

Name:

Wohnort:

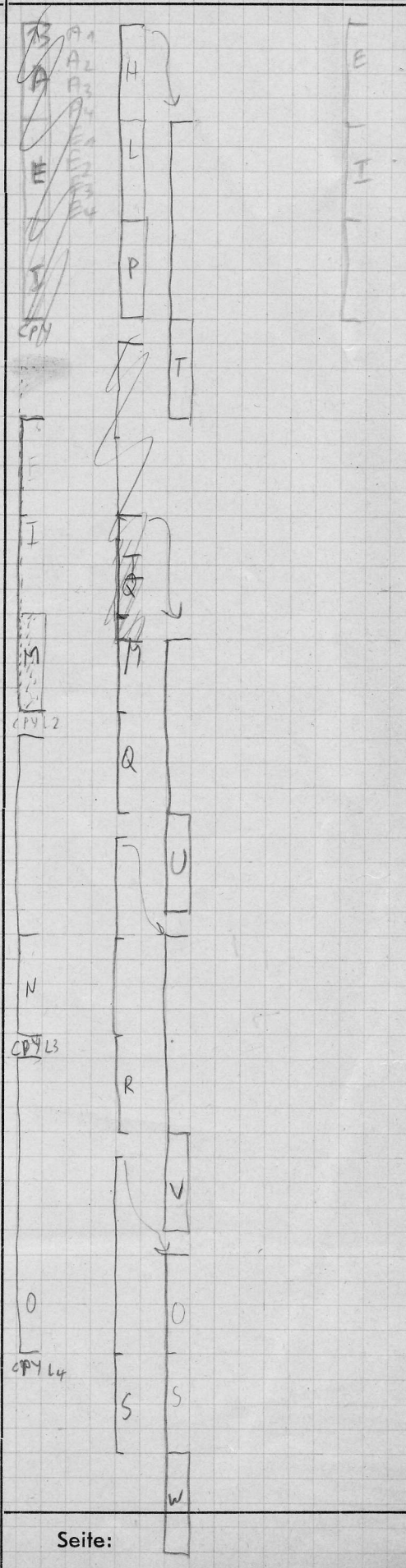
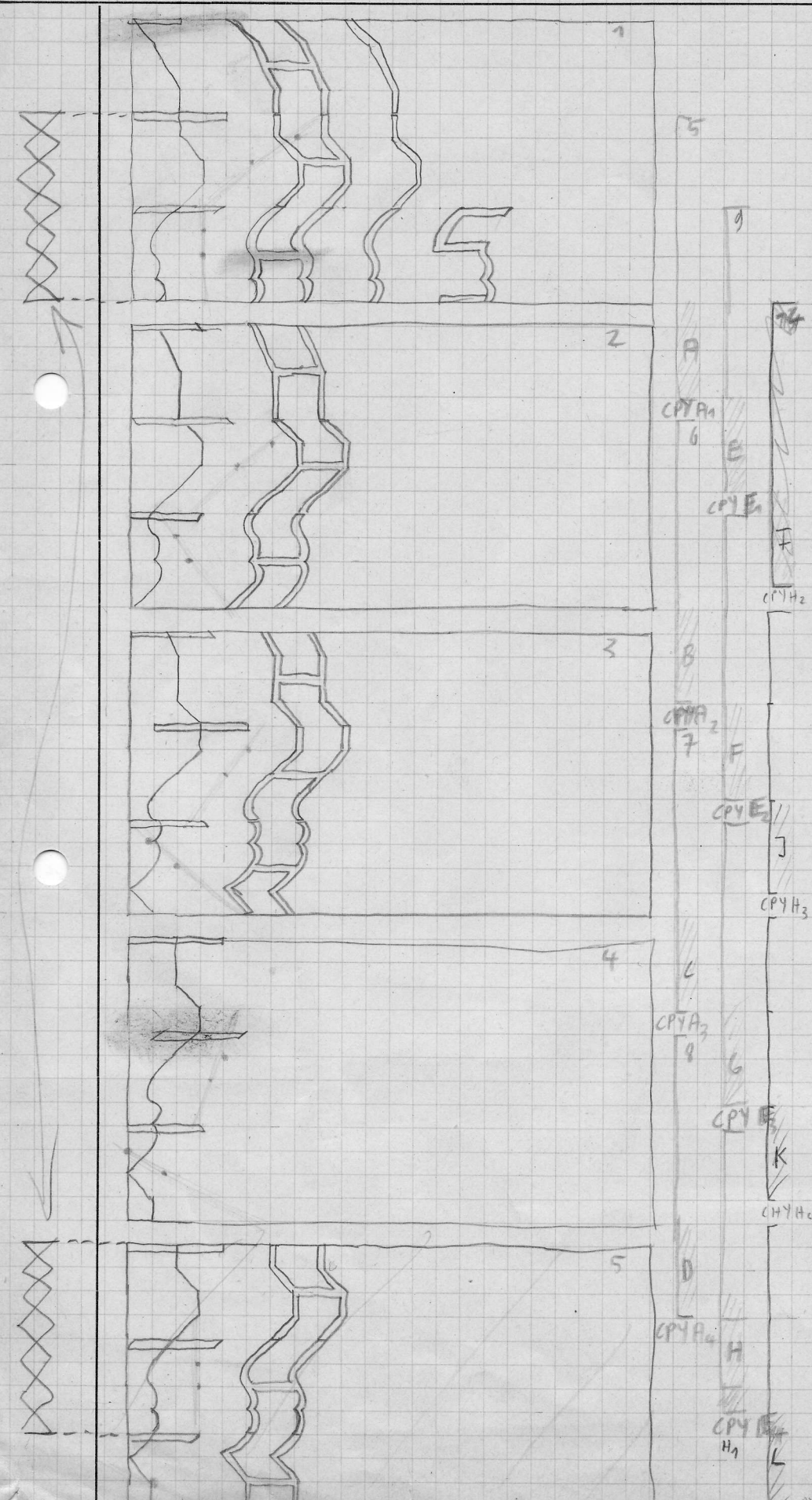
Strasse:

