

Name:

Wohnort:

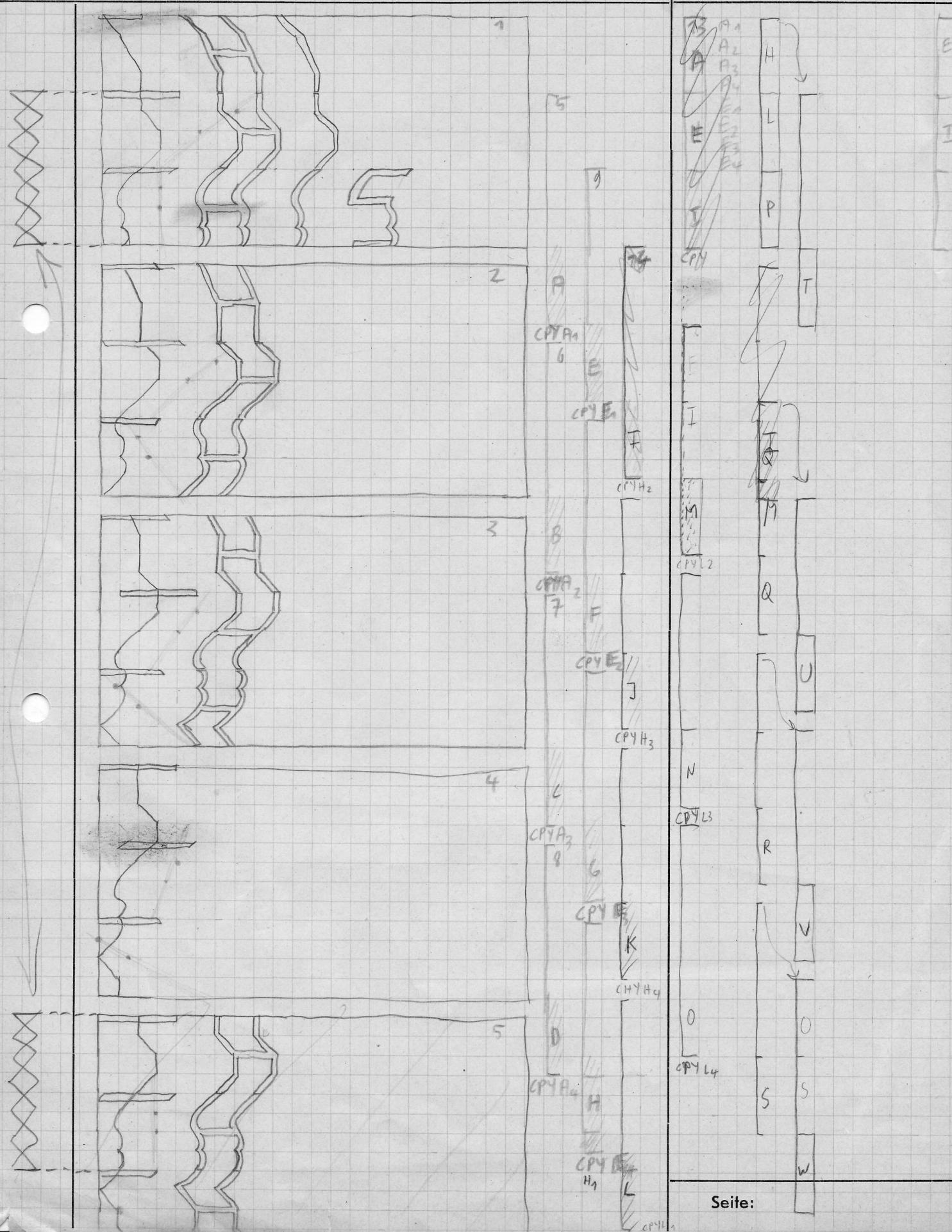
Strasse:

Stud. Nr.

Kursus:

# Elektrotechnik

Lehrbrief Nr.



- HW SCROLL ROUT

- set next screenaddr

- calc the distorter

scroll left/right  
if necessary  
(NACHSCHUB!)

