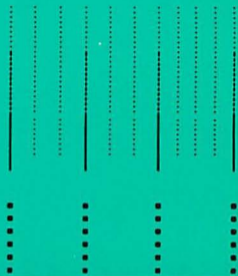
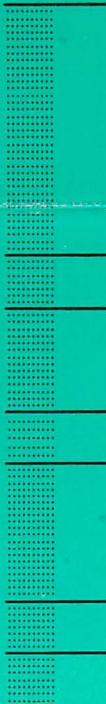


E N I A C



ENIAC is an industry heroine. The first large-scale digital computer, she paved the way for the whole digital revolution. ENIAC, an Aquarian, is having her thirty-ninth birthday on February 13. She is alive. She is well. And the soul of the old girl lives on in elegant new quarters, The Computer Museum in Boston. In honor of ENIAC we at Bitstream send these digital graphics from quite another generation, and with them the reminder that every day we all build on the great inventiveness of ENIAC's own parents, Mauchly and Eckert.

ENIAC's year begins this year and ends next, with a surprise party at The Computer Museum, when we salute her honored place in our industry. You may look forward to a black tie optional, hackerwear essential evening of whimsy with old and new friends.



**Ann Roc-Hafer
Director of Marketing
Bitstream Inc.
Athenaeum House
215 First Street
Cambridge, MA 02142
617-497-6222
Telex 467237**

Bitstream

102687600



November 14 1984

Harry Parker
Bitstram Inc
Athenaeum House
215 First St
Cambridge
MA 02142

Dear Harry

This is just to thank you for your help on a critical day for the Museum. As you realised, we all seemed to have far too much to do, so it was excellent to have your help.

I hope you will visit us again shortly when you should see quite a bit more than last time. Please make sure to contact me when you come, and I can at least make sure that you are not charged admission!

Many thanks again.

Yours sincerely

Oliver Strimpel

August 6 1984

Ann Roe-Hafer
Director of Marketing
Bitstream Inc
Athenaeum house
215 First Street
Cambridge
MA 02142

Dear Ann

We are now a bit further along the road towards firming up what we can display for our public opening in November. It looks as if our Symbolics machine will be running some terrain synthesis software which makes very spectacular use of the graphics capability. We therefore do not think that we can run an interactive demonstration of your ABE - perhaps a good thing as far as Phil Appley's time is concerned anyway!

However, I would like to devote a panel to the story of computer-aided design of characters. Thus we need the following images:

1. The definition of the outline font such as the example for the letter p on the back of your leaflet The Outline Font,
2. The same letter now filled in with pixels with many lines,
3. The same letter filled in at a low line count showing an "error" and the corrected version,
4. Entire bitmap fonts at a low and high resolution; in the low case it would be interesting to show the difference between the automatically generated characters before and after hand editing.