Stud. Nr.

Kursus:

Elektrotechnik

Lehrbrief Nr.



Seite:

- HW SCROLL ROUT

- set next screenadr

- calc the distorter

[scroll left/right
if necessary
(WACHSCHUB!)

- copy buffer to screen
(using olist tab)

- open border old MMU

- gest digisound

- open border new MMU

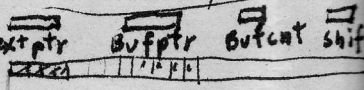
- copy buffer to screen

(-vblwait)

- gest megolist-scroll

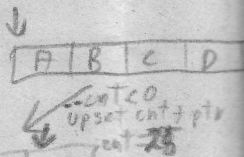
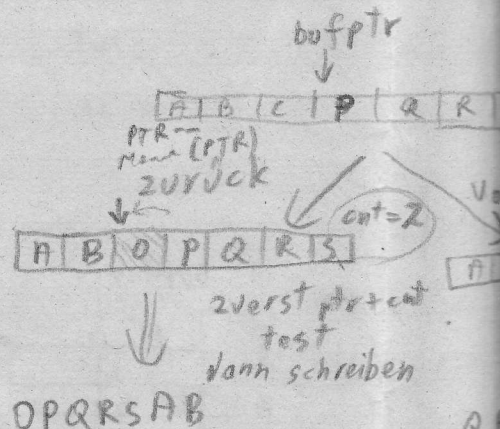
	126	124	122
115	113	111	109
102	100	98	96
89	87	85	83
76	74	72	70
63	61	59	57
50	49	46	44
37	35	33	31
24	22	20	18
11	9	7	5

Memory:



12 10 8 6 4 2

COPY
get
get

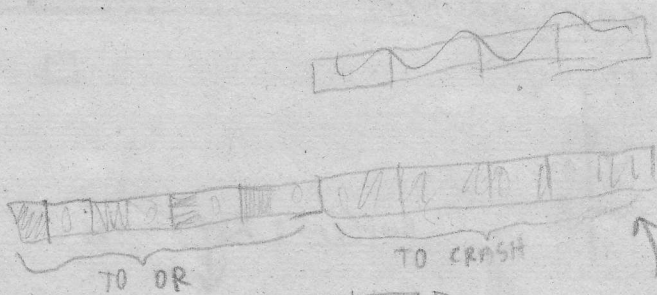


1 A B C D E

NACHSCHUB:

1line: $60 \times 16 = 960$ cyclen
= 240 nops
= 6 lines

32lines: 192 lines



SWAP
OR
SWAP
A



MOVEM
SWAP OR) x4
ROL OR) x4
SWAP) x4
MOVEM
B ADDX x4

SWAP OR) x4
SWAP MOVEM
ADDX x4
SWAP OR
SWAP MOVEM

X B C D E F G H

SWAP

E F G H X B C D

SWAP

X B C D E F G H

SHIFT

B C D E F G H X

SWAP

F G H X B C D E

ROT
F G H X B C D E

↓

B C D E

32

4: r Bufcnt shiftNR

BUFP line 1 (4 planes) 25x16 pix + 16
shift 1
2
3
:
15



COPYROUT:

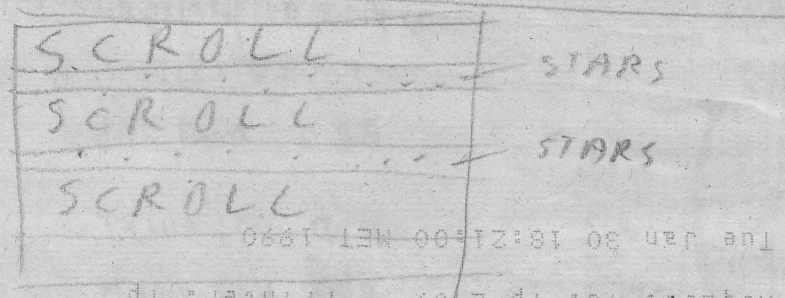
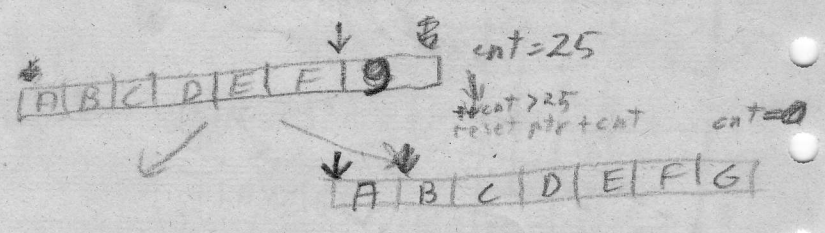
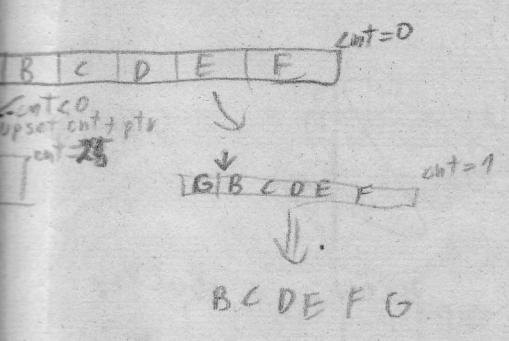
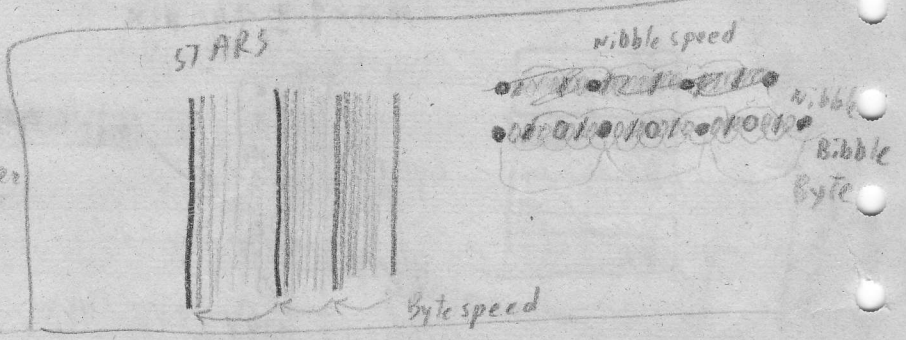
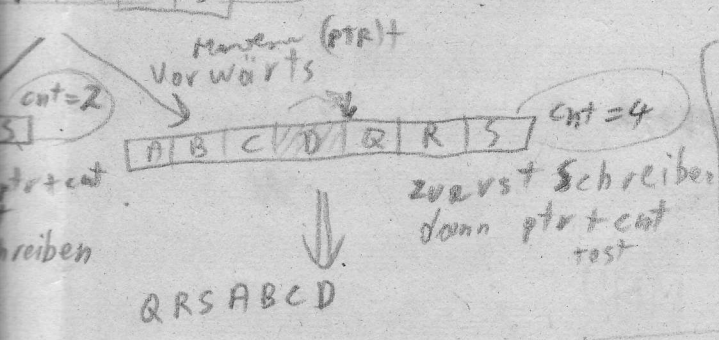
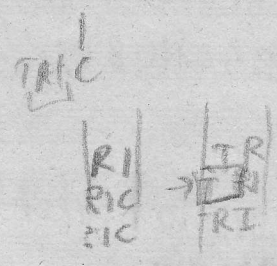
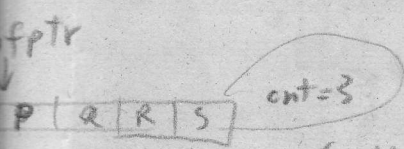
Get BUFFER ADDRESS ADD shift.wk 208
Get Bufcnt.w
JUMP TO COPYROUT(BUFCNT)