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
		3 1

Memory:

text+ptr	bufptr	bufcnt	shift
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	
		3 1	

COPY

get

get

- copy buffer to screen  
(using olist tab)

- open border old MMU

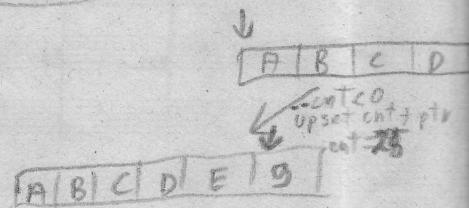
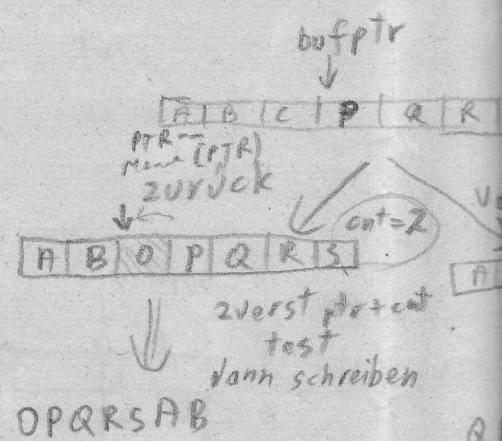
- gest digisound

- open border new MMU

- copy buffer to screen

(-vblwait)

- gest megolist-scroll

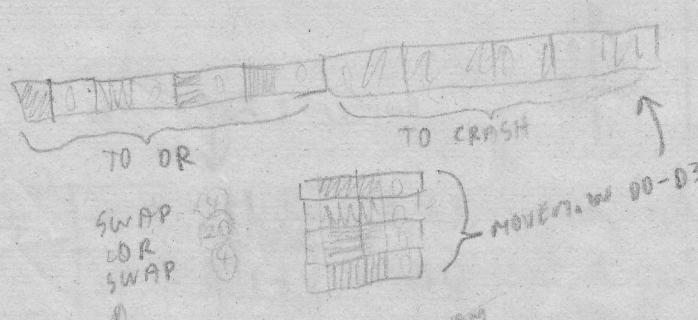


9 A B C D E

NACHSCHUB:

tLine:  $60 \times 16 = 960$  cycles  
 $= 240 nops$   
 $= 6 lines$

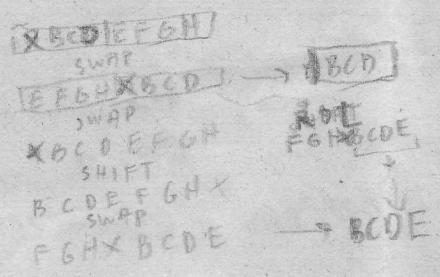
27 lines: 192 nops



SWAP  
DR  
SWAP  
TIDBEM ADDLX X4  
SWAP  
DR  
SWAP X4

SWAP  
DR  
SWAP X4

MOVEN  
DRDX X4



14:

for Butent shiftNR

BUPP line 1 of 4 planes 26x16 pix x 16  
shift 1

COPYROUT:

Get BUFFER ADDRESS ADD shift\_wx 208 76 (64) 728

Get Bufent.

JUMP TO CPYROUT(BUFcnt)

fptr

PLAYERS

cont'd

*Martin* (PTP) +  
Vorwärts

ent=2

8

卷之三

caibao

QRS ABCD

B C D E F

Lecte 0  
upset ent + ptx  
ent 25

G B C D E F

B C D E F G

50 cycles  
40 maps  
lines

192

# SCROLL

SCROLL

## SCRIBES

## STARS

STARS

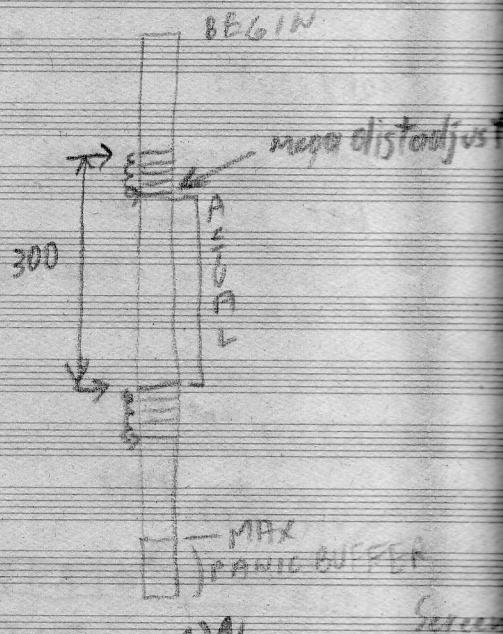
STARS

7.00 3.00 1.00 N 4.00 H 1.00

~~zigzag~~ (convol<sup>u</sup>)  $\uparrow$  mail 5708  $\downarrow$  ~~multiple buffers~~

