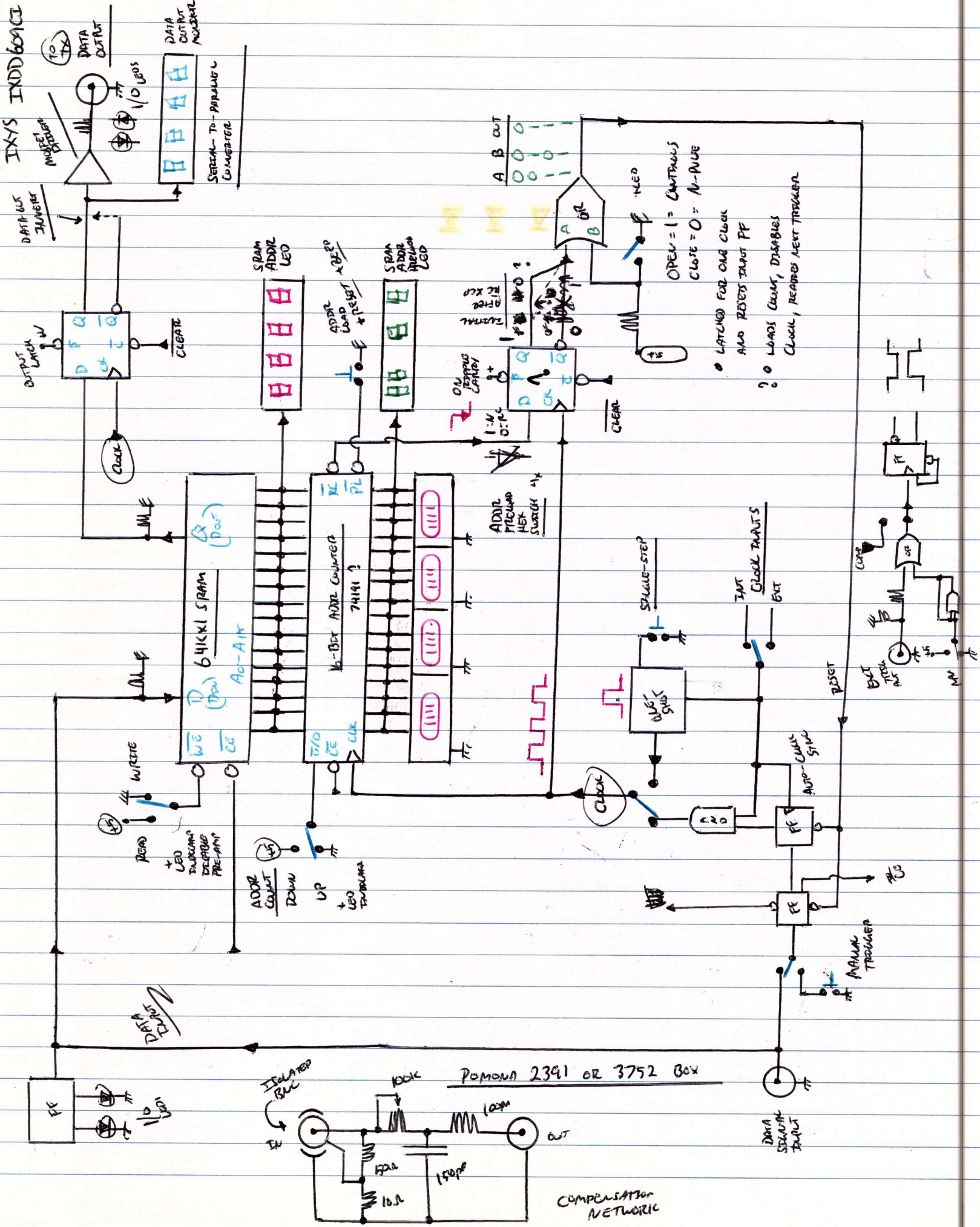
A06307

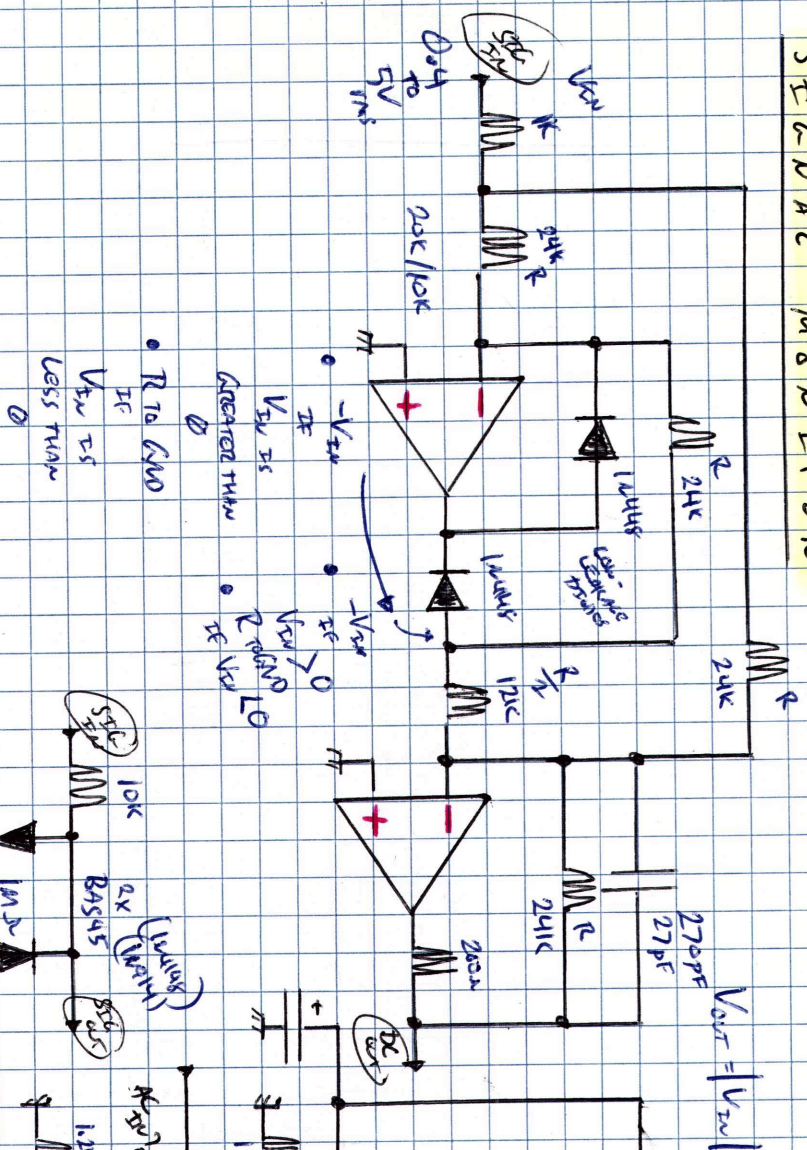


#AD603 PRE-AMP
 • 50u 2
 • High Isolation
 • 9.88 uPa

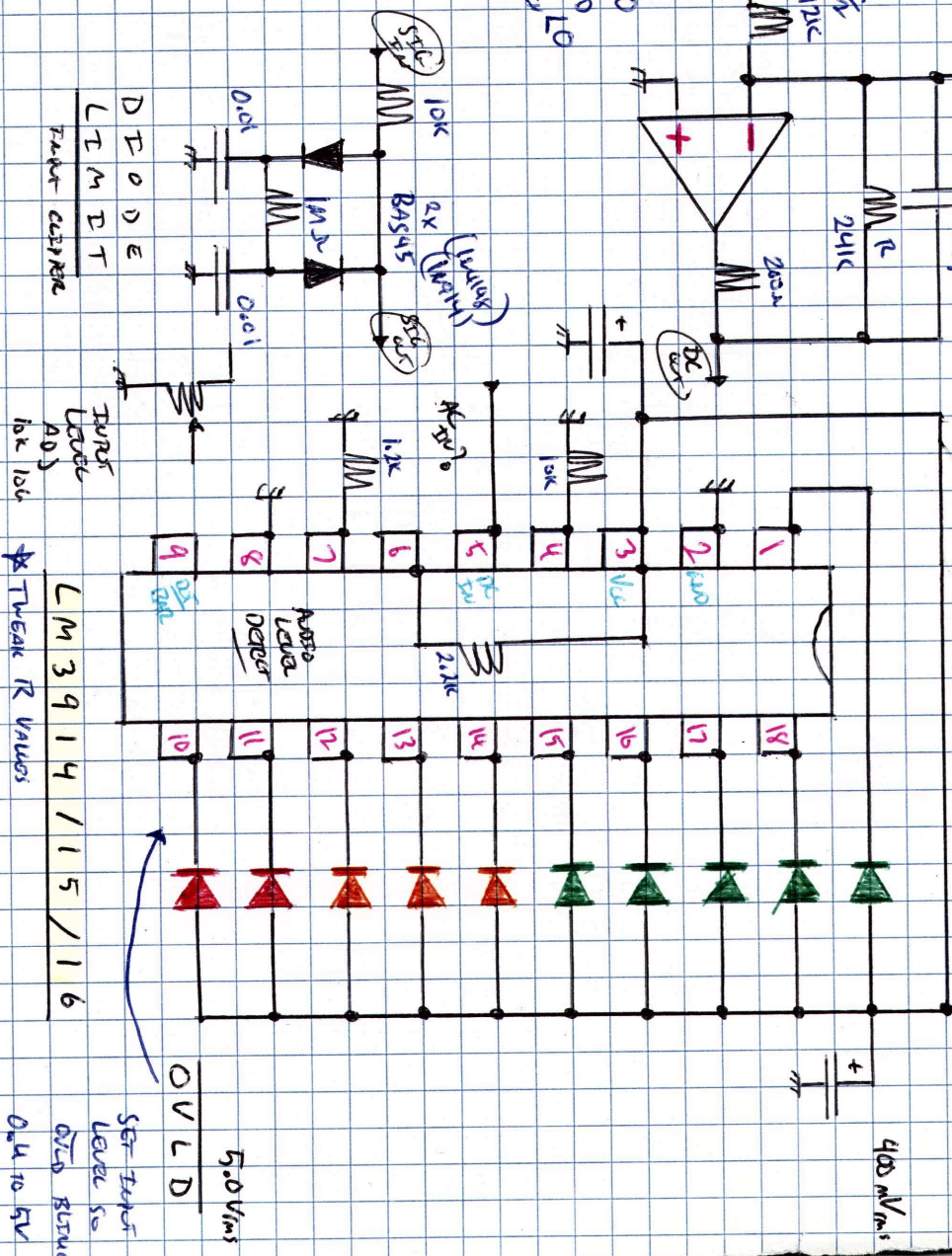


IX-YS IXDD69CI



[illegible]

~~WULFTRAC
SPRATAC
EPOX
PETRONIC~~



Score	Wins	Loss
+6.88	7.0	20.0
+3.28	5.34	15.0
0.68	4.0	11.3
-3.28	3.5	10.0
-6.28	2.7	7.64
-10.68	2.0	5.66
-20.88	1.14	3.36

- * AC universal bridge top ω_{314} ?
- * RMS to DC converter?

Set Input
Level to
0.5 BLIN
0.4 to 5V

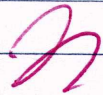
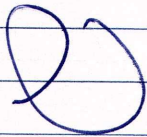
SMART METER

FCC ID: CWS-NIC51

TYPE: FOCUS AXR-SD

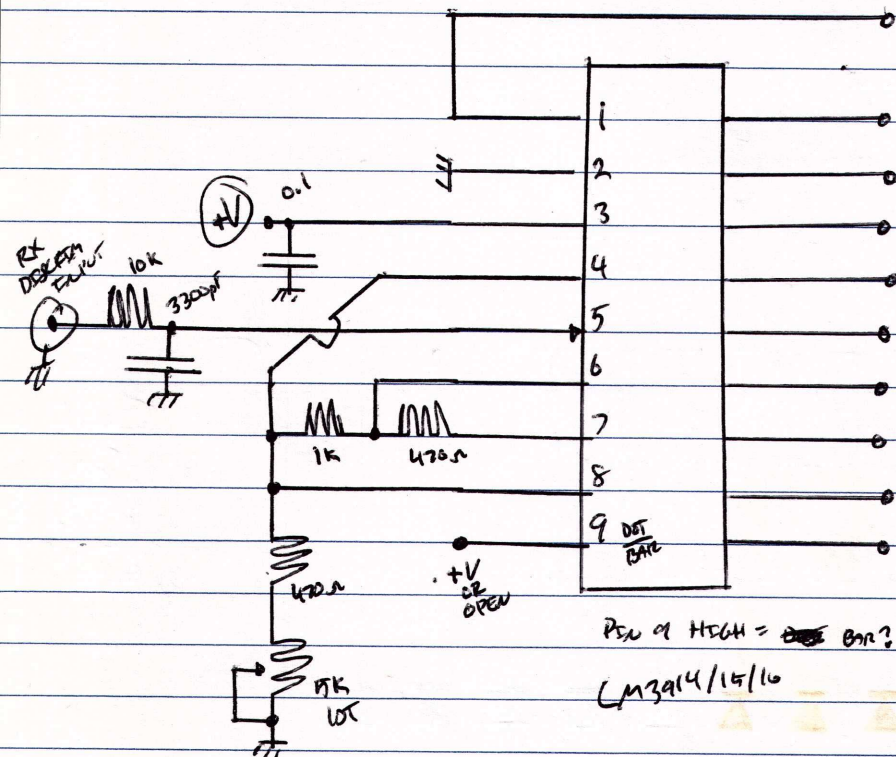
PG 4E SMARTMETER

LANDIS+GYR



FM DIGITAL MOD 2-4 FSK

SCANNING USA JUNE 2004

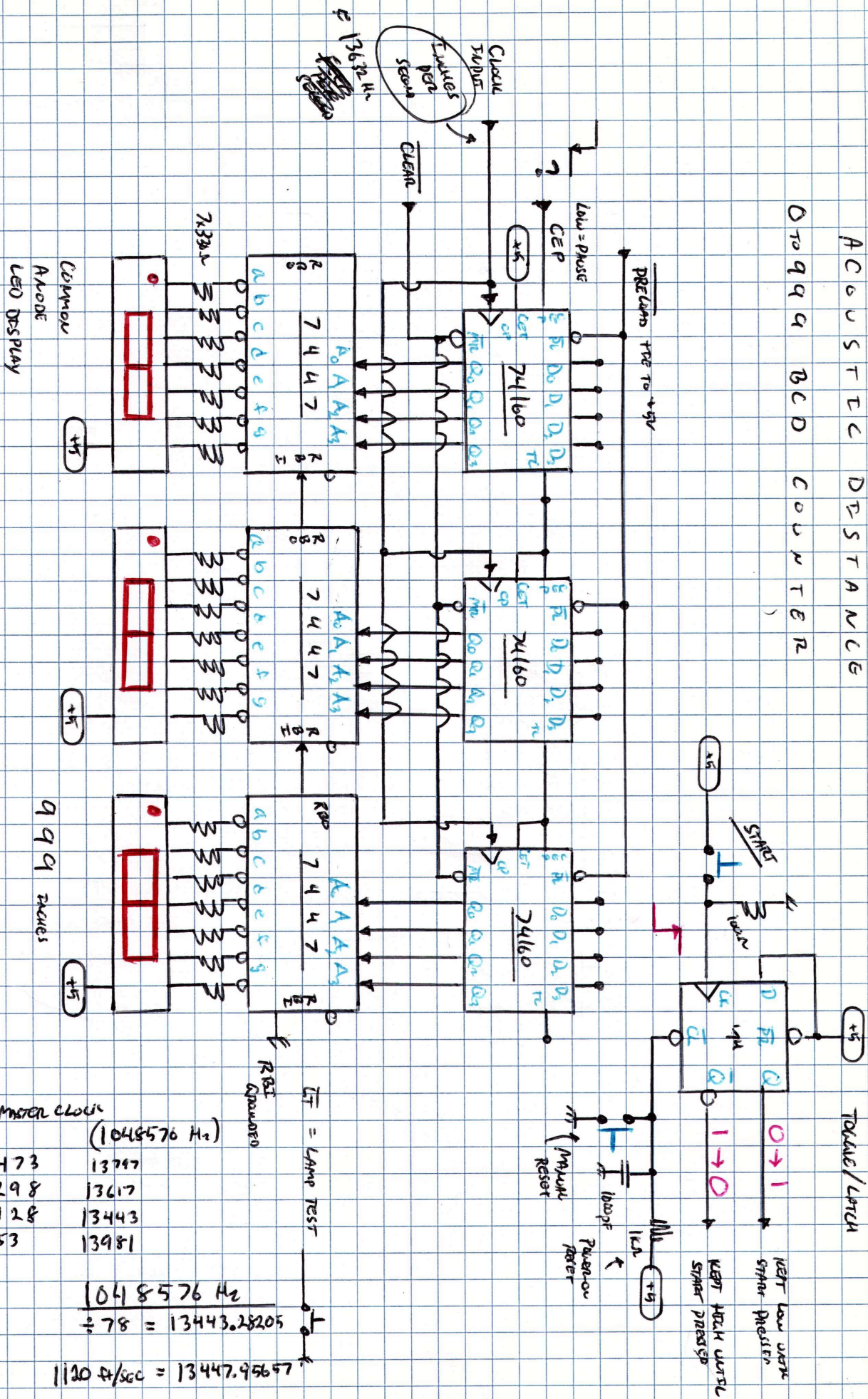


Pin 9 HIGH = ~~CR~~ CR?

LM3914/15/16

TS	CM	ET	LC	LOC	CAT	ION
AC	CS	TC		DS	TA	CE

ОТОБРАЖЕНИЕ КОУНТЕР



* or IC M 72 1 7 4-DRIFT LED DISPLAY CAMERA
THERMISTOR (BETTER)

1024000 Hz master clock

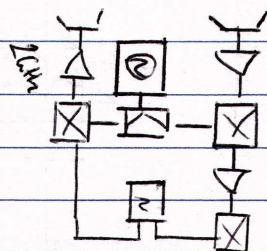
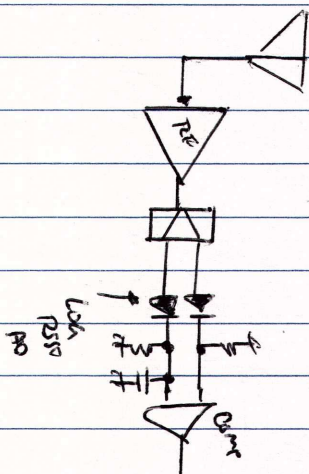
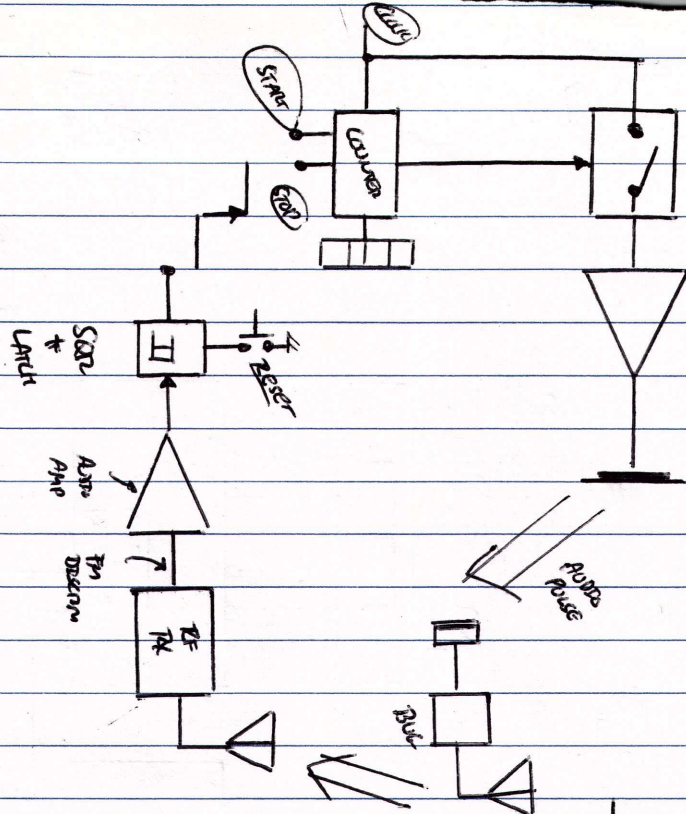
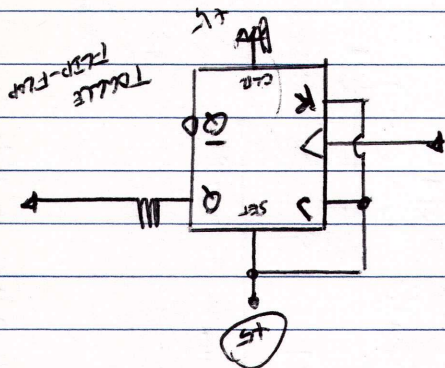
(1048570 Hz)

$\div 76 =$	13473
$\div 77 =$	13298
$\div 78 =$	13128
$\div 75 =$	13653

13797
13617
13443
13981

1048576 Hz

$$\div 78 = 13443.28205$$
$$1120 \text{ ft/sec} = 13447.95657$$



LED
7-SEGMENT OUTPUT

COMMON-ANODE

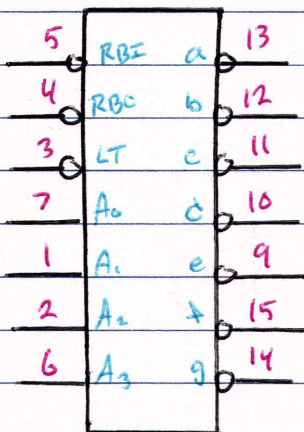
DEM

PWM +5

SEAKS CURRENT - 330 Ω @ 5V

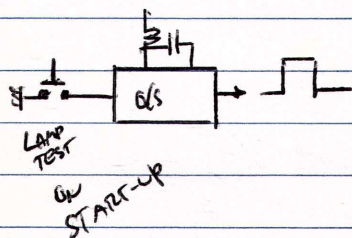
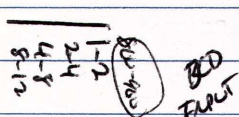
LT = LAMP TEST

RBI/RBO RAMP BLANKING



7447

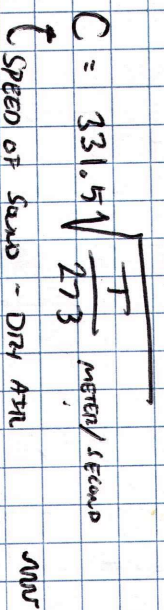
V_{CC} = 16
GND = 8



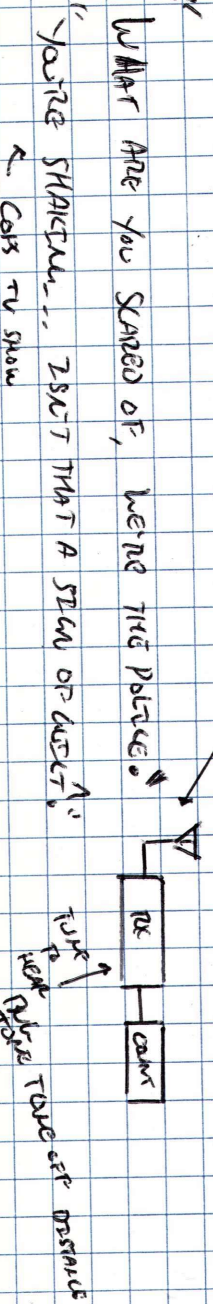
LEADING-EDGE ZERO SUPPRESSION

CONNECT RBO OF A DECODER
TO THE RBI OF THE NEXT LOWER DECODE.
THE MOST SIGNIFICANT DECODER STAGE
SHOULD HAVE ITS RBI GROUND

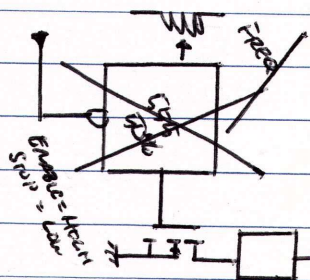
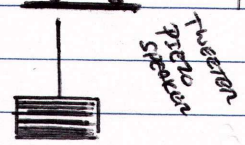
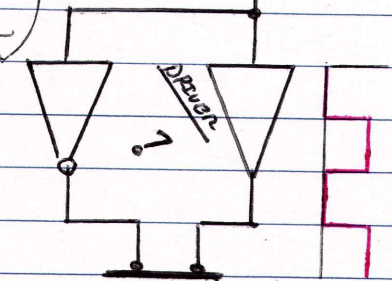
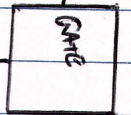
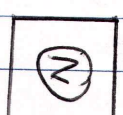
Earth is made of
different materials


$$K = 20 + 273$$

1	$\frac{cm}{pc}$	0.000018902	
1	$\frac{cm}{pc}$	$28.902 \mu s \rightarrow$	$34600 Hz$
			$77^\circ F = 25^\circ C = 248 K$



PULSE
CHECK



30 ms x 32 ft

• SPEED OF SOUND IN AIR = 340 m/s
1 cm / 29 ns ≈ 34,000 Hz

3936 INCH
3.28 FEET
393 INCHES
32 FEET

32,768
16,384
8,192
4,096
2,048
1,024
512

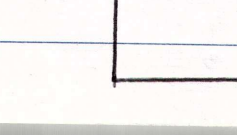
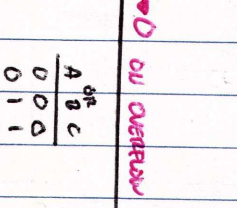
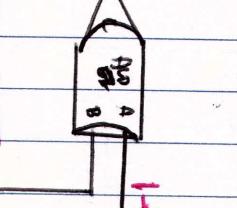
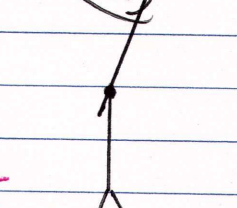
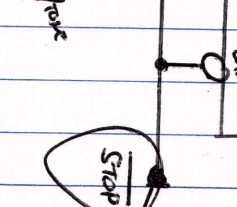
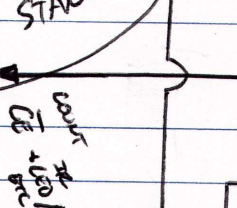
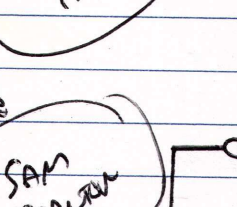
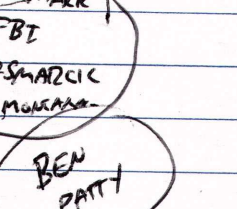
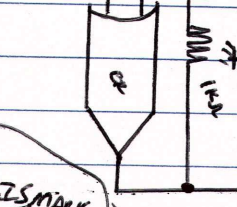
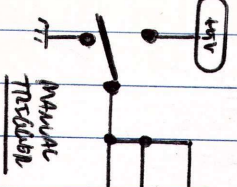
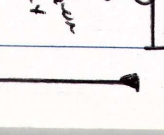
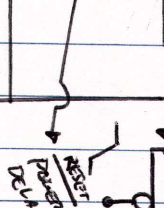
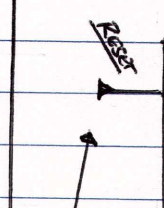
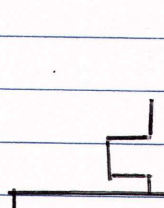
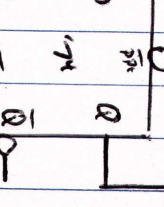
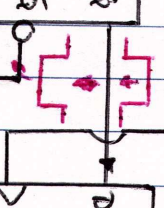
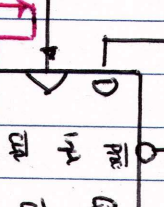
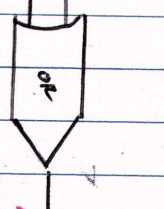
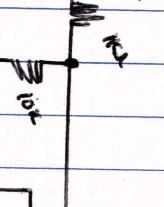
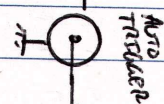
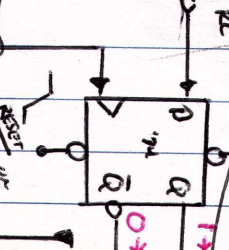
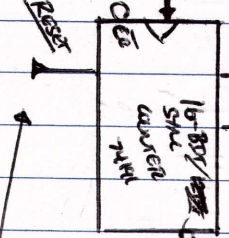
DARK PULSE
NEW SIGNALS

DARK PULSE
CHECK

34 kHz
32,768 Hz

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

0000 → 9999
000 → 999



CRATIC
WELKIN FBT
BISMARCK
BISMARCK
MONTANA

BEN
PATTI

SAM
STANLEY

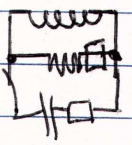
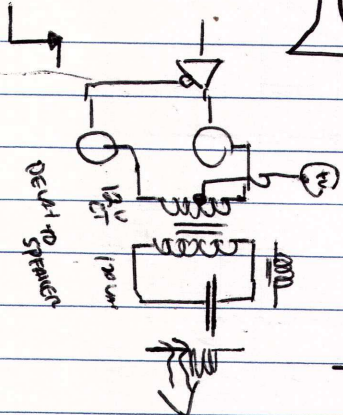
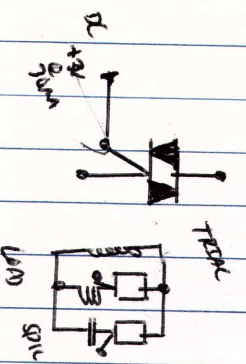
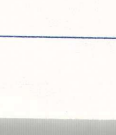
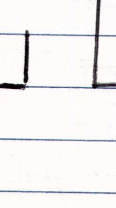
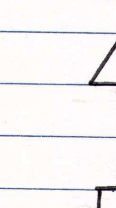
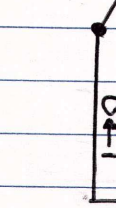
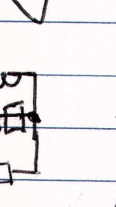
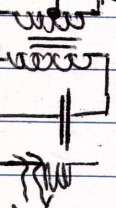
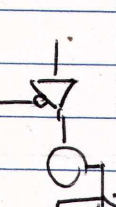
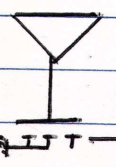
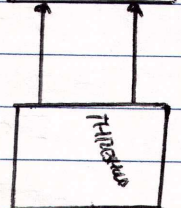
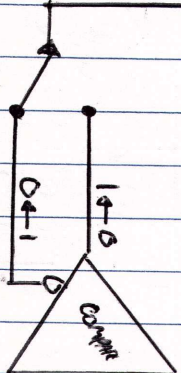
100%
400 Hz

STOP

1 → 0 on detect

1 → 0 on detect

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



TSCM ACOUSTIC LOCATION

$$331.5 \sqrt{\frac{T}{273}} = \text{SPEED OF SOUND IN AIR METERS/SEC}$$

$$T_K = T_C + 273$$

A: 4194304 Hz MASTER

B: 4096000 Hz MASTER

$$\star \text{ BETTER } ^\circ F = \left(\frac{9}{5} \cdot ^\circ C\right) + 32$$

$\star$ 8192000 Hz
÷ 2 FOR 50% DUTY CYCLE

$$\text{ROOM TEMP} = 77^\circ F / 25^\circ C / 298^\circ K$$

$$^\circ C = \frac{5}{9} \cdot (^\circ F - 32)$$

B CLOCK

FT/SEC M/S °C °F

÷ 307 13342.01954 1111 338 12.45 54.41

÷ 306 13385.62092 1115 340 14.32 57.77

÷ 305 13429.50820 1119 341 16.20 61.17

(INCHES)

(FEET)

$\star$ ÷ 300 13653.33333 1137 346 25.93 78.67

$\star$ ÷ 301 13607.97342 1133 345 23.94 75.10 (3.6°)

$\star$ ÷ 302 13562.91391 1130 344 21.98 71.56

$\star$ ÷ 299 13698.99666 1141 348 27.93 82.27

$\star$ ÷ 298 13744.96644 1145 349 29.95 85.91

$\star$ ÷ 303 13518.15182 1126 343 20.04 68.06

÷ 304 13473.68421 1122 342 18.11 64.60

$\star$ ÷ 297 13791.24574 1149 350 31.99 89.59

	2	1	4	3	1	0	8	4	2	1	
298	1	0	0	1	0	1	0	1	0	1	0
299	1	0	0	1	0	1	0	1	1	1	1
300	1	0	0	1	0	1	1	0	0	0	0
301	1	0	0	1	0	1	1	0	1	1	1
302	1	0	0	1	0	1	1	1	1	0	0
303	1	0	0	1	0	1	1	1	1	1	1
304	1	0	0	1	1	0	0	0	0	0	0
296	1	0	0	1	0	1	0	0	0	0	0
297	1	0	0	1	0	1	0	0	1	0	1
298	1	0	0	1	0	1	0	1	0	0	2
299	1	0	0	1	0	1	0	1	1	0	3
300	1	0	0	1	0	1	1	0	0	0	4
301	1	0	0	1	0	1	1	0	1	0	5
302	1	0	0	1	0	1	1	1	0	0	6
303	1	0	0	1	0	1	1	1	1	1	7

$\star$ SWITCH 16 IN/OUT HEX ON 8/4/2/1

$$\frac{5-BDT}{319-288}$$

$$\frac{4-BDT}{A: 304-319}$$

$$\rightarrow 13,473 \rightarrow 13,744$$

$$B: 303-160$$

EXCLUDE

90°
86°
82°
79°
75°
72°
68°

	16	8	4	2	1	
255	1	1	1	1	1	31
256	1	0	0	0	0	16
257	0	1	1	1	1	15
258	0	0	0	0	0	0

$$65^\circ \rightarrow 16^\circ$$

$$304-319$$

$$124^\circ \rightarrow 68^\circ$$

$$258-303$$

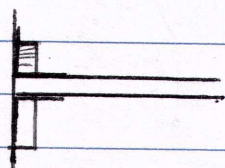
BATTERYDADDY.COM

HELTI GUN ? MILLITUM STAR DIAMOND

~~FBI~~

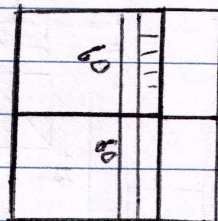
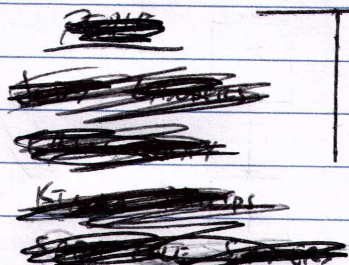
~~GRAN BELL WAREHOUSE~~

~~Sgt. THOMAS DEWASIK TOM DROG TFO~~

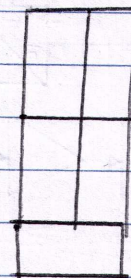
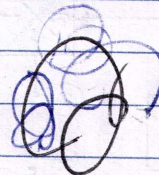


8'6"

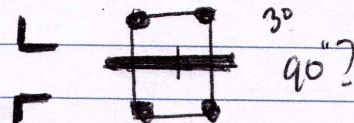
8'6"



5'



PARTS
CART



30
90°?

IDEA

• FINGERPRINT W BREAKDOWN?

• CLOTHES CLEANER = ALCOHOL + HEAT ROLLER PRESS + ULTRAVIOLET

• NEO/MATRIX BULLET DODGE W DETECT + TASER SHOCK?

- KLEEN DECKARD DROP HW

- WETTED PAPER BORDER ON ROOF EDGE

- REAR
ENCLOSED AREA - NET TO HW

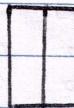
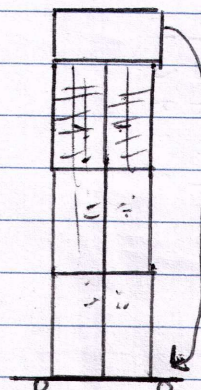
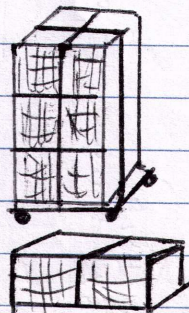
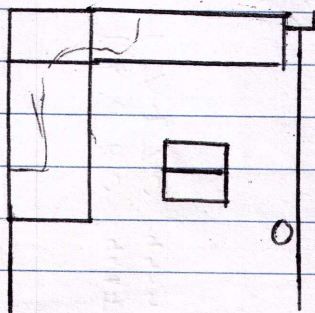
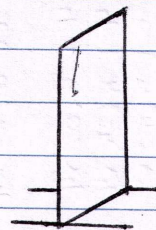
- BIKES / Bmw SHIP RIDE
AROUND

- EXT to
COMPUTER as CLOTHES COME

ULTRAVIOLET
EMISSION

TASER
SHOCK?

MEMORY
HERE
ACTIVATION

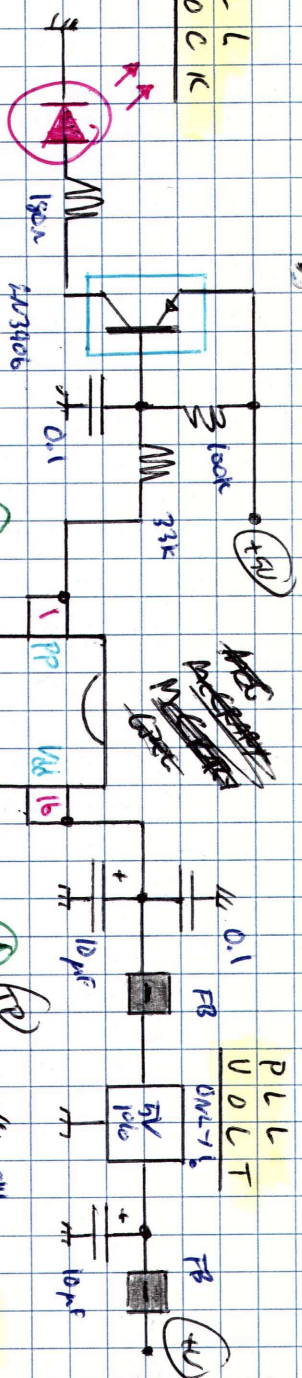


GP PR RACK
WOLF
DOPLER
RDF

PLL
LOCK

PLL
VOLT

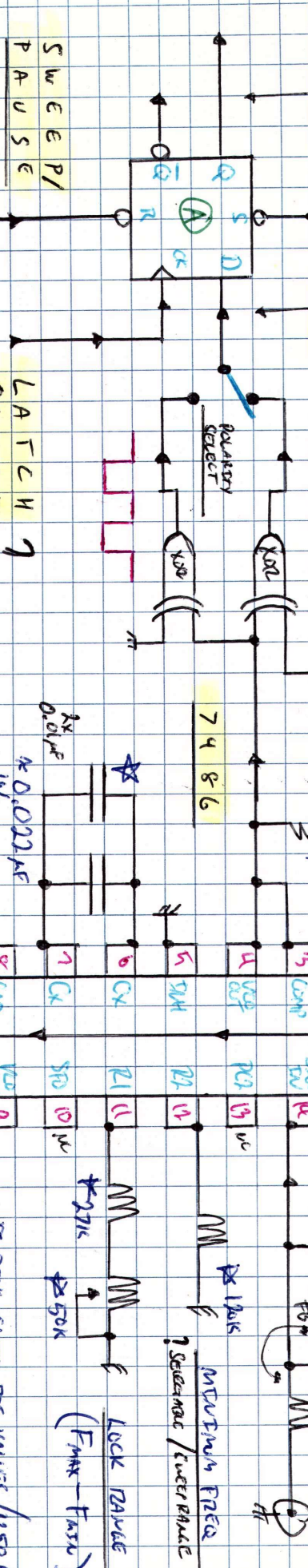
FB



LED
DTS
PLC
LATCH

PLL
IN

PLL
IN



SWEEP
P/P
PAUSE

LATCH
CLK

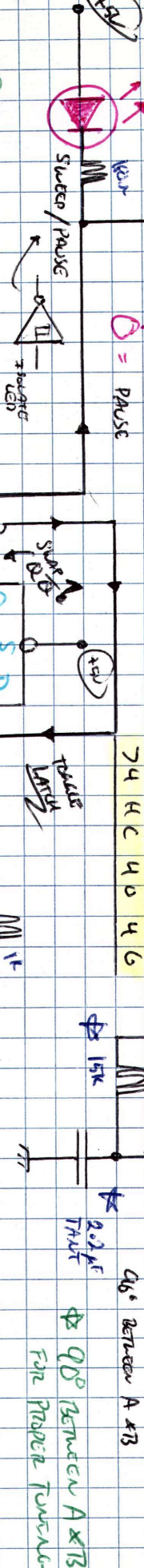
7446
7447
7448

LOCK
PAUSE
(Fmax - Fmin)

PAUSE
= STOPPED
ENABLE

7446
7447
7448

LOCK
PAUSE
(Fmax - Fmin)



SR
DCK
Q

INITIAL
POWER-ON RESET

7446
7447
7448

LOCK
PAUSE
(Fmax - Fmin)

SR
DCK
Q
INITIAL
POWER-ON RESET
STARTUP OPERATION
PUSH #1
PUSH #2

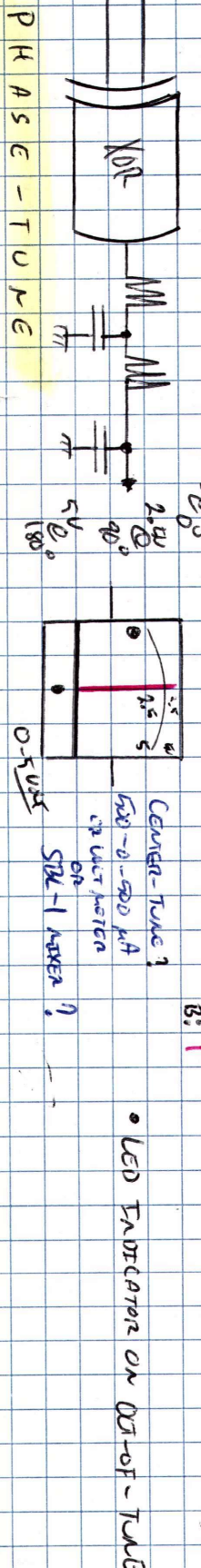
RES
T

DEBOUNCE

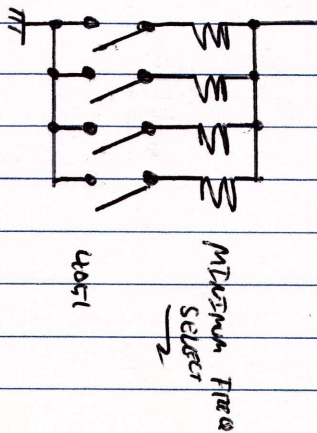
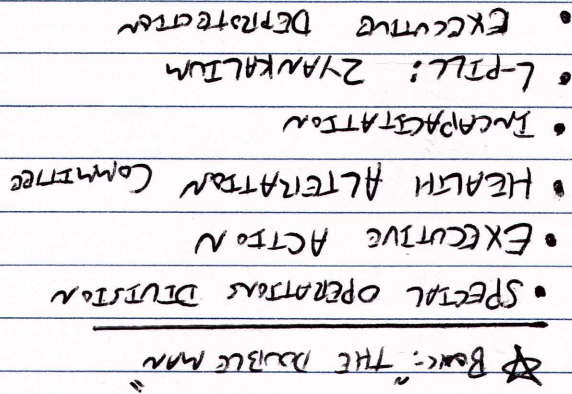
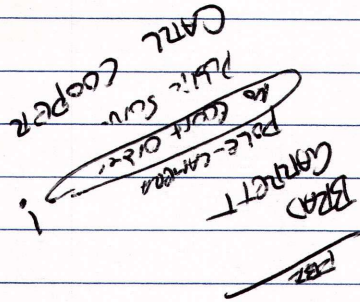
A: 0
B: 1

POWER-ON RESET

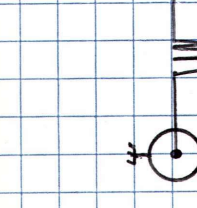
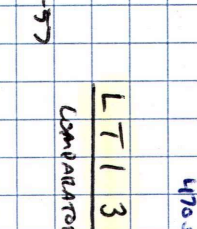
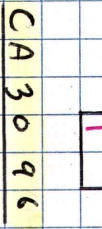
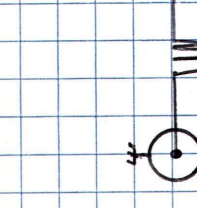
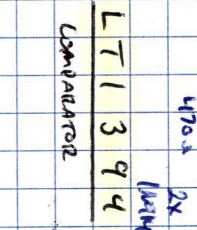
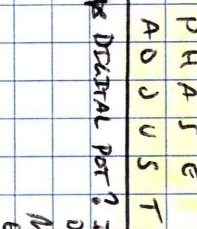
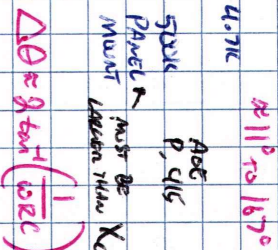
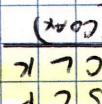
LOCK
PAUSE
(Fmax - Fmin)

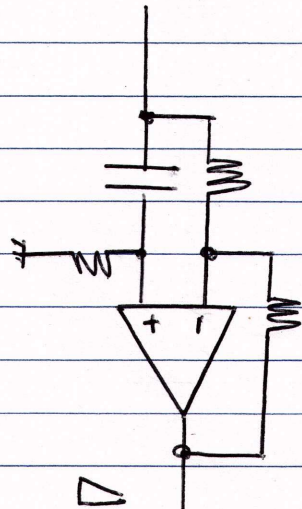
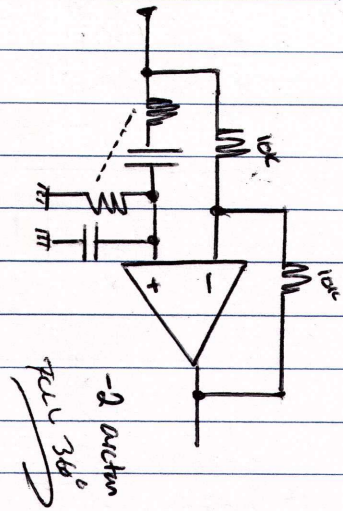


PHASE-TUNE
CENTER-TUNE?
FREQ-0-100 kHz
CP VOLT METER
SR-1 METER?