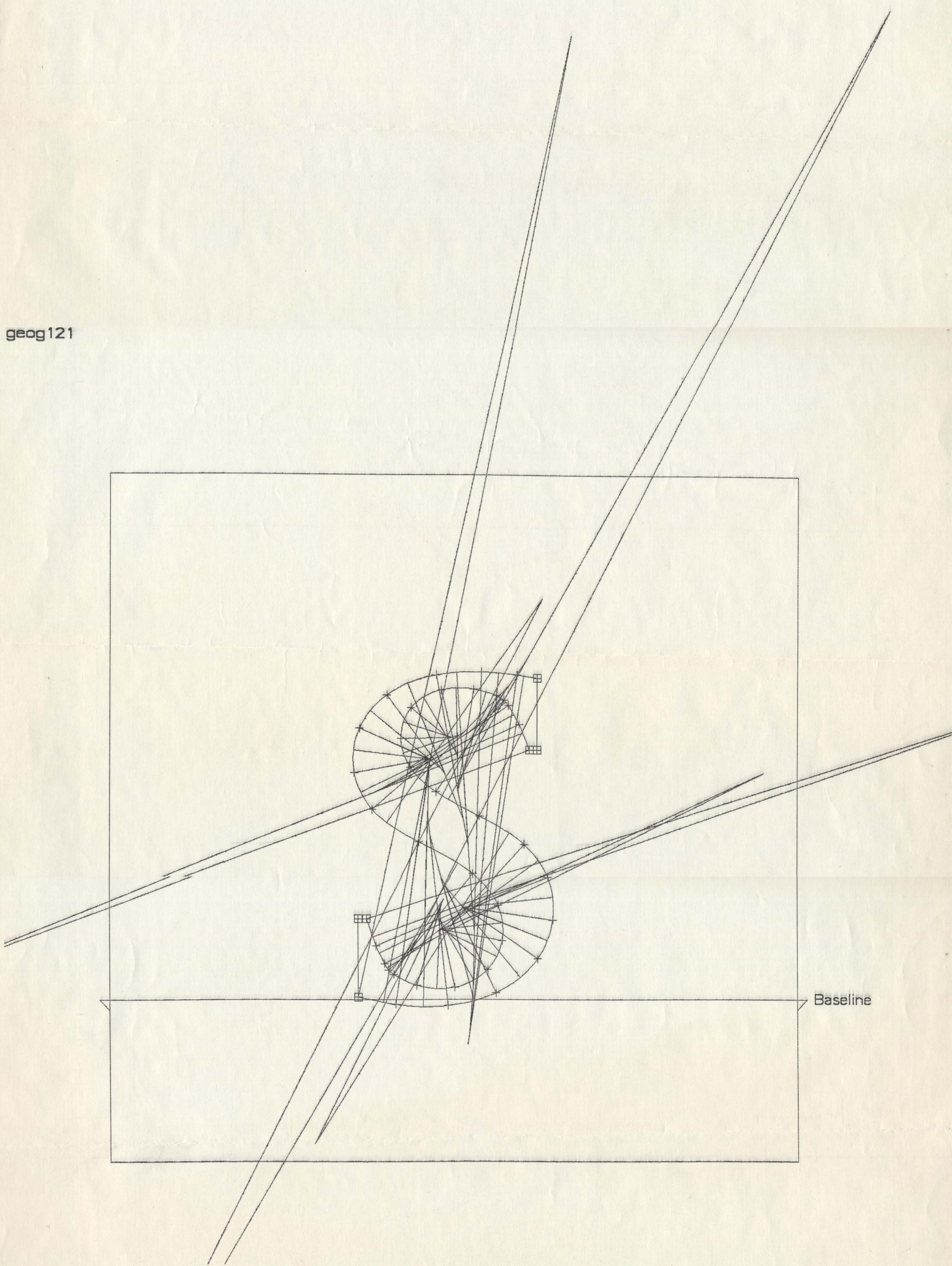
If you send us slides we can make prints up to the required size. Should you prefer to send prints, I shall let you know later what size is best.

I hope this is not too ambiguous - please do not hesitate to call me if you need any further information or have any suggestions. Thank you for your help and interest.

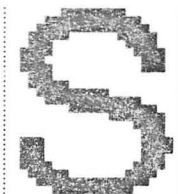
Yours sincerely

Dr Oliver Strimpel
Curator

geog121



Baseline



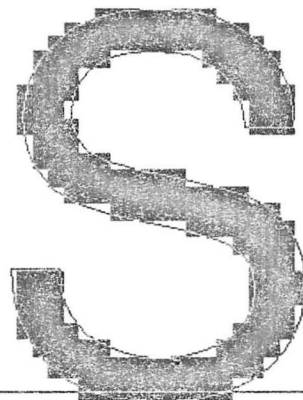
width 22

Adj Lines	Font Ops	Modes
Sample	Regrid	Repixel
File	Lisp Font	Highlight
Adj #'s	Tables	Pertrb

10 point 240Hx240V for real

Swiss 721 Roman(TM)

abcdefghijklmnopqrstuvwxyz&ABCD
 EFGHIJKLMNOPQRSTUVWXYZ0123456
 789! ' () * , . / : ; ? [] ^ _ ` { | ~ ¨ ª « » „ ” § † ‡
 ~ ~ ~ ~ , ~ - / % & # " | < > « » „ ” § † ‡



```

(defstruct (subfont :named :array-leader (:include font) (:conc-name (:size-symbol subfont-leader-size))
  parent ; Font this is a subfont of (name, not object)
  start-char ; Character code at which this subfont starts
  #| This is redundant, perhaps should go away. |#
  subfonts-of-parent ; A list of all the subfonts of this parent
)

```

```

(defconst fed:*subfont-size* 128
  "The subfont size into which fonts are split. The system depends to some extent
  on all subfonts everywhere being the same size.")