wid  
distilled  
300  
300  
i616

MAX<sup>+</sup> ± 16 pix



WAVE PTR

WAVE PTR

103 + WAVE PTR

W

Screen

A

B



PCF control  
ptr

W

X8

B157 BUF  
2x273

→ read (17), DD

CMP R #728, DD

BEO next tab

ADD DD, SHIFT

B16 Vorwärts  $\rightarrow$  (SHIFT + 16)

CMP 16, SHIFT

BHS Rückwärts  $\rightarrow$  (SHIFT - 16)

screen: buffer

Shift 0 F F F F

1 F F F F

2 F F F F

3 F F F F

4 F F F F

5 F F F F

E G H J F B C D E F  
E G H J F B C D E F

2nd strategy

D B C

letter + precedent letter

J I

E G H J F B C D E F

E G H J F B C D E F

I J

J I  $\rightarrow$  70 80

Alfredo Tosti Riva

File 10

*maga distadjuſt*

FONT: 4 planes

A a B b C c H I J

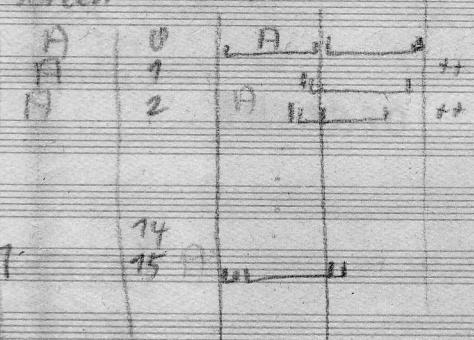
H. I.

200 200

199102 0748 +7 ad 0903 -

A B C D      0 DT 1:10 (partu) M 1  
Ab C G E F      Aa 11  
a b c d bba v3t9bd n3go + 11

*Succow* Biflex



UHM won V3000  
CBBB nego

1991) et al. 1993.

(-flow[dr])

Nov 22 - Friday - 1000 -

buffer

九月九日

WILHELM VON KLEINERTS

1

F G H I A B C D E  
F G H I J B C D E

## Student Letter

工 丁

$\leftarrow$  → 70 BUFFERS

H A B C D E F G

COPYRIGHT

上册 5

PH GTH

~~PRINTED COPY~~ 4 WORDS

54

HALLO  
HALLO  
HALLO  
HELLO  
1

H E L L O G U Y S T H I S  
H E L L O G U Y S T H I S  
H E L L O G U Y S T H I S  
H E L L O G U Y S T H I S  
H E L L O G U Y S T H I S  
E L L O G U Y S T H I S  
L O G U Y S T H I S  
O G U Y S T H I S  
G U Y S T H I S

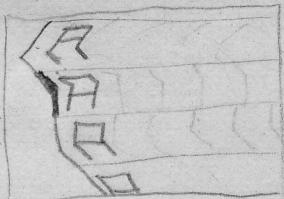
152

(+ (5 0) 0 (+ 0 0 0))

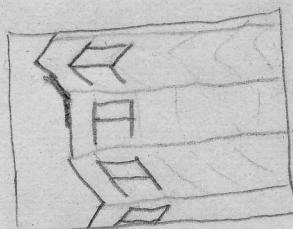
$\frac{3}{5}$   
 $\frac{2}{5}$   
 $\frac{1}{5}$   
 $\frac{1}{5}$   
 $\frac{1}{5}$   
 $\frac{1}{5}$

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

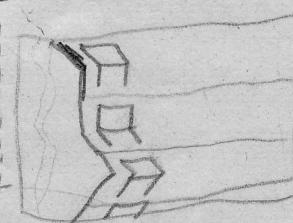
"0" "n" "n" "0" "n" "n" "n" "n" "n" "n" "n" ) ) )