8th ORDER BESSEL BPF
Q ≈ 9 ± 8V 100:1 CLACK

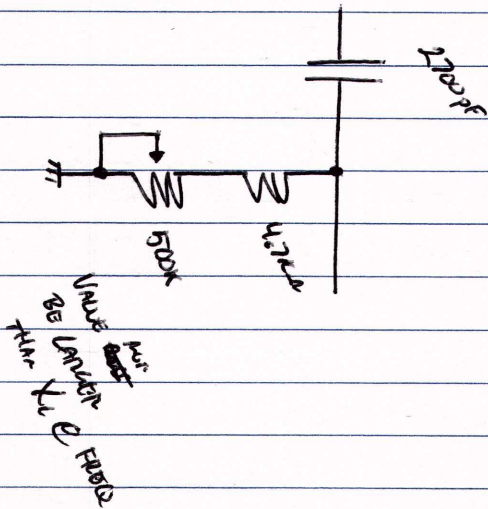




$$\Delta\theta = 2 \text{ octaves} \left(\frac{1}{\omega RC} \right)$$

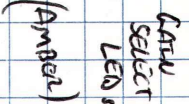
PETER FRENCH
GACRATES
FEM
MARTY PARKER

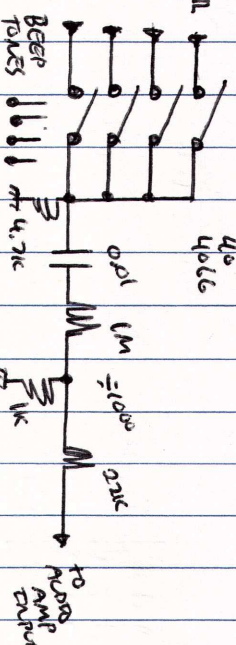
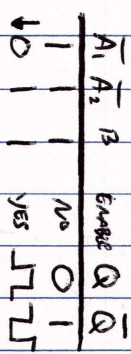
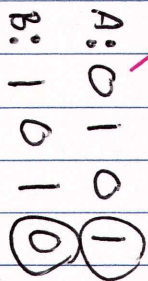
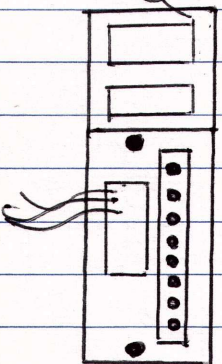
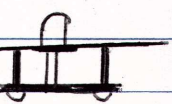
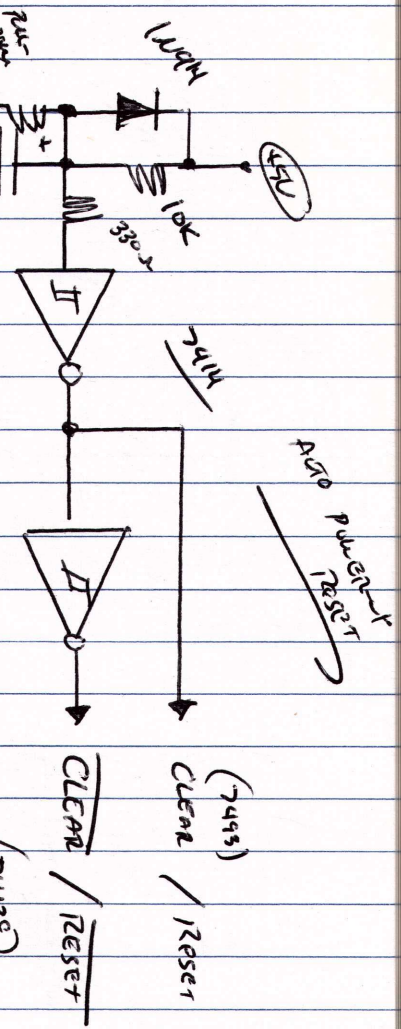
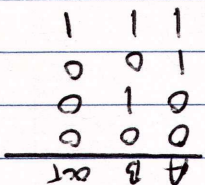
300	200k	160k
600	100k	80k
1200	50k	40k
2400	25k	20k



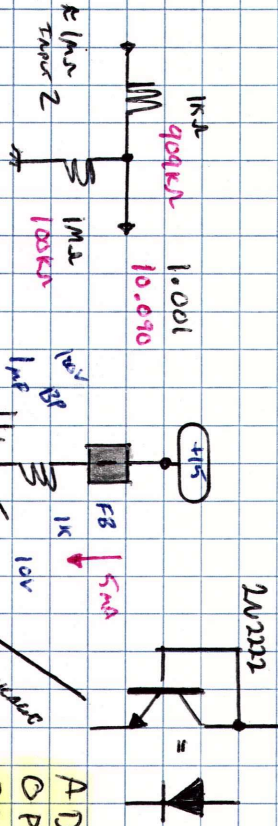
300 Hz	177°	43°	134°
600 Hz	174°	22°	152°
1200 Hz	164°	11°	168°
2400 Hz	155°	5°	173°

300 Hz	176°	35°	141°
600	173°	15°	155°
1200	166°	9°	157°
2400	153°	5°	148°





GP	PP	R			
WOL	FT	R	A	C	K
DOOP	L	E	R		
PDF					

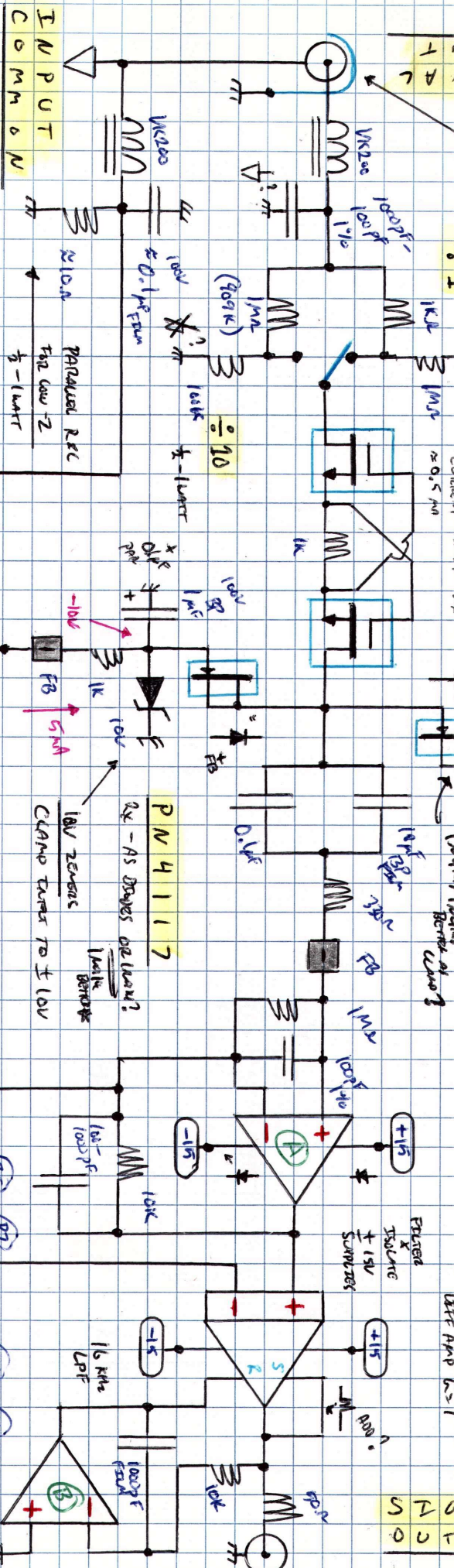


Puzzle / JSTK / Emulator	A	D	7	1	2
COPA	1	4	0		
OP A	6	0	4		
OP A	8	2	7		

IN	110B
IN	105
AMP	03

0.4 to 5.0 V_{rms}
TO LIMITER
& VU-METER

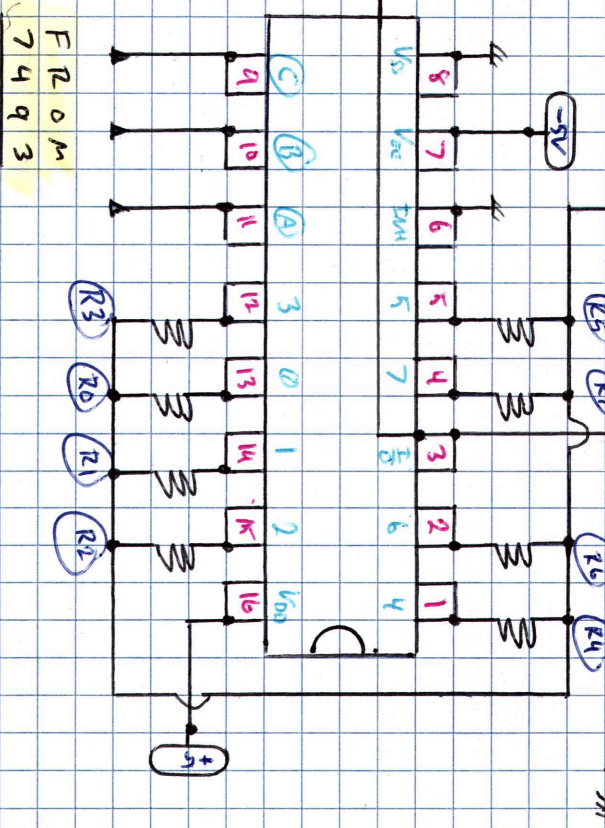
S	I	G	N	A	L
O	U	T	P	U	T

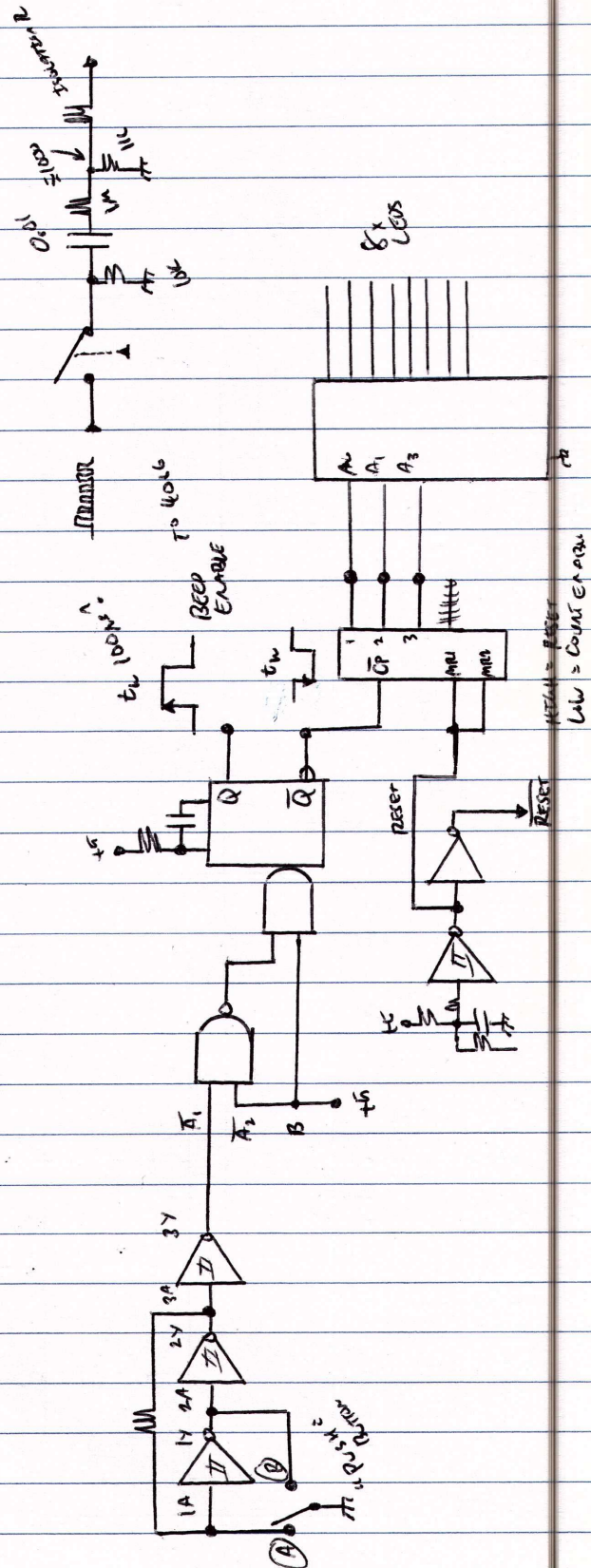
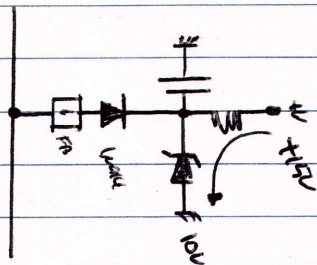
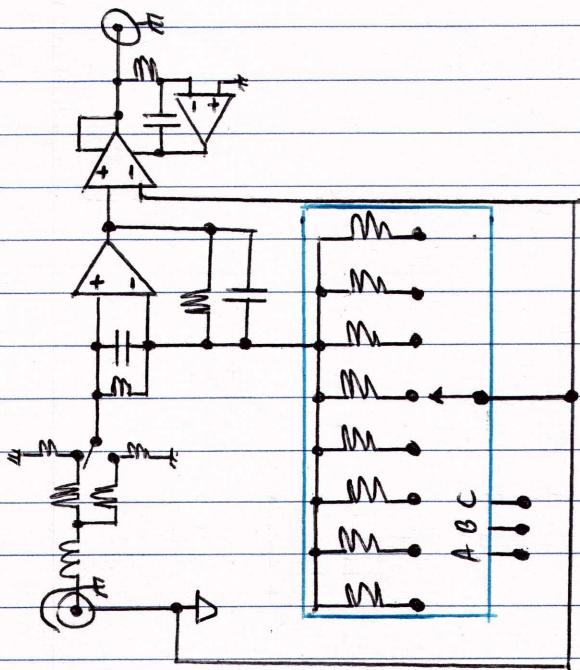
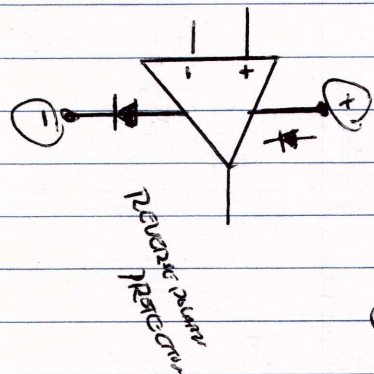


	CA	FA	NA	SE	LE	CT	
R0 =	0	P	E	N	(mm)	G = 1.0	0 dB
R1 =	2	4	2	4	0	G = 1.4	3 dB
R2 =	1	0	0	4	7	G = 2.0	6 dB
R3 =	5	4	9	9		G = 2.8	9 dB
R4 =	3	3	5	5		G = 4.0	12 dB
R5 =	2	1	6	3		G = 5.6	15 dB
R6 =	1	4	4	0		G = 8.0	18 dB
R7 =	9	7	8			G = 11.2	21 dB

cut	A	B	C	total
0	0	0	0	0
1	0	0	0	0
2	0	1	0	0
3	1	1	0	0
4	0	0	1	0
5	1	0	1	0
6	0	1	1	0
7	1	1	1	0
1	X	X	X	1

7	4	4	0	5	1
Caveau Numéro 1					
6	A	E	N		
S	E	L	E	C	T





GBPPR
WOLTRAC
DOOPLE
RDF

ACD 7.840

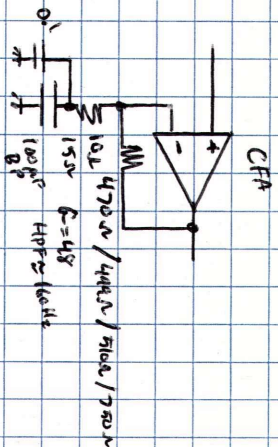
*TAD For U-Meter?

STANAL
INPUT
D.4-5.0Vms

÷ 101

±1mV TRACKING
990k For
Apparent

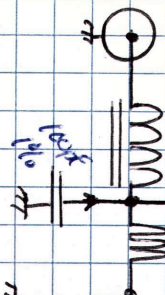
LT 1228



LMC6484
OPA140
OPA4227

Quad OP-AMPS

Fix 4mV



0.4 → 0.004
5.0 → 0.050

RMS	→	DEAK
0.500	→	0.707
0.707	→	1.000
1.414	→	2.000
2.000	→	2.828

LT 1009 (2.51)
LT 1004 (1.2)

0.2 1.2V?

2.5V 10k

1.2 ÷ 2 = 0.6
1.2 ÷ 1 = 1.2
1.2 ÷ 1.2 = 1.0

-5

10pF

10k

2.5k

-0.5V

10k

0.15pF

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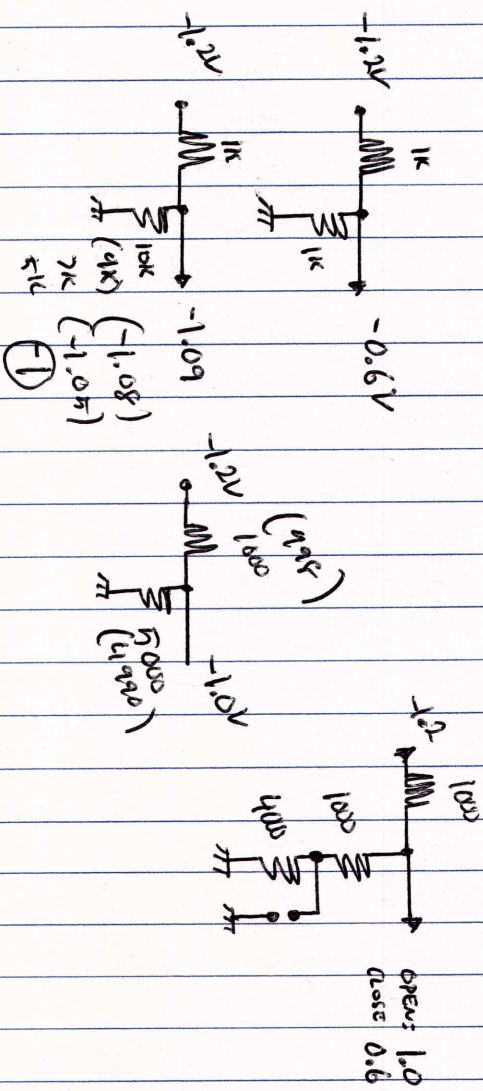
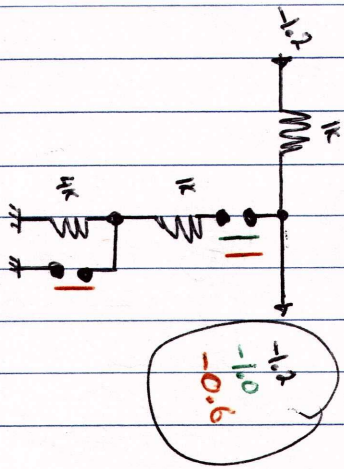
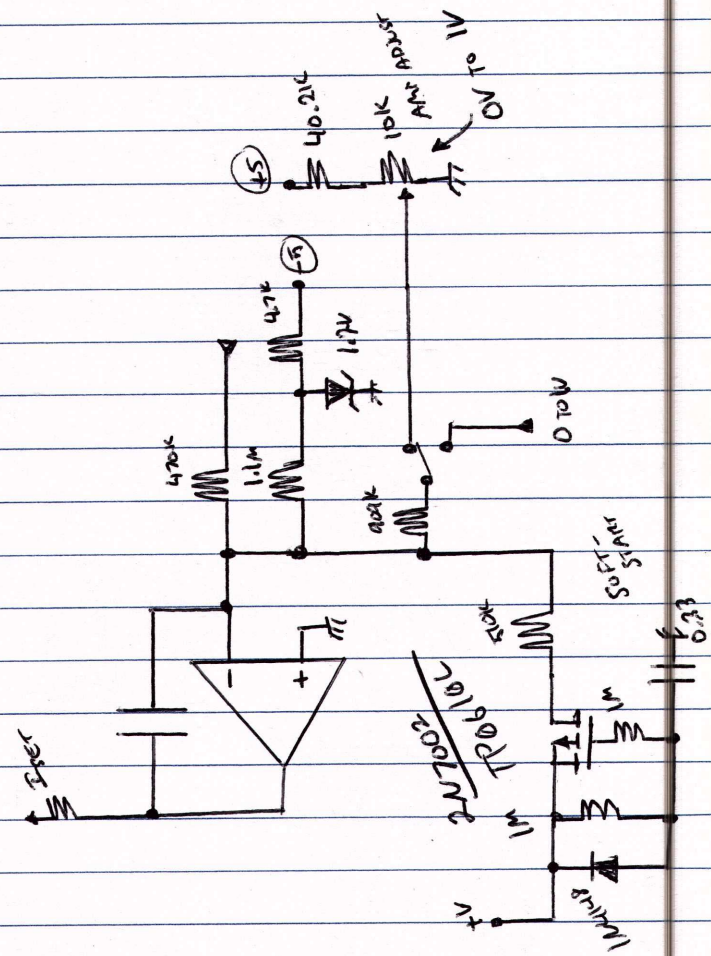
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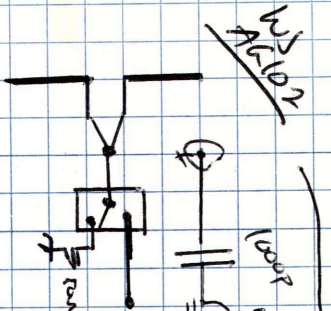
10k

10k





ANTENNA
REACT
INPUT



- HUMAN-LEVEL POWER +17dBm
- HUMAN-LEVEL POWER +17dBm
- HUMAN-LEVEL POWER +17dBm
- HUMAN-LEVEL POWER +17dBm
- HUMAN-LEVEL POWER +17dBm

• P R O - 20004
• P R O - 20006
• A D R - 30000
• A D R - 80000
• A D R - 15000

BACK-UP RECEIVER

6BPPR
WOLFTRAC
DOPPLER
RDP

RECEIVER

ANTENNA HUMAN-LEVEL POWER +17dBm
REACT INPUT

60MHz
HPF

AC102

1013.3
IF

4-Channel
BPF

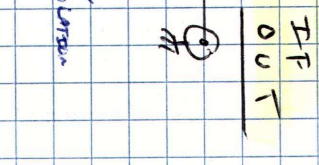
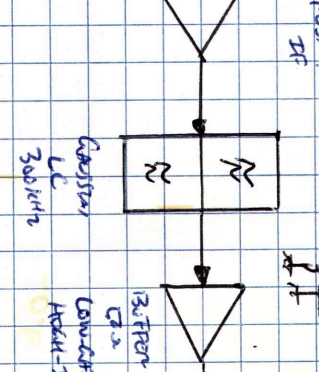
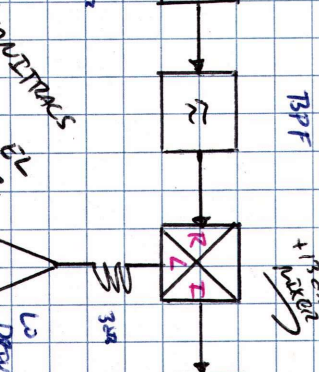
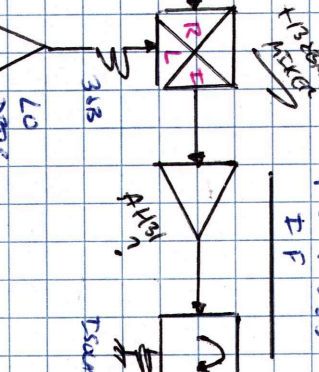
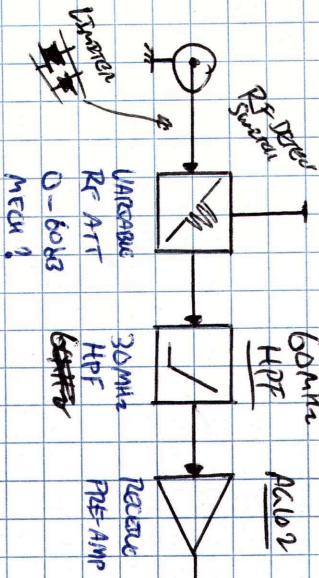
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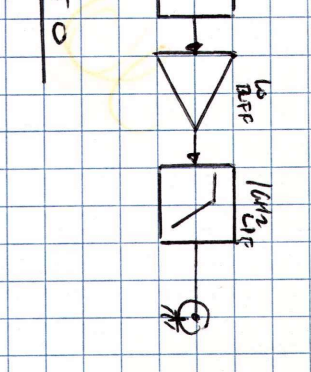
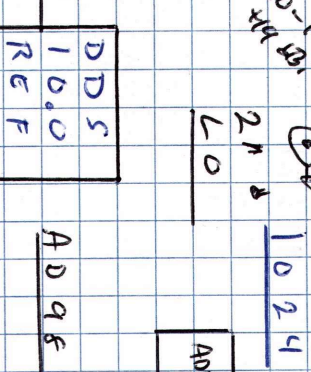
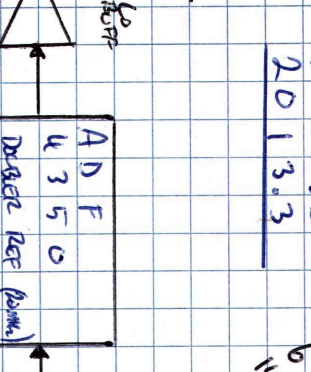
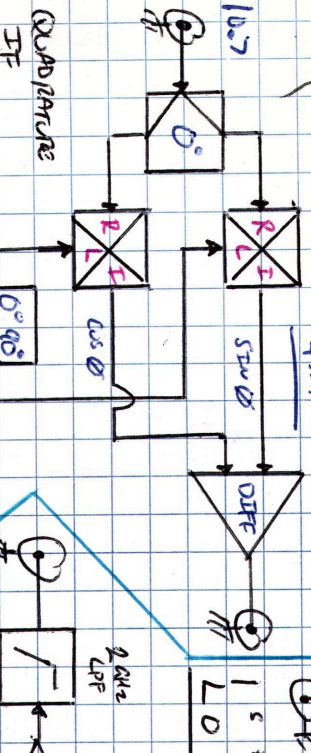
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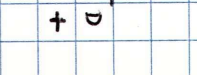
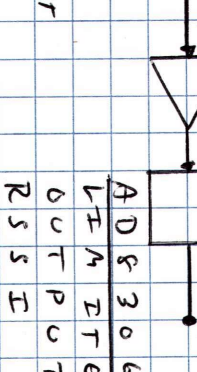
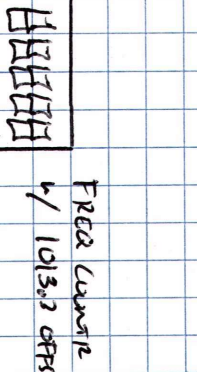
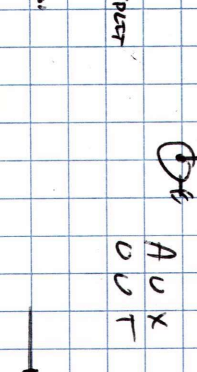
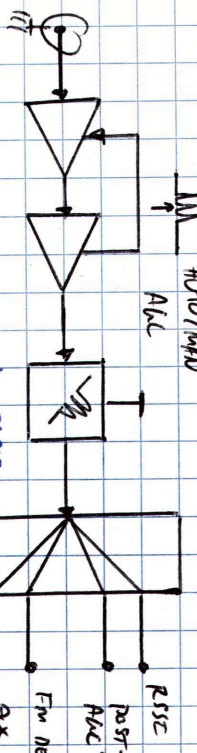
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ADK3 ALC
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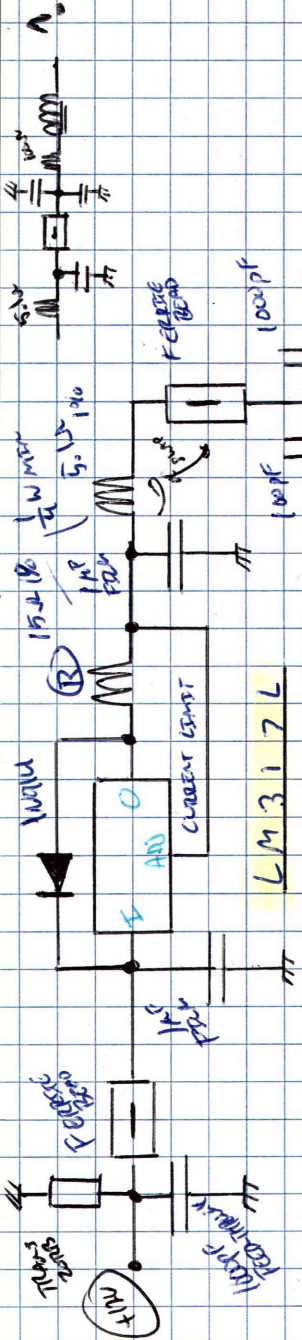
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ADK3 ALC
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ADK3 ALC
IF AMP

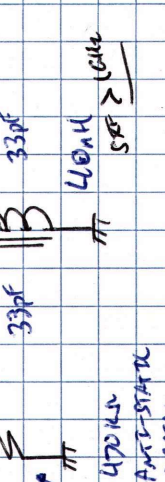
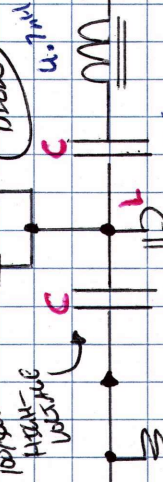
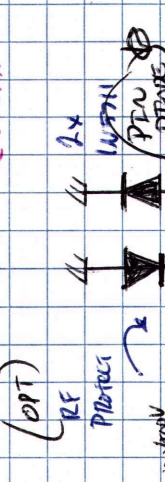
GBPPR VOLTAGE DOPPLER RDF



$I_0 = \frac{1.2W}{R}$

$R \approx 15 \Omega @ 883mA$
 $R = 12 \Omega @ 1.44A$

LM117
IMPROVED
CA317



$C = \frac{1}{2\pi \cdot f_{cut} \cdot R_{in} \cdot 0.1}$

$L = \frac{1}{2\pi \cdot f_{cut} \cdot 0.2}$

100 nH
 $H P F$

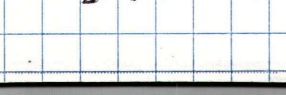
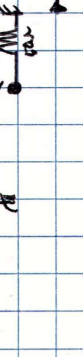
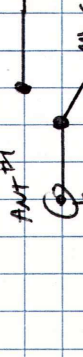
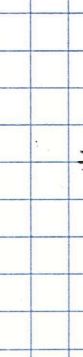
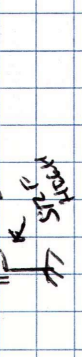
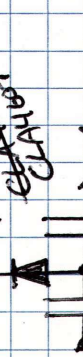
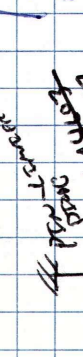
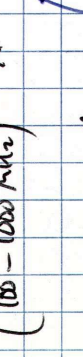
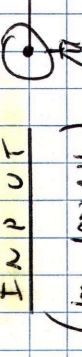
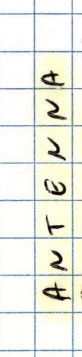
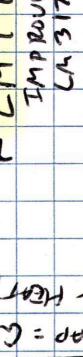
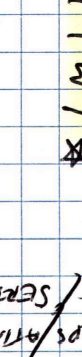
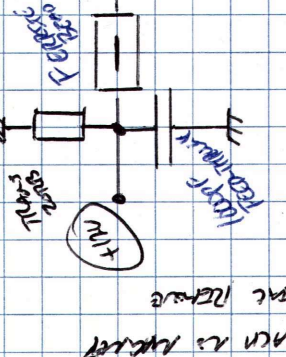
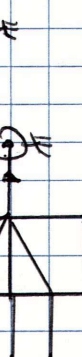
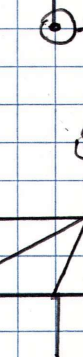
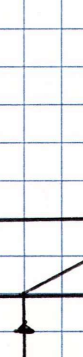
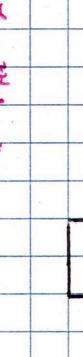
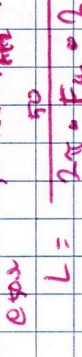
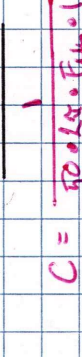
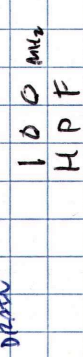
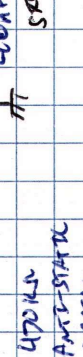
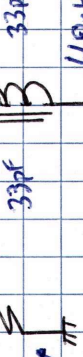
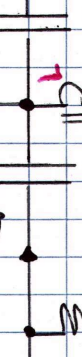
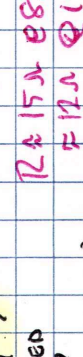
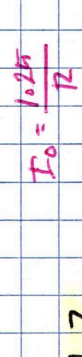
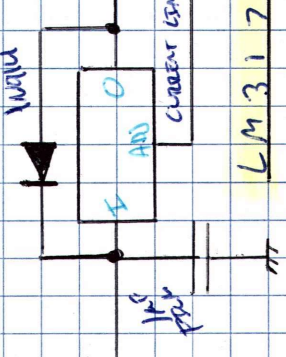
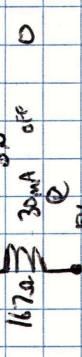
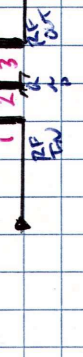
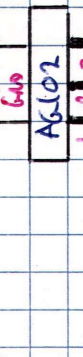
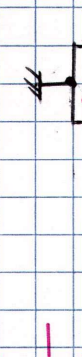
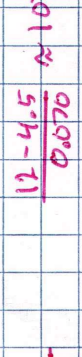
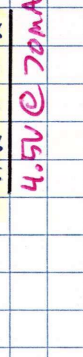
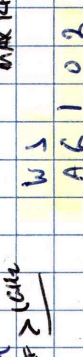
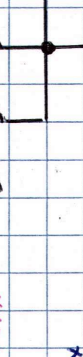
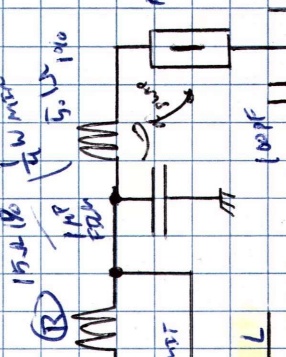
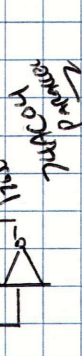
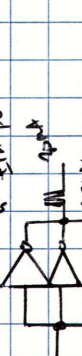
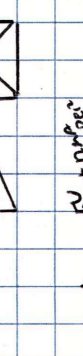
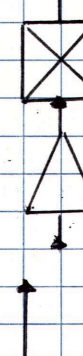
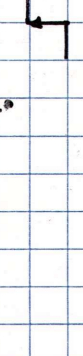
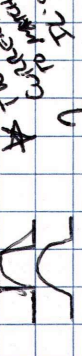
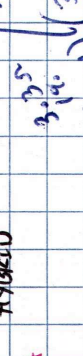
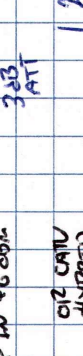
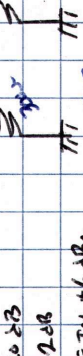
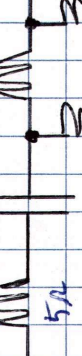
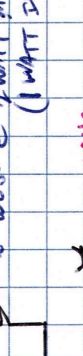
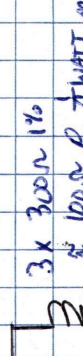
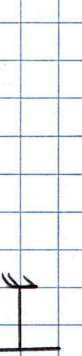
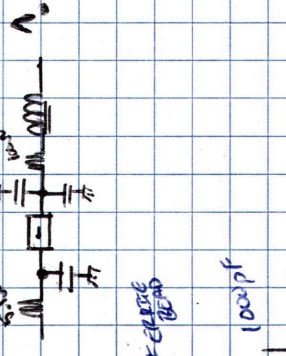
$12 - 4.5 \approx 107 \Omega$
 0.070

$4.5V @ 70mA$

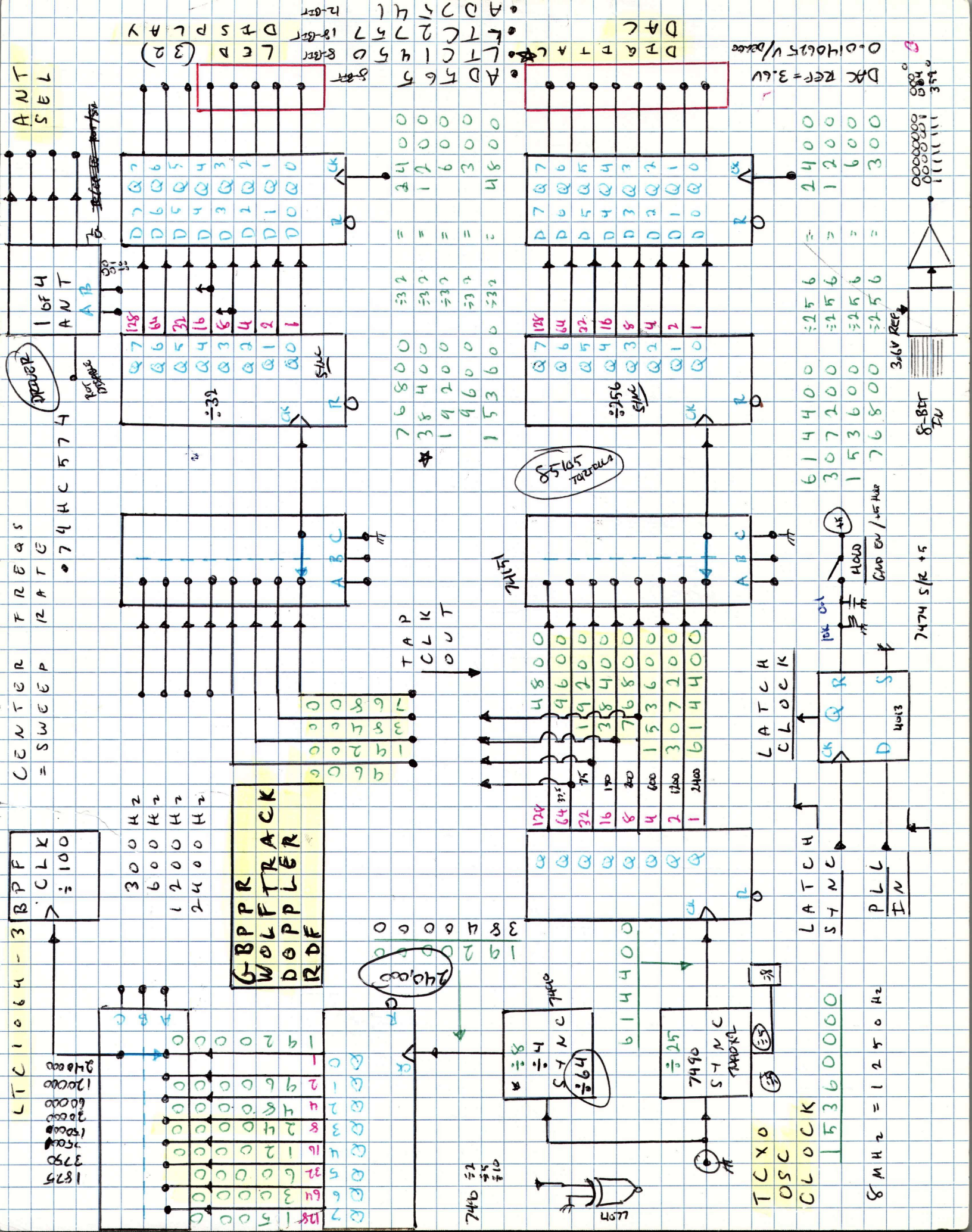
$100 - 1000 \text{ MHz}$

167Ω

$30mA @ 10V$



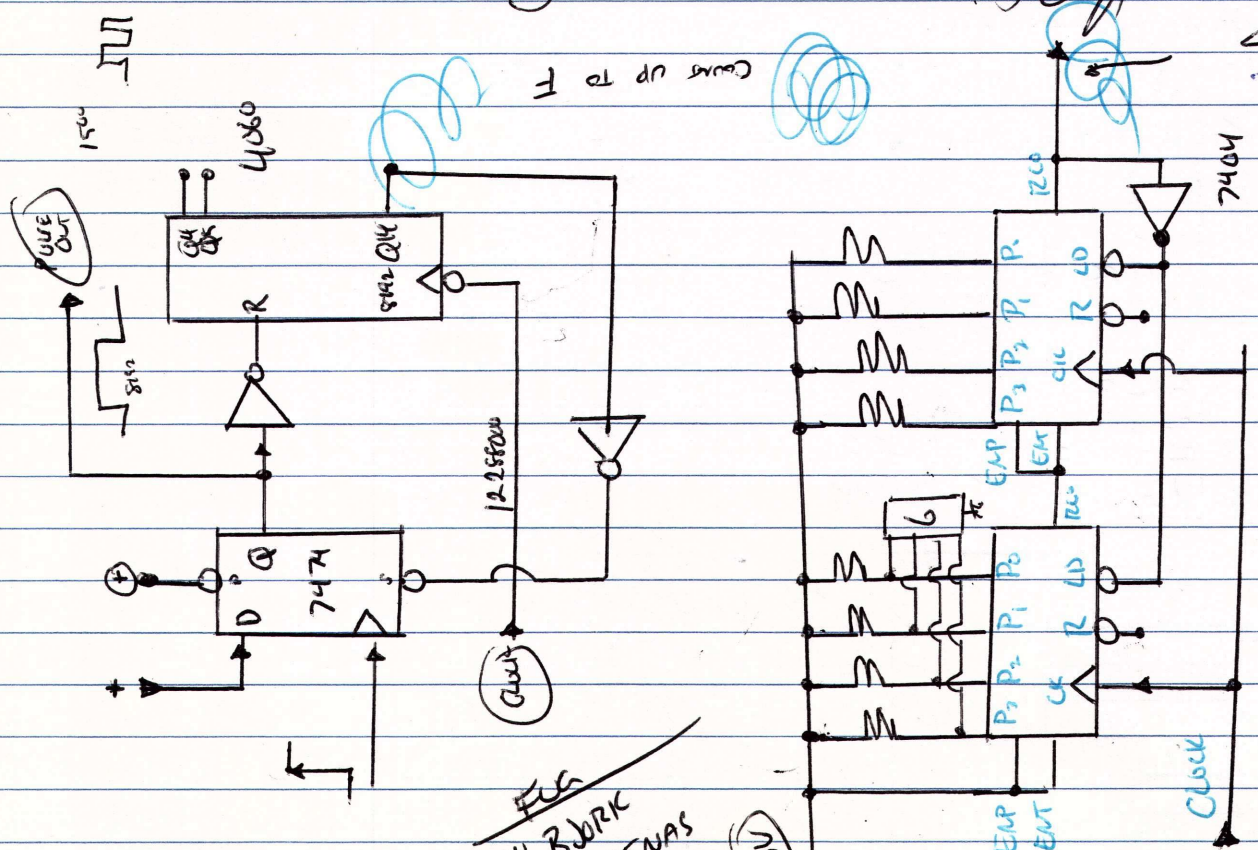
$\frac{1}{210} = \frac{0.004}{0.004}$



FEEL
BEAN BORK
DAUO SALINAS

Sync
± 25

74113
Ape p. 750



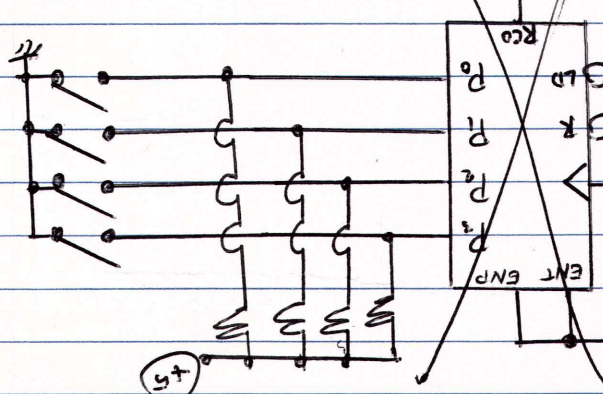
$$f_o = \frac{f_i}{n+1}$$

Counts up to F

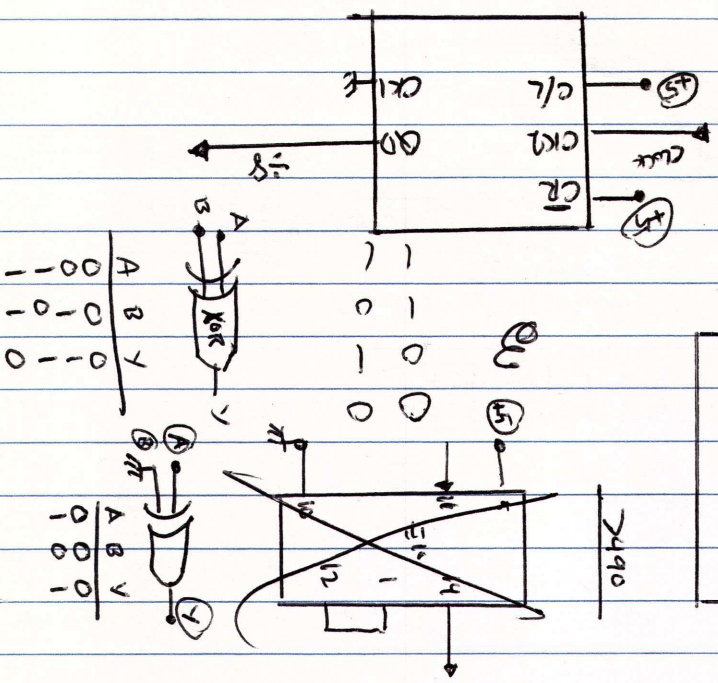
UUT

6

8	4	2	1
0	0	0	0
0	1	1	0
1	1	1	1



A	B	Y
0	0	1
0	1	0
1	0	1
1	1	0

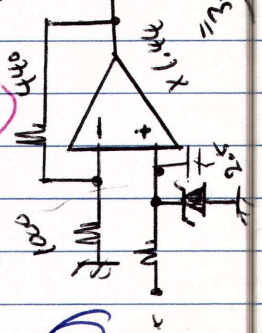
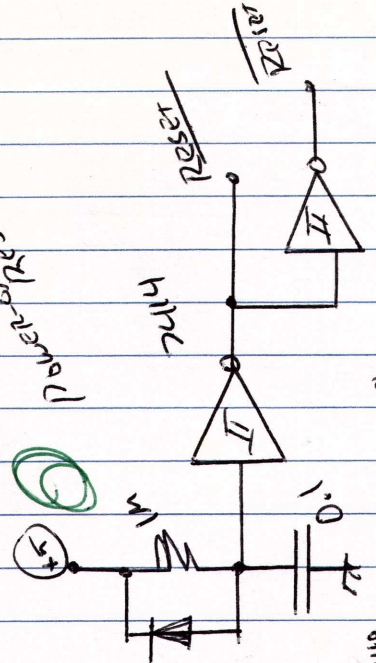