76 / 64 / 128

Registers Dig1

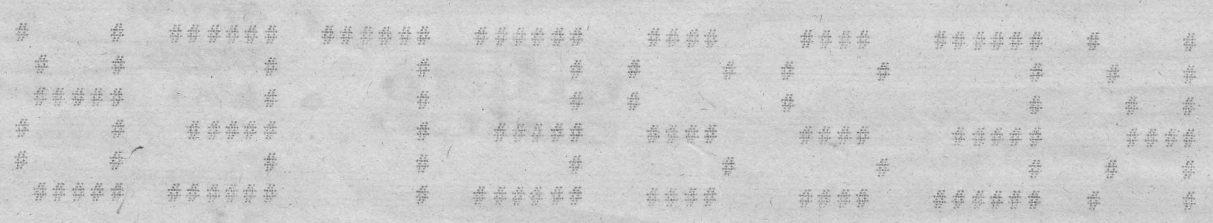
Register 2 ADDR
Dig1

1 ADDR



60 cycles
40 nops
lines

192

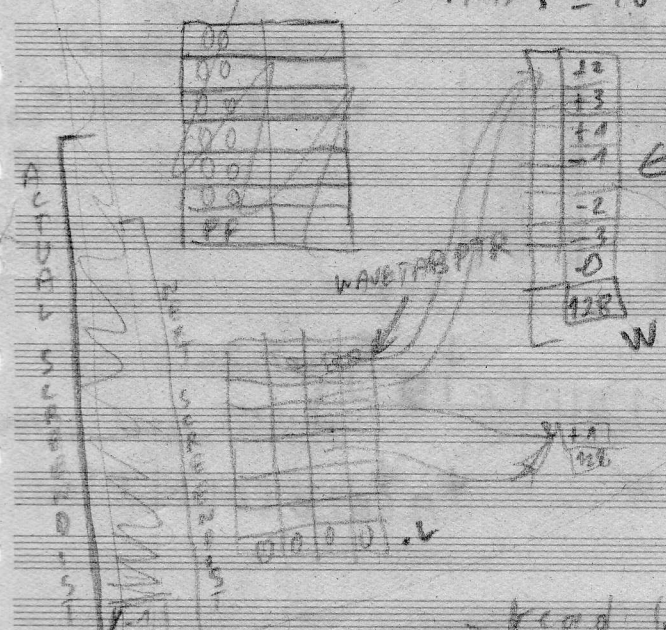
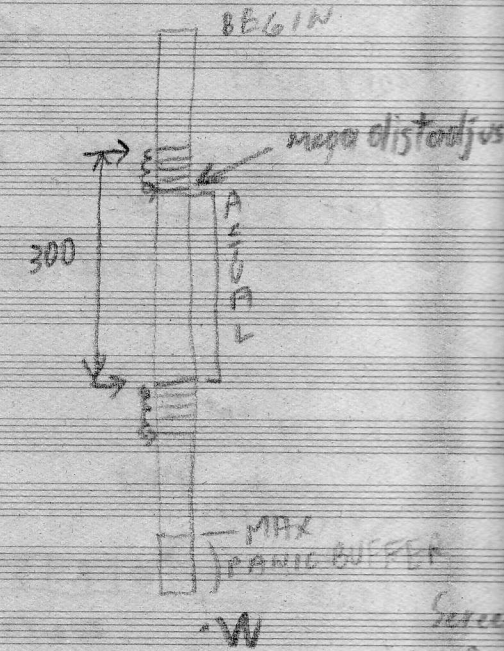


CDE
CDE

xig dist 85 (scroll) Panel 9700

1010
 400A
 registers
 10000
 5
 1010

MAX ± 16 pix

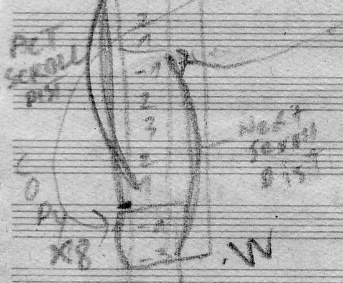
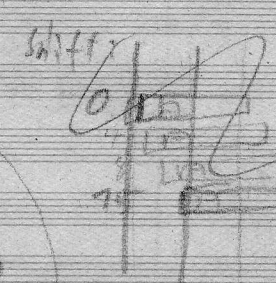


00	12
00	13
00	14
00	-1
00	-2
00	-3
00	0
00	128

DIST WAVE PTR

WAVE PTR

128
 128



read (ptr), 00
 CMP B #128, 00
 BEQ next tab
 ADD 00, SHIFT
 BHI Vorwärts → (SHIFT+16)
 CMP 16, SHIFT
 BHS Rückwärts → (SHIFT-16)

Screen:	Buffer
0	0 B
1	...
2	...
3	...
4	...
5	...
6	...
7	...
8	...
9	...
10	...
11	...
12	...
13	...
14	...
15	...

DIST BUF
 2X273

EGHJBCDE
 EGHJBCDE

2nd strategie
 IGHJBCDE
 IGHJBCDE
 letter + precedent letter
 IJ
 JI

programm

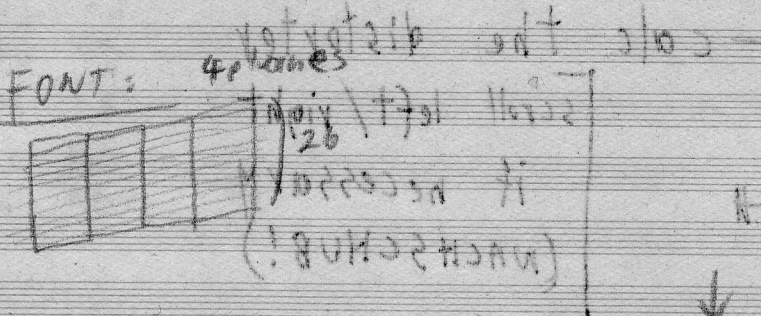
Algorithme de la fonction de copie

HOW TO COPY A STRING

How to copy a string?