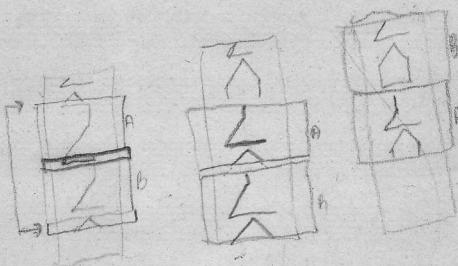
64K



64K



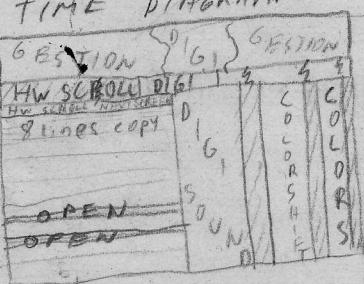
132 → X16 ← 728K  
230



WITHOUT COLDIST:

Die COLDIST Linien  
sind doch gedistet!  
Gegensteuerh...

VBL {  
HW  
SCREEN }



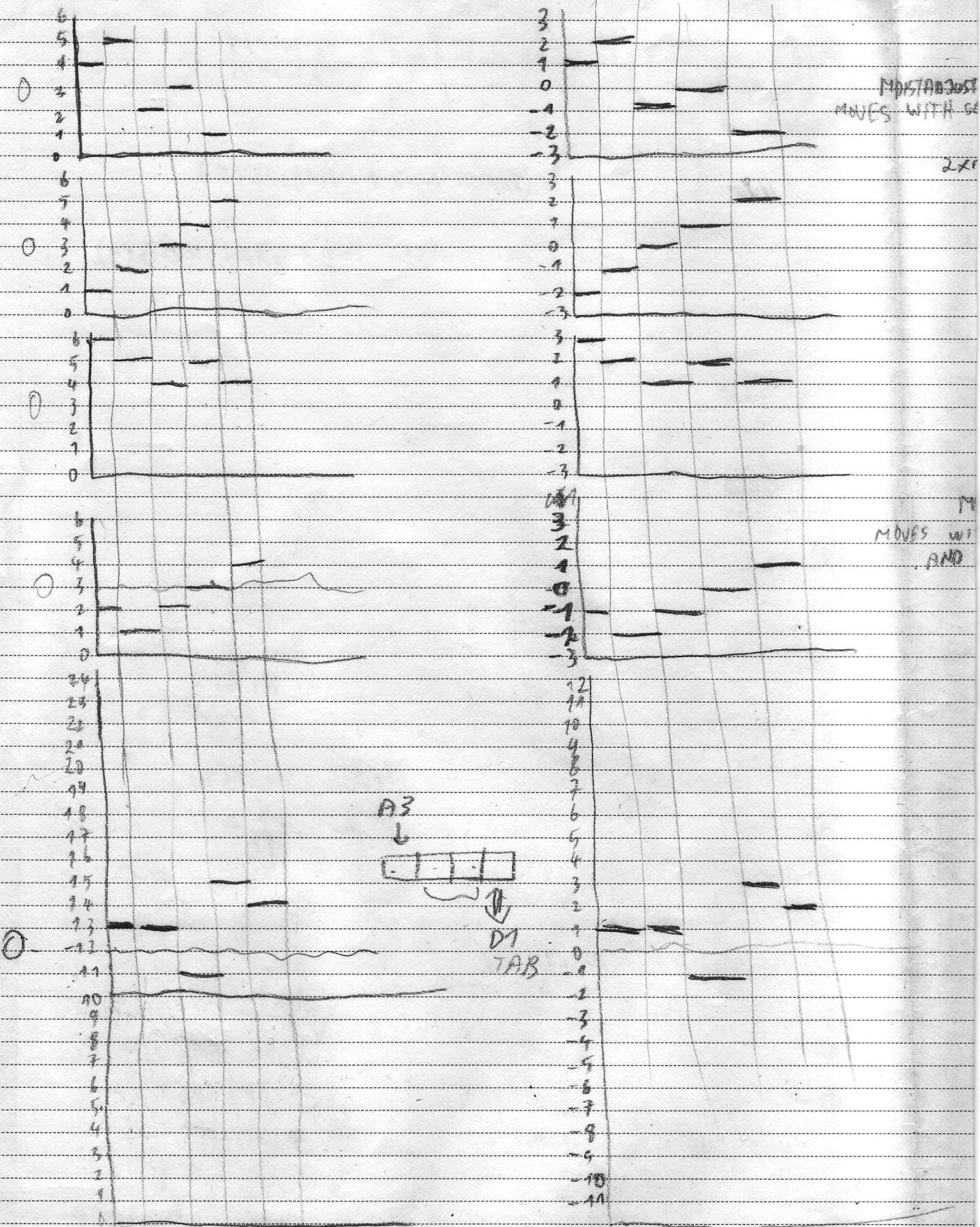
Font Font Font Mask

lines:  
00.00 199.9999 00.99 00.99 00.99

mask:  
00.00 199.9999 00.99 00.99 00.99

mask:

&lt;



~~MDISTADJUST~~

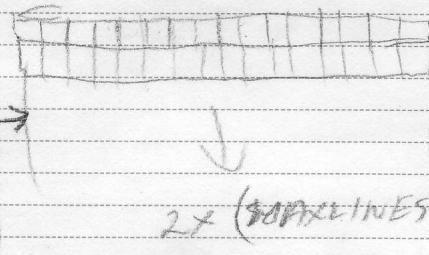
## MDISTGRAPH

~~MDISTADJUST PTR~~ → WORD  
 STANDJADJUSTPTR → WORD  
 WITH SCROLLTOR +8  
 +8

2x MAXLINES

-86 +96

+ Schritte

16 WORDS  
16 WORDS

2x (MAXLINES + MAXBOUNCE)

## MDISTGRAPHPTR

MOVES WITH MDISTBOUNCE AND MDISROLLSPEED (1)

$$3+3+3+3 =$$

## MDISTCURV

WORD 0 - 32 25 Schritte

~~MDISTCURVPTR~~ →  
 CS WITH MDISTBOUNCE  
 AND MDISROLLSPEED (2)

2x (MAXLINES + MAXBOUNCE)

PTBL:  
25 NOPs

Move.w (MDISTCURVPTR) +, DD A3