Lower order

high

MAX

MAX



M V 7 5 4 1 ?
12-bit better?
+ E5 45W

G B P P R
W O L F T R A K
D O P P L E R
R D F

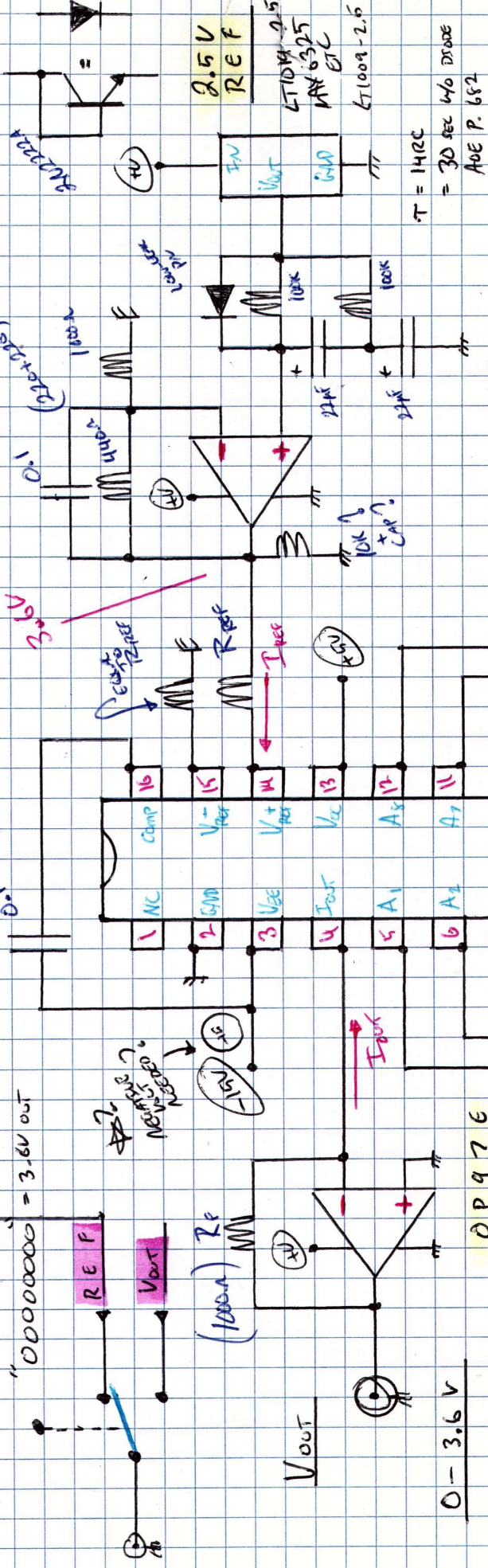
D A C 0 8 0 8
D A C 0 8

$2.5V \times 1.44 = 3.6V$

$CATN = \frac{440}{1000} + 1 = 1.44$

O P 9 7 E

$0.000000 = 3.6V \text{ OUT}$



$V_{OUT} = I_{OUT} \cdot R_F$
 $MAX(255) = 0.003585438 \cdot 1000$
 $= 3.585438V$

$I_{REF} = \frac{V_{REF}}{R_{REF}}$
 $= \frac{3.6V}{1000\Omega}$
 $\rightarrow 0.0036A$

$I_{OUT} = I_{REF} \cdot \left[\frac{0-255}{256} \right]$

$MAX(255) = 0.0036 \cdot \left(\frac{255}{256} \right)$
 $= 0.003585438$

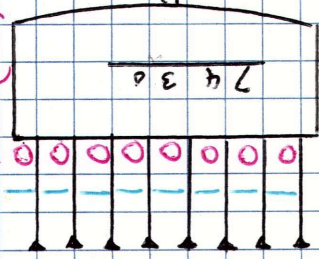
LED VOLT

360
001
003
023
180
270
359

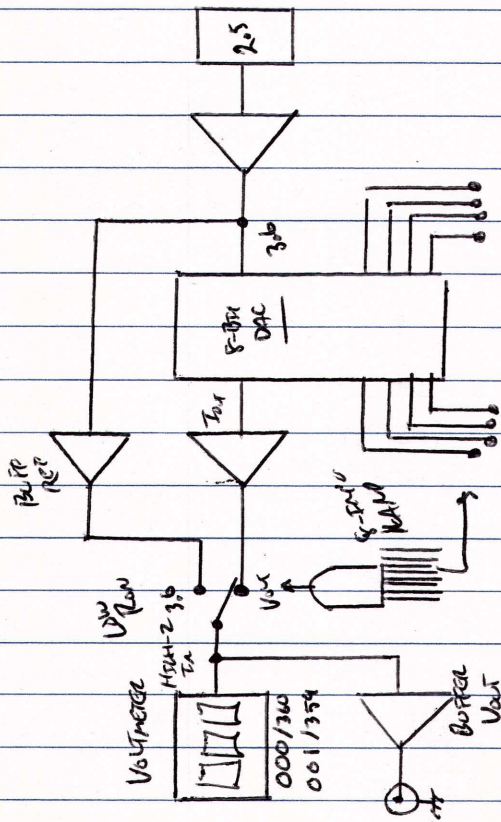
0.0141
0.0281
0.2250
1.8000
2.7000
3.5859

0000
0001
0010
0000
0000
0000
1111

0
1
2
16
128
442
255



BCD
C N T R
R E S E T

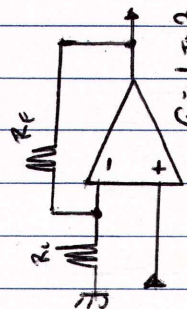
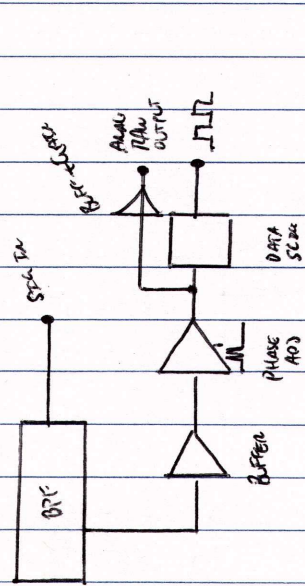


0000 0000 0000 0000

1111 1111 1111 1111

0000 0000 0000 0000

1111 1111 1111 1111

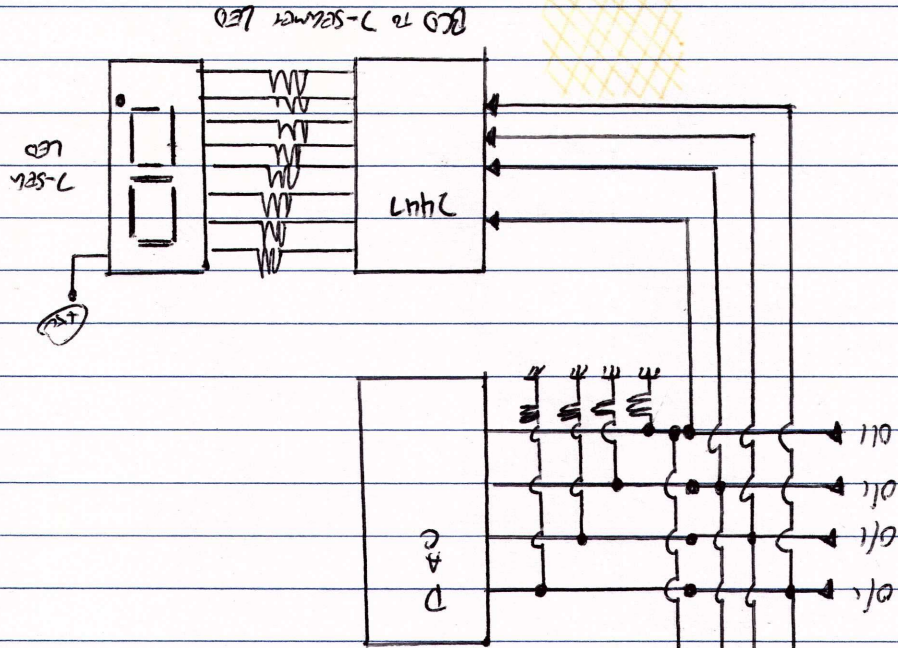


0000 0000 0000 0000

1111 1111 1111 1111

0000 0000 0000 0000

1111 1111 1111 1111

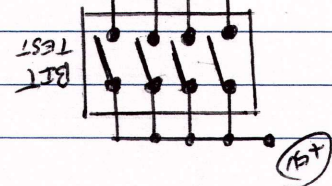


0000 0000 0000 0000

1111 1111 1111 1111

0000 0000 0000 0000

1111 1111 1111 1111

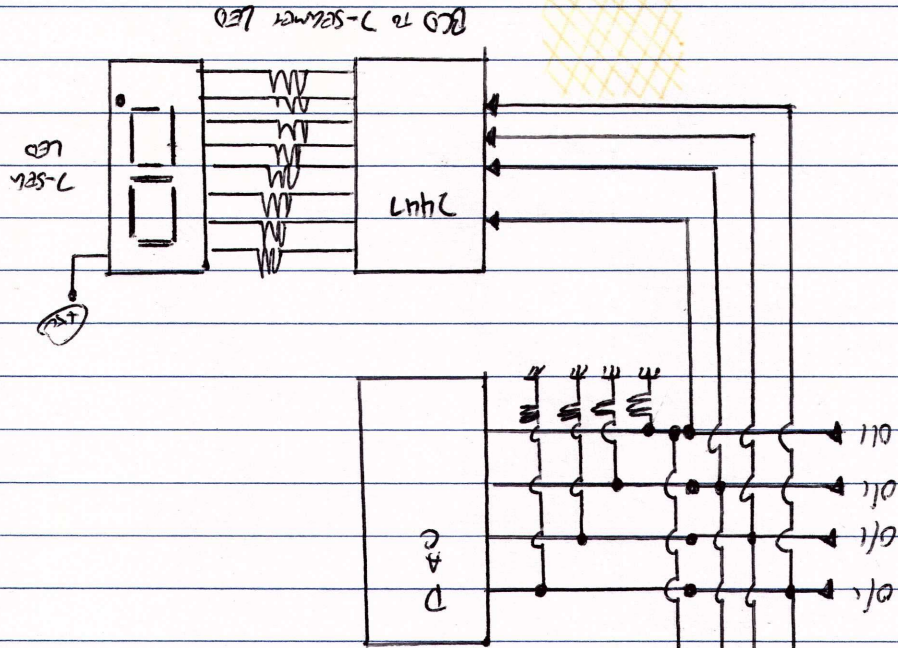


0000 0000 0000 0000

1111 1111 1111 1111

0000 0000 0000 0000

1111 1111 1111 1111

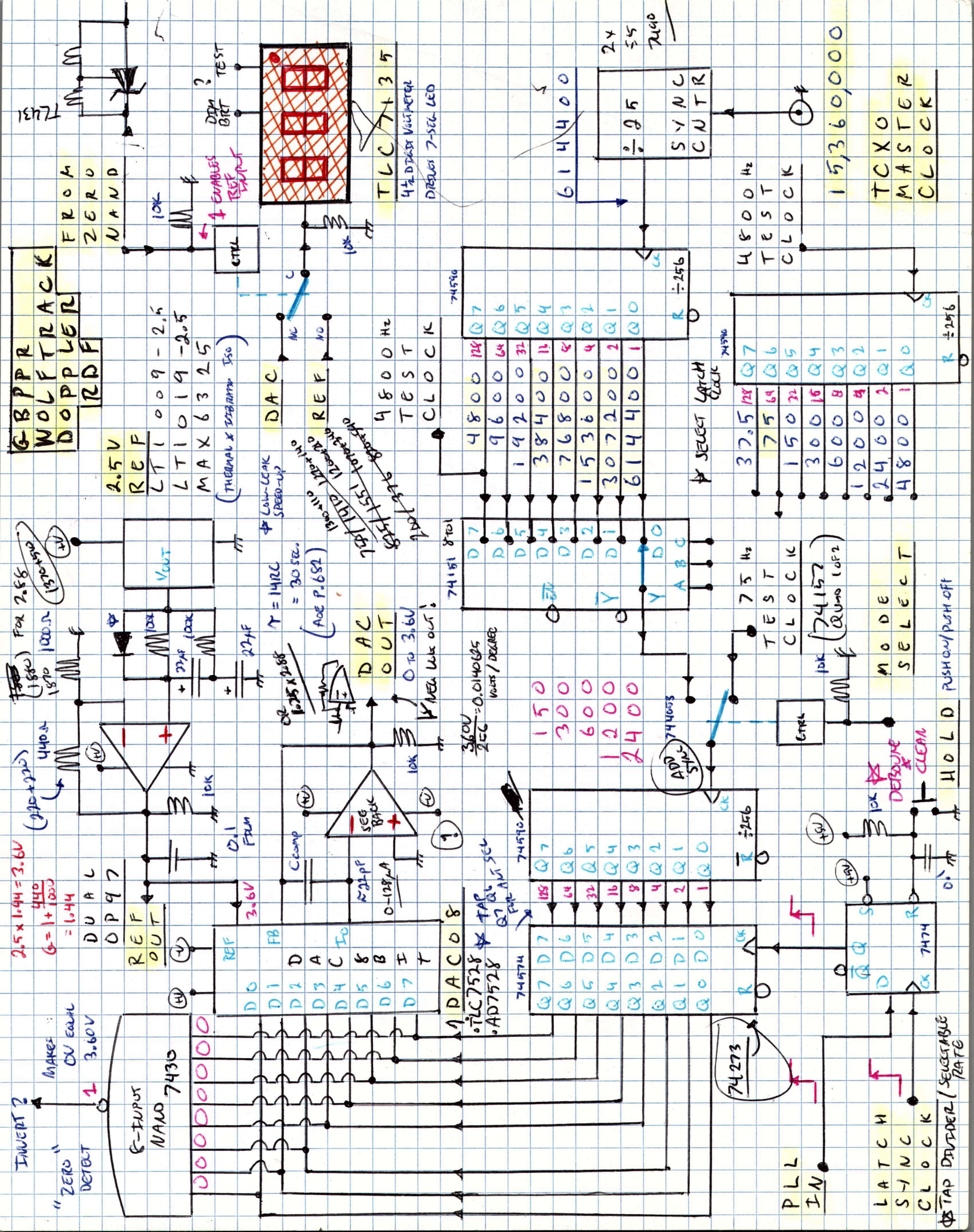


0000 0000 0000 0000

1111 1111 1111 1111

0000 0000 0000 0000

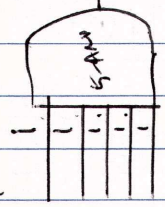
1111 1111 1111 1111



3125

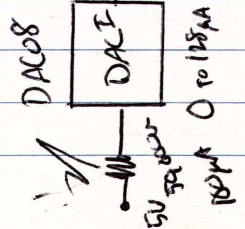
$2550 + 576 = 3126$
 $3000 + 124 = 3124$
 $3010 + 115 = 3125$
 $2870 + 255 = 3125$

CD CLK



$2 \times 0.1\%$
 6200
 3125

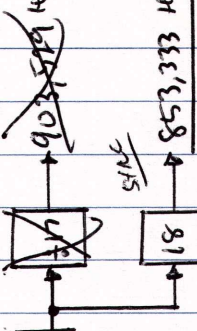
3125
 $3000 + 124$



$0.4V$
 $128\mu A$
 3125

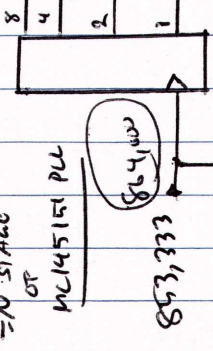
$0.4 \times 9 = 3.6V$
 $0.36 \times 10 = 3.6V$

$15,360,000$



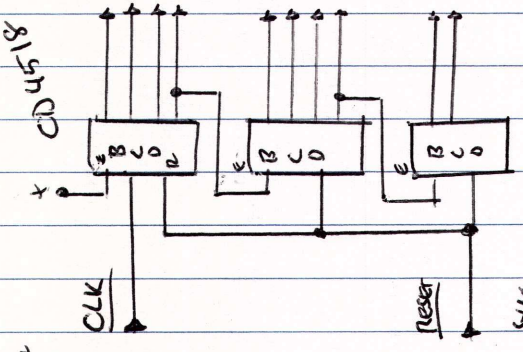
18
 $853,333$

$781,000$
 $96,010$



$2400 = 360$
 $7870 = 360$

SWEEP
 $864,000 = 2400 Hz$
 $432,000 = 1200 Hz$
 $216,000 = 600 Hz$
 $108,000 = 300 Hz$

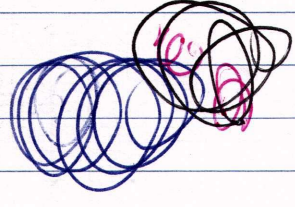


TO LATCH TO CD4511
 TO LED
 MANU

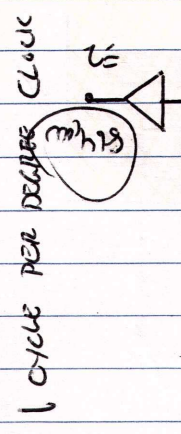
CD4511
 • LAMP TEST
 • BLANK
 • LAMP ERROR

OVER 0 3
 TENS 0 5
 HUND 0 9

$15,360,000 \div 32 = 480,000$
 $480,000 \div 32 = 15,000$
 $15,000 \div 32 = 468.75$



$359,988,7504 Hz$
 $-0.012496 Hz$
 $N = 10,667$



$15,360,000$
 1780
 1740
 1700
 1660
 1620
 1580
 1540
 1500
 1460
 1420
 1380
 1340
 1300
 1260
 1220
 1180
 1140
 1100
 1060
 1020
 980
 940
 900
 860
 820
 780
 740
 700
 660
 620
 580
 540
 500
 460
 420
 380
 340
 300
 260
 220
 180
 140
 100
 60
 20
 0

LED DEGREE DISPLAY

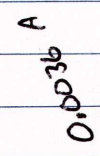
356
 356
 356

- JOINT STRATEGIC TARGET PLANNING - JSTP
 - TECHNICAL ADVERSARY GROUP - TAG

- PAC-1S ALPHA-RADIATION DETECTOR

(MC3340)

$$\max I_{\text{tot}} = 0.003585438$$



$$\frac{= 16}{\div 2} \quad 960,000 + 1728000 \div 2 = 864,000$$

$$\begin{array}{r} \neq 8 \\ 1920,000 \\ \neq 10 \\ 1536,000 \\ \neq 4 \\ 3840,000 \\ \neq 5 \\ 3672,000 \end{array} + 3456,000 \neq 4 = 864,000$$

$$\begin{array}{r} \neq 8 \\ 1920,000 \\ \neq 10 \\ 1536,000 \\ \neq 4 \\ 3840,000 \\ \neq 5 \\ 3672,000 \end{array} + 3456,000 \neq 4 = 864,000$$

• LAMP TEST ON STARTUP

• RESET ALL TO 0 ON STARTUP (7447) CA

BED-TO LED

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

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741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

741 4 5 1 1 0

LAMP

(w/ RESET - CLEAR)

(7 4 2 7 3)

4 0 7 6

4 0 7 6

4 0 7 6

4 0 7 6

4 0 7 6

4 0 7 6

4 0 7 6

4 0 7 6

4 0 7 6

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ALPH

7 4 2 7 3

4 5 1 8

4 5 1 8

4 5 1 8

4 5 1 8

4 5 1 8

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RESET BCD & LED

STYLE TO BINARY CHIR

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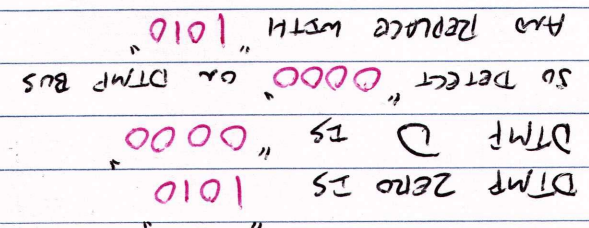
7433

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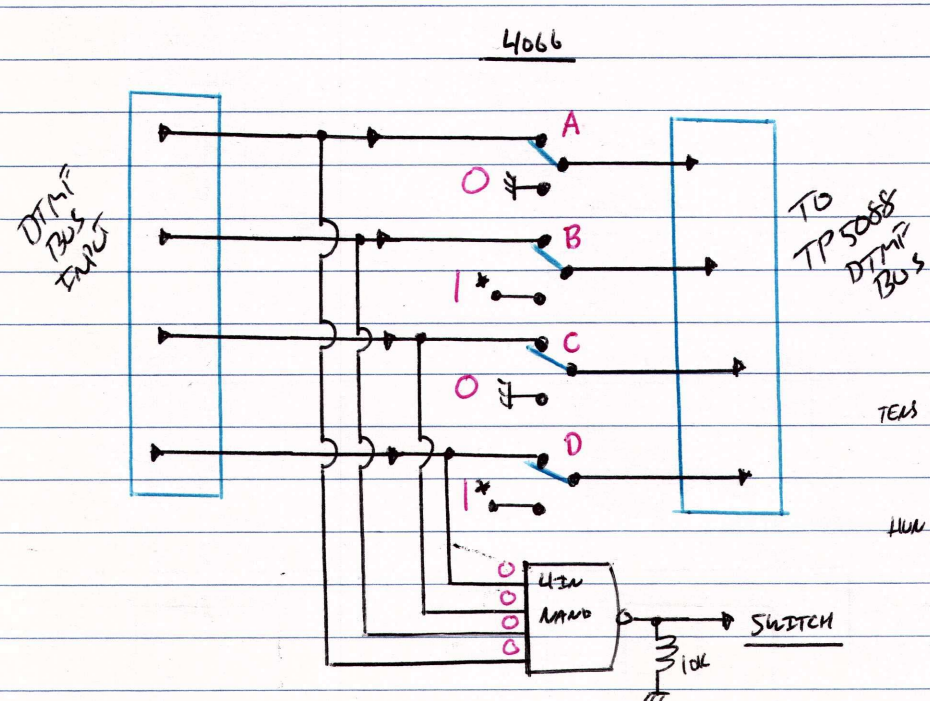
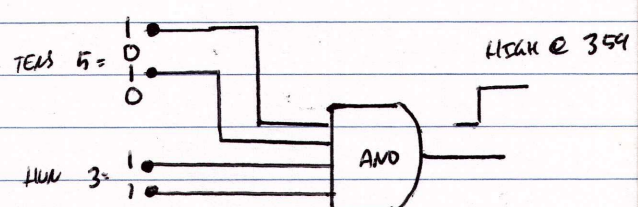
7433

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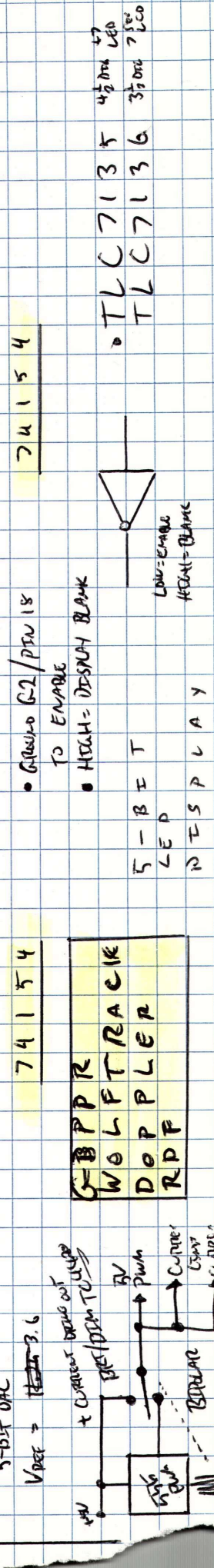
7433



	D	C	B	A
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	0	1	1
6	0	1	1	0
7	0	0	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	#	1	0	0
13	A	1	1	0
14	B	1	1	0
15	C	1	1	1
16	D	0	0	0



IF "0000" SWITCH TO DTMF 0 "1010" INSTEAD OF DTMF D "DCBA"



TL	C	7	1	3	5	$4\frac{1}{2}$ hrs	$4\frac{1}{2}$ hrs	7 th
TL	C	7	1	3	6	$3\frac{1}{2}$ hrs	$3\frac{1}{2}$ hrs	7 th

- GND G2/PIN 18 TO ENABLE

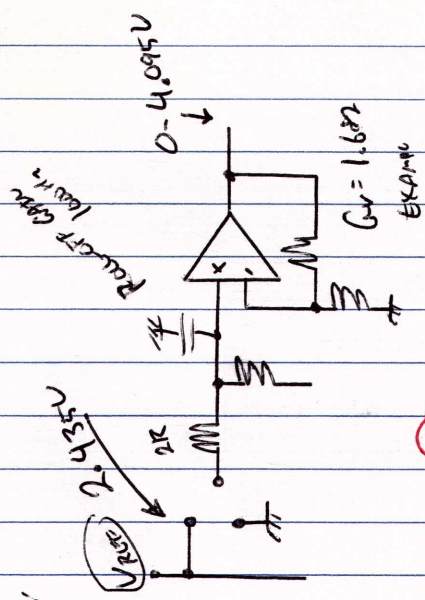
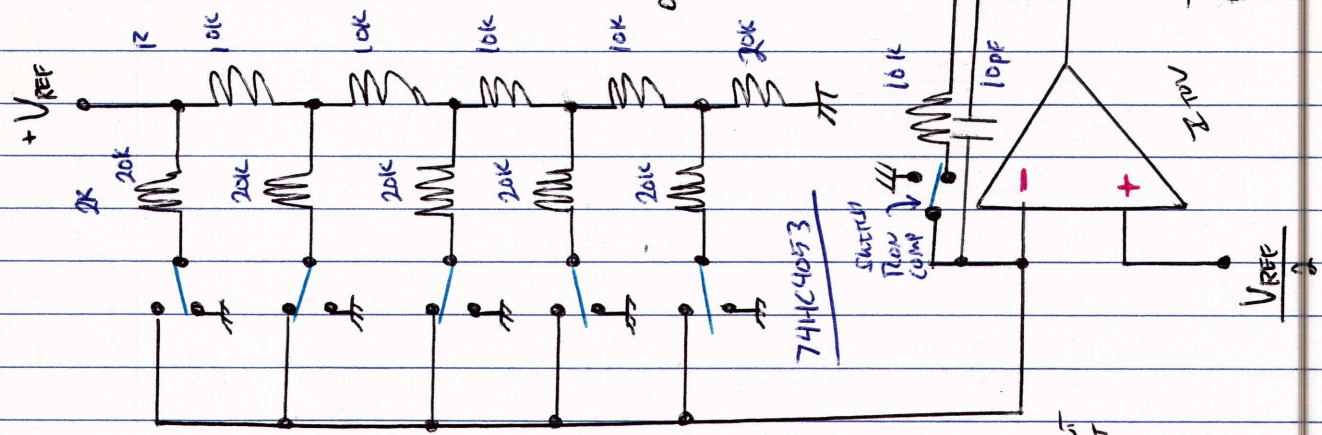
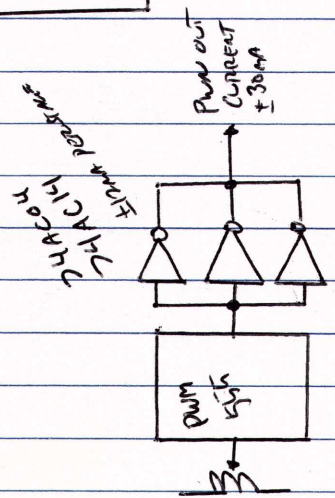
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74	15	4
----	----	---

$$\sqrt{0.01} = \sqrt{10^{-2}} = 10^{-1} = 0.1$$

Handwritten diagram illustrating a circuit for a TV and a pump, connected to a battery. The circuit includes a switch labeled "ON/OFF" and a component labeled "TV". The diagram shows the flow of current from the battery through the switch and the TV, and then back to the battery. The text "Current flows out" is written near the battery, and "Current flows in" is written near the battery.

LOW = EMAGUE
HOLD = PLANE



0.0000/34	00000	0
0.1175	00001	1
0.2250	00010	2
0.4500	00100	4
0.9000	01000	8
1.8000	00000	16
3.4875	11111	31
8.4750	10110	22

$V_{REF} = 3.6V$

$0.0000 \times 0/3.6 = 0.1125$
 $0.03125 = 1.8000$
 0.50000
 0.43750
 0.96875

$$5711.0 = \frac{72}{3.6}$$

5-IST DAL
PRECISION 10%
VISUAL 10%
RESEARCH 10%

0-01-09
HART
~~288~~
00

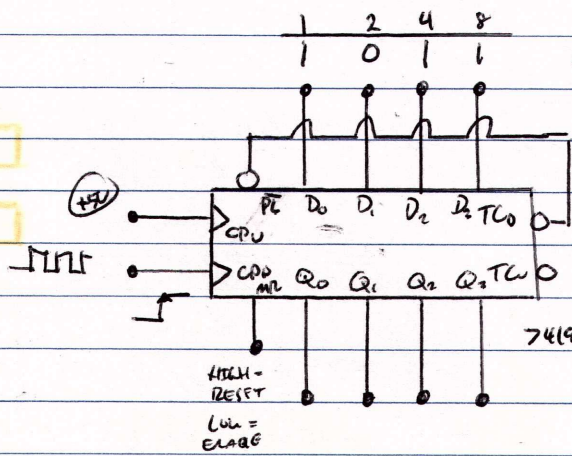
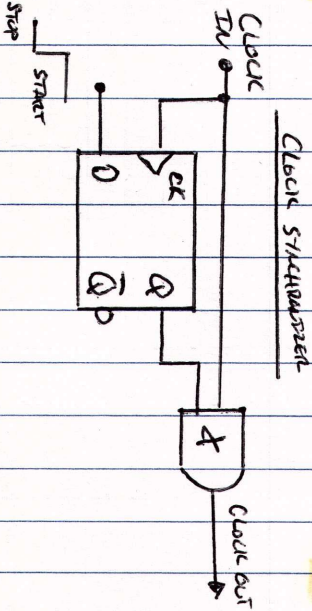
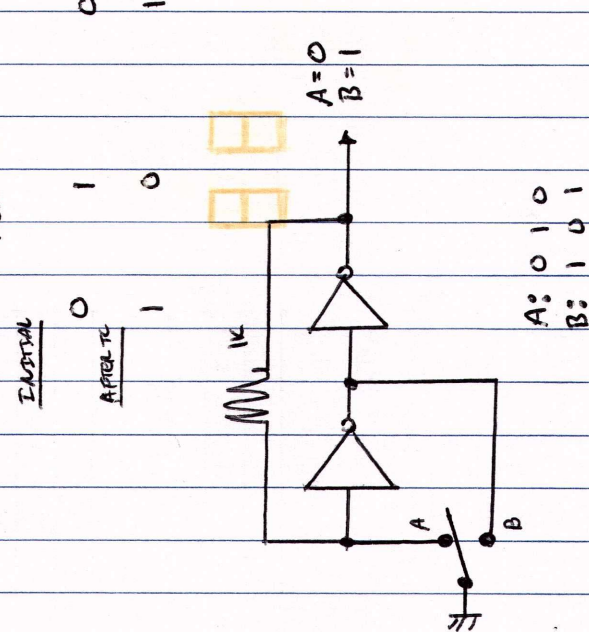
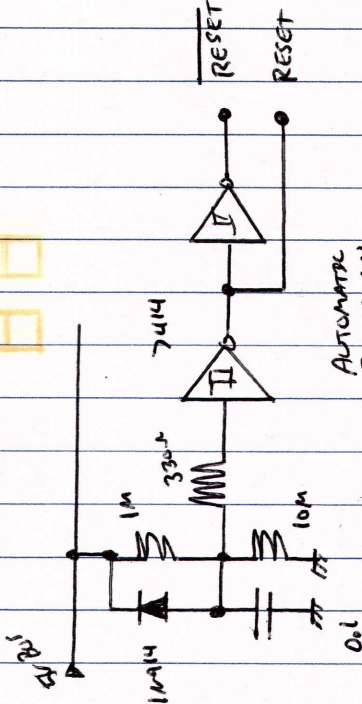
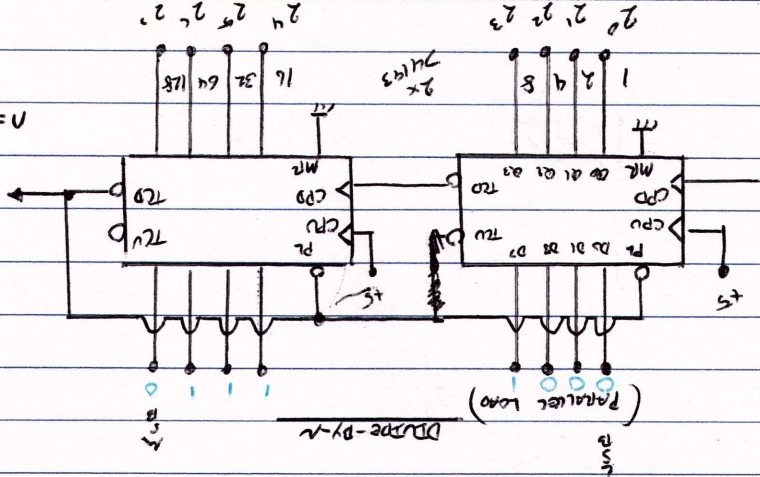
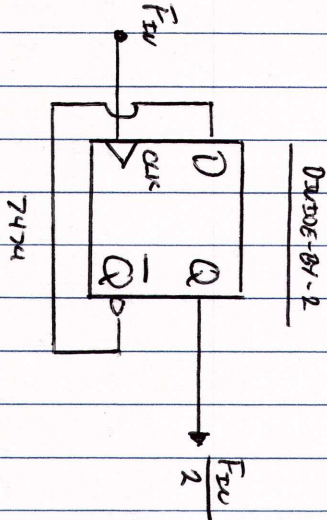
$$D_{TD} = \frac{31}{32} \times V_{REF}$$

OP97 *and*
AD712K
AD8676

LOAD WITH 120 01111000 COUNT DOWN TO ZERO - REPEAT

0	1	1	1	1	1	0	0	0	0
128	64	32	16	8	4	2	1		

N = 120
MSB
LSB



Divide-by-N
n = 13
Counts down from 13 to 0
TC₀ goes low every 13th pulse CP₀
When TC₀ goes low, reloads D₀₋₃ and repeat

8-BIT
256
LED
DISPLAY

(42)
SWEEP RATE
2400 = 614400 Hz
1200 = 367200 Hz
600 = 153600 Hz
300 = 76800 Hz
150 = 38400 Hz

GBPPR
WOLFTRACK
DOPPLER
RDF

CLOCKING RATE (Hz)

1
2631
84268421
HGFE DCBA

2631
84268421
HGFE DCBA

B	0	00	00	00	00	00	00
A	15	00	00	00	11	11	11
N	16	00	00	10	00	00	00
#	31	00	00	11	11	11	11
4x	74154	32	00	10	00	00	00
	47	00	10	11	11	11	11
	48	00	11	10	00	00	00
	63	00	11	11	11	11	11

B	64	01	00	00	00	00	00
A	79	01	00	00	11	11	11
N	80	01	00	10	00	00	00
#	95	01	00	11	11	11	11
4x	74154	96	01	10	00	00	00
	111	01	10	11	11	11	11
	112	01	11	11	00	00	00
	127	01	11	11	11	11	11

B	128	10	00	00	00	00	00
A	143	10	00	00	11	11	11
N	144	10	00	10	00	00	00
#	159	10	00	11	11	11	11
	160	10	10	00	00	00	00
	175	10	10	11	11	11	11
	176	10	11	11	00	00	00
	191	10	11	11	11	11	11

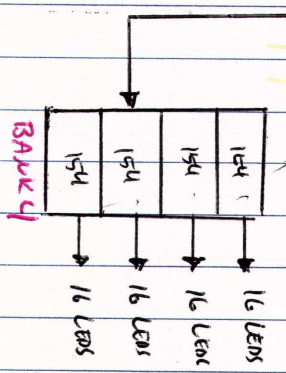
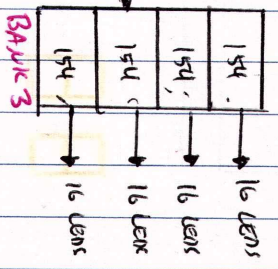
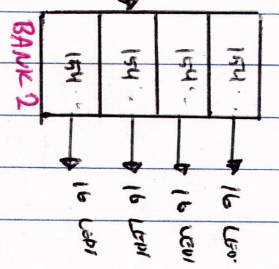
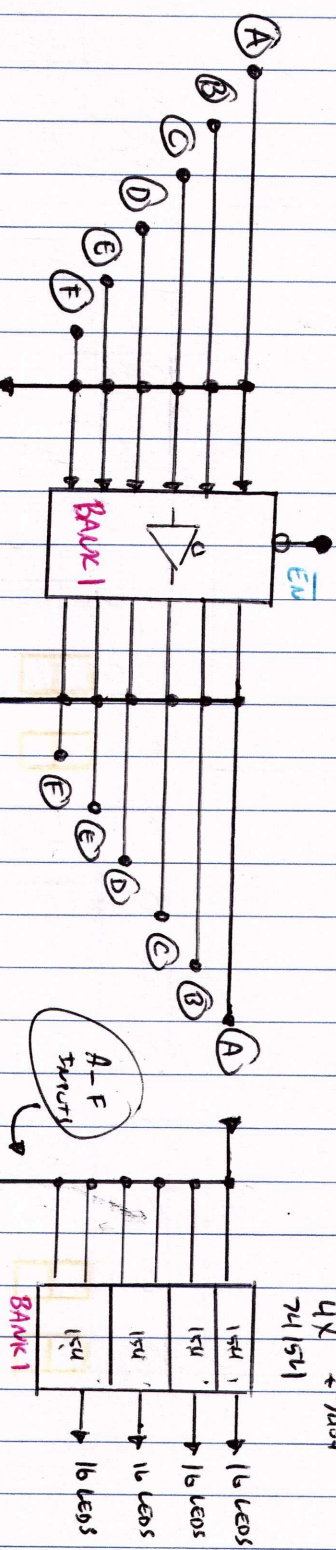
~~206 111001~~

B	192	11	00	00	00	00	00
A	207	11	00	00	11	11	11
N	208	11	00	10	00	00	00
#	223	11	00	11	11	11	11
	224	11	10	00	00	00	00
	239	11	10	11	11	11	11
	240	11	11	11	00	00	00
	255	11	11	11	11	11	11

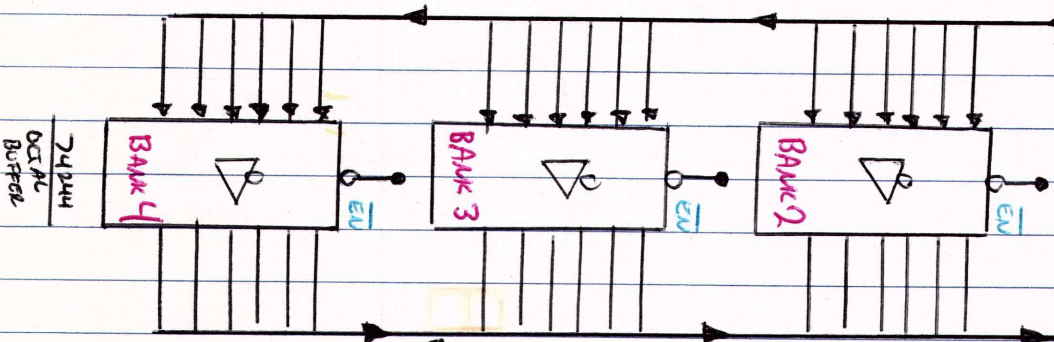
4x
74154

4x
74154

OR IS IT LOW DISABOL?