```

<PAGE>

```

(defconst *entire-alphabet*
  (with-output-to-string (s)
    (loop for start in (%/a %/R)
      do (loop for i below 26.

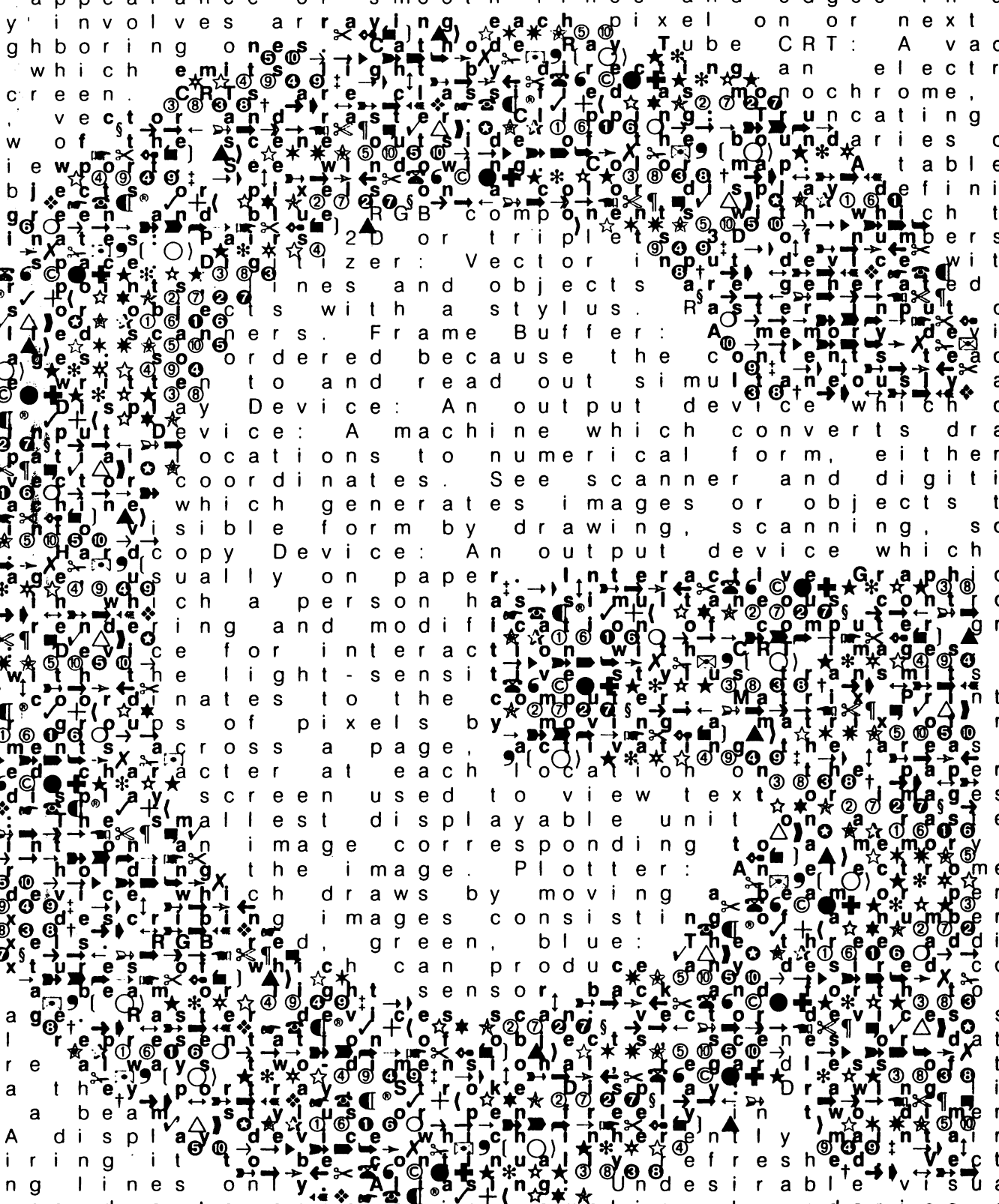
```