ADD.w (MDISTADJUSTPTR) +, DD A4

MOVER.L (MDISTGRAPHPTR) D6, DD - D3 A5

  
MDIST:  
17 NOPs

&lt;switch open right&gt;

lea 32(MDISTGRAPHPTR), MDISTGRAPHPTR J

MDIST:

3 ADR

4 COPY REG

PTBL:

2 ADR

3 COPY REG

1 DATA

REST:

2 ADR +SP/USP

4 COPY REG

3 DATA

$$\begin{array}{r} \text{BUFF} \\ 12 - 85 = 107 - 22 = 85 - 10 = 75 - 21 = 54 - \\ 585 \end{array} \quad \begin{array}{r} \text{PORTA} \\ \text{PORTB} \end{array} \quad \begin{array}{r} \text{PORTC} \\ \text{PORTD} \end{array} \quad \begin{array}{r} \text{MRUFF} \\ \text{PRGRAM} \end{array} \quad 243007$$

OHNE DIGI: 480 800

460

3-76

702

## Double Dist Speicher

Font Höhe  $\times$  76  $\times$  40

Höhe  $\times$  640

DISTANCE

Word shift Font: Höhe  $\times$  24  $\times$  40

$$\text{Höhe} \times 960 \times 76 = h \times 15360$$

Byte Shift Font: Höhe  $\times$  24  $\times$  40  $\times$  8 = h  $\times$  7680