BUFFERED CELESTABLE BUFFERED ADDRESS BUS



ADDRESS SELECTOR (SER. DECODE)

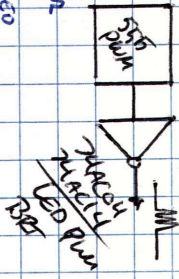
ROM DECODE

ADDRESS BUS

74139

H	A	OUT
0	0	1
0	1	2
1	0	3
1	1	4

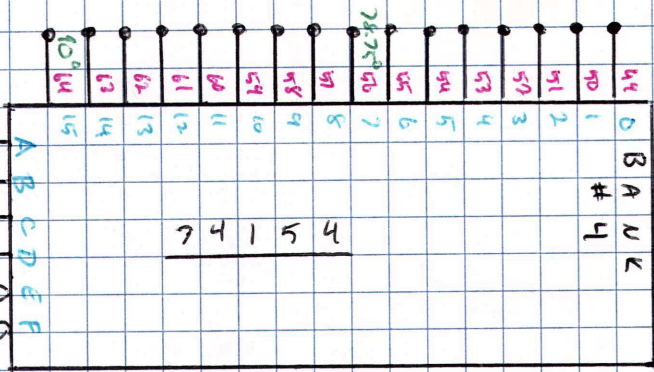
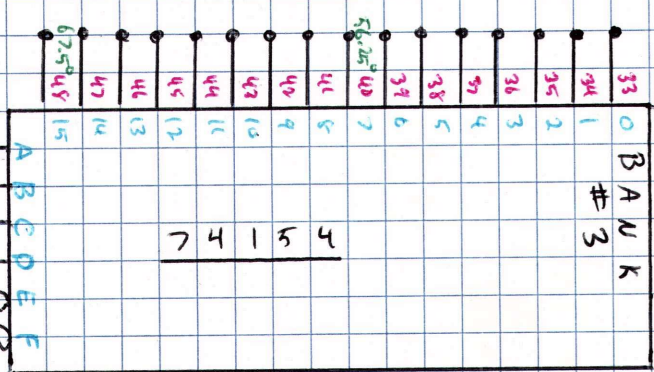
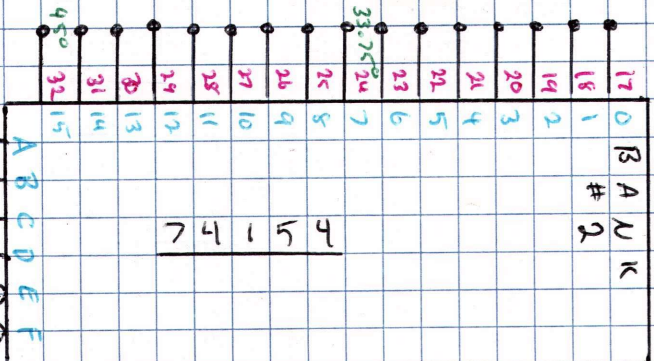
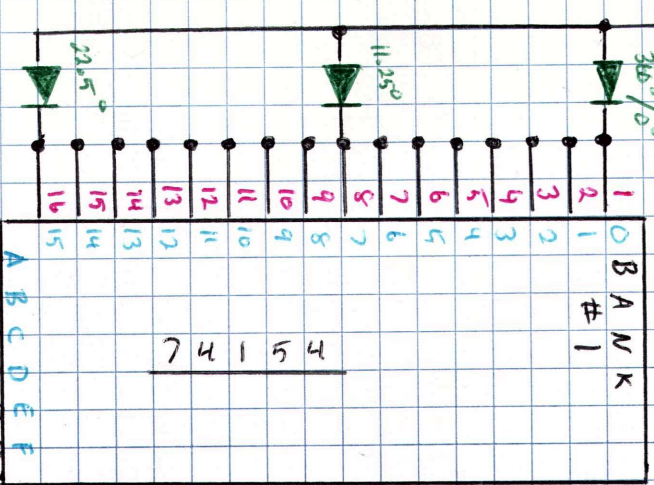
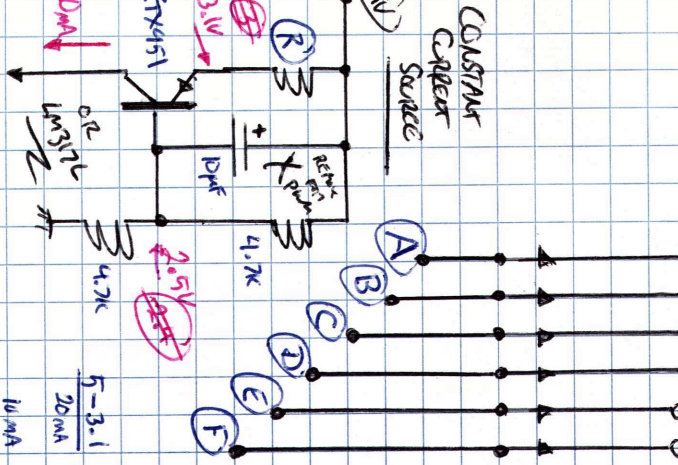
256 LEDs



C	B	P	P	R					
W	O	L	F	T	R	A	C	K	
D	O	P	P	L	E	R			
R	D	F							

O	P	T	I	O	N	A	L
8	-	B	I	T			
2	5	6		L	E	D	
D	D	S	P	L	A	Y	
O	N	E					
S	C	C	T	I	O	N	

1							
2	6	3	1				
8	4	2	6	8	4	2	1
H	G	F	E	D	C	B	A

[illegible]

off	off	off	on
1	0	1	0
1	0	0	0

off	off	off	off
1	0	1	0
1	0	0	0

OFF	ON	OFF	OFF
1	0	1	0
1	0	1	0

0	0	0	0
1	0	1	0
1	1	0	0
ON	OFF	OFF	OFF

1002/4ms
952(011)

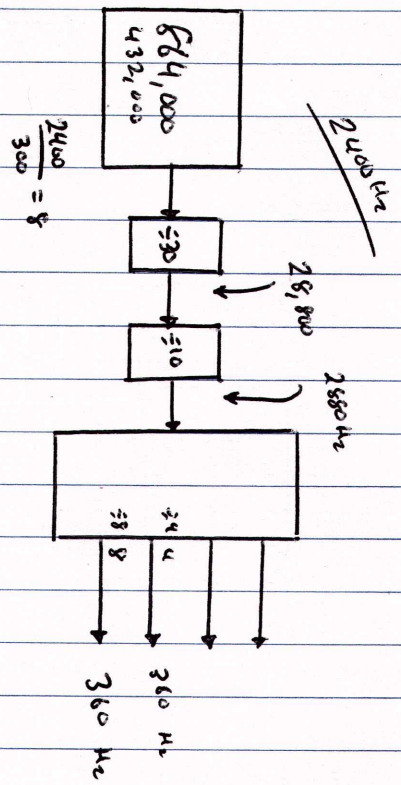
$$\begin{array}{r} 360 \\ 32 \overline{) 360} \\ \hline 1125^\circ \end{array}$$
$$\begin{array}{r} 360 \\ 64 \overline{) 2112} \\ \underline{192} \\ 192 \\ \underline{192} \\ 0 \end{array}$$
$$\begin{array}{r} 360 \\ 125 \overline{) 360} \\ \underline{125} \\ 235 \\ \underline{125} \\ 110 \\ \underline{100} \\ 10 \\ \underline{0} \\ 0 \end{array}$$
$$\begin{array}{r} 360 \\ \underline{256} \\ 104025 \end{array}$$

2400	864,000	$\div 30$	$\div 10$	$\div 8$	$= 360 \text{ Hz}$
1920	432,000	$\div 30$	$\div 10$	$\div 4$	$= 360 \text{ Hz}$
600	216,000	$\div 30$	$\div 10$	$\div 2$	$= 360 \text{ Hz}$
300	108,000	$\div 30$	$\div 10$	$\div 1$	$= 360 \text{ Hz}$

$$3686400 \div 115200 \div 10 \div 32 = 360$$

$$3686400 \div 32 = 115200 \div 10 \div 32 = 360$$

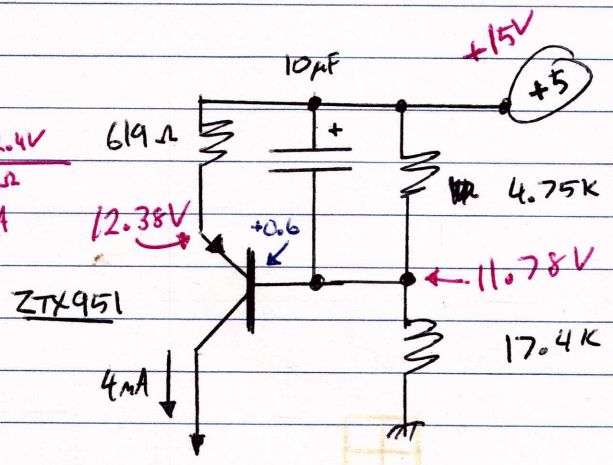
$$\frac{28}{56} \text{ Freqs}$$



$$\frac{X}{\text{Sweep}} = 360 \text{ Hz}$$

$$\frac{X}{2400} = 360 = 864,000$$

$$\frac{X}{1200} = 360 = 432,000$$



$$SO: \frac{15V - 12.4V}{619 \Omega} = 4.2 \text{ mA}$$

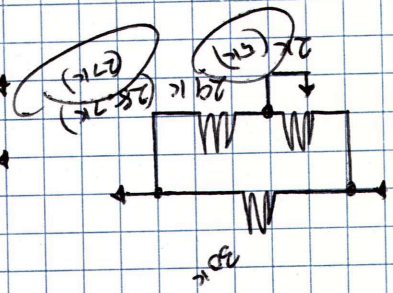
CONSTANT
CURRENT
SOURCE
EXAMPLE

$$30k \parallel 32k = 15.463$$

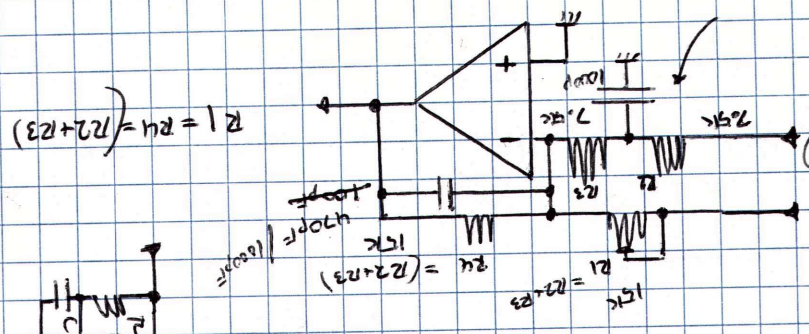
$$30k \parallel 27k = 14.210$$

$$30k \parallel 31k = 15.245$$

$$30k \parallel 29k = 14.245$$

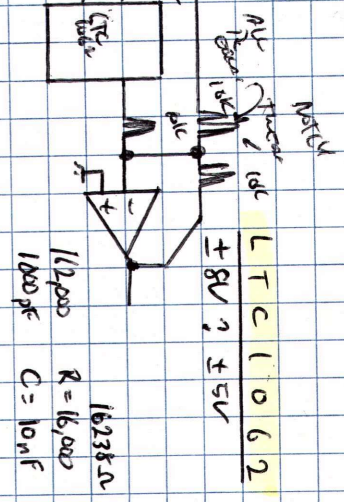


$2\pi RC$ 12 to 15 times match Freq



$$\frac{2400}{1200} = \frac{25800}{14400}$$

$$\frac{600}{300} = \frac{7200}{4800}$$



$$0.726 \cdot F_{MATCH} = 2400 = 1742.4$$

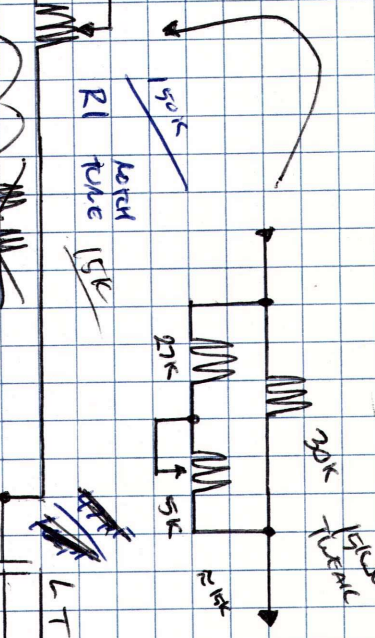
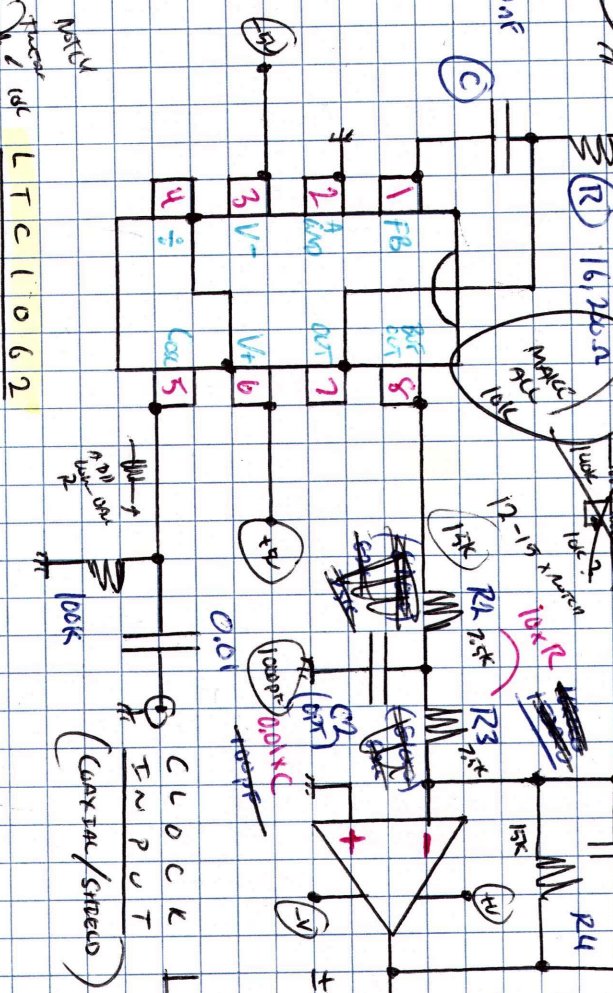
$$\frac{1240}{600} = \frac{571.2}{435.6}$$

$$\frac{300}{217.8} = \frac{1524.5}{498.1}$$

$$R1 = R4 = (R2 + R3)$$

$$F_{CLK} = F_{MATCH} \cdot 0.118.3$$

$$\frac{1}{2\pi RC} = 0.726 \cdot F_{MATCH}$$



$$30k \parallel 27k = 14.210 \Omega$$

$$30k \parallel 32k = 15.463 \Omega$$

1 5 3 6 0 0 0 0 Hz

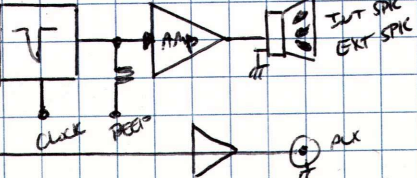
÷ 6 × ÷ 9 ÷ 5 4

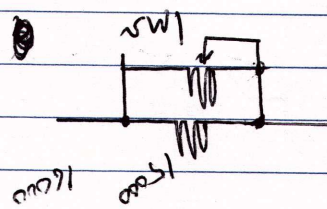
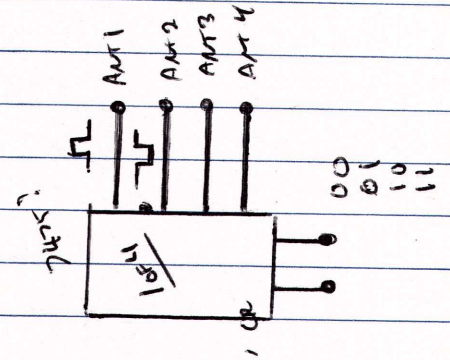
÷ 4	2 8 4 4 4 4 4 4 4 4 0
÷ 2	1 4 2 2 2 2 2 2 2 2 0
÷ 4	7 1 1 1 1 1 1 1 1 1 1
÷ 8	3 5 5 5 5 5 5 5 5 5 6

Match Freq:

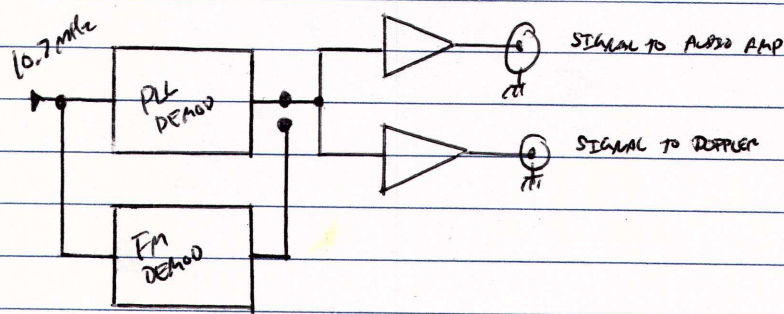
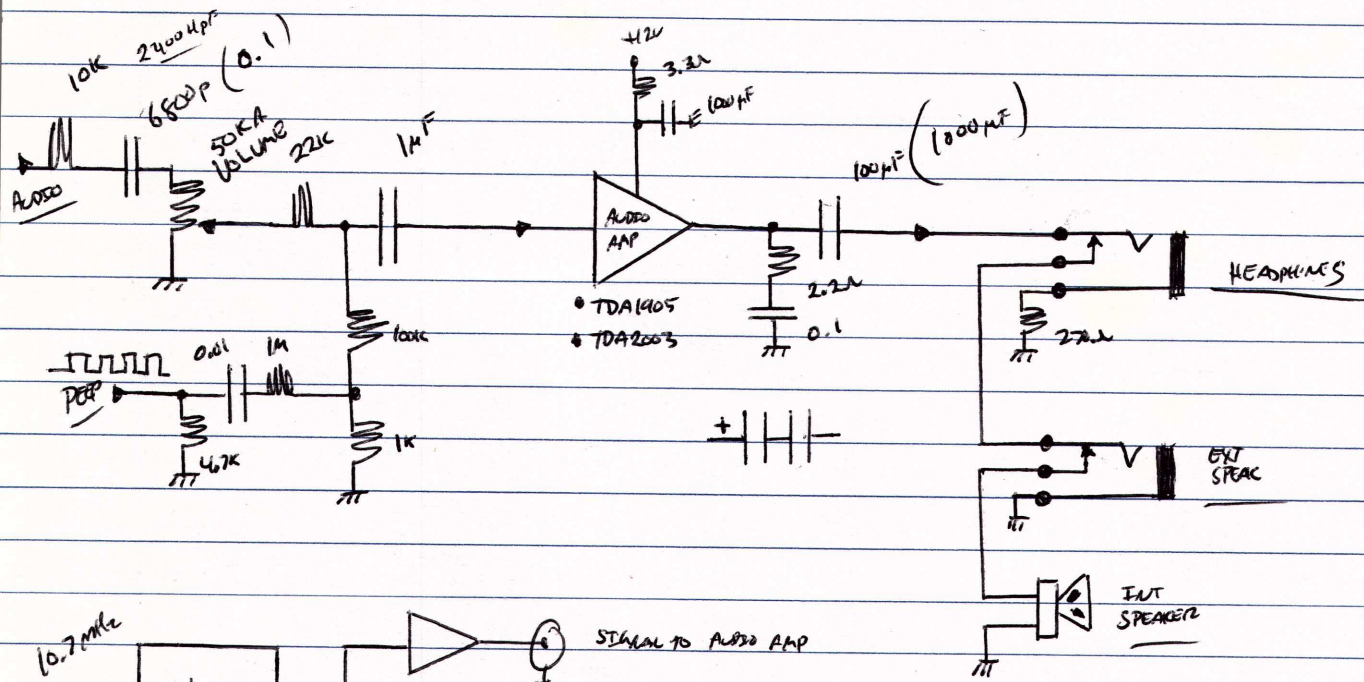
2 4 0 4 4 3 3 1 7 4
1 2 0 2 2 1 6 5 8 7
6 0 1 1 0 8 2 9 3
3 0 0 5 5 4 1 4 7

Sweep tone match



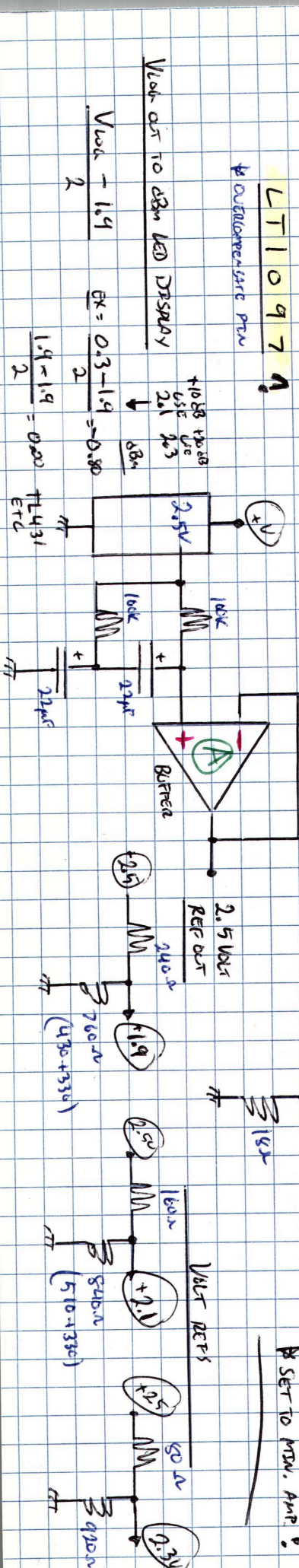
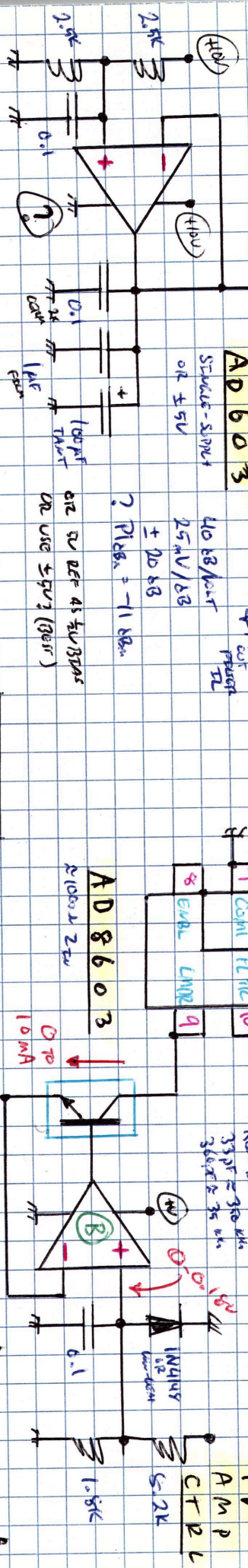


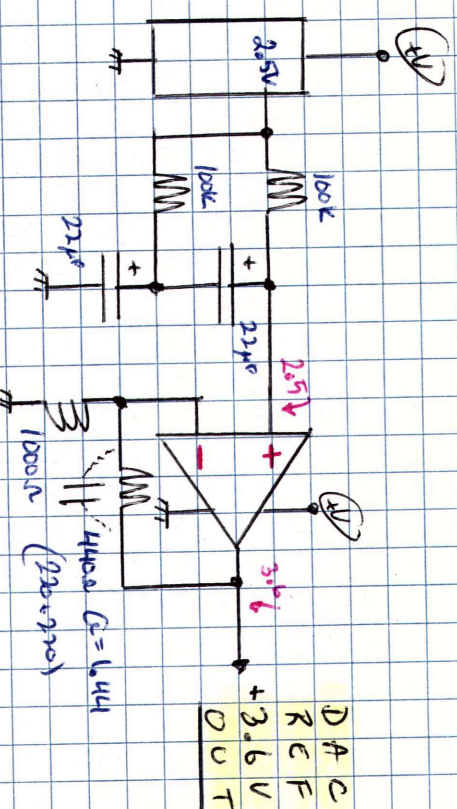
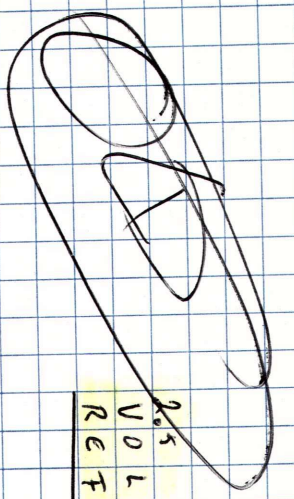
NOTICE
FALL SAFE



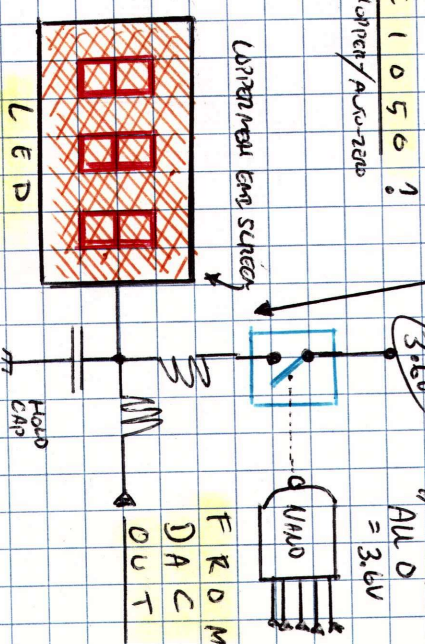
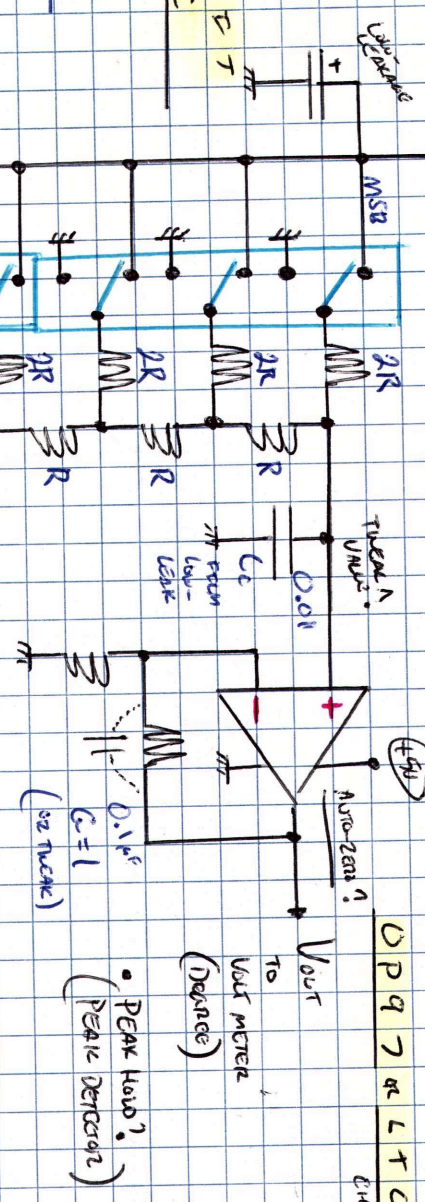
C	B	P	P	R					
W	O	L	F	T	R	A	C	K	
D	O	O	P	P	L	E	R		
R	O	F							

ϵ_B	$-3.3 \text{ dBV} = -76.2 \text{ dBm} = 1.5 \mu\text{V}$
L_E	$-13 \text{ dBV} = 0.89 \text{ mV} = 1.4 \mu\text{V}$
D_T	115 dBm
P_L	115 dBm
A_T	115 dBm





5-BIT
DAC
REF
VOLT
3.6V



3.6V
32
0.1125 V/bit

3.6V
32
0.1125 V/bit

3.6V
32
0.1125 V/bit

3.6V
32
0.1125 V/bit

3.6V
32
0.1125 V/bit

3.6V
32
0.1125 V/bit

3.6V
32
0.1125 V/bit

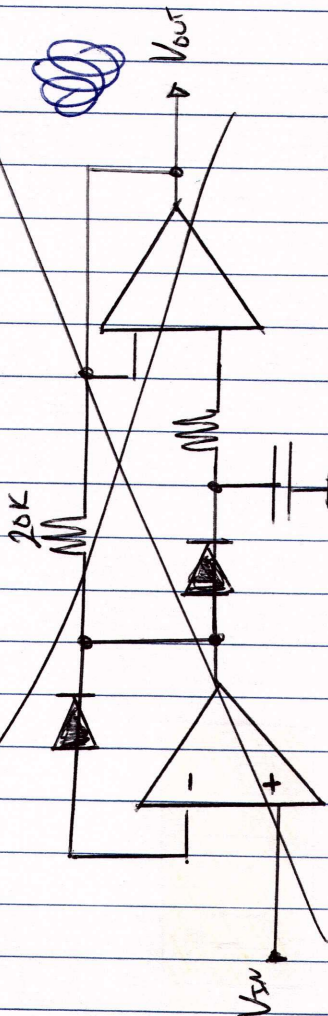
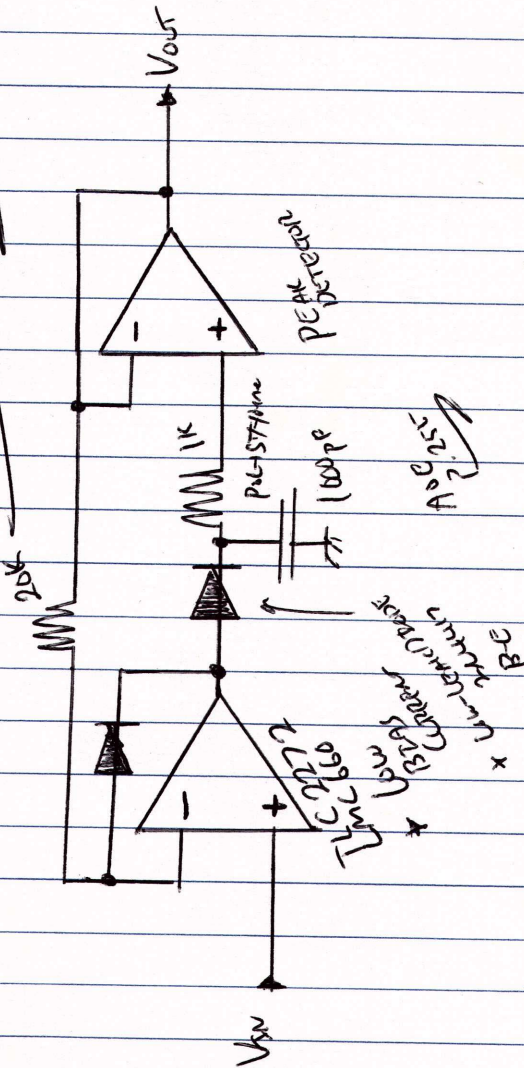
3.6V
32
0.1125 V/bit

3.6V
32
0.1125 V/bit

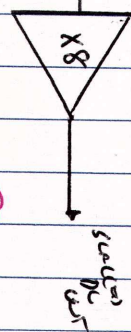
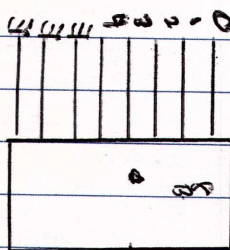
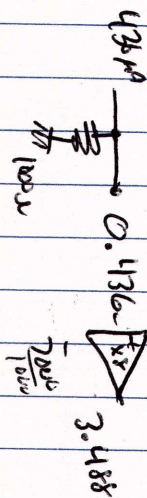
3.6V	32	0.1125 V/bit
0	00000000	0.000000
1	00000001	0.000001
2	00000010	0.000010
3	00000011	0.000011
4	00000100	0.000100
5	00000101	0.000101
6	00000110	0.000110
7	00000111	0.000111
8	00001000	0.001000
9	00001001	0.001001
10	00001010	0.001010
11	00001011	0.001011
12	00001100	0.001100
13	00001101	0.001101
14	00001110	0.001110
15	00001111	0.001111
16	00010000	0.010000
17	00010001	0.010001
18	00010010	0.010010
19	00010011	0.010011
20	00010100	0.010100
21	00010101	0.010101
22	00010110	0.010110
23	00010111	0.010111
24	00011000	0.011000
25	00011001	0.011001
26	00011010	0.011010
27	00011011	0.011011
28	00011100	0.011100
29	00011101	0.011101
30	00011110	0.011110
31	00011111	0.011111

3.6V
32
0.1125 V/bit

PEAK DETECTOR



$$\frac{2.5V}{5734} = 436 \mu A$$

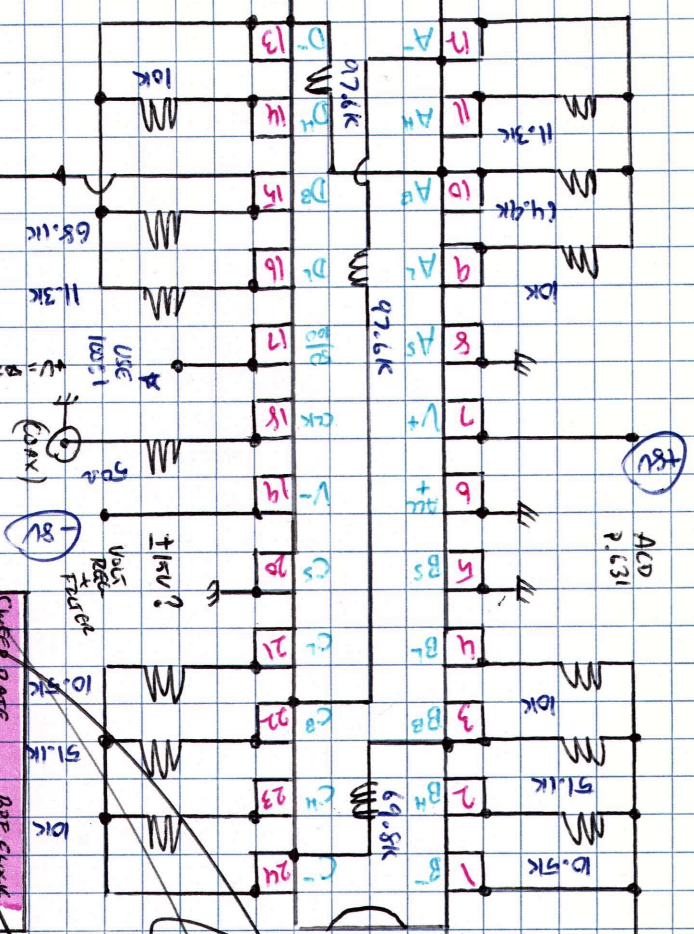


$$00000000 - 0.4375375 \times 8 = 3.4875$$

$$\frac{3.48V}{256} = 0.0140625 V/dig$$

LTC1064-3

8th ORDER BESSEL BPF
Q ≈ 9 ± 5V 100:1 clock

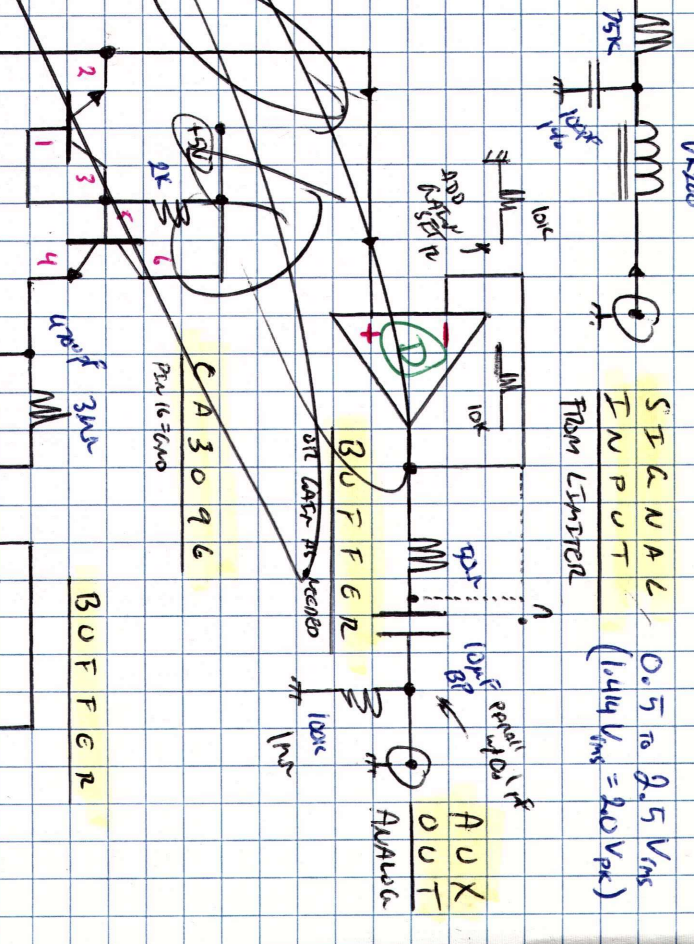
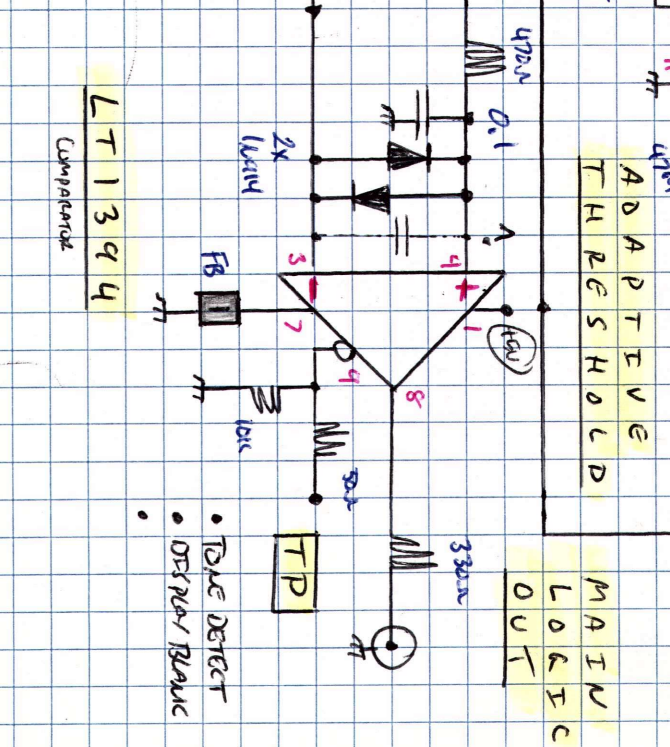
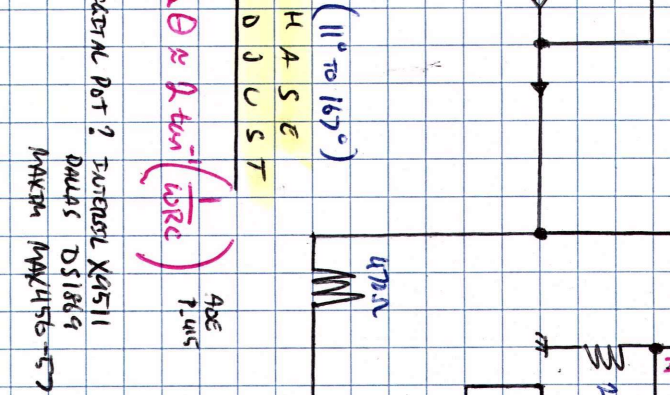
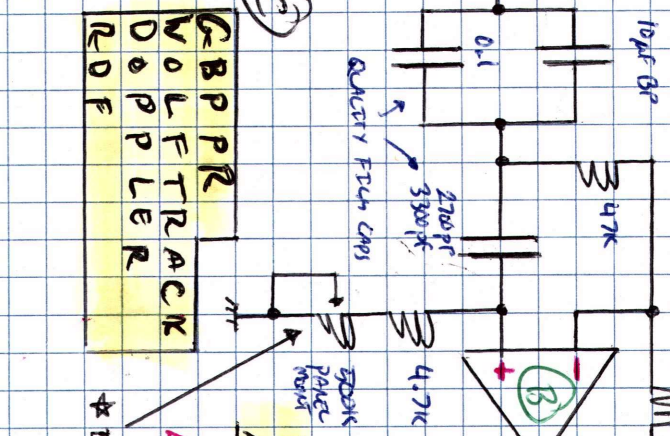
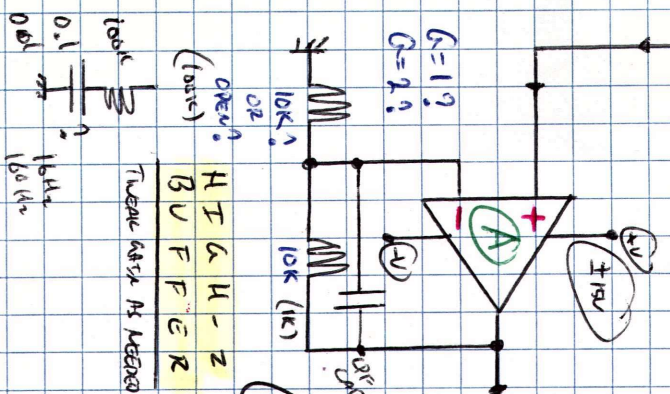