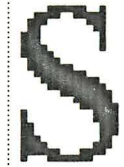
ZMACS (LISP) bsdefs.lisp >pga>abe E: (63) Font: R (CPT6) * [More above and below]

Bitstream EXPERIMENTAL

H i l j J **B**^k **c**^K **C**^l **d**^L **D**^m **e**^M **E**ⁿ **f**^N o O p F
S t T u U **F**^v **g**^V **G**^w **h**^W **H**^x **i**^X **I**^y **j**^Y z Z a A
D e E f F **J**^g **k**^G **K**^h **l**^H **L**ⁱ **m**^I **M**^j **n**^J k K l L
O p P q Q **N**^r **o**^R **O**^s **p**^S **P**^t **q**^T **Q**^u **r**^U v V w V
Z a A b B **R**^c **s**^C **a**^d **A**^D **b**^e **B**^E **c**^f **C**^F g G h F
K l L m M **d**ⁿ **D**^N **e**^o **E**^O **f**^p **F**^P **g**^q **G**^Q r R s S
V w W x X **h**^y **H**^Y **i**^z **I**^Z **j**^a **J**^A **k**^b **K**^B c C d D
G h H i l j **l**^J **L**^k **m**^K **M**^l **n**^L **N**^m **o**^M **O**ⁿ n N o C
R s S t T **p**^u **P**^U **q**^v **Q**^V **r**^w **R**^W **s**^x **a**^X y Y z Z
C d D e E **A**^f **b**^F **B**^g **c**^G **C**^h **d**^H **D**ⁱ **e**^I j J k K
N o O p P **E**^q **f**^Q **F**^r **g**^R **G**^s **h**^S **H**^t **i**^T u U v V
Y z Z a A **l**^b **j**^B **J**^c **k**^C **K**^d **l**^D **L**^e **m**^E f F g G
l k k l l m M n N o P p r r

undesirable visual effects in raster images due to sampling boundaries and color changes. Symptoms are uncolored pixels, and twinkling movement. Anti-aliasing is the appearance of smooth lines and edges in a normal display, which involves arranging pixels on or next to its neighboring ones. A device which does this is called a subpixel device or view cell. Refresh rate is the number of times per second a view of an object is redrawn. Coordinate system is a set of axes for defining the position of objects in space. Zero: Vector origin. Order: Order of drawing. Frame Buffer: A device which stores the coordinates of points to be drawn. Device: A machine which converts drawing coordinates to numerical form, either by scanning or by drawing. Visible Device: An output device which produces a visible representation of a drawing on paper or other medium. Light-sensitive device: A device which converts light to digital data. Character cell: A character cell is a unit of text displayed on a screen. Image: A drawing or picture. Corresponding: Corresponding image. Plotter: A device which draws images by moving a pen or stylus. Consistent: Consistent colors. Color: Color. Sensor: A device which produces digital data from an image. Strips: Strips of data. The: The. Moving: Moving a beam. Display: A device which displays images on a screen. Requiring: Requiring lines on screen. Undesirable: Undesirable effects. Visual: Visual effects. Sampling: Sampling boundaries and. Symptoms: Symptoms are jagged edges, uncolored pixels, and



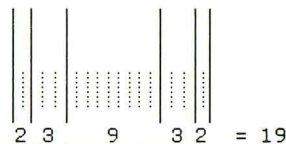
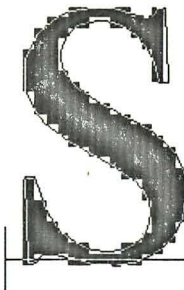
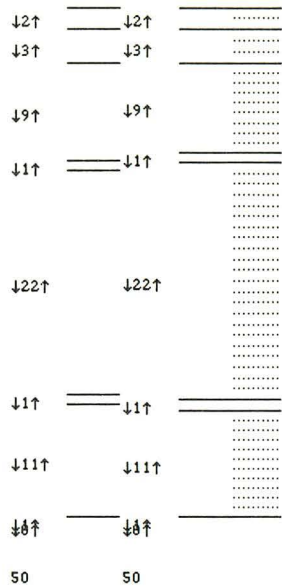