$$78 \quad 138240 \quad 276480$$

$$20 \quad 153600 \quad 307200$$

VERGESSEN

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

FONT:  $32 \times 640 = 20480$

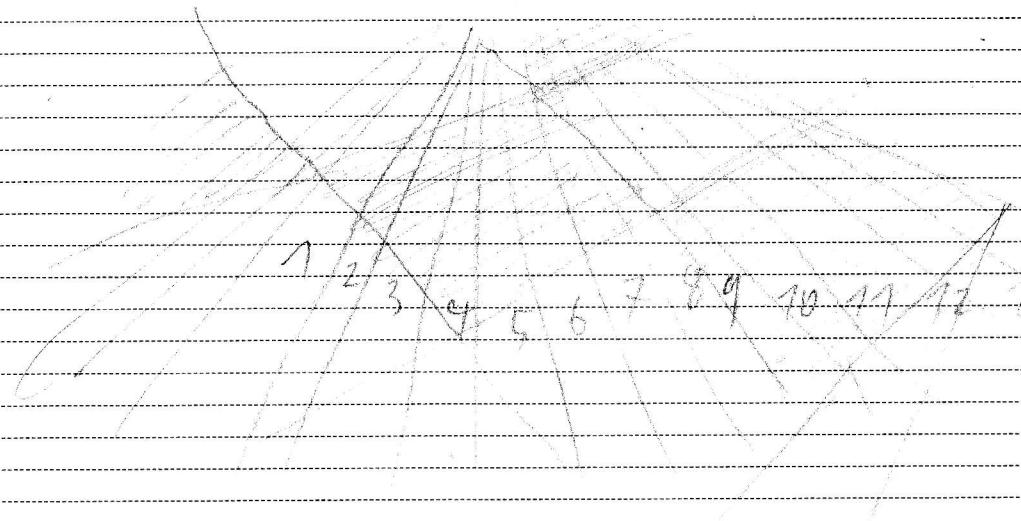
Rest : 769520

Buffers :  $28 \times 208 \times 16 = 86528$

ESTIMATION S.M.DIST TAB 20000

PROGRAM 20000

Rest 40000 = 10 sec



nextscrn = 0  $\leftarrow$  CNT = 28:



→ set nextscrn to 1<sup>st</sup> scrn

→ Set copybuf to (buf5 - 1 scroll)

→ GETSET destcopybuf to 1<sup>st</sup> buf - 1 scroll

7 scrolls / BUFF

14 : 74 scrolls

BUFF = 28

14 · 4 =

9  
14400  
14400  
14400  
201230

\*

1)

- scroll

rolls 160 ft

$$= 280 \text{ lines} \quad (\Rightarrow \text{Row height} = 6\text{ft})$$

 $r = 5.6$  addresses

0

$$230 \cdot 280$$

~~$$230 \cdot 2 \cdot 280$$~~

$$230 \cdot 3 \cdot 280$$

~~$$230 \cdot (20 + ?)$$~~

$$230 \cdot (280 + 20)$$

~~$$230 \cdot (280 + 20) \cdot 2$$~~

$$230 \cdot (280 + 20) \cdot 3$$

~~$$230 \cdot 20 \cdot 2$$~~

$$230 \cdot (280 + 20) \cdot 2$$

$$230 \cdot (280 + 20) \cdot 4$$

$$230 \cdot 3 \cdot 280 + 20 \cdot 2$$

$$230 \cdot (0 \cdot 280 + 3 \cdot 20)$$

$$230 \cdot (1 \cdot 280 + 3 \cdot 20)$$

$$230 \cdot (2 \cdot 280 + 3 \cdot 20)$$

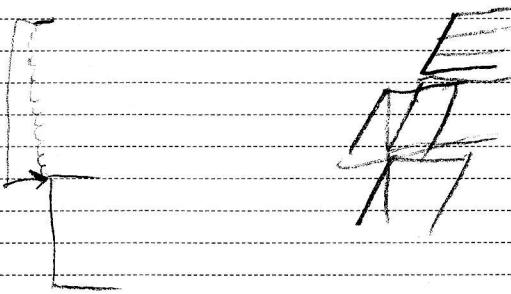
$$230 \cdot (3 \cdot 280 + 3 \cdot 20)$$

$$230 \cdot (0 \cdot 280 + 4 \cdot 20)$$

~~$$230 \cdot (1 \cdot 280 + 4 \cdot 20)$$~~

$$230 \cdot (2 \cdot 280 + 4 \cdot 20)$$

$$230 \cdot (3 \cdot 280 + 4 \cdot 20)$$



0 1 2 3 4 5 6 7 8 9 : ; ( - )

? ! A B &lt; D E F G H I J K

L M N O P Q R S T U V V

$$13 \times 20 \text{ Reg} = 1040 = 208 \cdot 5$$

X Y Z U

(nextscrn) ← scrnadrkst + 4

75

21