L M C 6 4 8 4
O P A 4 2 2 7 (better)
± 15V dual-opamp

CLK
SEL

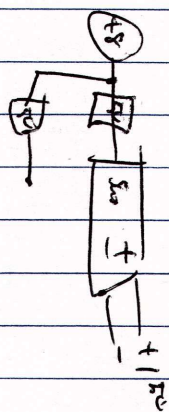
SCF
CLK

SWEEP RATE	BPF CLK
300 Hz	300000
600 Hz	600000
1200 Hz	1200000
2400 Hz	2400000

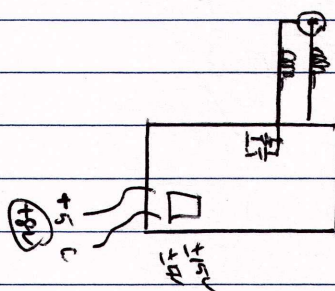


• TONE DETECT
• OSCILLATOR

• TONE DETECT
• OSCILLATOR

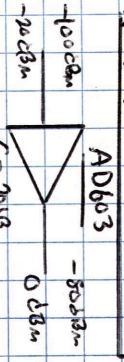


Q1

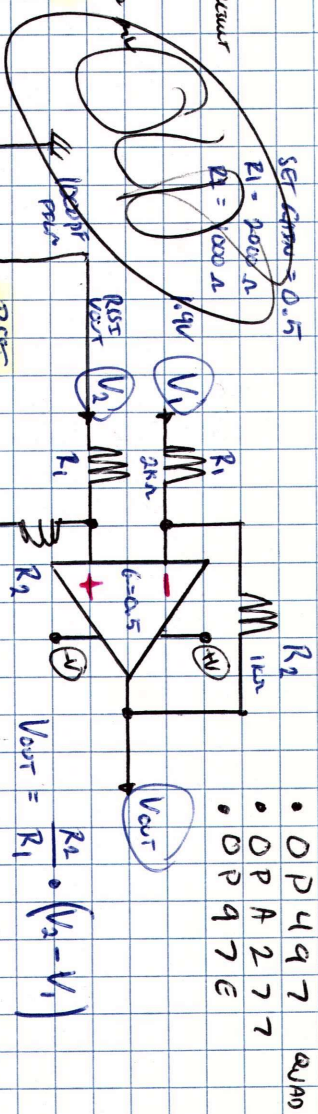


PERBEN
MARTIN
F132

C	B	P	P	R
W	O	L	F	T
D	O	P	P	L
R	D	F		



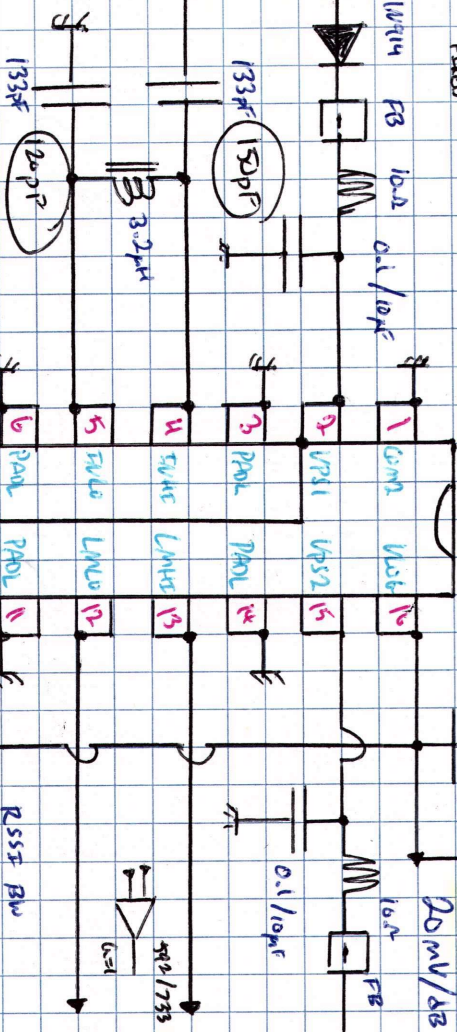
$V_{RMS} = 20 \log A_{dB}$
 $V_{RMS} - 20 \log A_{dB} = \text{measured}$
 $V_{RMS} - 20 \log A_{dB} = 20 \log 1000$
 $V_{RMS} - 20 \log A_{dB} = 20 \log 1000$
 $V_{RMS} - 20 \log A_{dB} = 20 \log 1000$



$V_{OUT} = \frac{R_2}{R_1} \cdot (V_2 - V_1)$
 $V_{OUT} = \frac{R_2}{R_1} \cdot (V_2 - V_1)$

- OP497
- OP427
- OP97

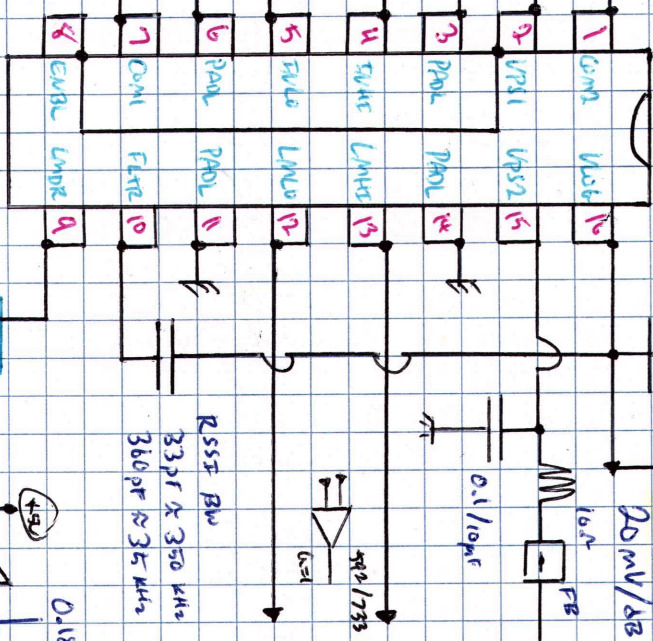
10.7
MHz
IF
SNR
MAK + 20 dB



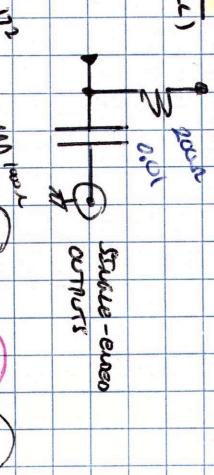
L	E	M	I	T	E	R
O	U	T	P	U	T	S

$-33 \text{ dBV} = -20 \text{ dBm} = 1.5 \text{ V}_{RMS}$
 $-91 \text{ dBV} = -78 \text{ dBm} = 0.34 \text{ V}_{RMS}$
 $+9 \text{ dBV} = +2 \text{ dBm} = 2.34 \text{ V}_{RMS}$
 $-93 \text{ dBV} = -80 \text{ dBm} = 0.34 \text{ V}_{RMS}$

$-91 \text{ dBV} = -78 \text{ dBm}$
 $T_0 + 9 \text{ dBV} = +2 \text{ dBm}$
 $-73 \text{ dBV} = -60 \text{ dBm}$



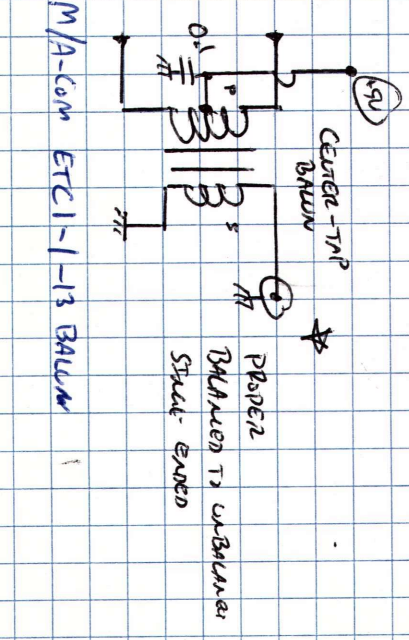
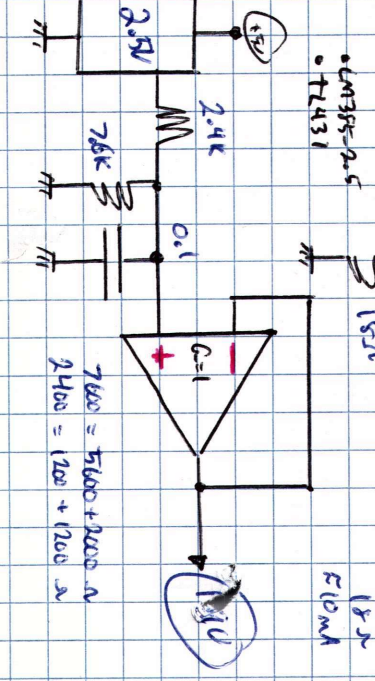
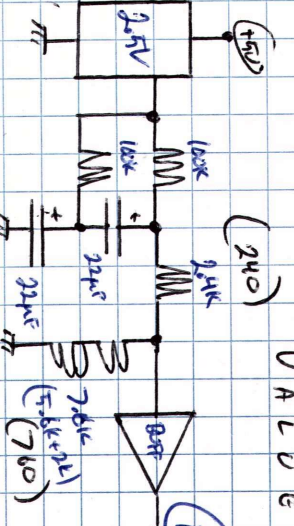
A	D	8	3	0	6
---	---	---	---	---	---



$0 \text{ dBV} = 1 \text{ V}_{RMS}$

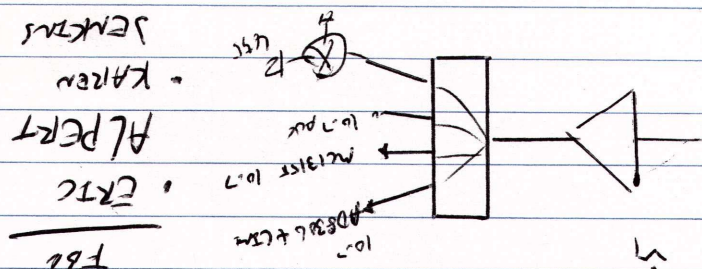
$0 \text{ dBm} = 0.223 \text{ V}_{RMS}$

$0 \text{ dBV} = 0.223 \text{ V}_{RMS}$



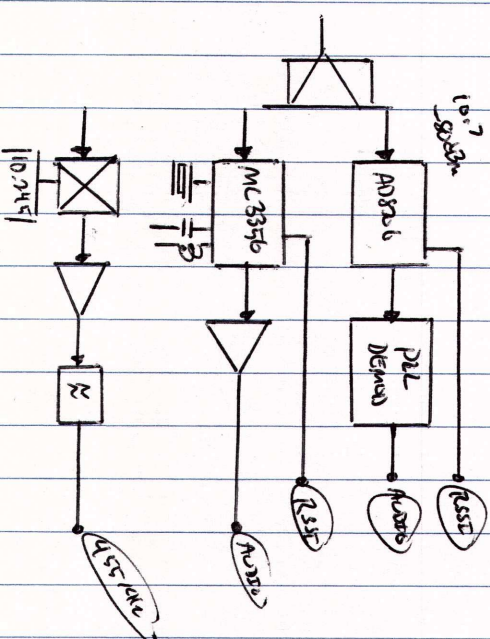
$$\begin{aligned}
 \text{BK: } 0.3V - 1.9V &= -0.800V = -80 \text{ dBm} \\
 1.1V - 1.9V &= -0.400V = -40 \text{ dBm} \\
 2.1V - 1.9V &= +0.100V = +10 \text{ dBm}
 \end{aligned}$$

* ALPER
 * CRIC
 * KAREN
 * JENKINS
 * ALPER
 * CRIC
 * KAREN
 * JENKINS



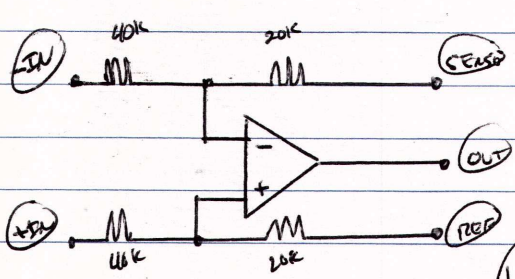
$$V_{out} - 1.9V = \text{dBm to millivolt}$$

$$\begin{aligned}
 \frac{-0.8}{0.3 - 1.9} &= 0.5 \\
 \frac{20K}{40K} &= 0.5
 \end{aligned}$$

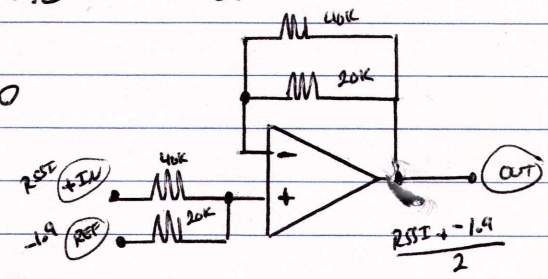


dBm	dBV	AD836 VOUT
+10	-3	2.10
0	-13	1.90
-10	-23	1.70
-20	-33	1.50
-30	-43	1.30
-40	-53	1.10
-50	-63	0.90
-60	-73	0.70
-70	-83	0.50
-80	-93	0.30

$$G_{DIFF} = \frac{V_{OUT}}{V_{IN} - V_{IN}}$$



$$0.020 \times (2.1V + 1.9V)$$

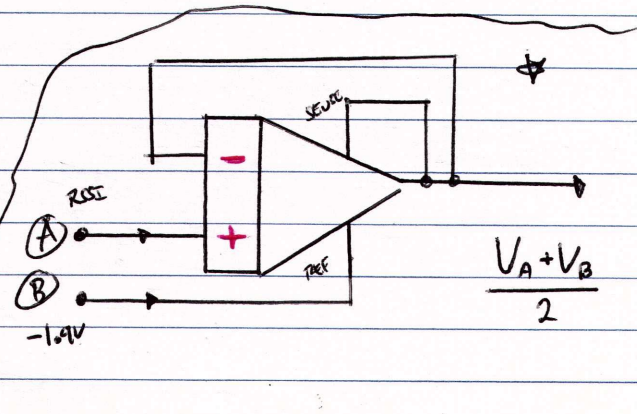
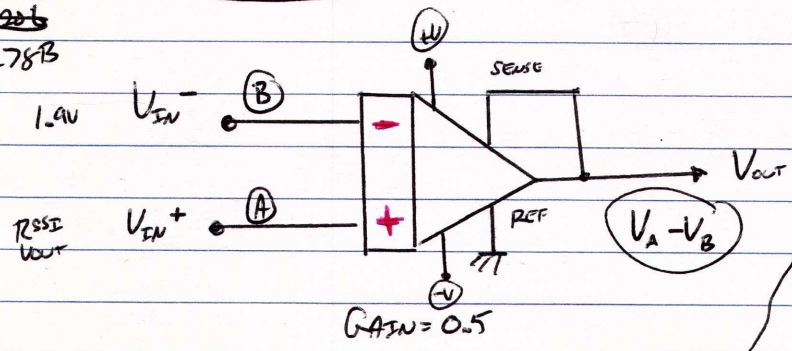


$$\begin{aligned}
 1000 \Omega \quad 100 \Omega &= 0.172 \approx 18 \Omega = 9.6 \text{ mA} \\
 1000 \Omega \quad 1 \Omega &= 0.001 \approx 18 \Omega = 0.06 \text{ mA}
 \end{aligned}$$

AD8271B
 AD8273

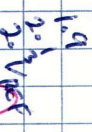
AD8278

AD8278B
 AD8278B



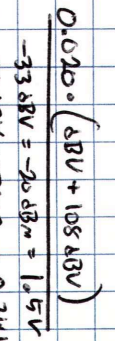
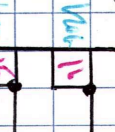
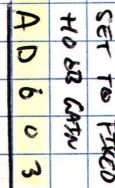
$$\frac{1 \text{ Volt}}{40 \text{ dB}} = 25 \text{ mV/dB}$$

$$\frac{1 \text{ Volt}}{40 \text{ dB}} = 25 \text{ mV/dB}$$



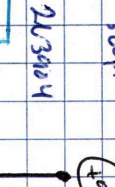
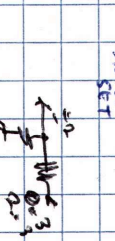
Var LED display

dBm AS MEASUREMENTS


$$-93 \text{ dBV} = -80 \text{ dBm} = 0.30 \text{ V}$$

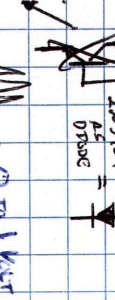
613-AM13

AD 8031

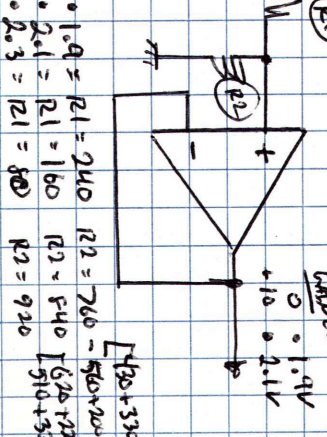
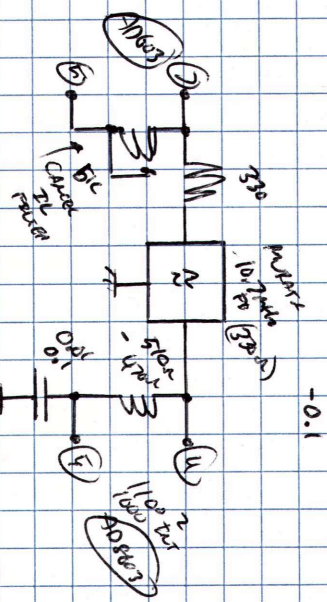


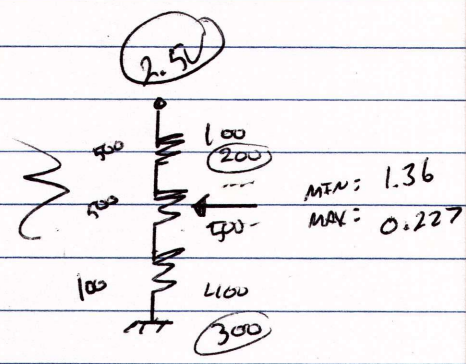
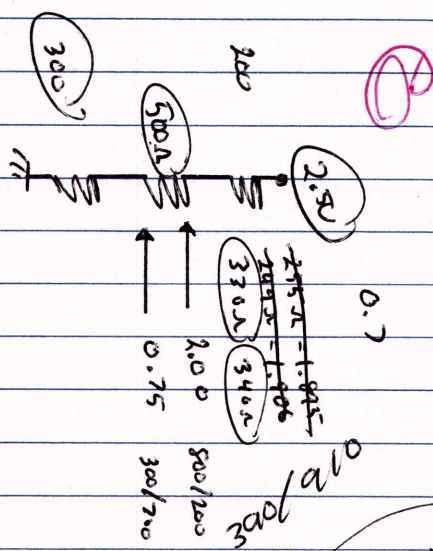
CEVEN-TAP AT M/A-Com
ETC 1-1-13 BAWM

• AD 8031



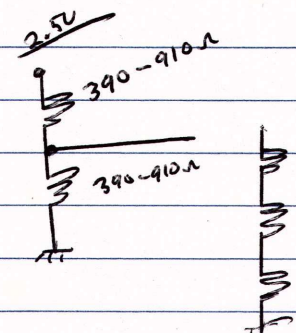
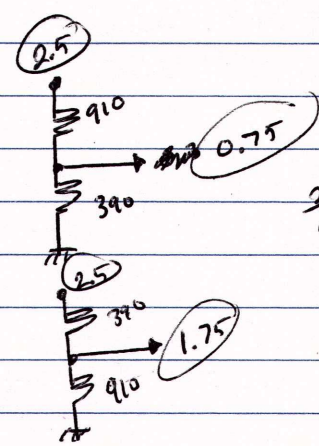
- $2.3V \times 0.76 = 1.9V$ stuck
- $2.5V \times 0.84 = 2.1V$ +0.68
- $2.3V \times 0.92 = 2.3V$ +0.08

$$\begin{array}{r} \text{Display} \\ 0.1 - 2.1 \\ \hline 2 \end{array} = -1$$
$$\frac{-1}{-0.9}$$


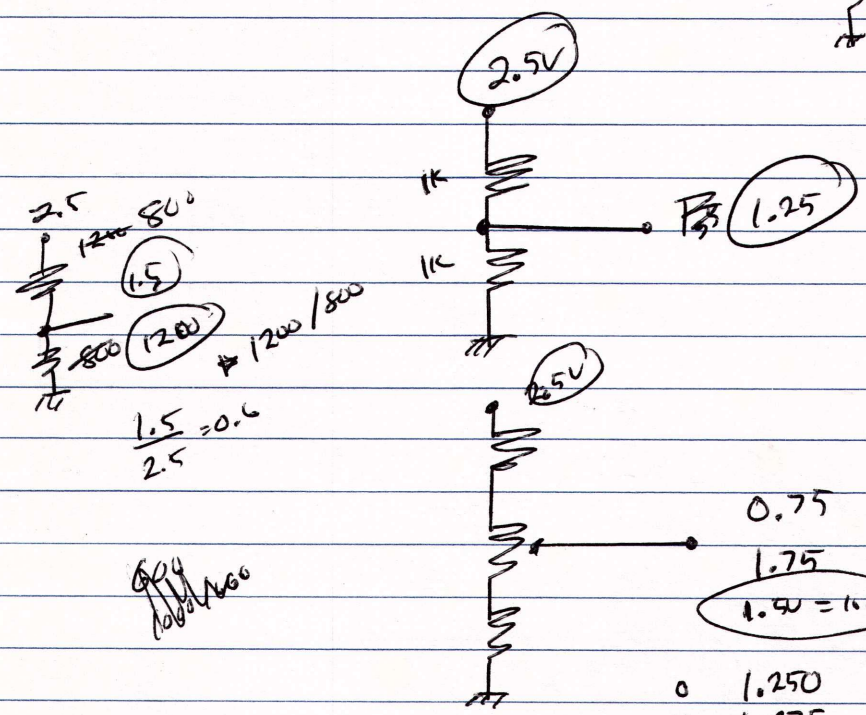


$$\frac{2.5}{0.75} = 1.75$$

$$\frac{0.3}{0.7} = \frac{300/700}{700/300} = \frac{3900}{9100}$$



$300 + 700 = 0.75$
 $800 + 200 = 2.0$



$40dB = 1VOLT$
 $25mV/dB$
 $\pm 20dB \pm 0.5V$

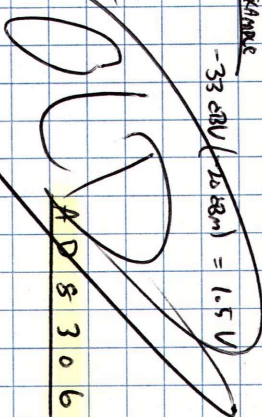
$$\frac{V_{OUT}}{V_{IN}} \times \frac{dB}{VOLT} = \frac{0.5VOLT}{0.025V/dB} = 20dB$$

EXAM

$$0.6V = 1V_{rms}$$

[illegible]

VALU

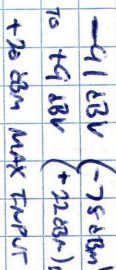


$\Gamma D E \sim$
 $\Gamma L T E R$

 $e - 7588 \mu$

0	0	1	0	1
---	---	---	---	---

$$-91.286 = 0.344$$



[illegible]

L
L
L

--	--	--	--	--	--



Output	Slope	Axis
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[illegible]



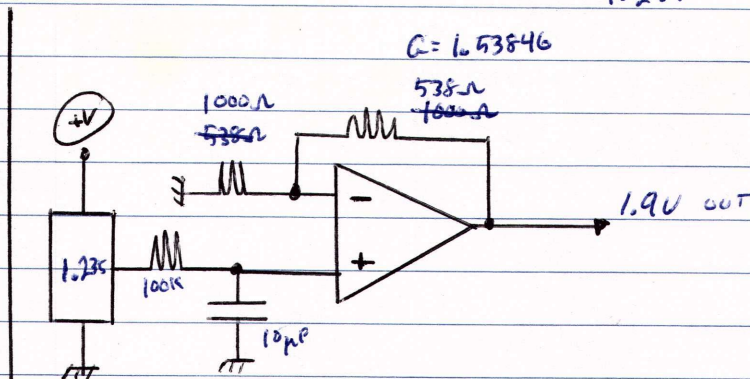
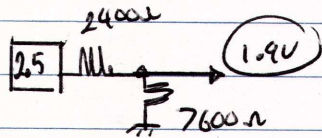
1.00	6K	29	1
------	----	----	---

1.200

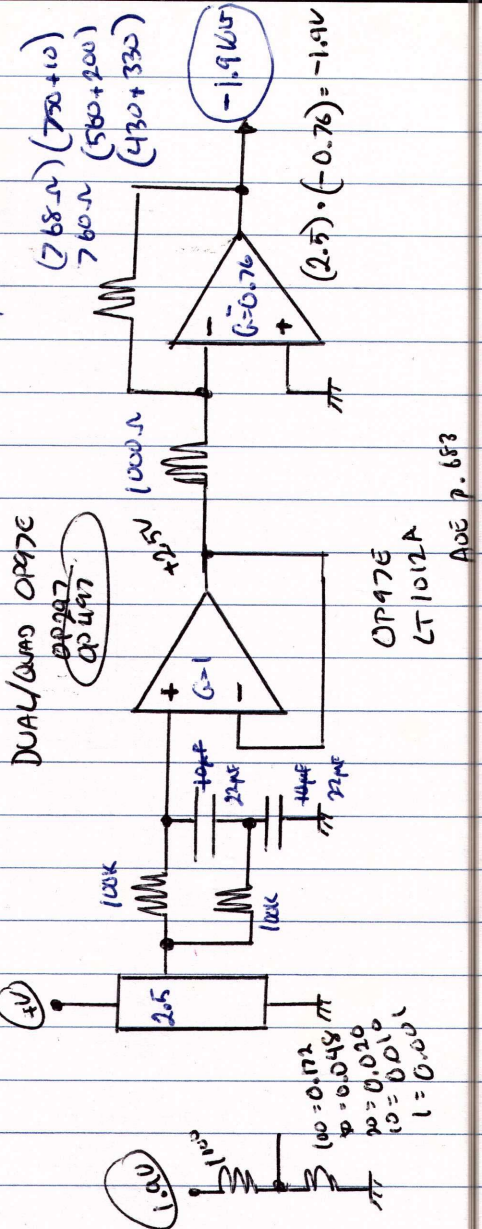


7/28

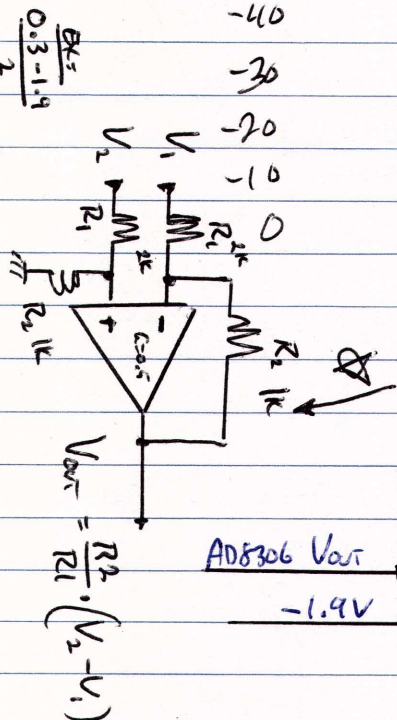
--	--	--	--	--	--



$$\frac{1.460}{1.235}$$

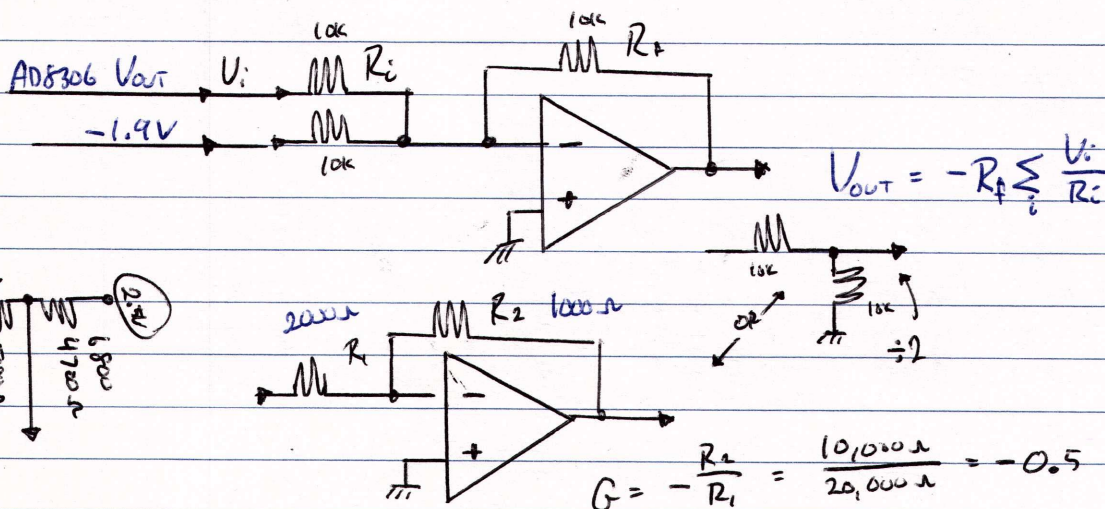


dBm	dBV	AD5306 VOLT OUT
-80	$0.020 \times (-93 + 108)$	0.300
-70	$0.020 \times (-83 + 108)$	0.500
-60	$0.020 \times (-73 + 108)$	0.700
-50	$0.020 \times (-63 + 108)$	0.900
-40	$0.020 \times (-53 + 108)$	1.100
-30	$0.020 \times (-43 + 108)$	1.300
-20	$0.020 \times (-33 + 108)$	1.500
-10	$0.020 \times (-23 + 108)$	1.700
0	$0.020 \times (-13 + 108)$	1.900

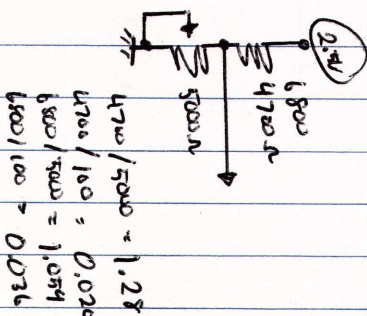


$$\frac{V_{out} - 1.9V}{2} = \text{"dBm in mV"} \quad \text{ex: } \frac{0.3 - 1.9}{2} = -0.80V \rightarrow -80 \text{ dBm}$$

$$\frac{1.1 - 1.9}{2} = -0.40V = -40 \text{ dBm}$$



$$G = -\frac{R_2}{R_1} = \frac{10,000\Omega}{20,000\Omega} = -0.5$$

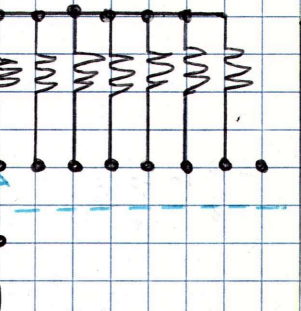


74HC4051

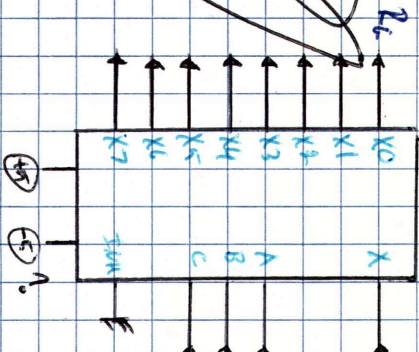
Pseudo-Differential
Input - Tied to BVC

Parallel Rfc

* A00
2x 4047
CLOCK

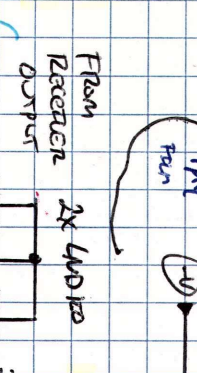


OPEN $C = 1.0$
100K $C = 1.05$ * * * * *
50K $C = 2.0$
33K $C = 2.5$
45K $C = 3.0$
17K $C = 4.0$
12.5K $C = 5.0$
5.6K $C = 10.0$

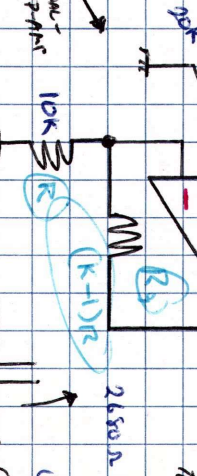
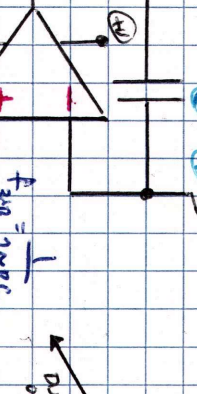


Y	X	A	B	C
000	X0			
001	X1			
010	X2			
011	X3			
100	X4			
101	X5			
110	X6			
111	X7			

IA
NU
PD
UI
TO

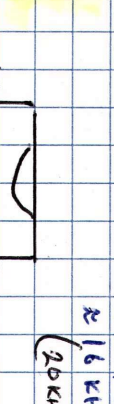


FROM
RECEIVER
OUTPUT

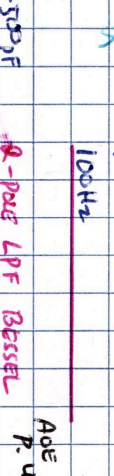


TO
ST
A
A
E

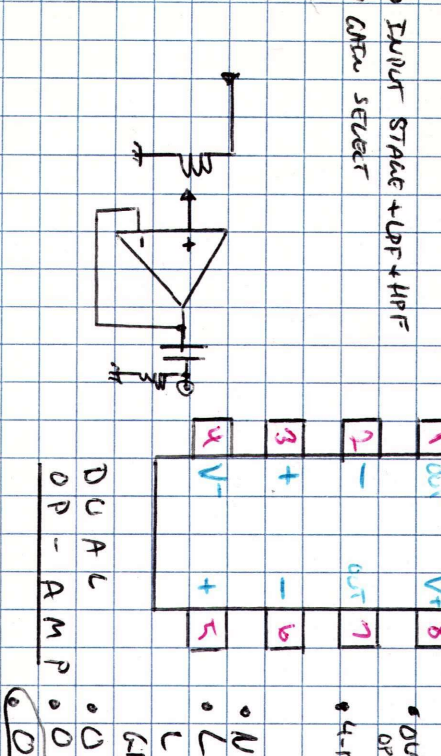
WOLFF TRACKE
DOPPLER
RDF



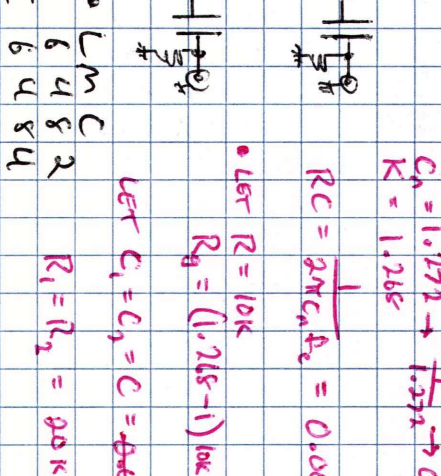
INPUT STAGE + LPF + HPF



INPUT STAGE + LPF + HPF



OVERLOAD LED
OP-AMP
4-Pole HPF

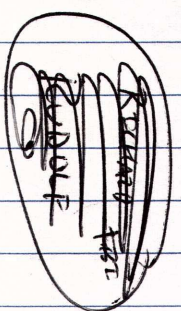
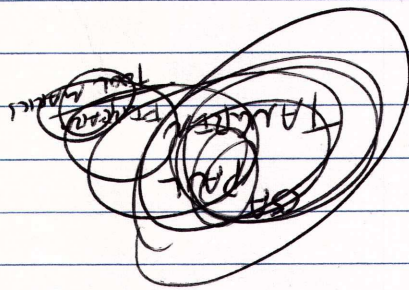


Let $C_1 = C_2 = C = 0.01 \mu F$
 $R_1 = R_2 = 20 K\Omega$

$$256 - 91 = 165$$

128 64 32 16
DA DB DC DD
1 0 1 0
1 0 1

8 4 2 1
DA DB DC DD
0 1 0 1
0 1 0 1

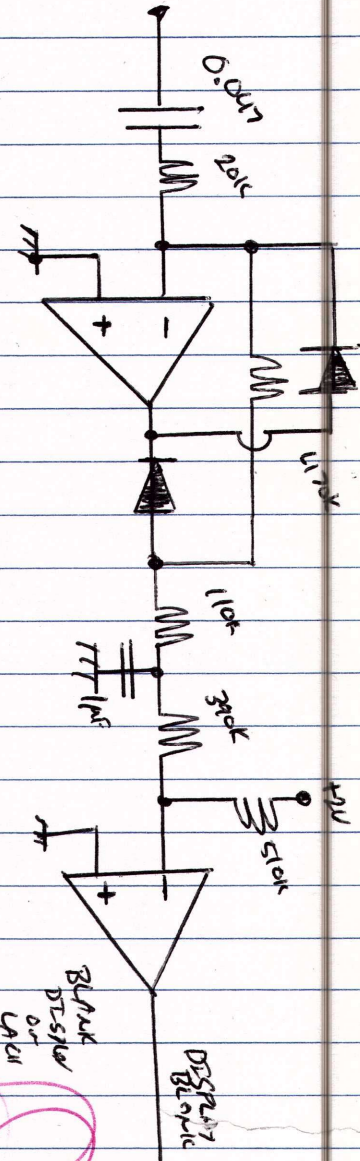


10MHz

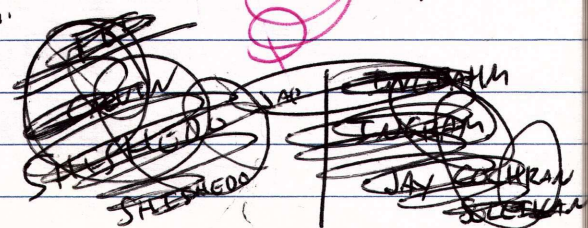
$$\begin{aligned} \div 8 &= 50,000 \div 256 = 195.3125 \\ \div 1 &= 200,000 \div 256 = 781.25 \\ 50,000 \div 8 &= 6250 \div 32 = 195.3125 \\ 200,000 \div 8 &= 25000 \div 32 = 781.25 \end{aligned}$$

$$\begin{aligned} \div 4 &= 125000 \div 64 = 19531.25 = 19531.25 \\ &\div 32 = 39062.5 = \\ &\div 16 = 78125 = \\ &\div 8 = 156250 \end{aligned}$$

TO AUDIO & VU METER



Blank display of audio

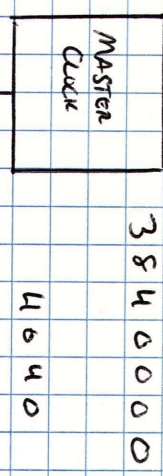


MASTER CLOCK
 VARIABLE CLOCK
 TCXO
 1.01-2.0 MHz
 1-3 MHz

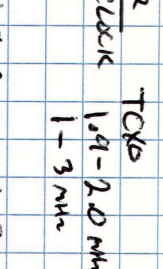
DDS + LED
 LED
 FREQUENCY
 COUNT

DIP SW 1
 D0 P P L E N
 R D F
 C L O C K

5 MHz
 2400 Hz
 1200 Hz
 600 Hz
 300 Hz



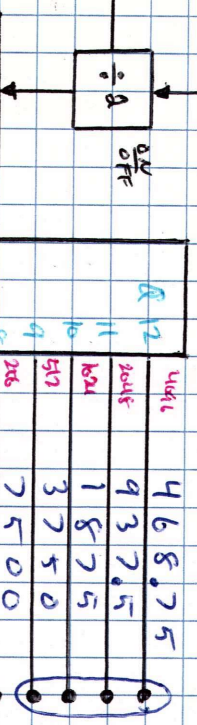
3840000
4640
4640
4640
4640
4640



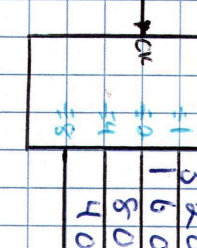
1920000
46875
9375
1875
375
75

320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz

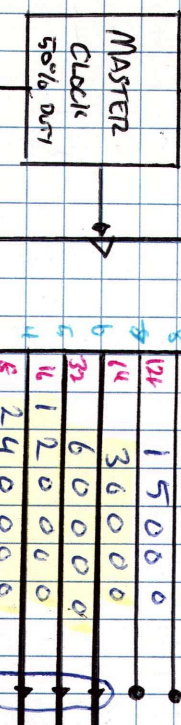


4640
4640
4640
4640
4640
4640

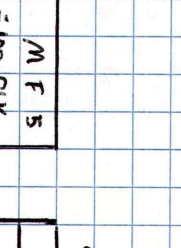


320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz

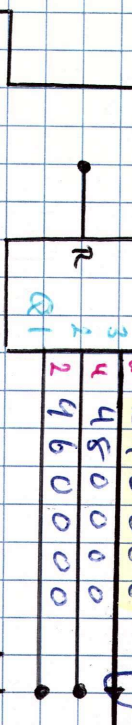


4640
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4640
4640
4640
4640

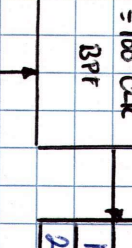


320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz



4640
4640
4640
4640
4640
4640

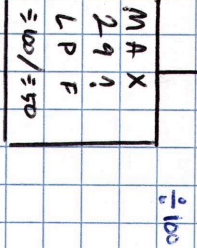


320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz

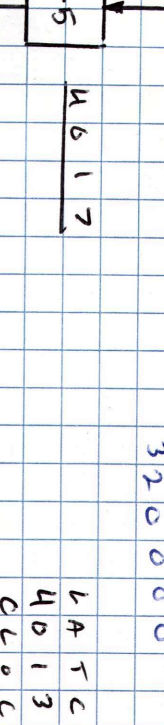


4640
4640
4640
4640
4640
4640

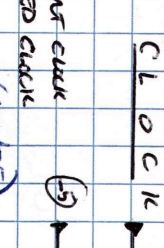


320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz

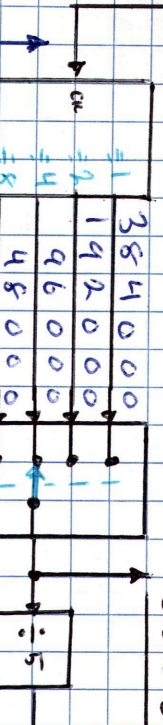


4640
4640
4640
4640
4640
4640

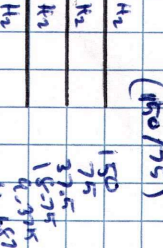


320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz

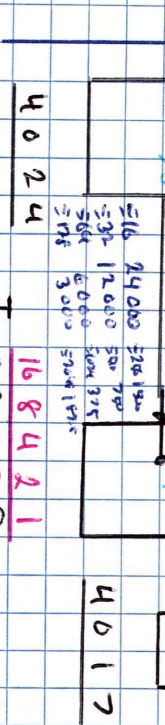


4640
4640
4640
4640
4640
4640

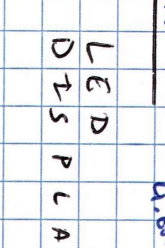


320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz

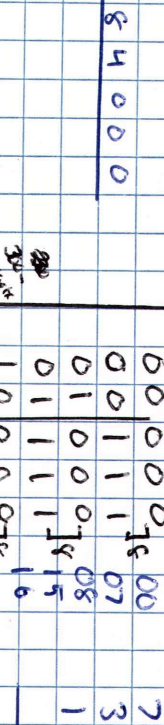


4640
4640
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4640
4640
4640

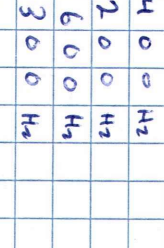


320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz



4640
4640
4640
4640
4640
4640



320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz



4640
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4640
4640

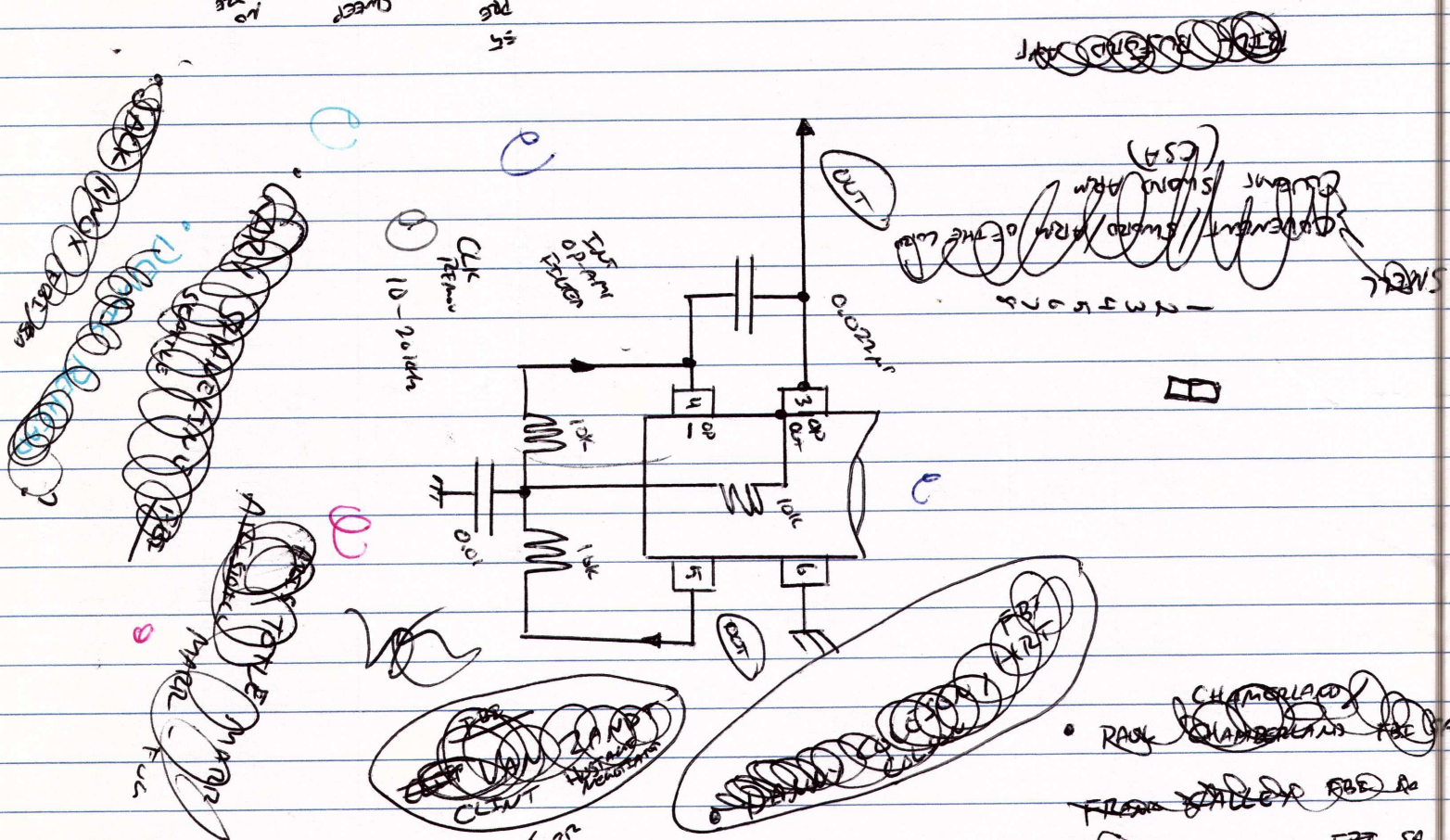


320000
160000
80000
40000
20000
10000

3200 Hz
1600 Hz
800 Hz
400 Hz
200 Hz
100 Hz

$$S(1) = 24201$$

600	300	$2 \rightarrow 480 \text{ Hz}$
1200	600	$2 \rightarrow 960 \text{ Hz}$
2400	1200	$2 \rightarrow 1920 \text{ Hz}$
4800	2400	$\rightarrow 3840 \text{ Hz}$