width 19

Adj lines	Font Ops	Modes
Sample	Regrid	Repixel
File	Lisp Font	Highlight
Adj #'s	Tables	Perturb

```
50 point 72Hx72V for real
Dutch 801 Roman(TM)

abcdefghijklmnopqrstuvwxyz d'p&A
BCDEFGHIJKLMN O PQRSTUVWXYZ012
3456789! '()* ,.:/:;?[ \] ^_`{
|}~!@#%&'()*+,-./:;<=>?`{|}~!@#%
&'()*+,-./:;<=>?`{|}~!@#%&'()*+,-./
:;<=>?`{|}~!@#%&'()*+,-./:;<=>?`{|}~
!@#%&'()*+,-./:;<=>?`{|}~!@#%&'()*+,-./:;<=>?`{|}~
```



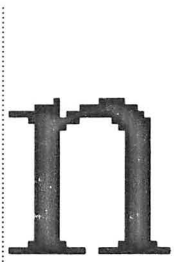
abcdefghijklmnopqrstuvwxyz

```
(def-font-size-data "dutch 801 roman(TM)" (50 72. 72.) ;;total pixels = 49.8
;;uneditd T
:lower (6597. 2. 6237. 3. 5670. 9. 4050. 1. 3888. 22. 162. 1. 0. 11. -1890. 1. -2052. 0. -2053.)
:upper (6597. 4. 5978. 1. 5778. 15. 3240. 2. 2889. 15. 189. 1. 0. 5. -837. 7. -2043.)
:digit (6597. 4. 5967. 1. 5724. 14. 3219. 1. 2989. 17. 189. 1. 0. 11. -1932. 1. -2043.)
:other (6597. 38. 0. 12. -2043.)
:straight-stroke-weight 4. ;4.4
:stroke-weight 5. ;4.8
:thin-horiz-weight 1. ;1.
:thick-horiz-weight 3. ;1.
:cap-stem-weight 5. ;5.5
:cap-curve-stroke-weight 6. ;5.9
:cap-thin-stem-weight 2. ;2.4
:inpix-n-counter 10. ;9.6
:inpix-m-counter 9. ;9.5
:inpix-p-counter 13. ;12.6
:inpix-n-lsb 5.
:inpix-n-rsb 4.
```

```
;;Default shape table
(defconst *times-shape-table*
'((#/a (o-lsb lc - rcs n-rsb) (tr thick-br))
  (#/b (n-lsb ss-ascender p rc o-rsb) (thick-tr thick-tr br))
  (#/c (o-lsb stroke-special-c - rsb) (tr thick-br))
  (#/d (o-lsb lc p ss-ascender n-rsb) (asc-r tr thick-br))
  (#/e (o-lsb stroke-special-e - stroke-special-e rsb) (tr e-bar thick-br))
  (#/f (lsb - ss-half-xht - rsb) (top-f f-bar bot-flat))
  (#/g (lsb stroke-special-g-2-loops - stroke-special-g-2-loops rsb)
   (special-2-loop-g))
  (#/h (n-lsb ss-half-xht n ss-half-xht n-rsb) (asc-r thick-tr bot-flat))
  (#/i (n-lsb ss-half-xht n-rsb) (dot thick-tr bot))
  (#o177 (o-lsb ss-half-xht o-rsb) (xht bot-flat)) ;; i no dot
  (#/j (lsb - ss-half-xht rsb) (dot thick-tr desc-r))
  (#/k (n-lsb ss-ascender - rsb) (asc-r xht bot-flat))
  (#/l (n-lsb ss-ascender n-rsb) (asc-r xht bot-flat))
  (#/m (n-lsb ss-half-xht m ss-half-xht m ss-half-xht n-rsb) (thick-tr bot-flat))
  (#/n (n-lsb ss-half-xht n ss-half-xht n-rsb) (thick-tr bot-flat))
```

ZMACS (LISP) TimesR-D.lisp >david>params E: (10) Font: A (PHIL) *

ZMACS (LISP) TimesR-20.lisp >david>shapes E: (11) Font: A (PHIL)