BEGIN

max dist out just



copy of the font

(dot table print)

ABCD Aa
H I J
...
HIJ

MAX PANIC BUFFER

Screen	Buffer
A	0
A	1
A	2
	14
T	15

UMM won

copy of the font

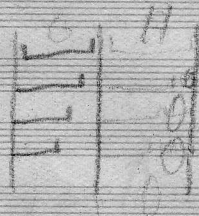
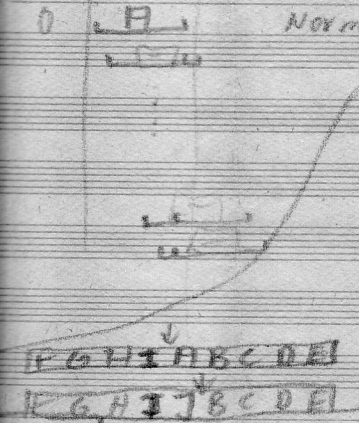
(forward)

How to copy a string

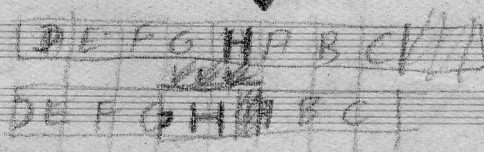
Buffer

Normal

NACHSCHUB VORWÄRTS



Buffers: 26+1 words



ident letter

ABCDEFGHI

COPY

HIJ → TO BUFFERS

HIJ → TO BUFFERS

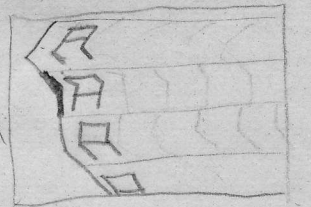
copy 4 words

1/3
 (+ (5 9) 0 (4 0 0 0))

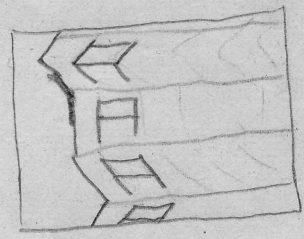
1/2
 1/2
 1/2

"0" " " " " ")
 " <strings> " "))

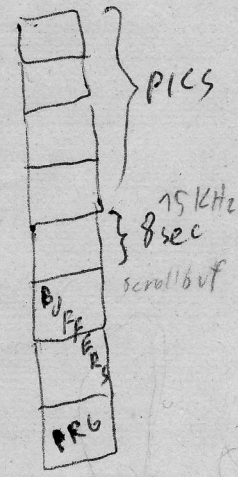
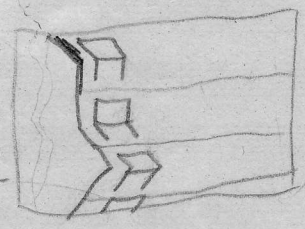
0" " " " 0" " " " 0" " " " " ")))))



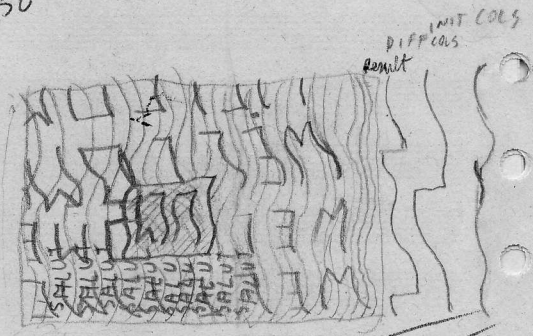
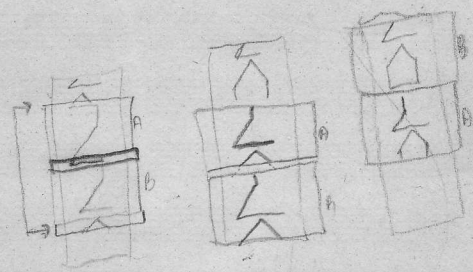
64K



64K



132
 ← 230 →) X16 < 728K

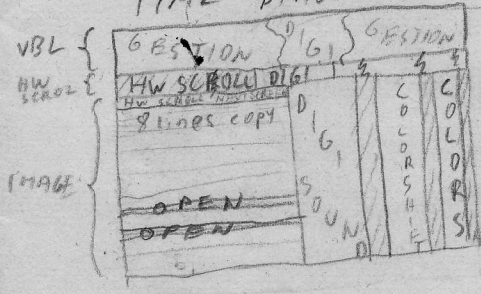


WITHOUT COLDIST:



Die COLDIST Linien sind noch gedistet! Gegensteuern...

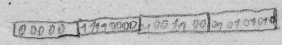
TIME DIAGRAM



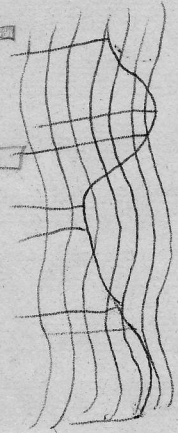
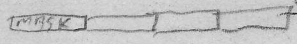
8 colors = 3 planes