NIGHT
STALKER
AERO
SUN

- ~~James Cameron~~ F-32
- ~~Frank Eubank~~ FBZ

• RACK CHAMBERLAIN F&E 94

~~FRANK J. ALLEN FBI HQ~~

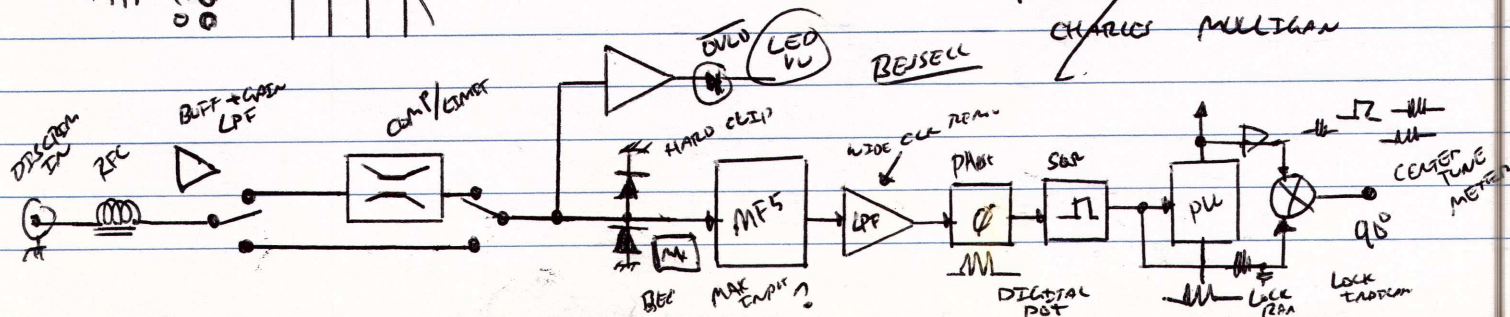
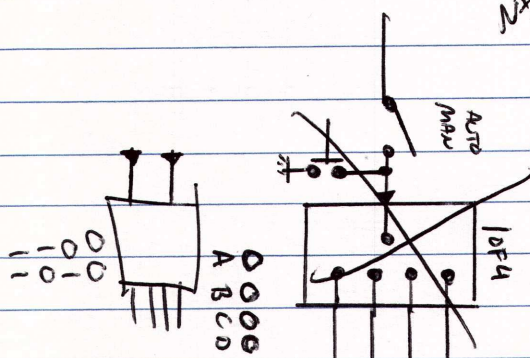
~~FRANK CONWAY~~ FBI SA
~~FRANK COWLEY~~ " "
~~BUDDOX~~ " "

~~ALAN - EXPANDIN FOAM~~

FBI ~~FOUNSTON~~ BANK ROB

DIN SIO
DEN SIO

~~+ AMIL DENSO - FUG BANK 1013
CHARIE BROCKLES - BANK ALA ALA
+ CHARLES BROCKLES
CHARLES MULLHAN~~

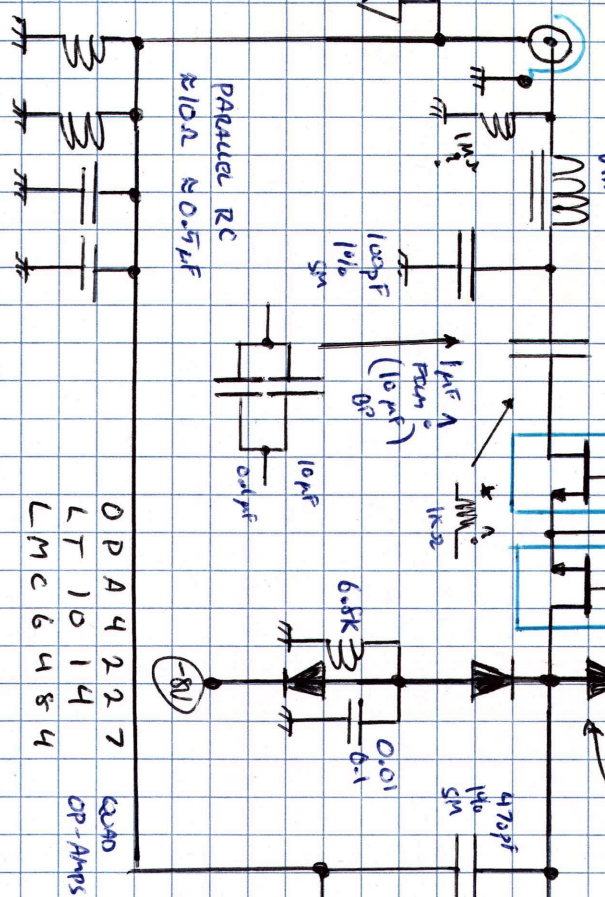


GBPPRACK WOLFFRACK DOPPLER RDF



STANDARD
INPUT

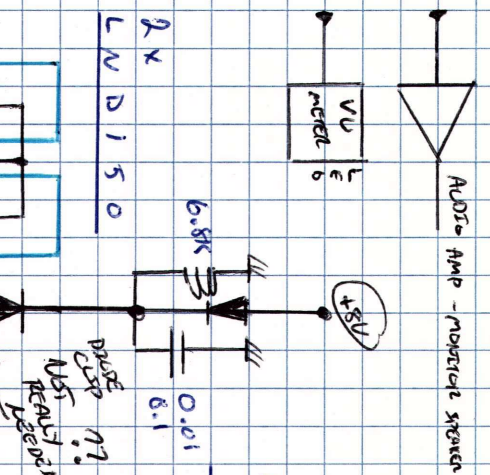
DIFFERENTIAL
ISOLATED
INPUT
(BNC)



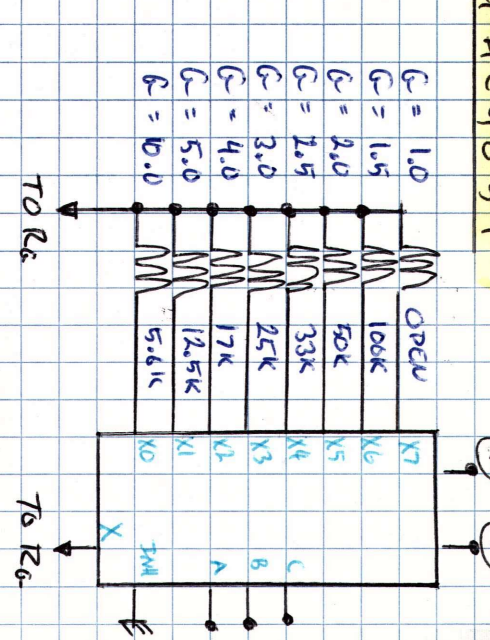
OP A 4 2 2 7
LT 10 1 4
LMC 6 4 5 4

IN A 1 2 8
IN A 1 1 4
±8V ±15V

STANDARD
OUTPUT



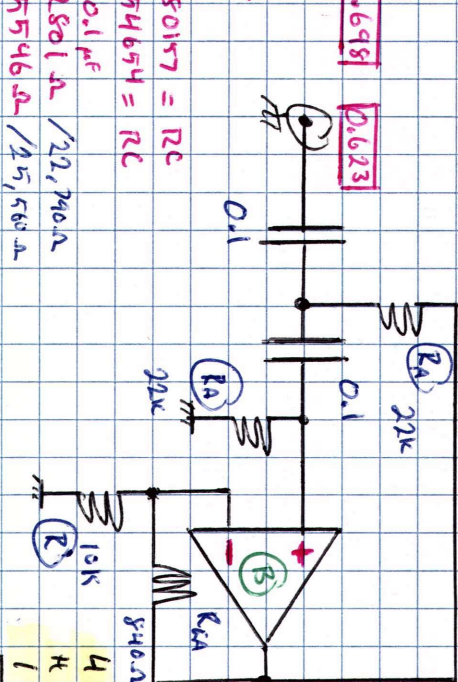
OR DIGITAL DET?



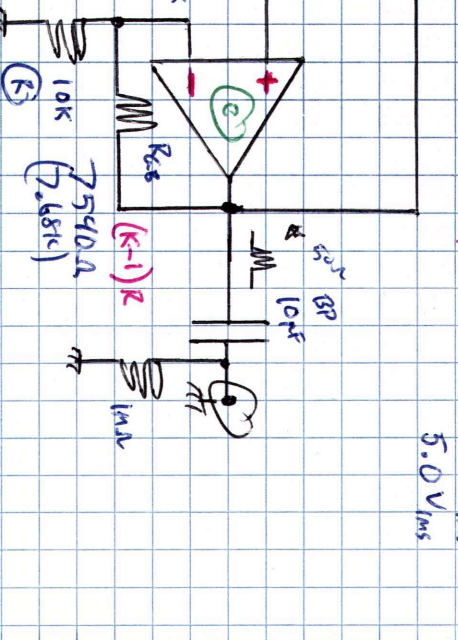
TO R₆

TO R₆

4-Pole Bessel
C₁ = 1.0432
K = 1.0884
RC = 1/2πC₁f_c
f_c = 100kHz
L_{ET} R = 10kΩ

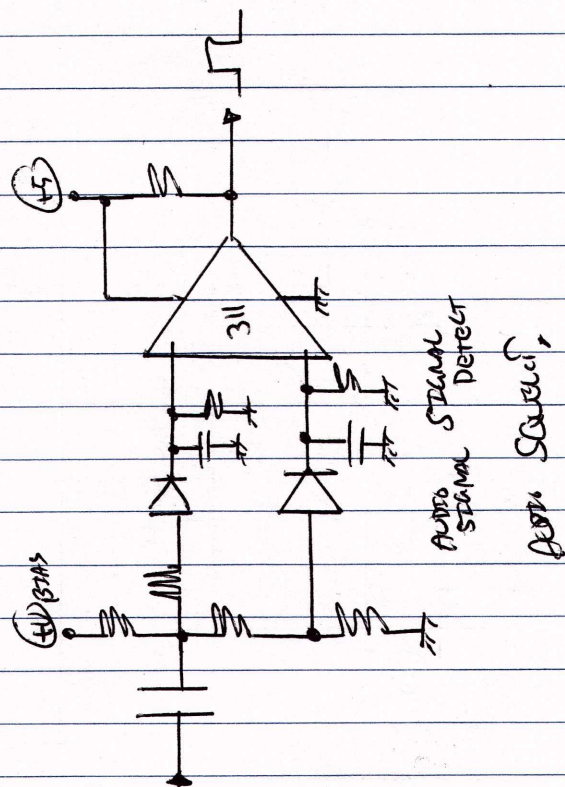


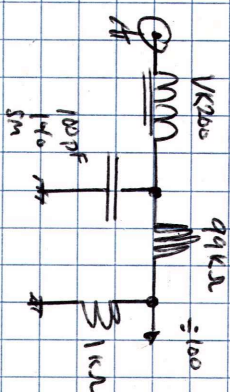
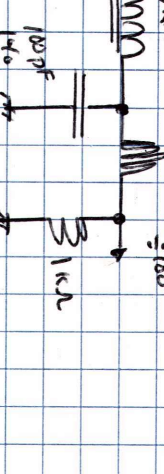
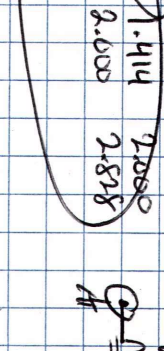
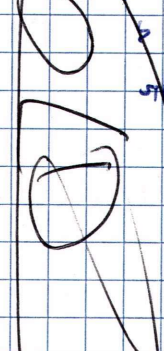
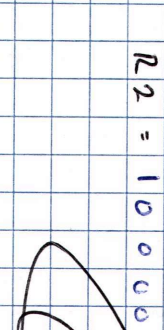
OP A 4 2 2 7
LT 10 1 4
LMC 6 4 5 4

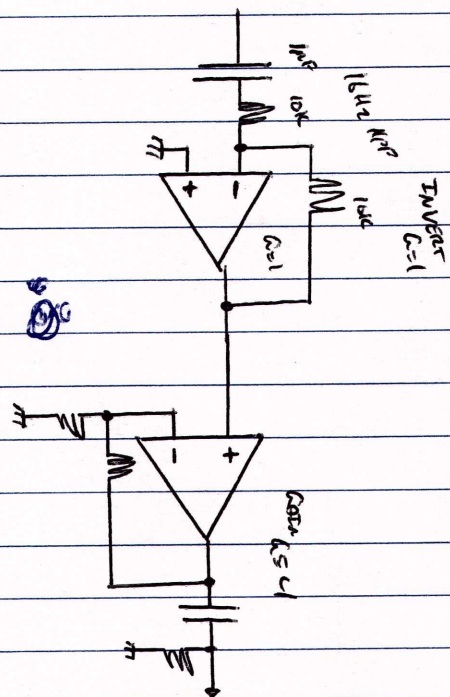


IN A 1 2 8
IN A 1 1 4
±8V ±15V

STANDARD
OUTPUT







S	I	G	N	A	L
O	U	T	P	U	T
To Limbless					
Σ	O.4	to	5.0	km	

w/ VU-METER
LED?

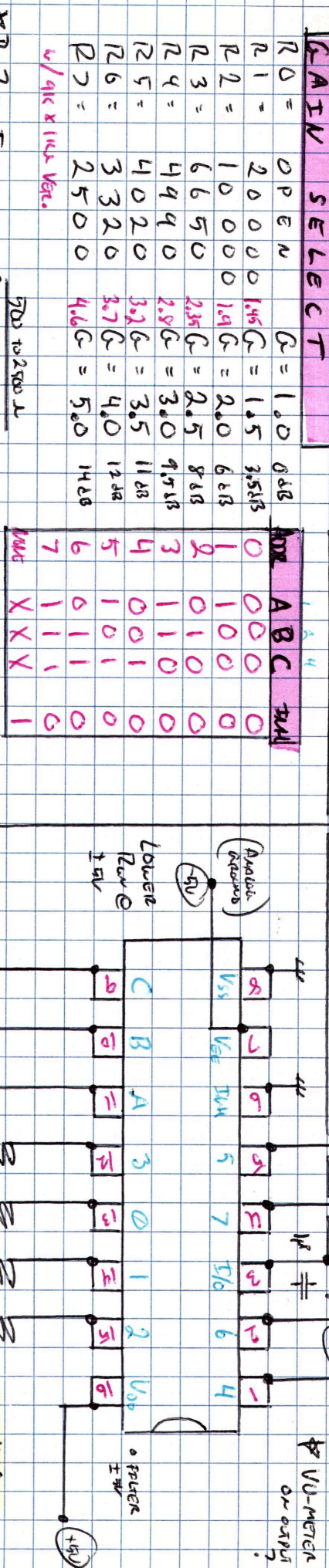
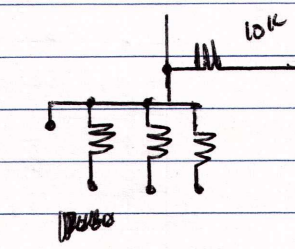
[illegible]

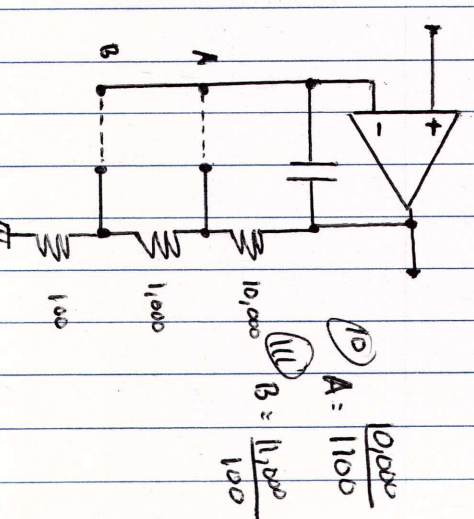
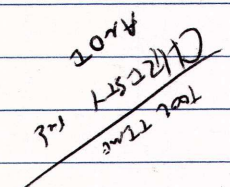
Diagram of a circuit with a voltage source U_0 and resistors R_1, R_2, R_3, R_4 . The circuit is configured as follows:

- A voltage source U_0 is connected in series with a resistor R_4 .
- This series combination is connected to a parallel network of three branches.
- The first branch contains a resistor R_1 in series with a resistor R_2 .
- The second branch contains a resistor R_3 in series with a resistor R_2 .
- The third branch contains a resistor R_1 in series with a resistor R_2 .

The circuit is labeled with U_0 and R_1, R_2, R_3, R_4 . The diagram is drawn on a grid background.

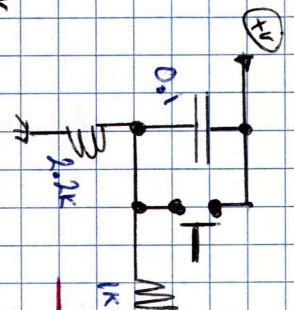


A hand-drawn schematic of a differential amplifier. It features two input terminals at the top, each with a downward-pointing arrow. The inputs are connected to the gates of two NMOS transistors. The sources of both transistors are connected to a common source node, which is tied to ground. The drains of the two transistors are connected to a common load node. This node is connected to a resistor that is labeled with a circled 'X', indicating a mismatch. The other end of this resistor is connected to a positive supply voltage, represented by a line with an upward-pointing arrow.



• EMERGENCY ELDERBROOK ?
WISC PHYSICS

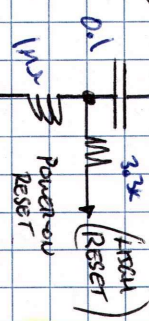
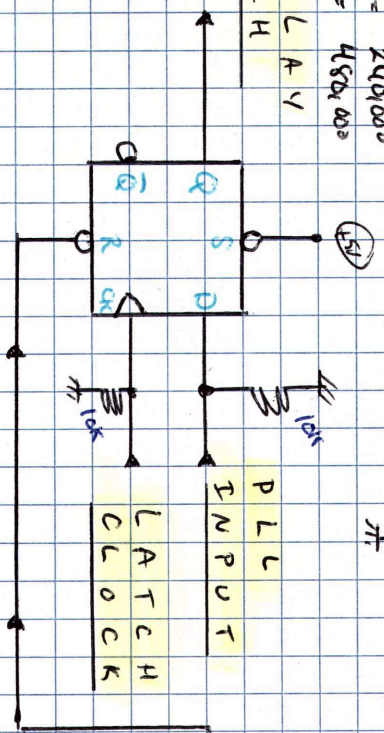
O	V	E	R	L	Y	-
C	O	M	P	L	T	C
B	U	T	O	N		
D	B	O	O	N	C	E



Large Clock

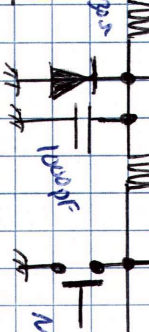
SWEEP RATE X 200
 $300 \times 200 = 60,000$
 $600 \times 200 = 120,000$
 $1200 \times 200 = 240,000$
 $2400 \times 200 = 480,000$

D I S P L A Y
L A T C H



7474

7414



NO PUSH BUTTON
PUSH-ON / PUSH-OFF

S	R	D	C	K	Q	Q
0	0	X	0	H	H	H
1	0	X	0	L	H	H
1	1	H	0	L	H	H
1	1	H	1	H	L	H
1	1	L	1	L	H	H

INTERNAL
POWER-ON RESET
STABLE CLK
PUSH #1
PUSH #2

Reset
Erase
0
1

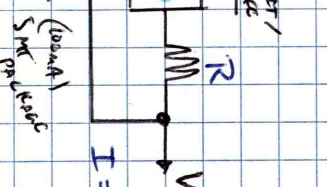
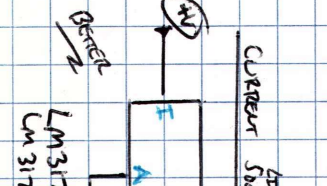
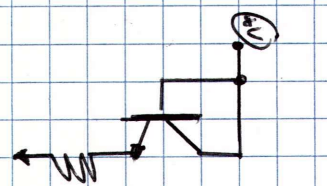
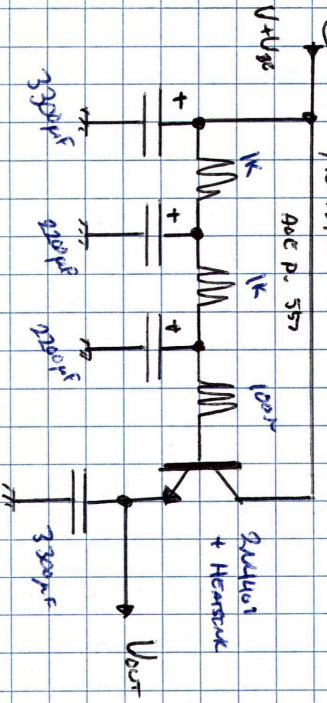
0
1

0
1
INTERNAL
AFTER TC

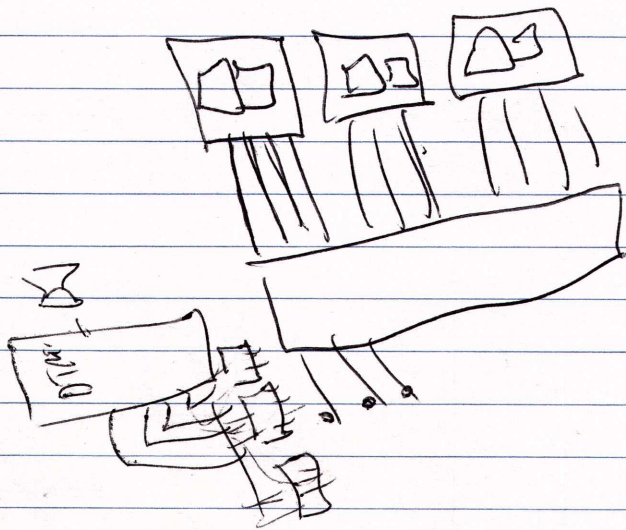
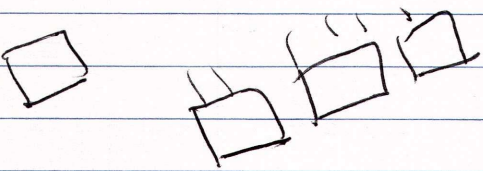
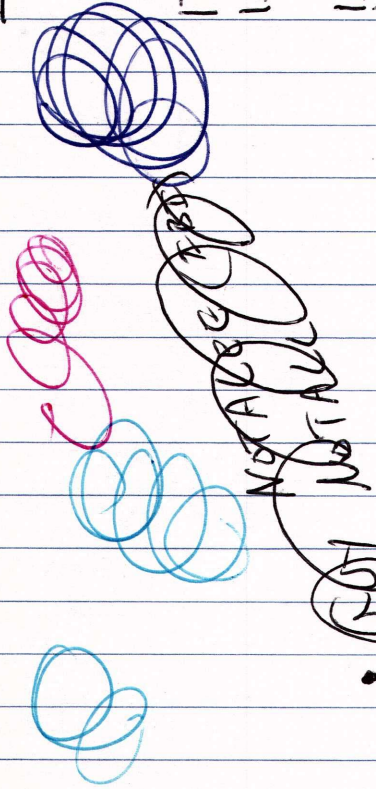
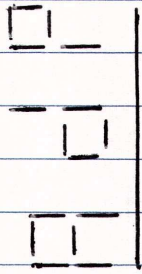
P	O	W	E	R	-
O	N	R	E	S	E
T					

D	E	B	O	O	N	C	E
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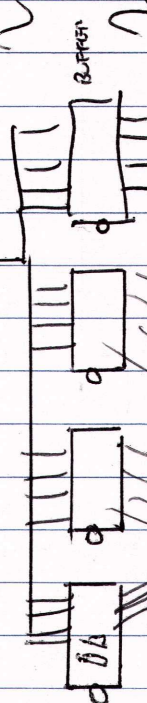
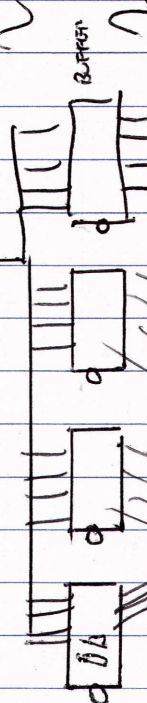
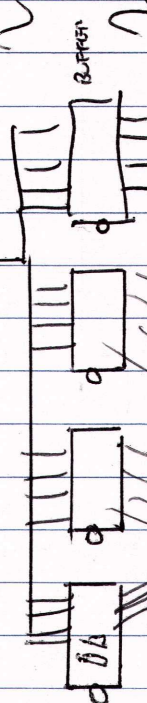
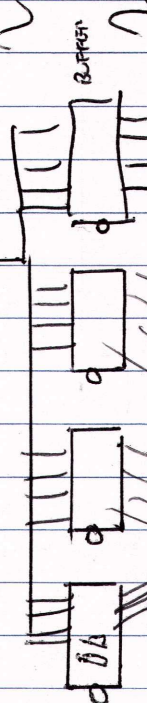
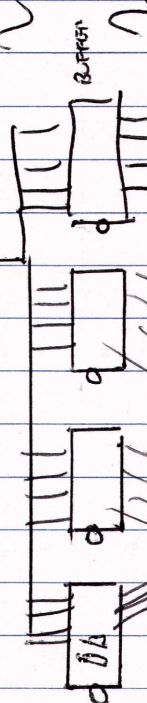
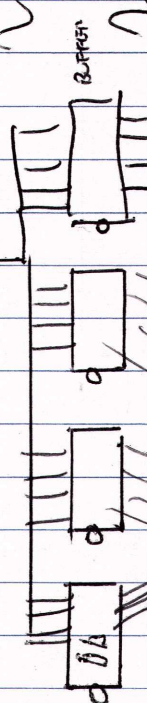
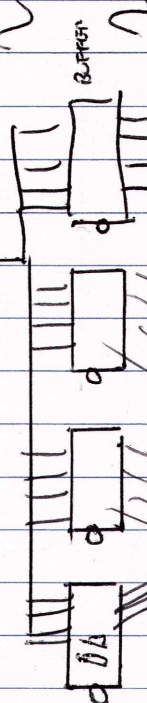
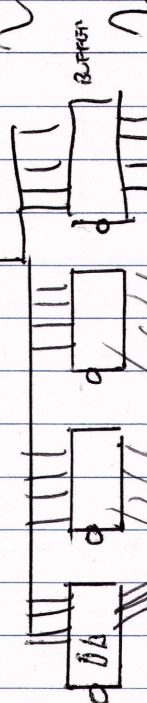
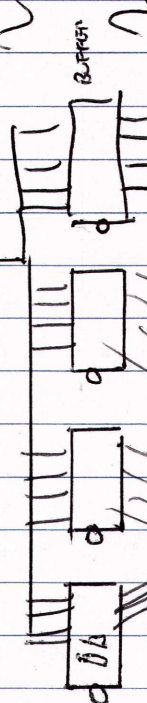
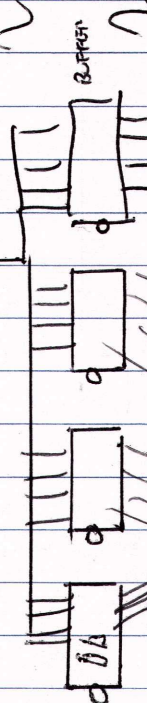
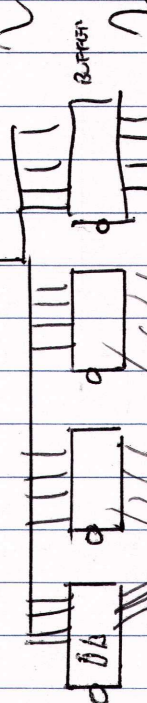
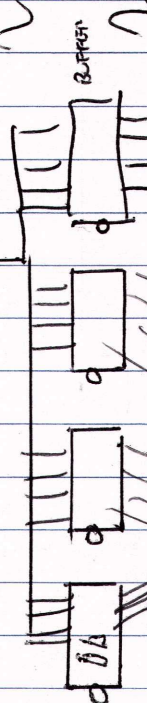
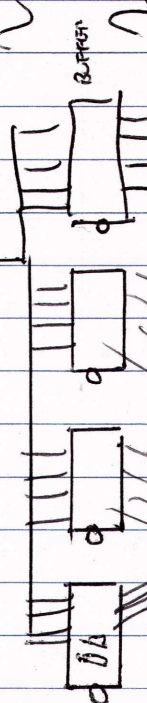
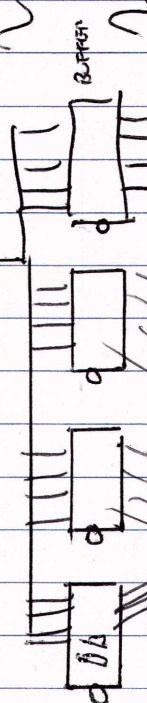
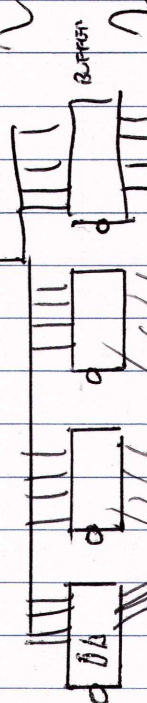
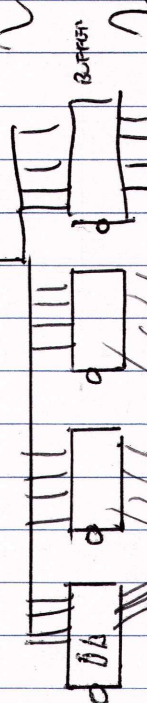
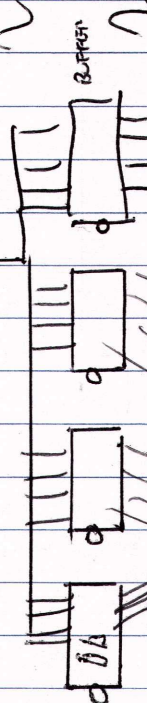
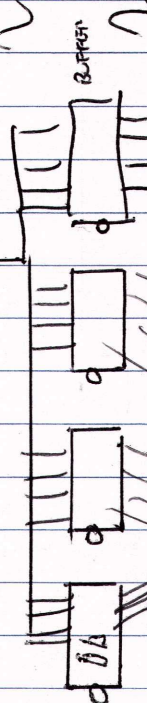
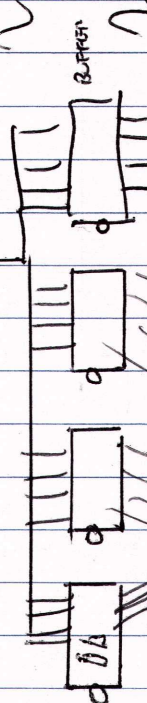
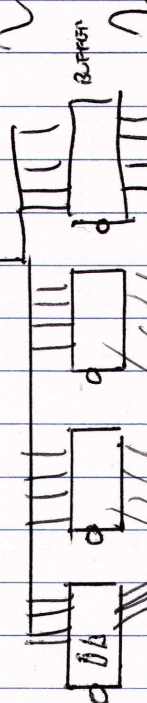
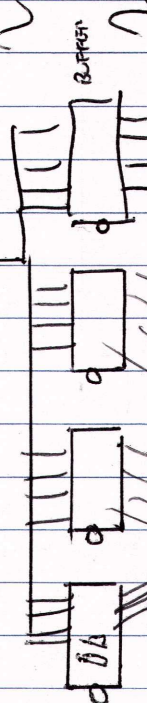
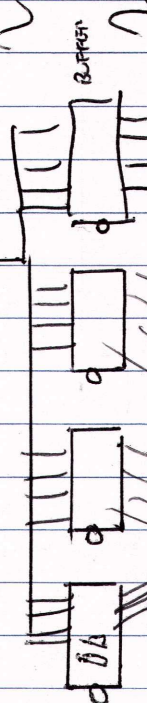
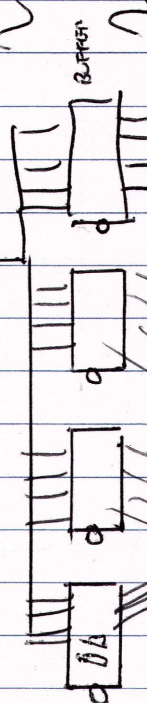
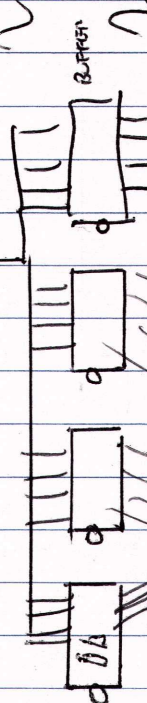
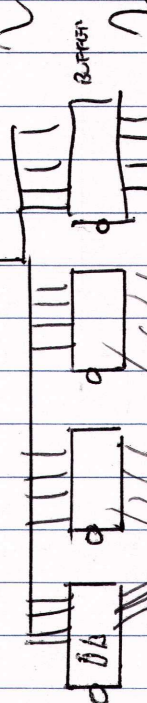
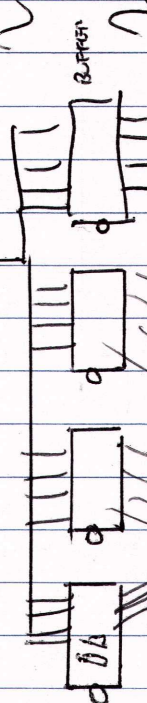
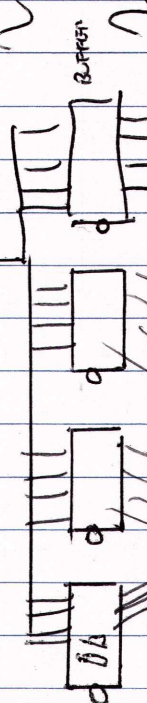
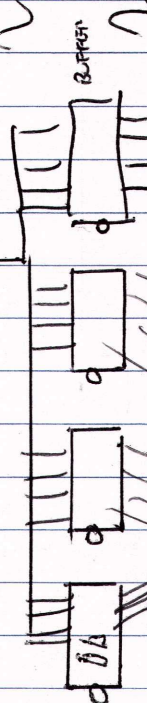
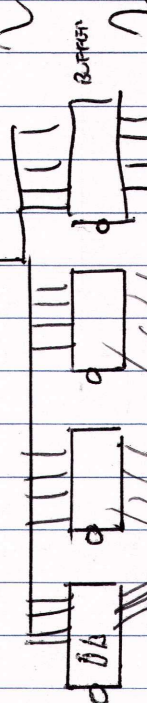
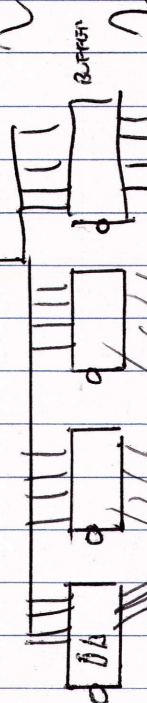
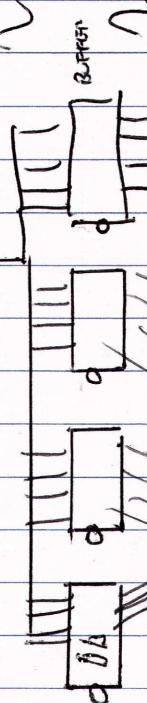
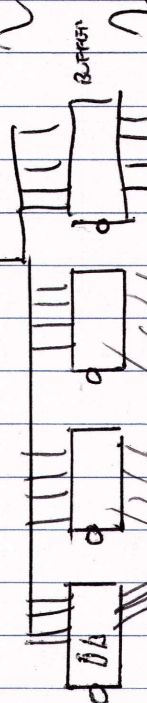
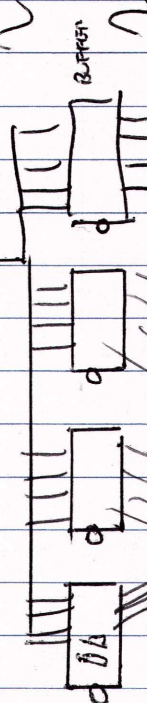
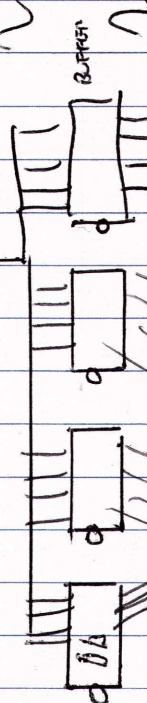
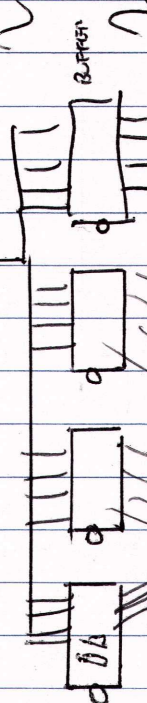
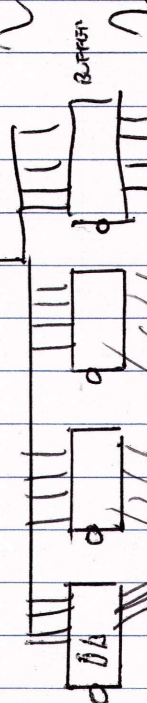
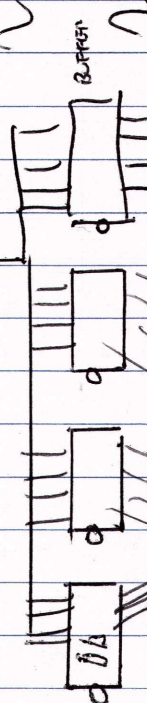
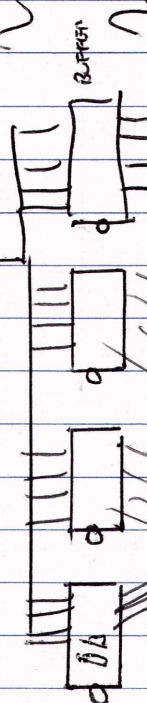
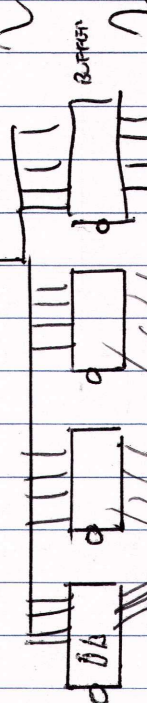
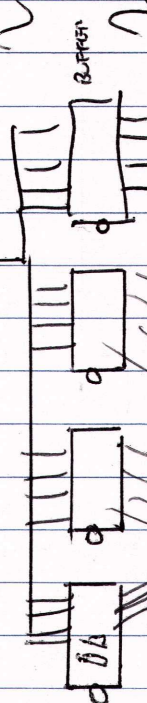
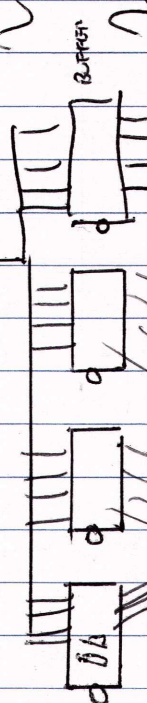
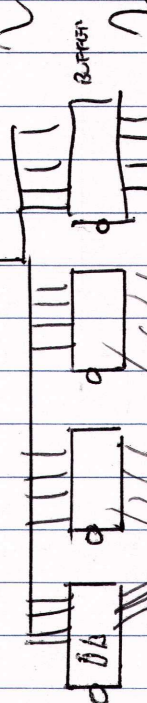
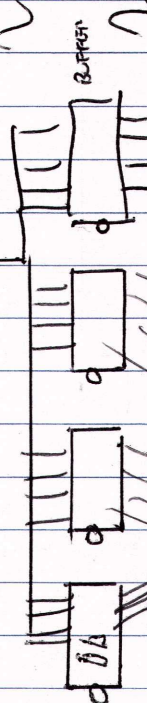
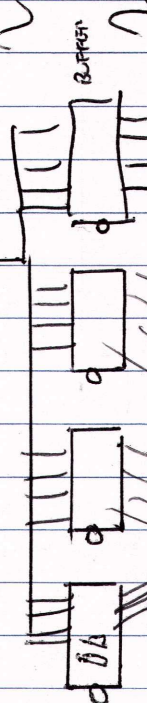
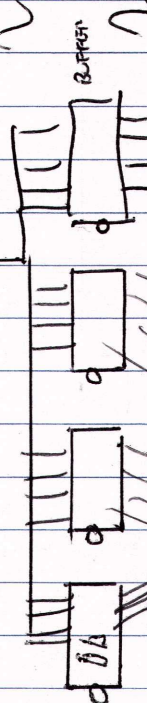
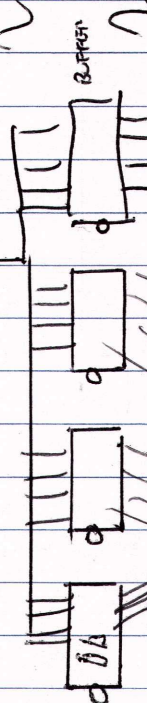
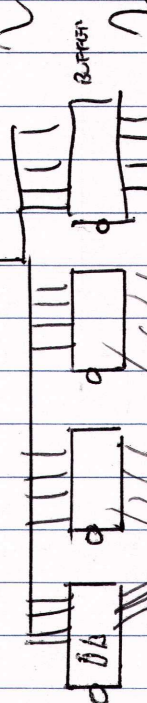
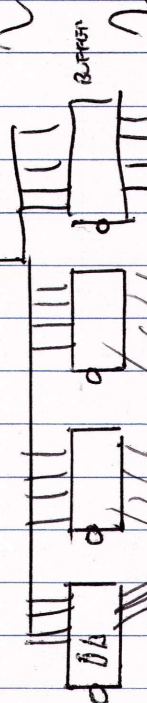
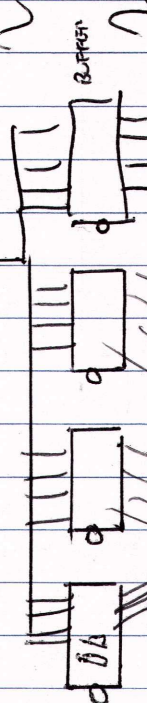
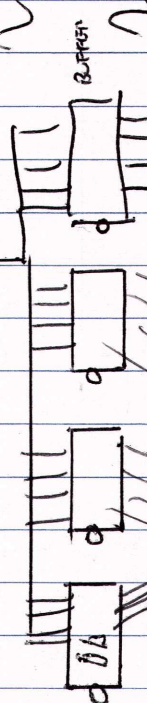
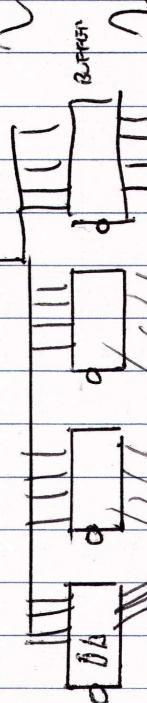
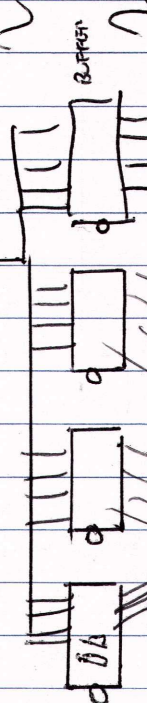
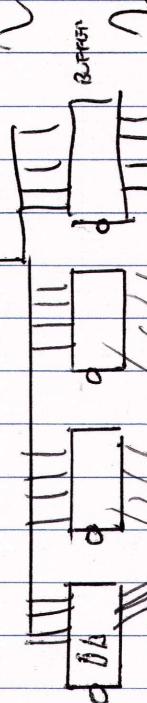
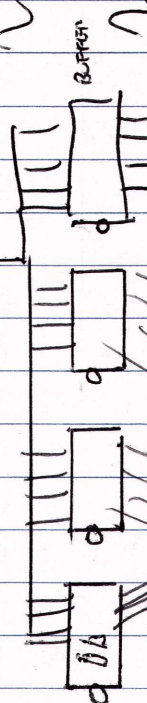
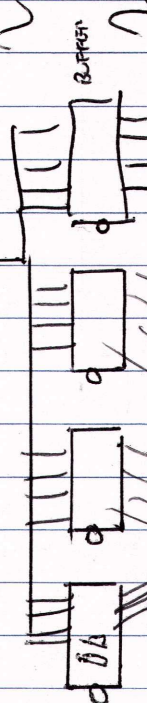
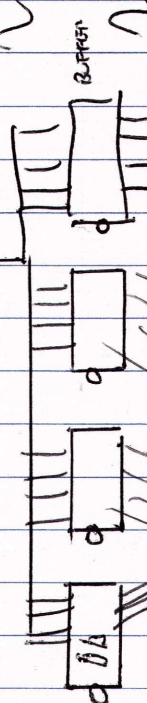
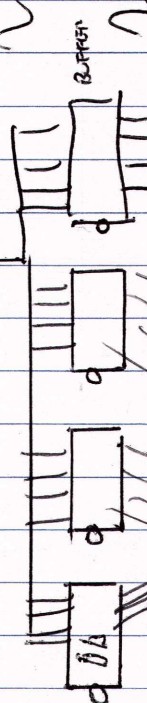
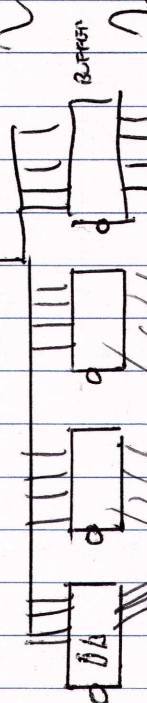
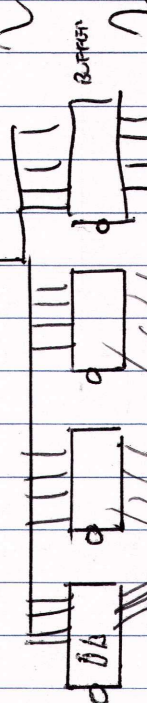
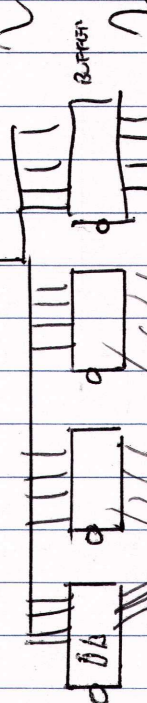
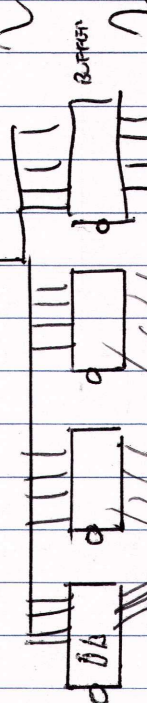
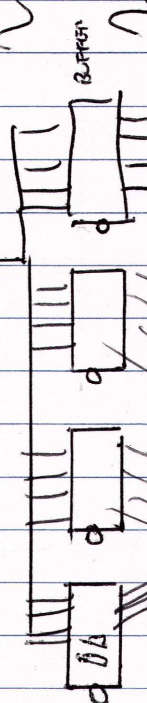
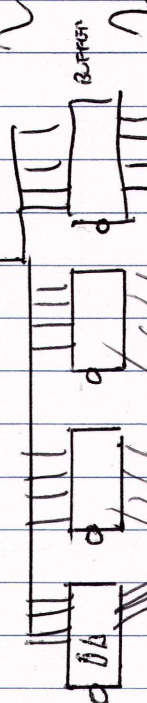
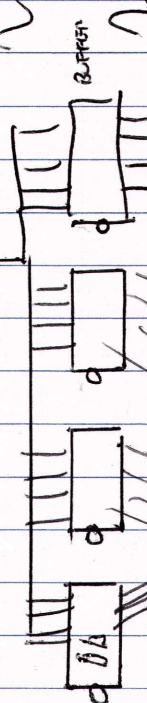
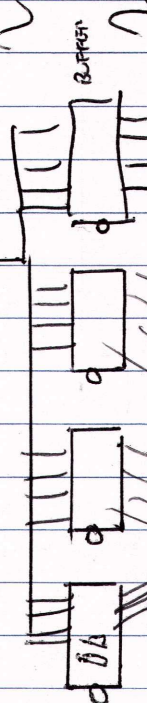
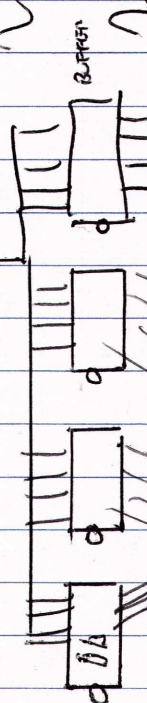
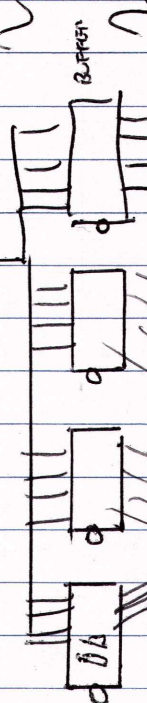
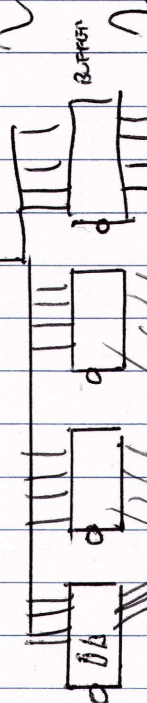
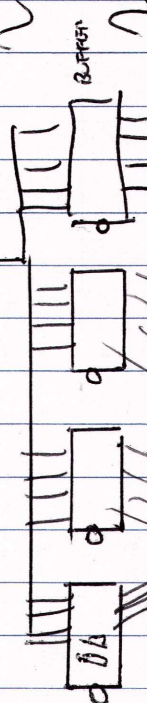
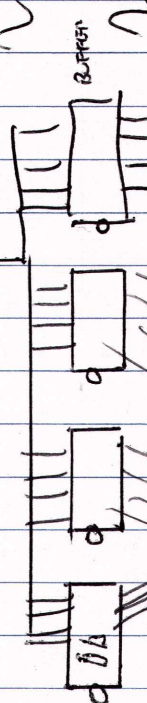
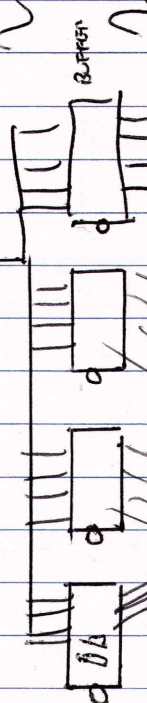
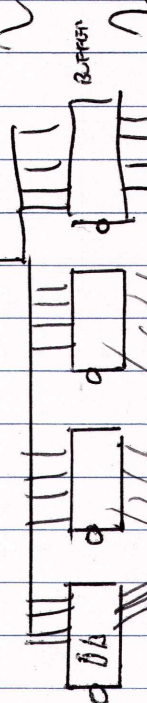
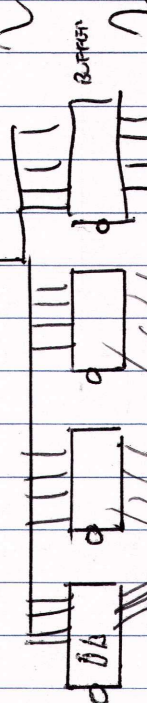
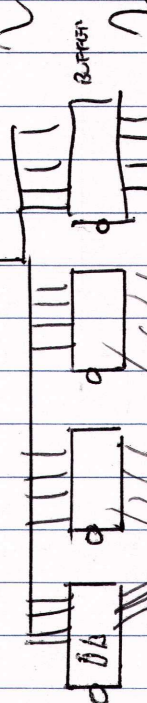
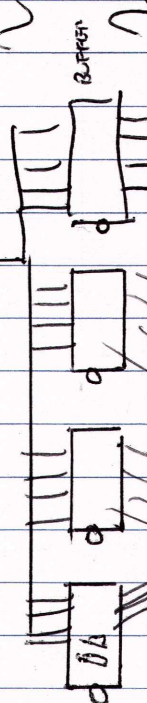
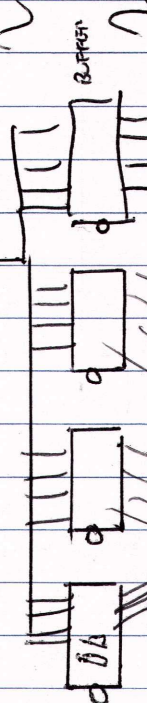
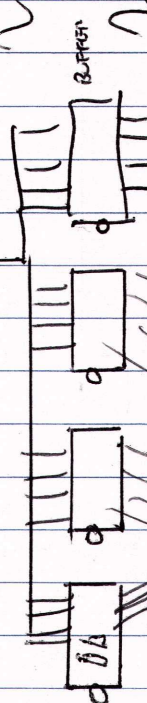
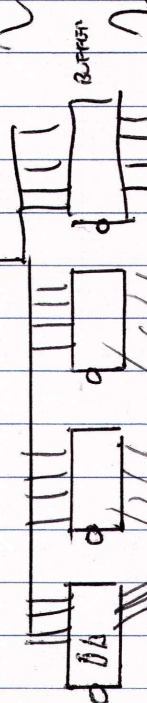
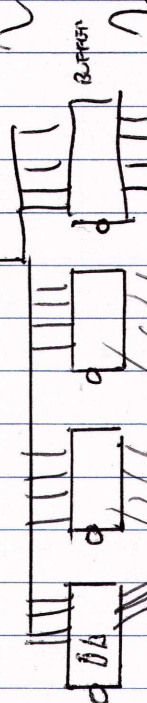
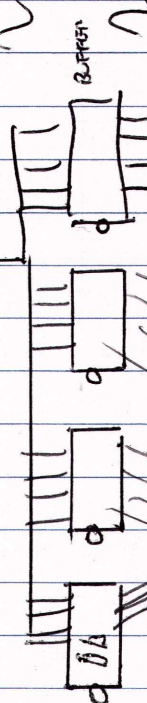
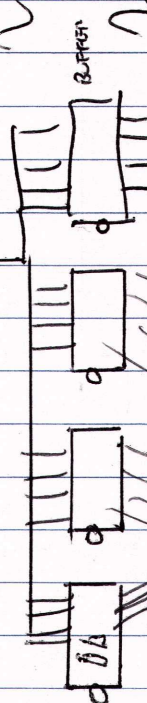
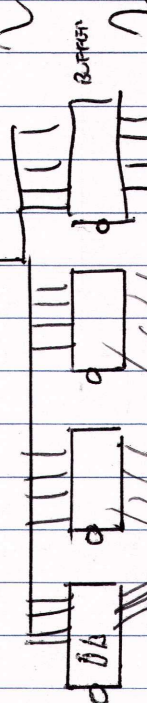
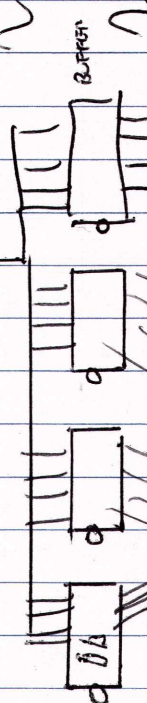
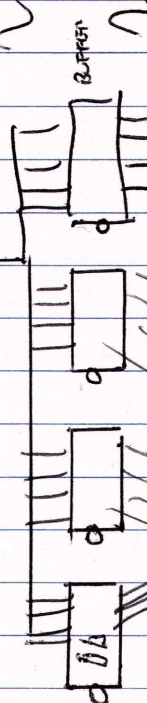
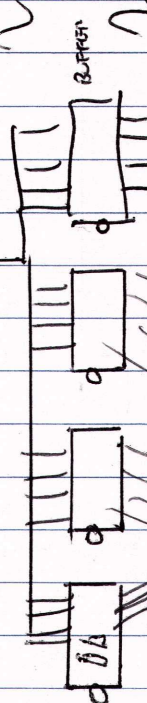
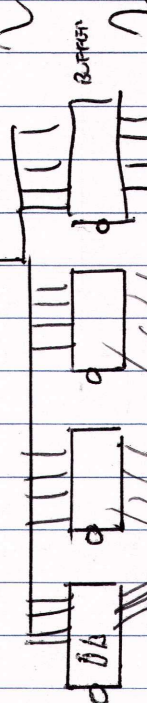
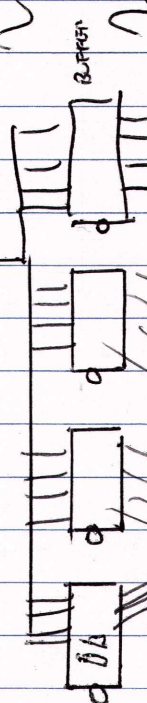
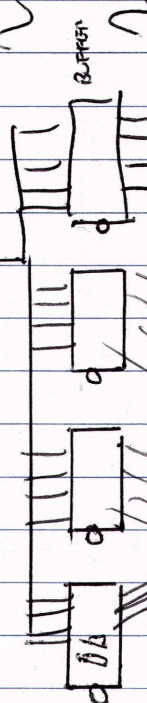
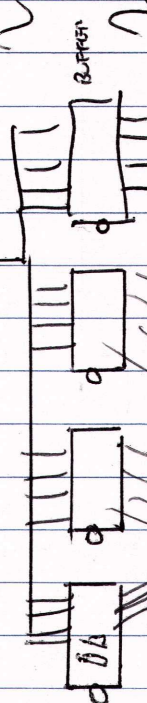
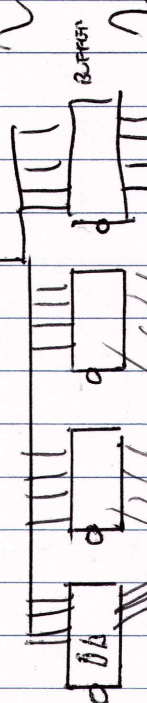
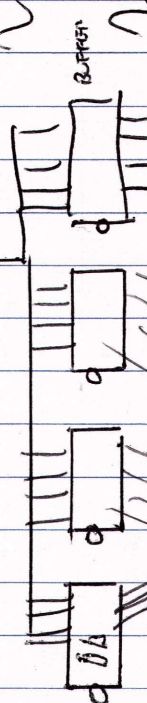
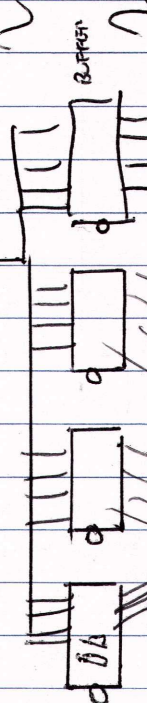
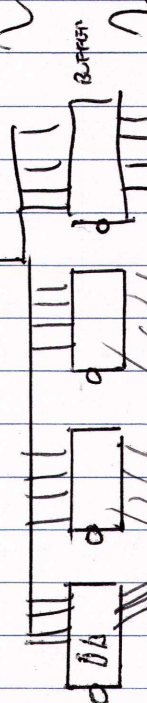
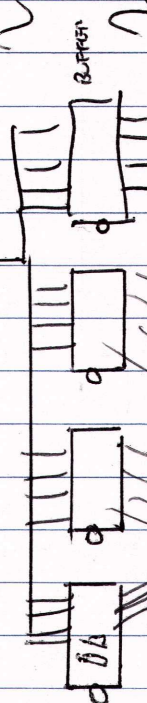
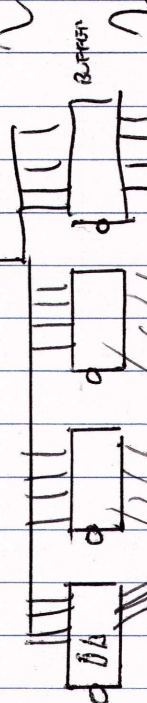
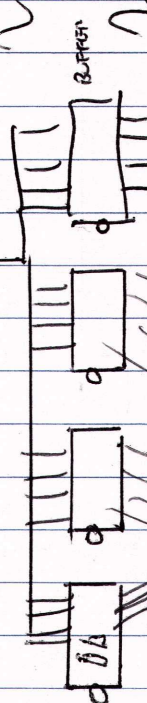
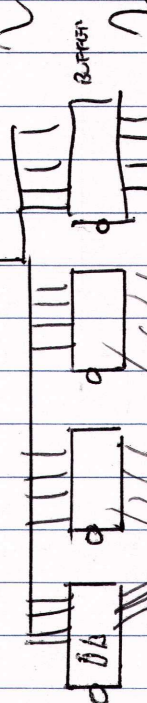
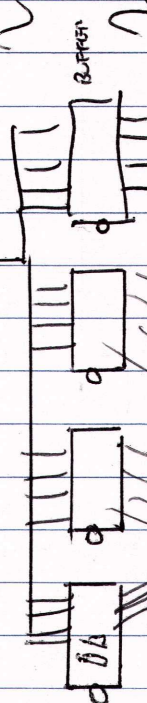
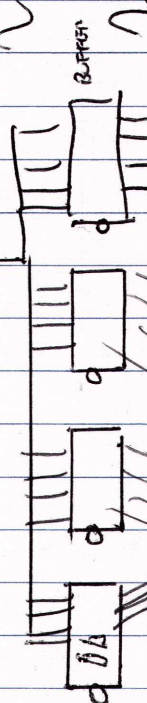
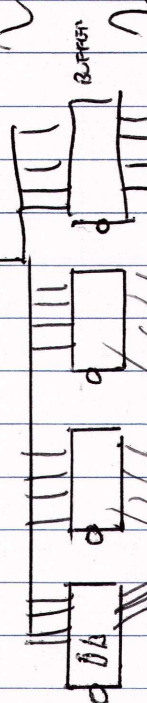
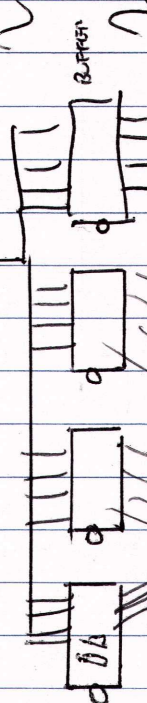
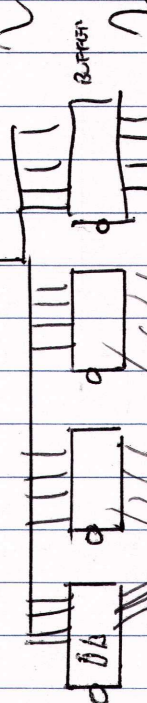
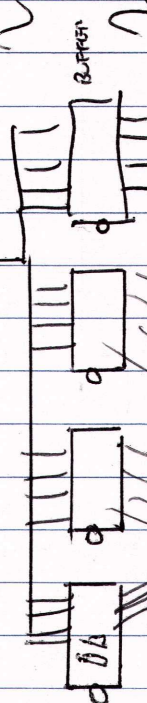
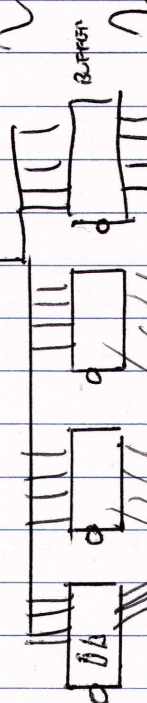
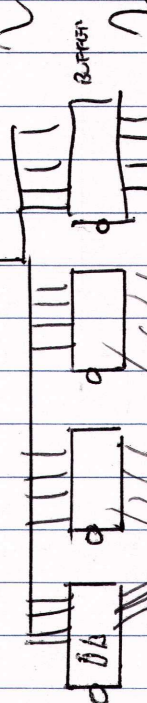
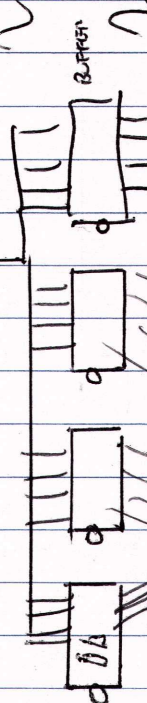
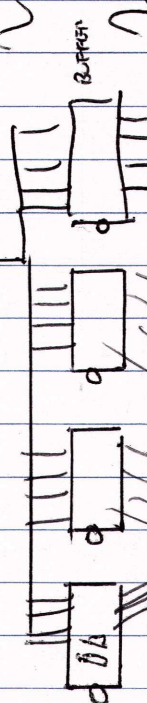
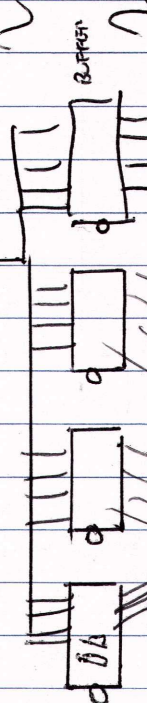
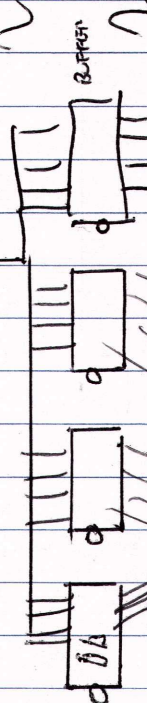
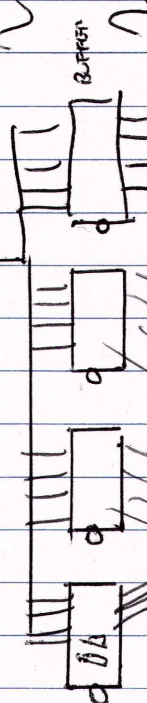
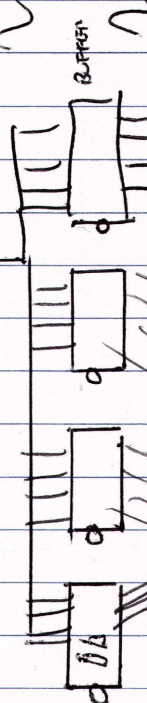
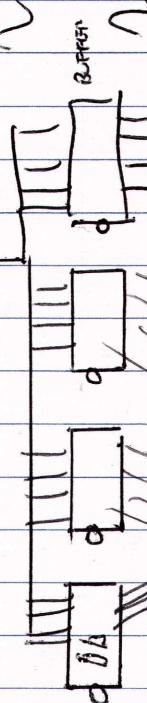
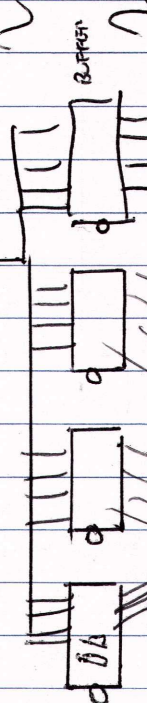
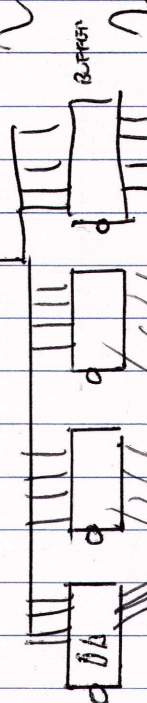
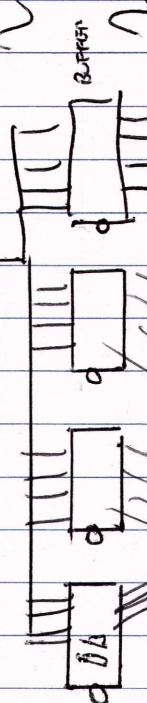
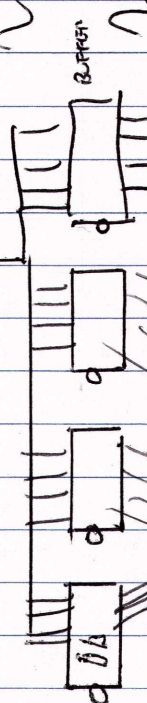
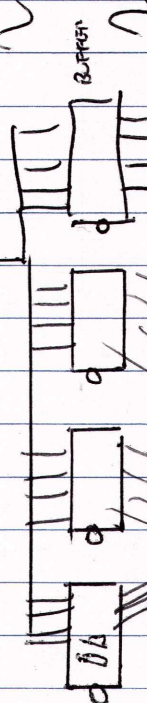
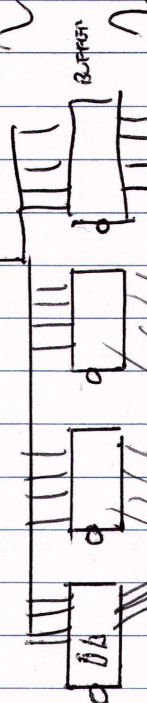
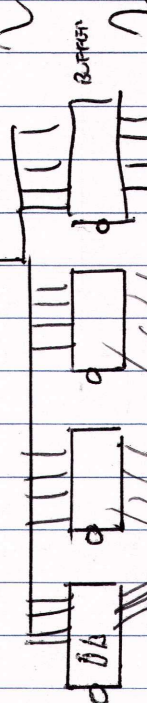
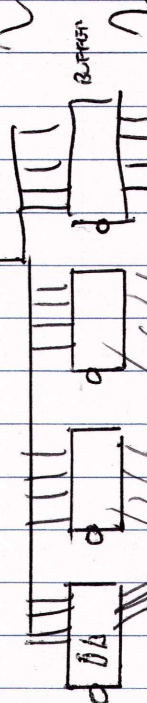
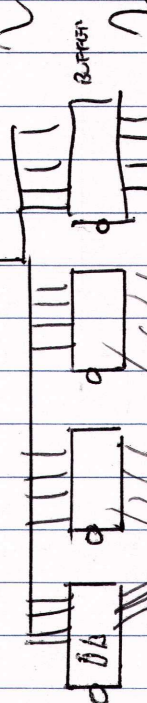
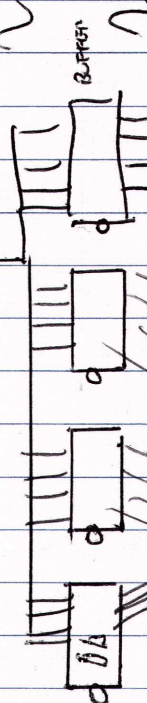
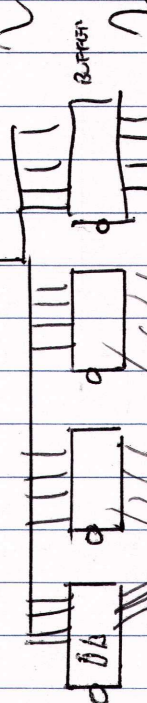
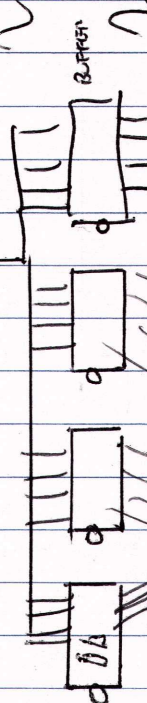
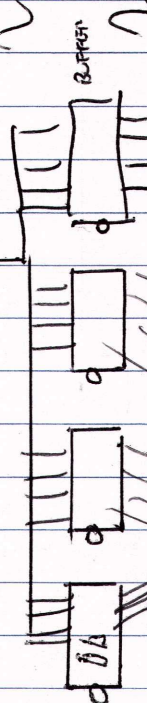
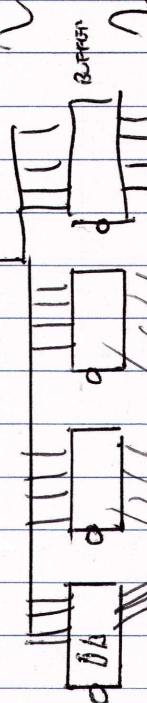
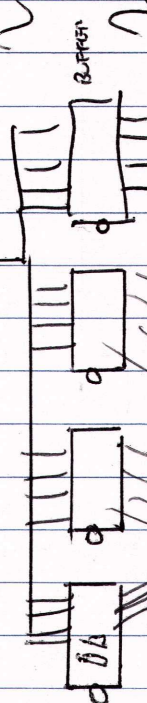
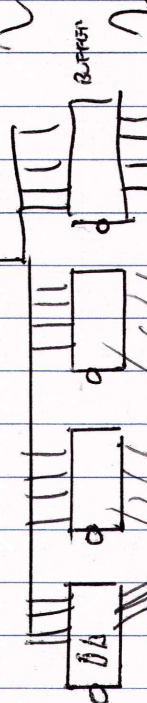
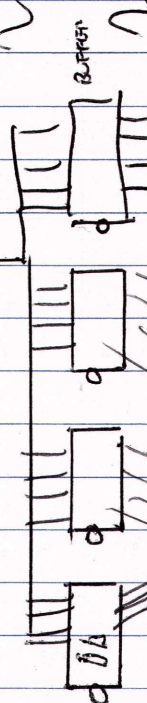
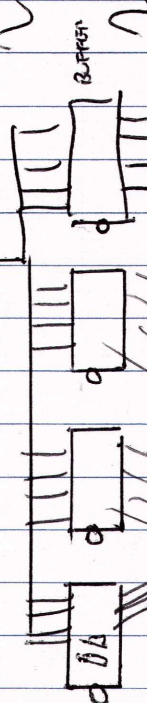
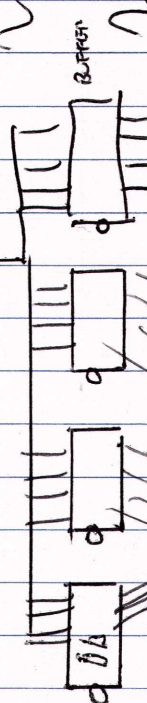
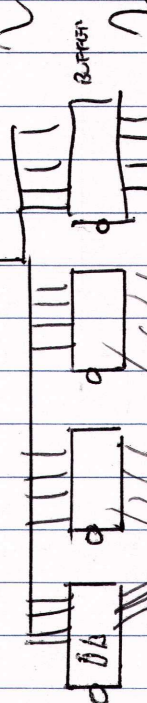
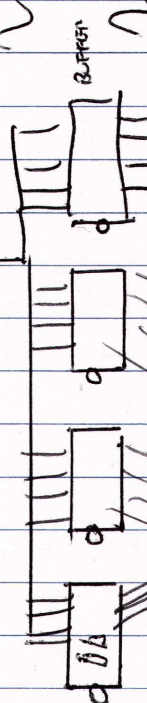
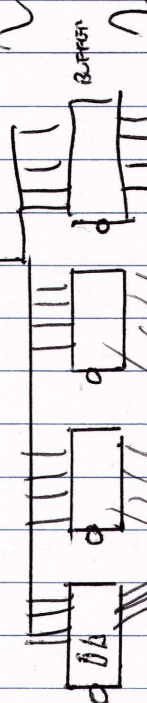
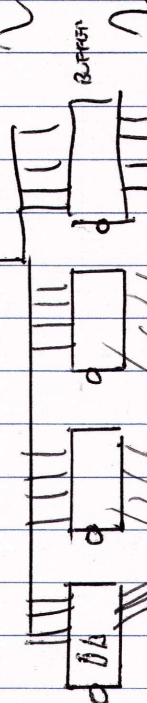
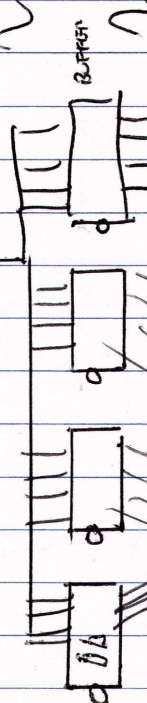
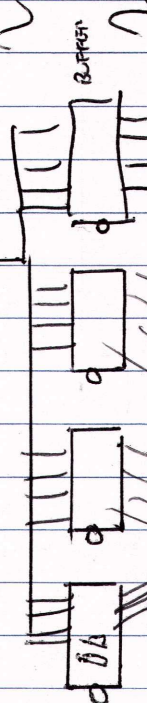
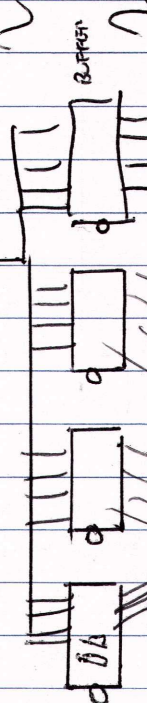
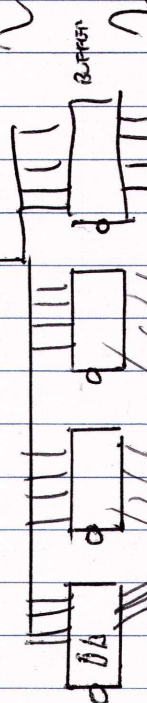
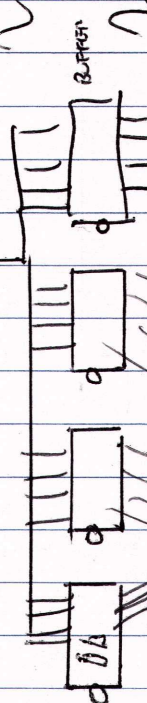
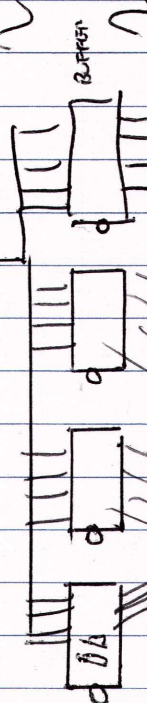
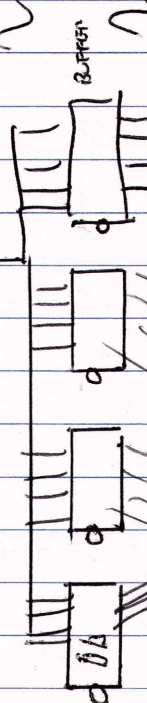
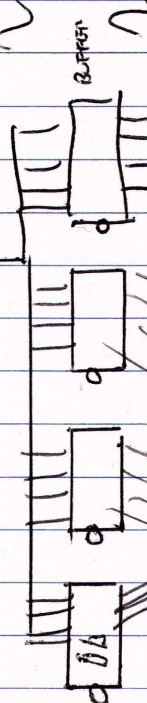
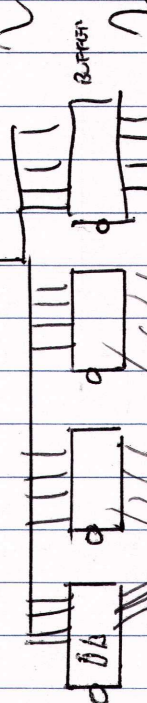
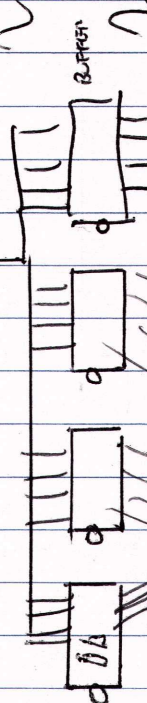
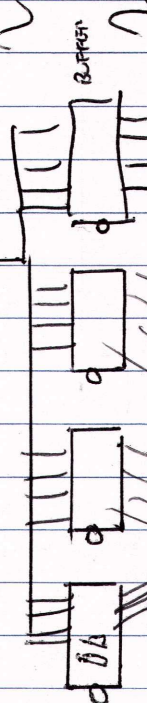
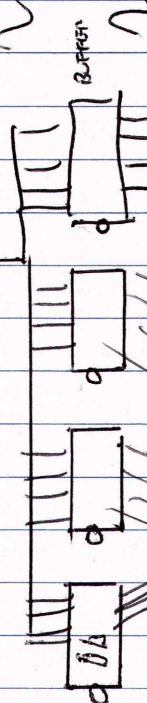
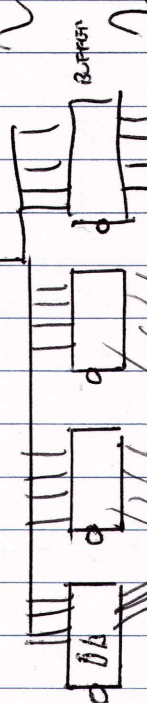
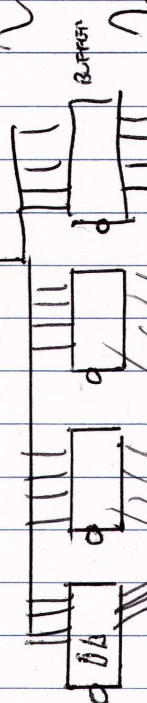
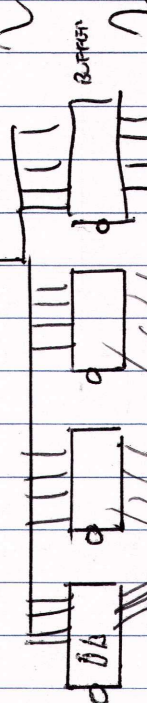
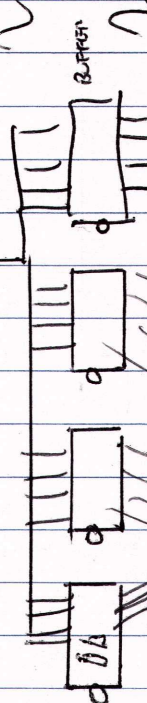
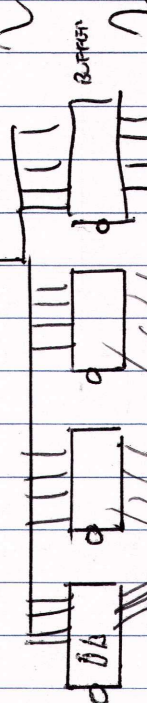
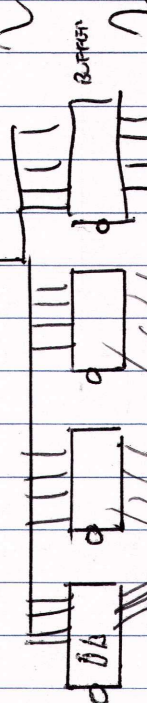
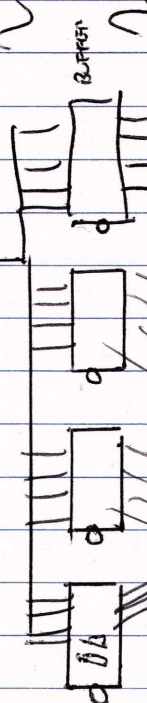
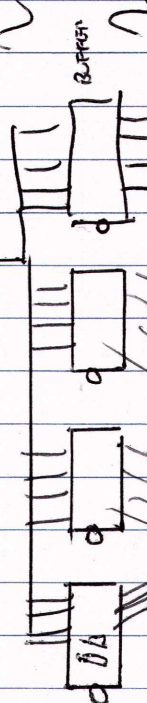
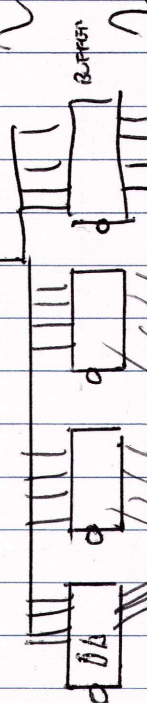
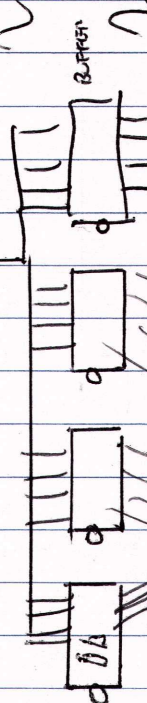
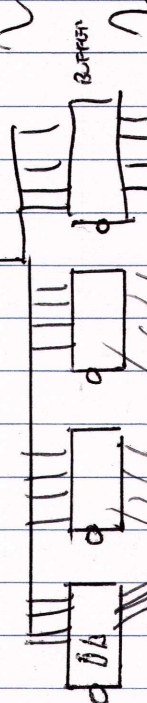
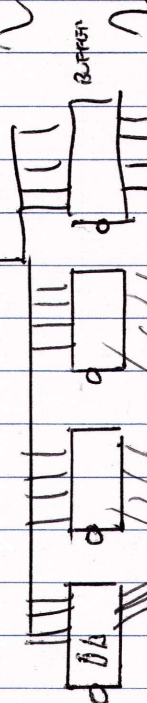
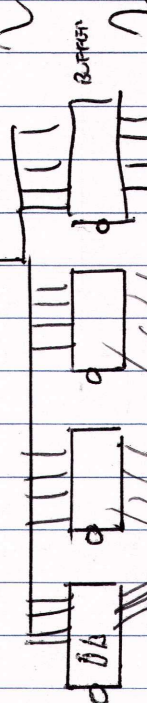
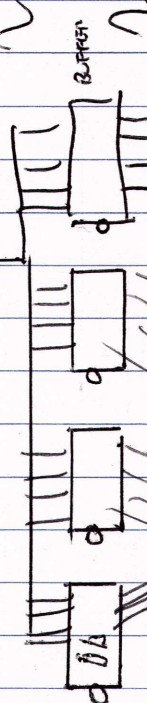
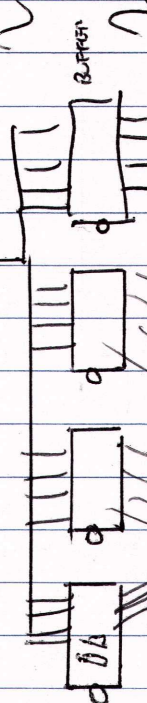
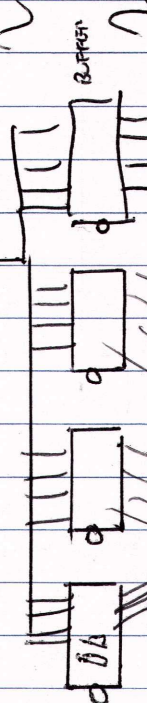
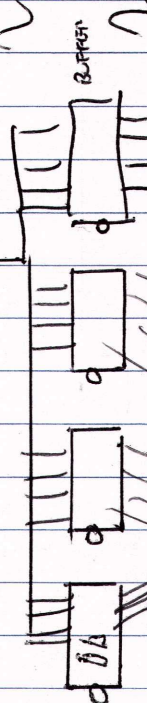
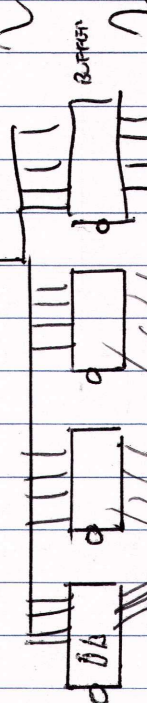
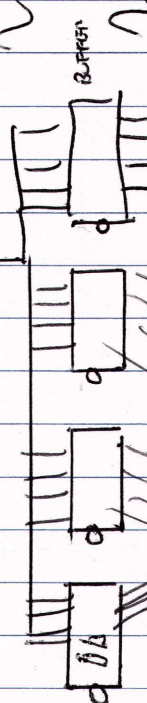
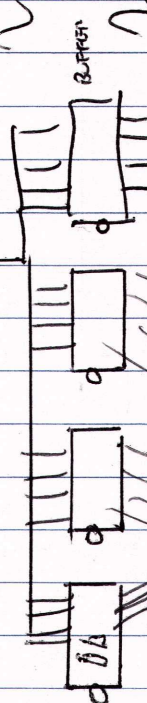
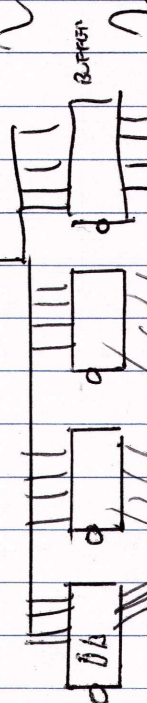
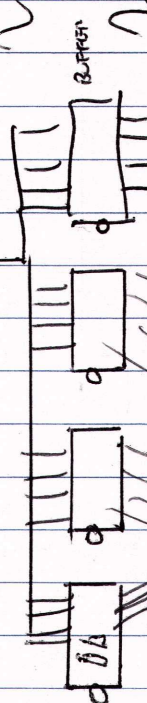
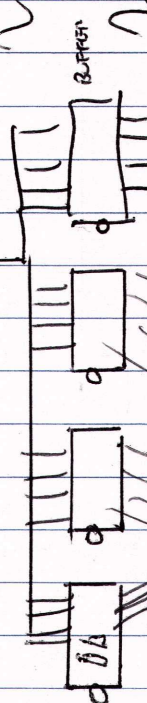
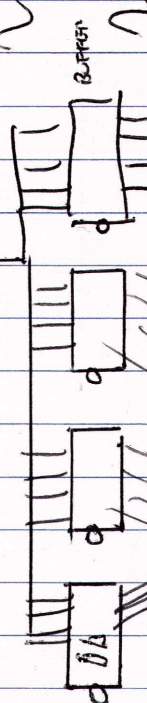
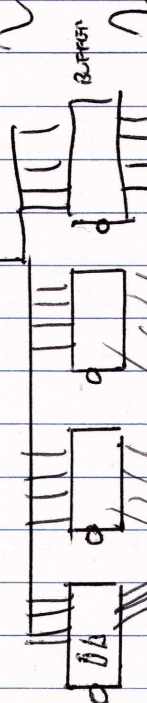
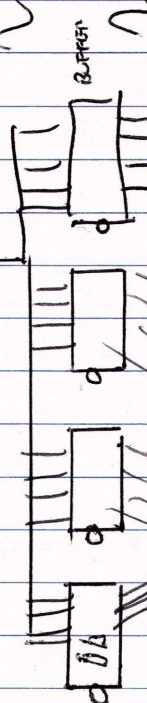
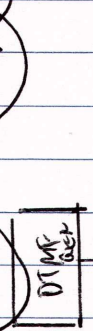
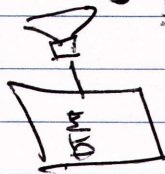
MAX 6816 / 18
 MC14490
 LS18 / LS118
 (log-switch.net)