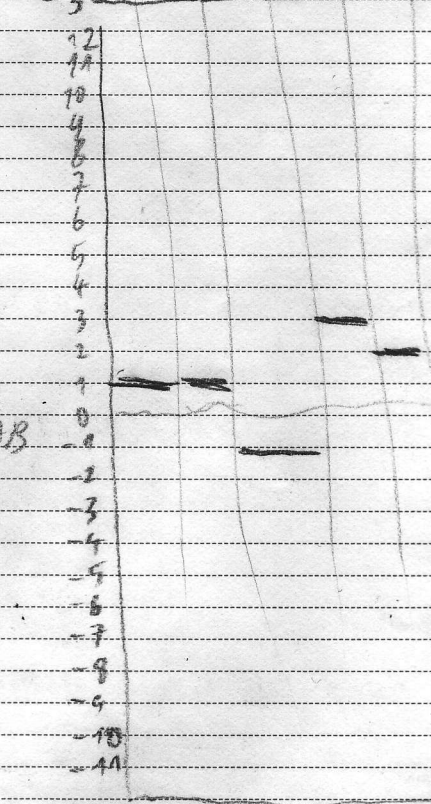
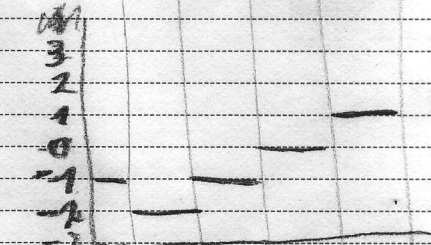
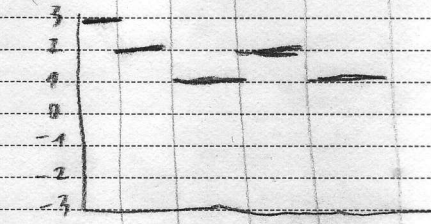
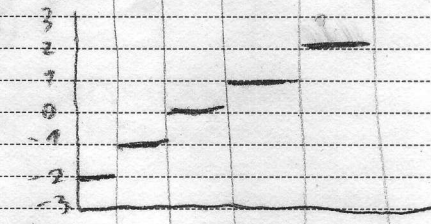
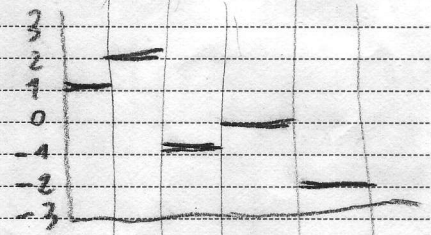
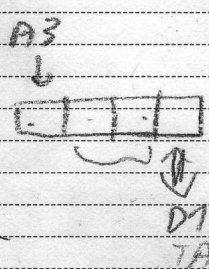
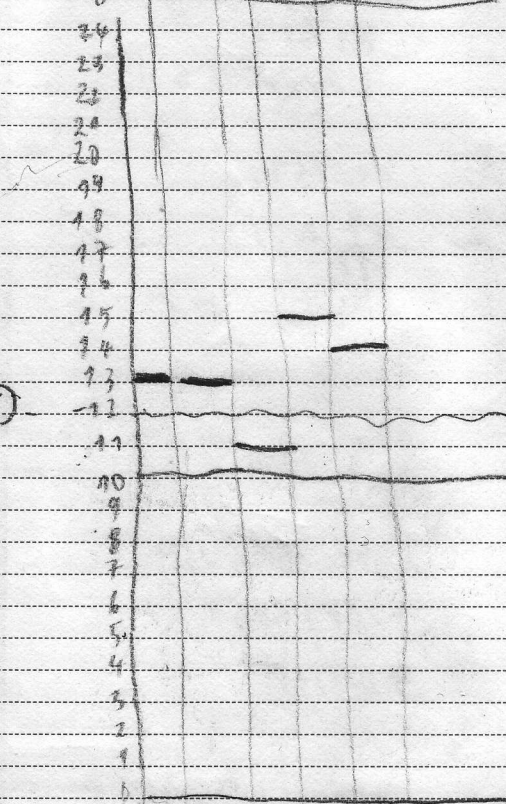
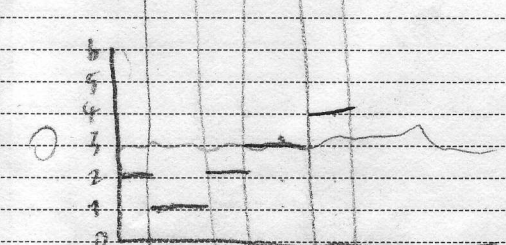
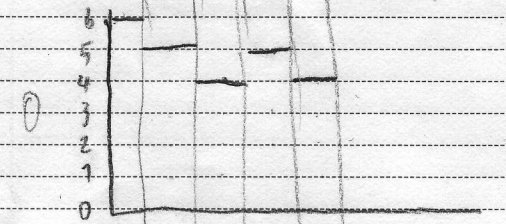
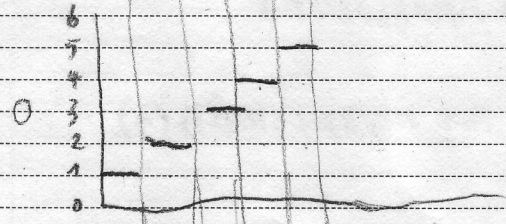
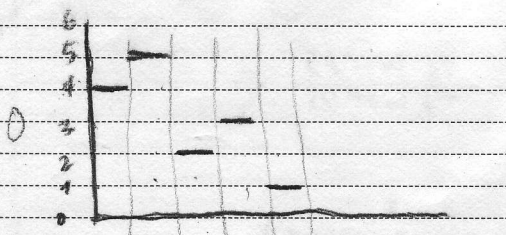
LINES AND MASK = LINS OR FON (shifted) = LINS

lines:



MASK





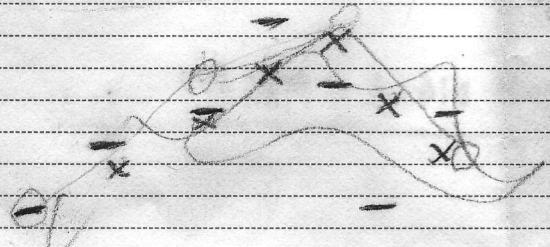
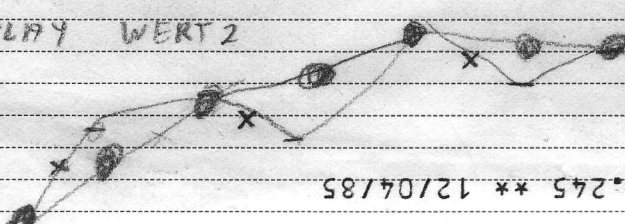
MOVES WITH SE

MOVES WITH AND

SCREEN
512 - 320 = 192 -

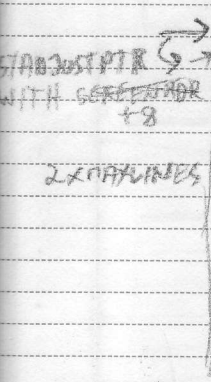
WERT 1
PLAY WERT 1
WERT 2
PLAY WERT 2

44

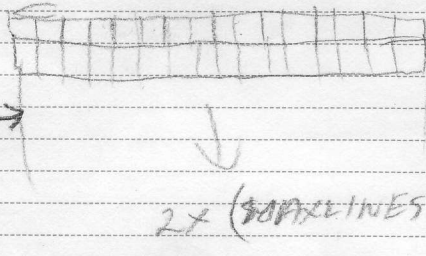


MDISTADJUST

MDISTGRAPH



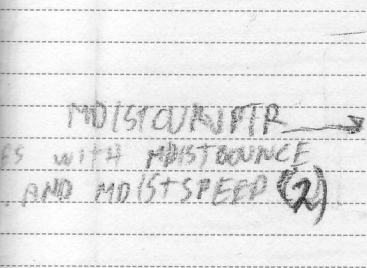
WORD
-16 +16
2 Schritte



16 WORDS
16 WORDS

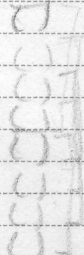
MDISTGRAPH PTR
MOVES WITH MDISTBOUNCE AND FIGROLL SPEED (1)

MDISTCURV



WORD 0-32 25 Schritte

2x (MAXLINES + MAXBOUNCE)



DIGI:
25 NOPS

```

A3
MOVE.w (MDISTCURV PTR)+, D0
A4
ADD.w (MDISTADJUST PTR)+, D0
A5
MOVEA.L (MDISTGRAPH PTR), D0, D3
    
```

```

2 MDIST:
2 17 NOPS
13
    
```

<switch open right>

```
lea 32(MDISTGRAPH PTR), MDISTGRAPH PTR
```

MDIST:

3 ADR
4 COPY REG

DIGI:

2 ADR
1 COPY REG
1 DATA

REST:

2 ADR + SP/USP
4 COPY REG
3 DATA

BUFF FONT1 FONT2 MBUFF
 2 - 85 = 107 - 22 = 85 - 10 = 75 - 21 = 54 -
 585

PROGRAM 243007

OHNE DIGI: 480800

460

3-76
702

Double Dist Speicher:

Font höhe $\times 16 \times 40$
höhe $\times 640$

Word Shift Font: höhe $\times 24 \times 40$

höhe $\times 960 \times 16 = h \times 15360$

byte Shift Font: höhe $\times 24 \times 40 \times 8 = h \times 7680$

18 138240 276480

20 153600 307200

SCREEN: $280 \times 230 \times 5 = 322000$

FONT: $32 \times 640 = 20480$

Rest : 169520

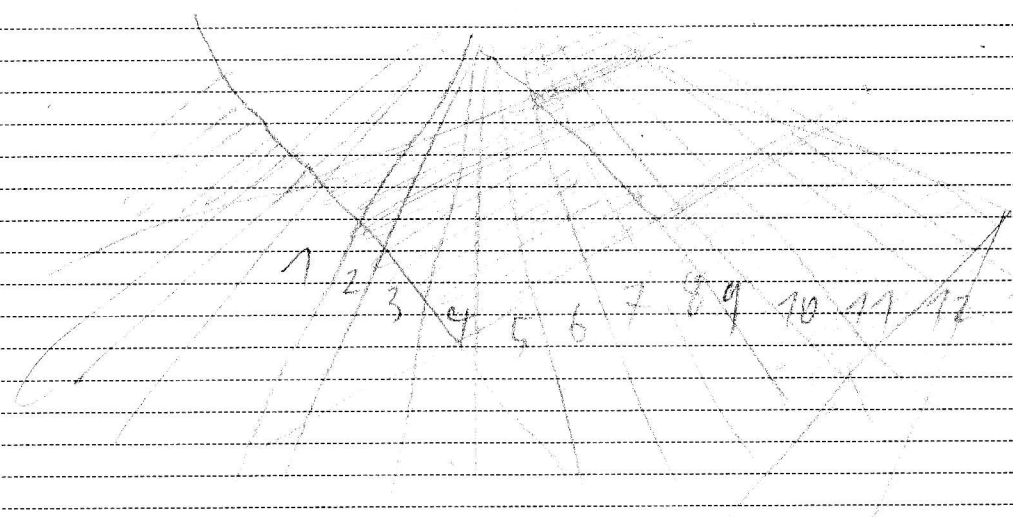
Buffers : $26 \times 208 \times 16 = 86528$

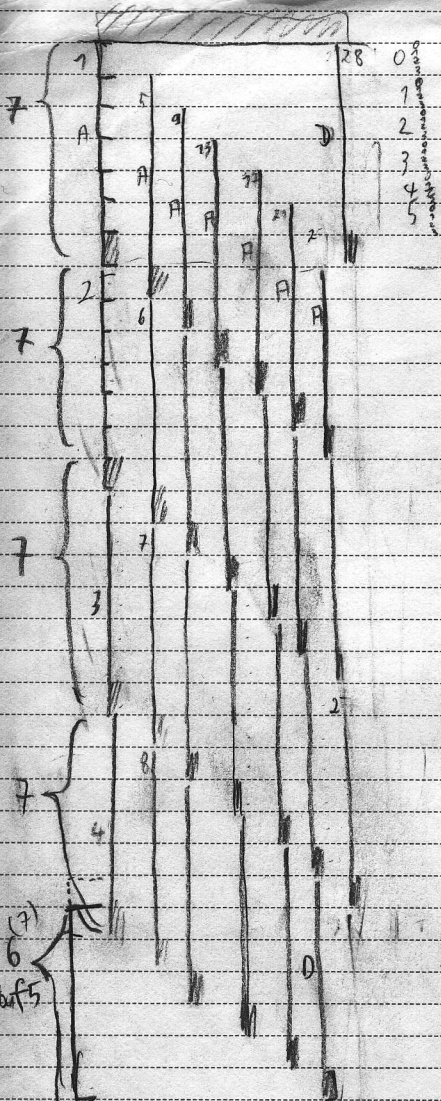
estimation: M-Dist tab 20000

PROGRAM 20000

Rest ~~40000~~ = 70 sec

↑ vergiss es !!





nextscrn=0 (IF) CNT=28:

- ↓
- set nextscrn to 1st scrn
- Set copybuf to (buf5-1scrn)
- Set destcopybuf to 1st buf-1

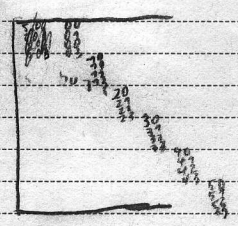
7 scrolls / BUFE

1ct: 14 scrolls

1 Buff=28

14 · 4 =

9
 4400
 4400-2
 4400-
 20-230



*

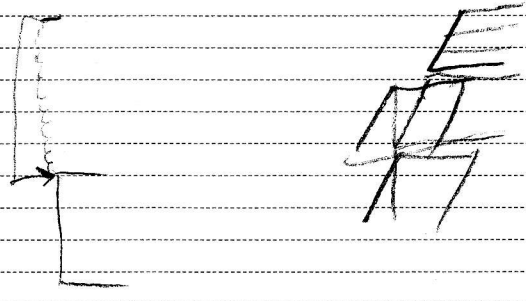
scroll

rolls/buff

= 280 lines (\Rightarrow bounce = 640)

f = 56 addresses

- 0 230 · 280
- 1 230 · 280 + 20
- 2 230 · 3 · 280
- 3 230 · (280 + 20)
- 4 230 · (280 + 20) · 2
- 5 230 · (280 + 20) · 3
- 6 230 · 280 · 2
- 7 230 · (280 + 20) · 2
- 8 230 · (280 + 20) · 3
- 9 230 · (280 + 20) · 4
- 10 230 · (280 + 20) · 5
- 11 230 · (0 · 280 + 3 · 20)
- 12 230 · (1 · 280 + 3 · 20)
- 13 230 · (2 · 280 + 3 · 20)
- 14 230 · (3 · 280 + 3 · 20)
- 15 230 · (0 · 280 + 4 · 20)
- 16 230 · (1 · 280 + 4 · 20)
- 17 230 · (2 · 280 + 4 · 20)
- 18 230 · (3 · 280 + 4 · 20)



0 1 2 3 4 5 6 7 8 9 ; ; (-)
 ? ! A B C D E F G H I J K
 L M N O P Q R S T U V W
 X Y Z U

13 x 20 Reg = 1040 = 208 · 5

(nextscrn) = scrnadrks + 4

75
27