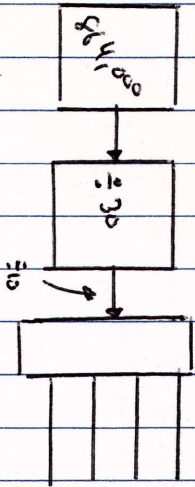
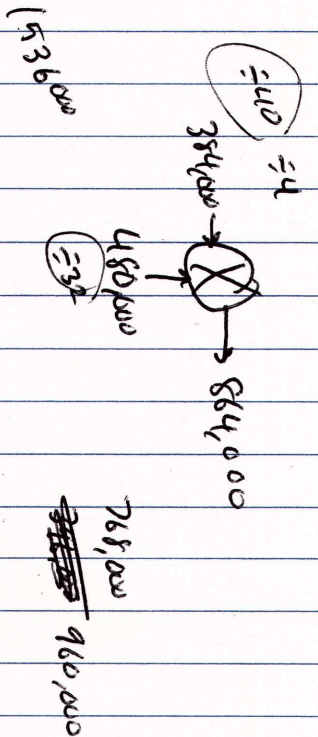
LM317L (LOWA)
 LM317
 5Vdc level
 $I = \frac{V_{OUT}}{R}$
 $V_{OUT} = I \cdot R$
 $I_{MAX} = 1.5A$



• Denis Box A (DEA)

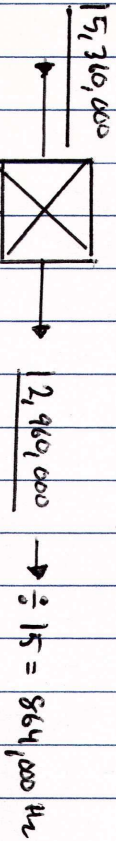


$$\frac{9.8304 \text{ MHz}}{41} = 108,026.3736$$



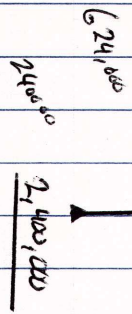
$$\frac{108,026.3736 \text{ Hz}}{300} = 360.0879121$$

$$\begin{aligned}
 34,560,000 &\div 4 \\
 4,132,000 &\div 5 \\
 8,640,000 &\div 10 \\
 12,960,000 &\div 15
 \end{aligned}$$

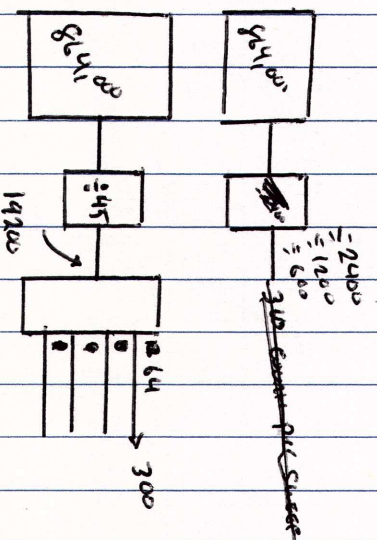


$$\begin{aligned}
 108,000 &\times 360 \\
 300 &\times 360 \\
 600 &\times 360 \\
 1200 &\times 360 \\
 2400 &\times 360
 \end{aligned}$$

$$768,000 + 96,000$$

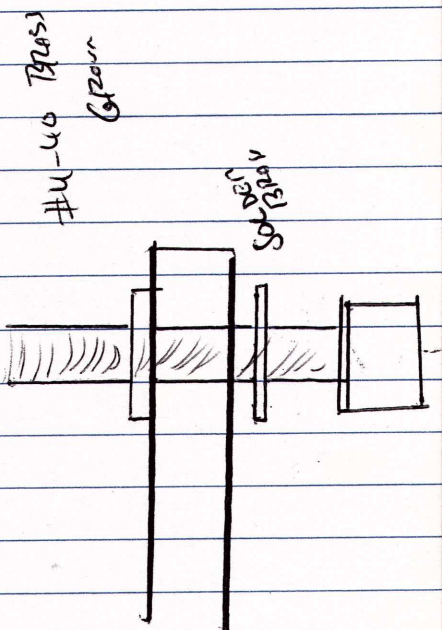


$$\begin{aligned}
 864,000 &\div 2400 = 360 \\
 &\div 1200 = 720 \\
 &\div 600 = 1440 \\
 &\div 300 = 2880 \\
 864,000 &\div 300 = 2880
 \end{aligned}$$



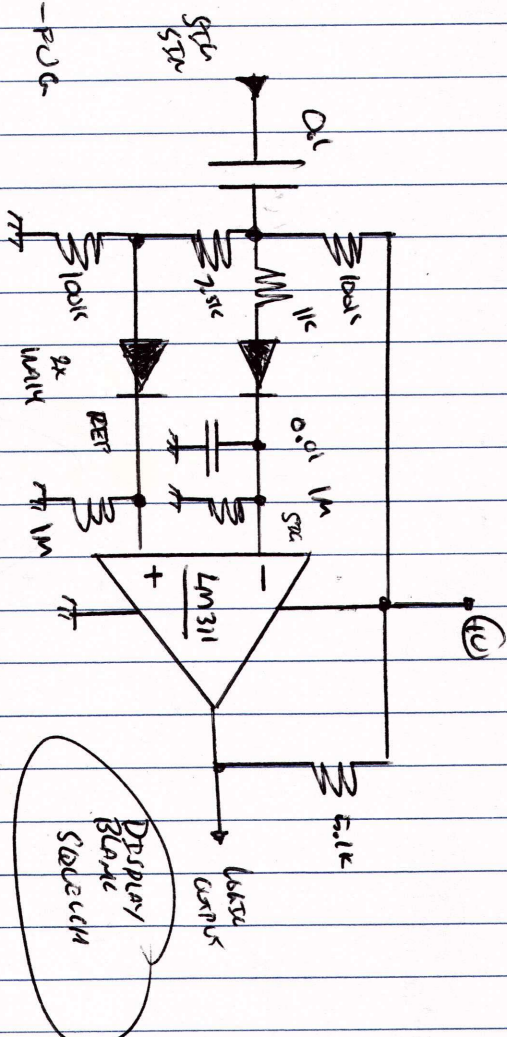
$$\begin{aligned}
 15,360,000 &\div 32 \\
 &\div 4 \\
 &\div 2 \\
 &\div 1
 \end{aligned}$$

480,000
 384,000
 384,000 - 307,200 = 76,800



3

Active L. ORR-PDC

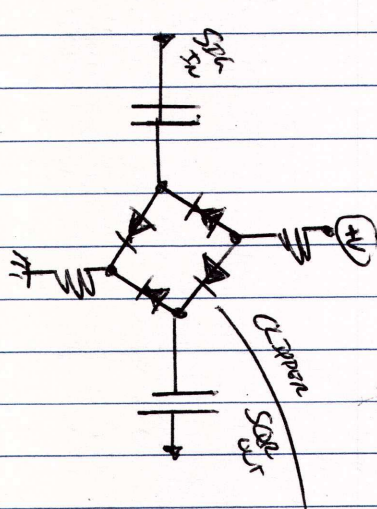


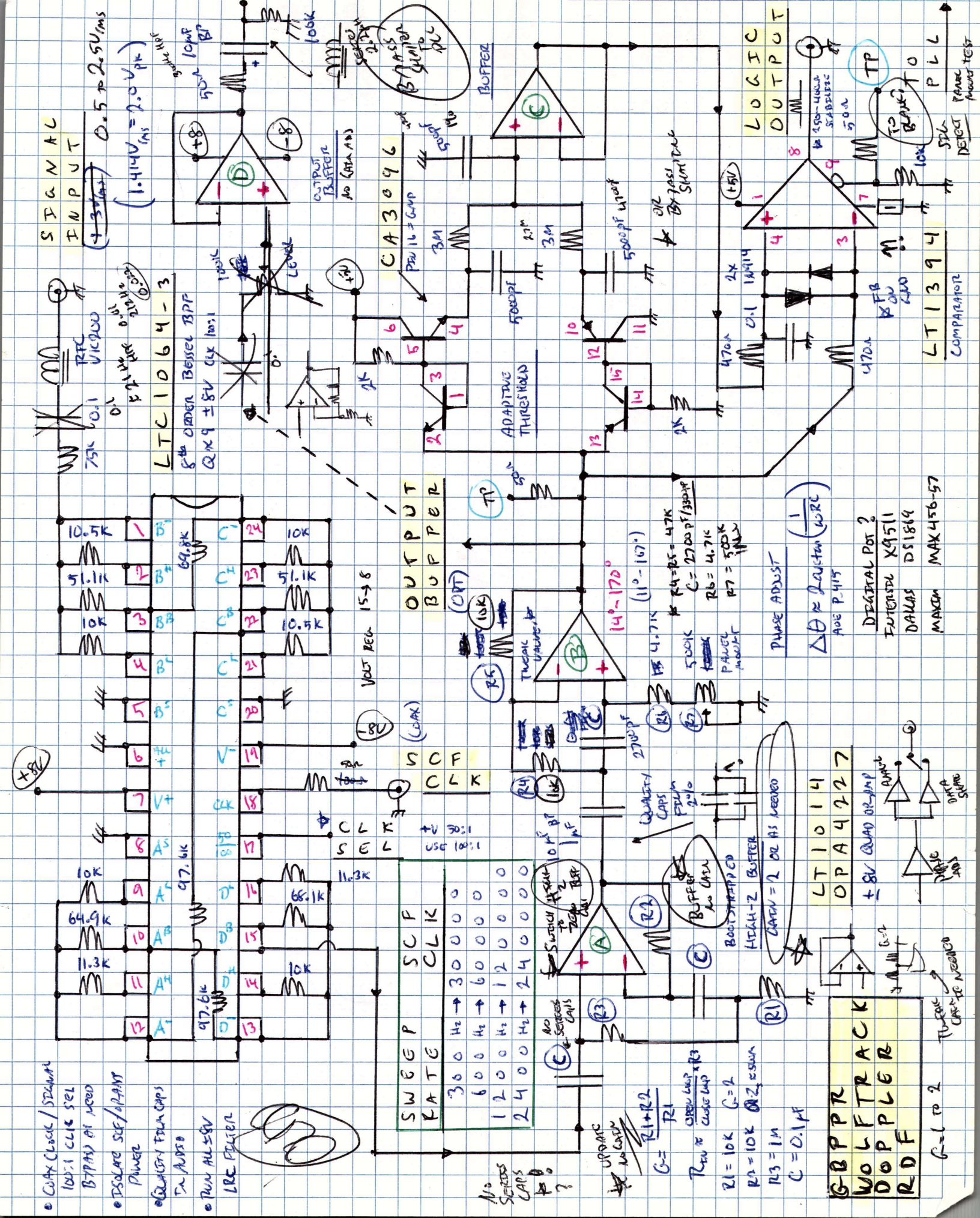
TELETRAC NOT GPS

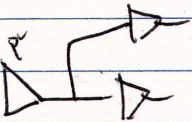
Vehicle tracking

TELETRAC

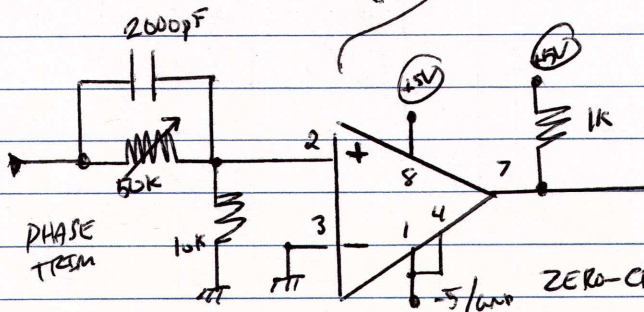
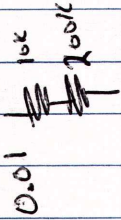
Assume 1 mA TRISA
ATF
TELETRAC
VH TRACK



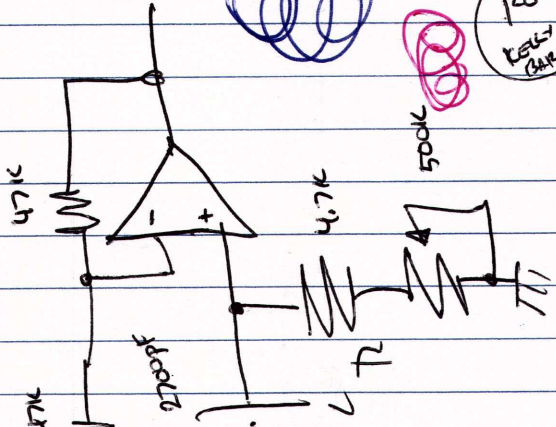




$500 \text{ Hz} = 1.58^\circ$
 $100 \text{ Hz} = 0.31^\circ$
 $10 \text{ Hz} = 0.031^\circ$



$2000 \text{ pF} = 500 \text{ Hz} = 12 \text{ kHz}$
 $200 \text{ pF} = 300 \text{ Hz} = 3^\circ$
 $20 \text{ pF} = 30 \text{ Hz} = 0.3^\circ$
 $2 \text{ pF} = 3 \text{ Hz} = 0.03^\circ$
 $0.1 \text{ pF} = 0.3 \text{ Hz} = 0.003^\circ$

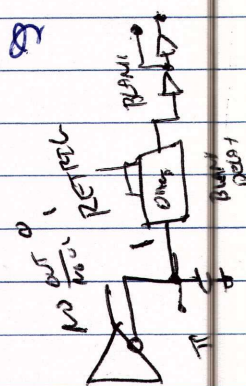


RUSCHAD
 ALLEN
 TEST
 QUESTIONS
 FACTORS

MANZELL

500 Hz
 $C = 0.1$
 $R = 100 \text{ k}$
 0.3
 $R = 10 \text{ k}$
 300 Hz
 $C = 0.1$
 $R = 100 \text{ k}$
 0.3
 $R = 10 \text{ k}$

0.1
 10 k
 10 k
 10 k



$C = 0.1 \text{ F}$
 $R = 100 \text{ k}$

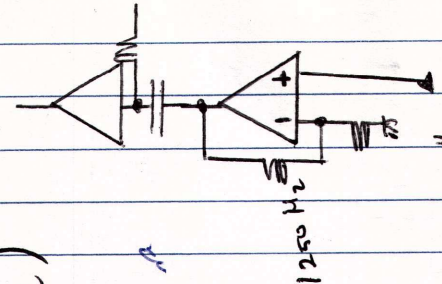
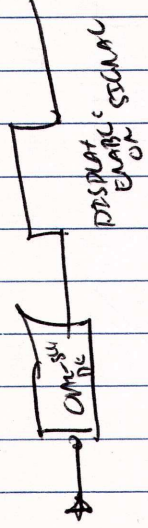
$2 \pi 300 \text{ Hz}$
 180°

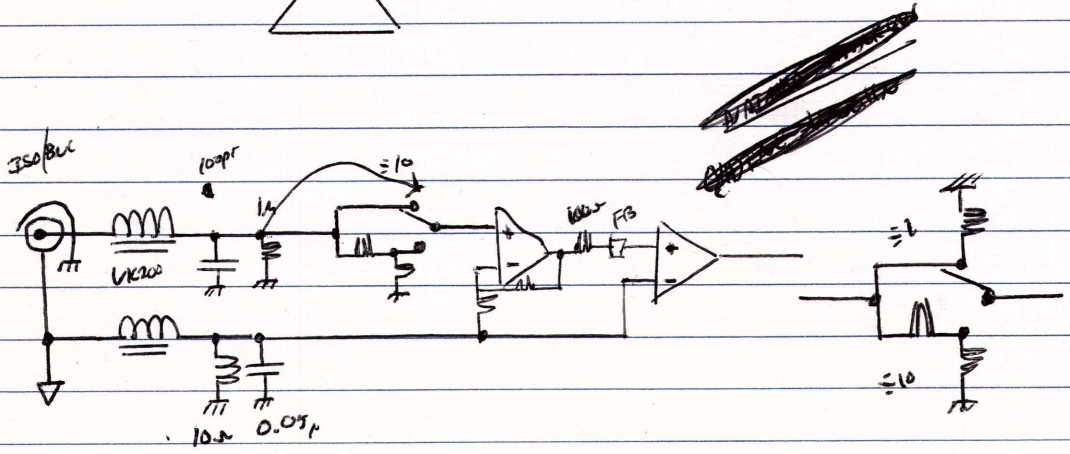
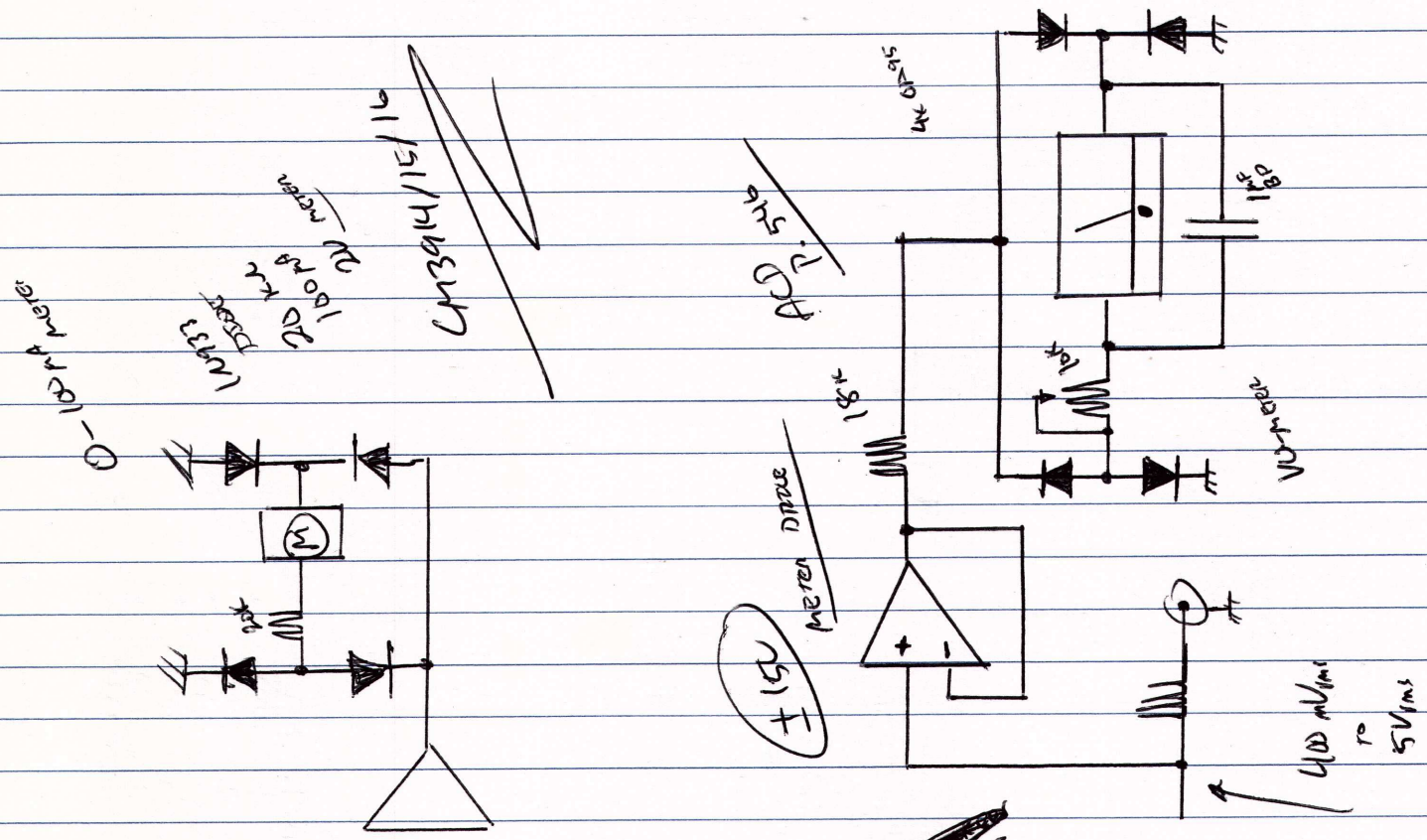
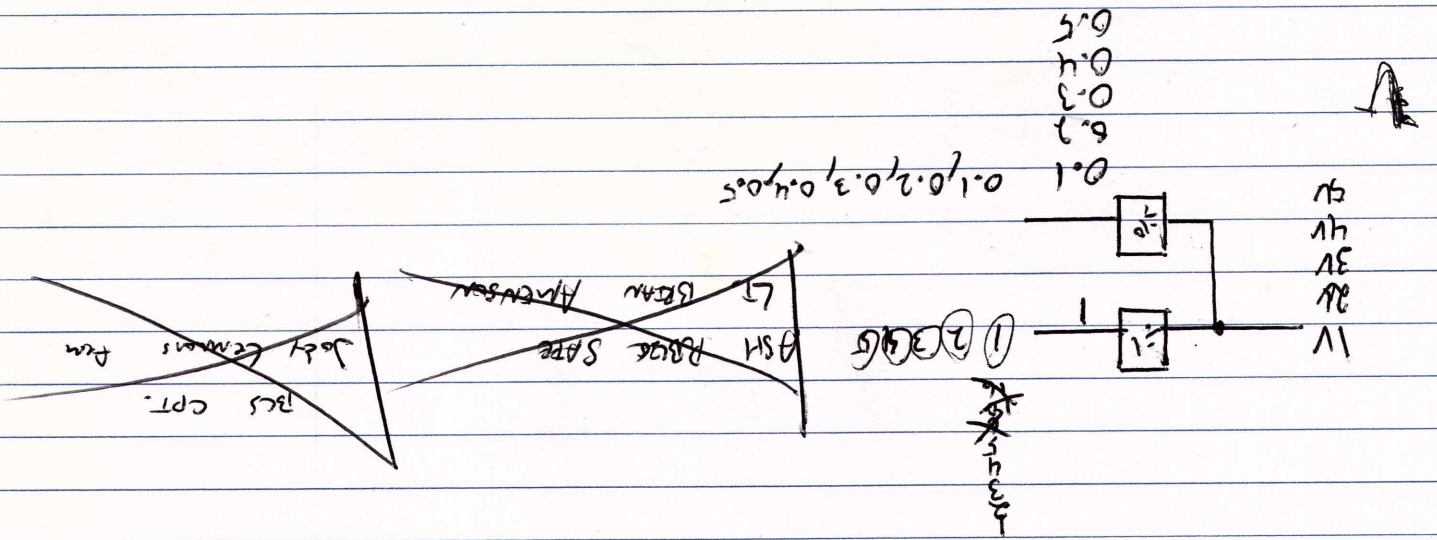
$0.1 = X_L$
 $0.1 = X_L$
 $0.1 = X_L$
 $0.1 = X_L$
 $0.1 = X_L$

$0.1 = X_L$
 $0.1 = X_L$
 $0.1 = X_L$
 $0.1 = X_L$
 $0.1 = X_L$

$2700 \text{ pF} = X_L = 47,000$

$\Delta \theta = 2 \arctan \left(\frac{1}{\omega RC} \right)$





000-359
COUNT LED
DISPLAY

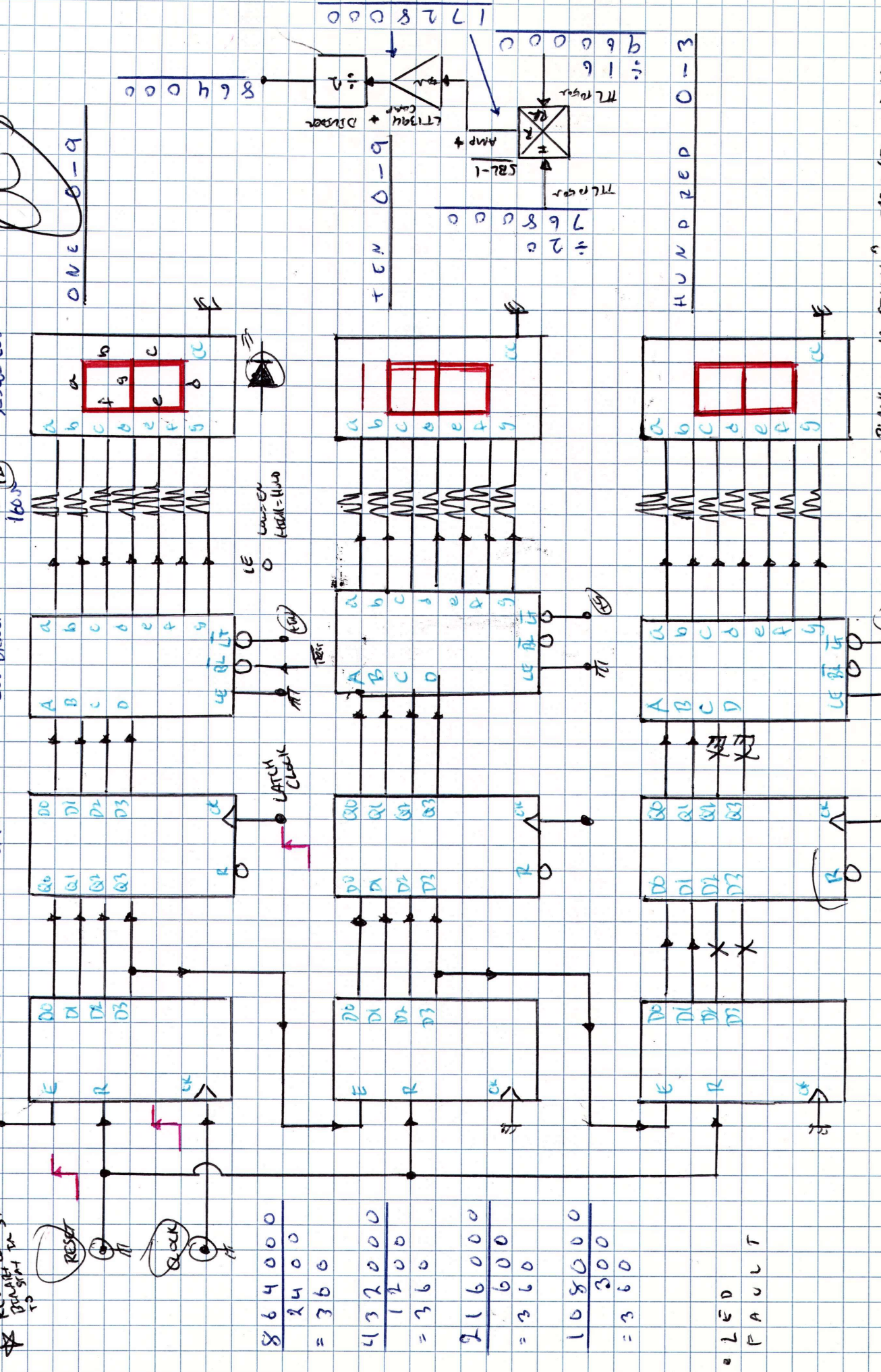
H D S P - 7 5 0 3
M A N 7 4
7-SEG-LED

4 5 1 1
LEO DRIVER
2-4V
10V
160V

4 6 7 6
LATCH

4 5 1 8
BIO CME

00000
11111
0-31
RESET
TO
COUNT
DOWN
TO
0



ALL
0-31
RESET
TO
COUNT
DOWN
TO
0

8 6 4 0 0 0
= 3 6 0
4 3 2 0 0 0
= 3 6 0
2 1 6 0 0 0
= 3 6 0
1 0 8 0 0 0
= 3 6 0

LED
FAULT

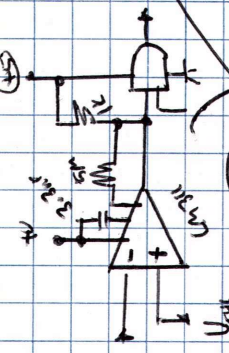
LED
FAULT

LED
FAULT

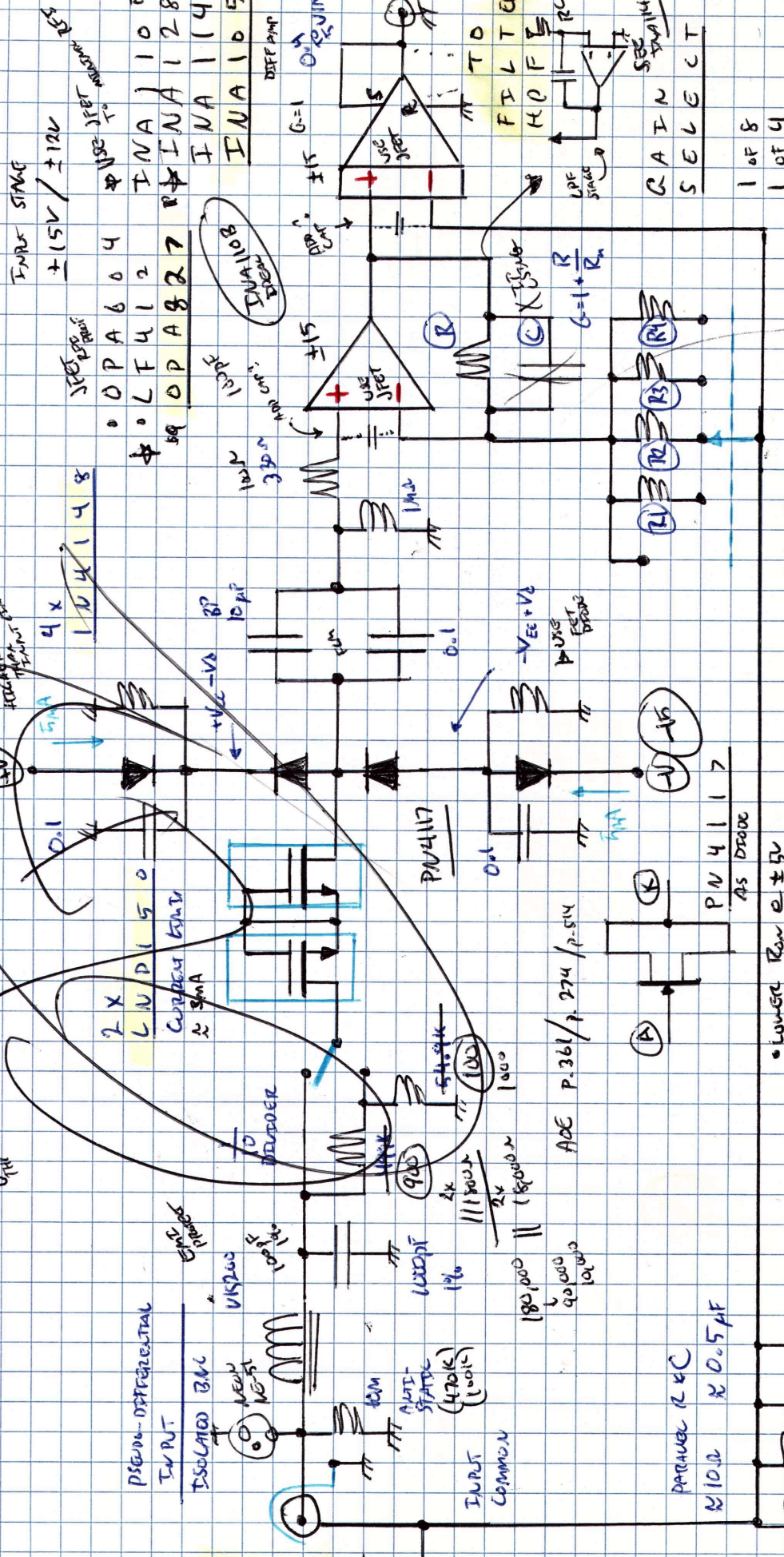
• BLANK ON NO SIGNAL
• ERROR/FAULT DISPLAY
• LAMP TEST ON START-UP

AD711/712
OP A 134

CBP PR WOLFRACK DOPPLER RDF



DETECT ON OUTPUT
THAT IT REACHES
0.4 V_{REF} MIN



R = 10K C = 1000 pF

R1 = 10K G = 2
R2 = 10K G = 1
R3 = 10K G = 3
R4 = 10K G = 10
R5 = 2.5K G = 5
R6 = 3.3K G = 4
R7 = 5.2K G = 20

G = 1 OPEN
G = 2 10,000
G = 3 4490
G = 4 3320
G = 5 2490
G = 10 1100
G = 20 523
G = 15 7175 VREF

LOWER R_{MIN} @ ±5V
74 K C
4051
8 to 1

- D64444
- DG408
- MECH
- SP4T
- SP8T
- 4051
- 4052

Q A I N
S E L E C T

1 of 8
1 of 4

S I G N A L

PSEUDO-DIFFERENTIAL

INPUT

ISOLATED BNC

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

100 pF

PARALLEL RLC

N 10.0 K 0.5 pF

N 10.0 K 0.5 pF

N 10.0 K 0.5 pF

N 10.0 K 0.5 pF

N 10.0 K 0.5 pF

N 10.0 K 0.5 pF

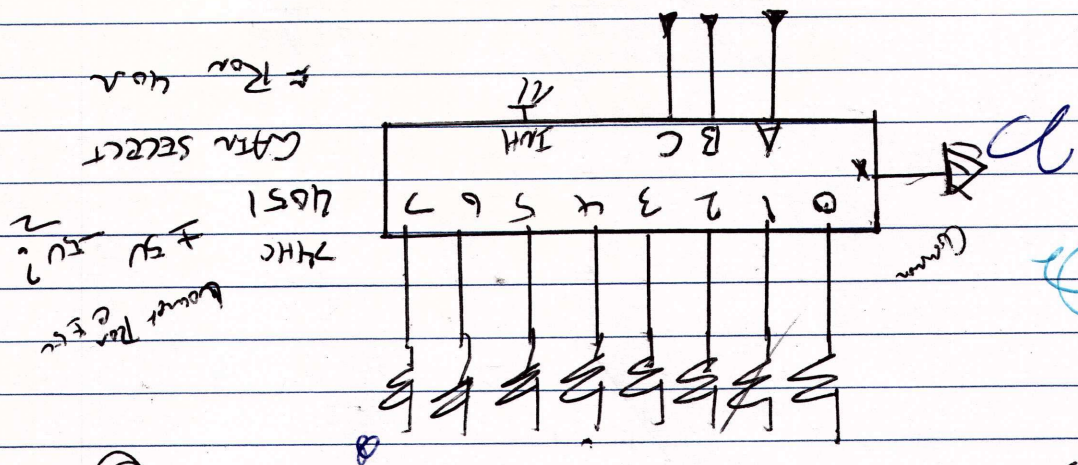
N 10.0 K 0.5 pF

N 10.0 K 0.5 pF

N 10.0 K 0.5 pF

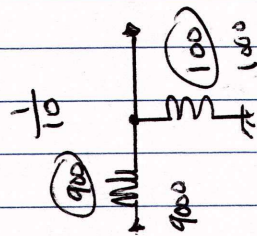
N 10.0 K 0.5 pF

N 10.0 K 0.5 pF



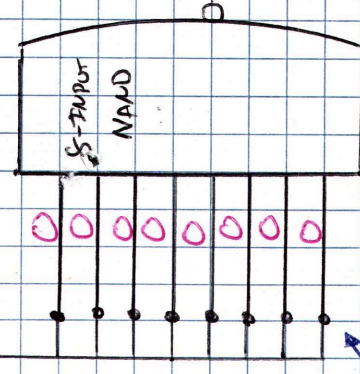
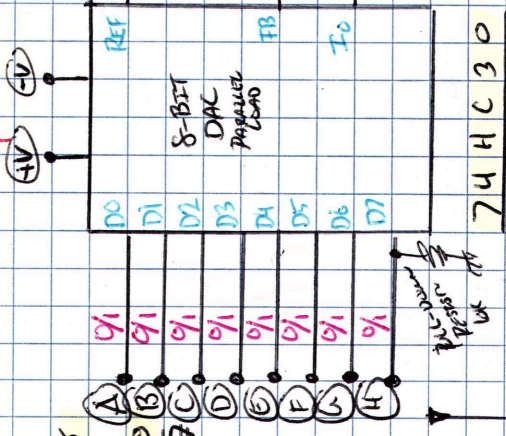
$10200 = 2$
 $10200 = 3$
 $10200 = 4$
 $10200 = 550$

CAPSULE
 KEENAA
 HIT



DAC08
DAC0808
AD565
~~AD565~~
~~AD565~~
AD7541

G-B P P R
WOLF T RACK
DOPPLER
R D F



ALL "0" INPUT
= 3.60V / 360°

1 2 6 3 1
8 4 2 6 8 4 2 1
H G F E D C B A

D	C	B	A	DAC OUT VOLT
0	0	0	0	0.0000
1	0	0	0	0.0140
2	0	0	0	0.0450
3	0	0	0	0.0900
4	0	0	0	0.1800
5	0	0	0	0.2700
6	0	0	0	0.3150
7	0	0	0	0.3585
8	0	0	0	0.3781

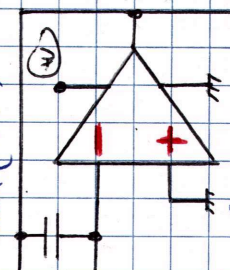
$$\frac{3.60V}{256} = 0.0140625 V/BIT$$

$$(220\Omega + 220\Omega)$$

$$GAIN = 1 + \frac{440}{1000} = 1.44$$

$$2.5V \times 1.44 = 3.6V$$

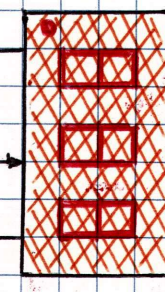
+3.6V REF



(INTERNAL SETUP)
LT1220

+3.6V REF

10kΩ
100kΩ
SETTLE TIME + PARALLEL CAP?



LED VOLT METER
COPPER MESH
EAT SCREEN

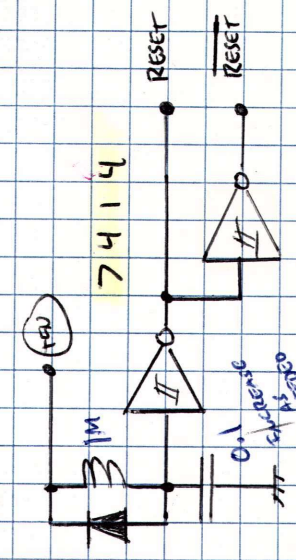
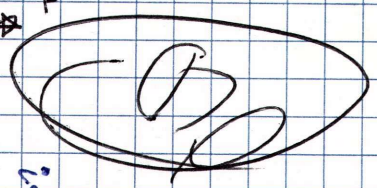
TLC7135
4 1/2 DIGIT CONVERTER
DISCOS 7-SEG LED

1/4 DIGIT
LED DISPLAY

2.5V REF
TLC7135
LM385
ETC.
AD680
AD584
~~AD584~~

$\tau = 14RC$
 $\tau = 30 \text{ sec.}$
 $24\mu (10k\Omega / 3 \text{ sec})$
AGE p. 682

LT1019-2.5
MAX 6325C
THERMAL & VIBRATION
ISOLATION



POWER-ON RESET
FAST
 $\tau = 0.1 \text{ sec}$
LAMP TEST



Handwritten scribbles in pink, blue, and black ink, appearing as abstract loops and swirls.



6	-	B	Z	T
6	4			
L	E	D		
D	T	S	P	L
			A	Y

$$\begin{array}{r} 360^\circ \\ 37 \\ \hline = 11.25^\circ/\text{hr} \end{array} \qquad \begin{array}{r} 360^\circ \\ 128 \\ \hline = 2.8125^\circ/\text{hr} \end{array}$$



8	-	B	I	T
2	5	6		
L	E	D		
D	I	S	P	L
			A	Y

4
B A N K S
F O R
2 5 6

1.40625

3 rd 0	3.60 0.00	72	101.25	144	202.50	216	303.75
8	11.25	80	112.50	152	213.75	224	315.00
16	22.50	88	123.75	160	225.00	232	326.25
24	33.75	96	135.00	168	236.25	240	337.50
32	45.00	104	146.25	176	247.50	248	348.75
40	56.25	112	157.50	184	258.75	255	358.59
48	67.50	120	168.75	192	270.00		
56	78.75	128	180.00	200	281.25		
64	90.00	136	191.25	208	292.50		

74 HCT 244
DCTAL BUFF