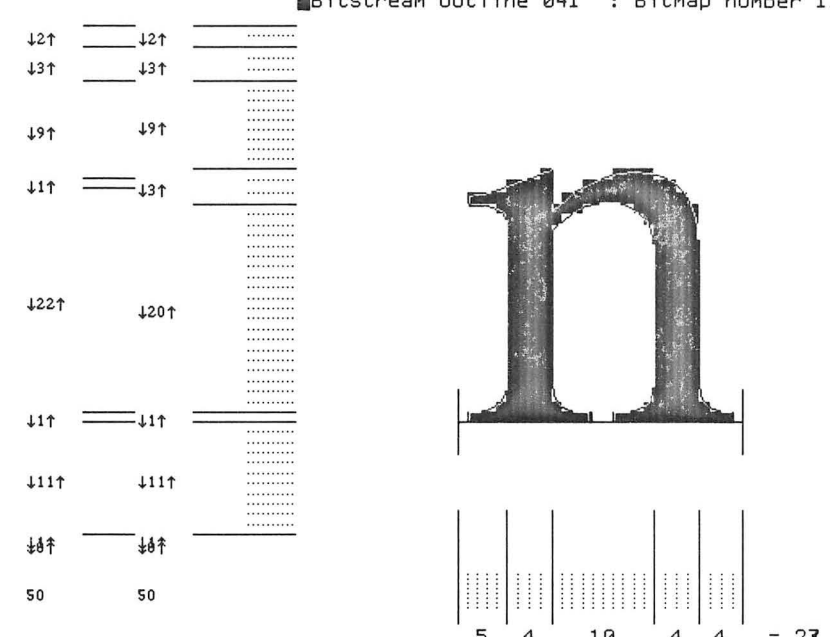
width 27

Adj lines	Font Ops	Modes
Sample	Regrid	Repixel
File	Lisp Font	Highlight
Adj #'s	Tables	Perturb

50 point 72Hx72V for real
Dutch 801 Roman(TM)

abcdefghijklmnopqrstuvwxyz d'p&A
BCDEFGHIJKLMNOPQRSTUVWXYZ d'p&A
123456789! '()* ,. / : ; ? [\] ^ _ ` { | } ~ : " ' & # \$ % & # \$ % & # \$ %
@ 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 [\] ^ _ ` { | } ~ : " ' & # \$ % & # \$ %
! " # \$ % & # \$ % & # \$ % & # \$ % & # \$ % & # \$ % & # \$ % & # \$ % & # \$ % & # \$ % & # \$ % & # \$ %
+

Bitstream Outline 041 : Bitmap number 110 : LOWERCASE-N



5 4 10 4 4 = 27

abcdefghijklmnopqrstuvwxyz

```
(def-font-size-data "dutch 801 roman(TM)" (50 72. 72.) ;;total pixels = 49.8
;;unedited T
:lower (6597. 2. 6237. 3. 5670. 9. 4050. 1. 3888. 22. 162. 1. 0. 11. -1890. 1. -2052. 0. -2053.)
:upper (6597. 4. 5978. 1. 5778. 15. 3240. 2. 2889. 15. 189. 1. 0. 5. -837. 7. -2043.)
:digit (6597. 4. 5967. 1. 5724. 14. 3219. 1. 2989. 17. 189. 1. 0. 11. -1932. 1. -2043.)
:other (6597. 38. 0. 12. -2043.)
:straight-stroke-weight 4. ;4.4
:ro-stroke-weight 5. ;4.8
:thin-horiz-weight 1. ;1.
:thick-horiz-weight 3. ;1.
:cap-stem-weight 5. ;5.5
:cap-curve-stroke-weight 6. ;5.9
:cap-thin-stem-weight 2. ;2.4
:npix-n-counter 10. ;9.6
:npix-m-counter 9. ;9.5
:npix-p-counter 13. ;12.6
:npix-n-lsb 5.
:npix-n-rsb 4.
```

```
;;Default shape table
(defconst *times-shape-table*
'((#/a (o-lsb lc - rcs n-rsb) (tr thick-br))
(#/b (n-lsb ss-ascender p rc o-rsb) (thick-tr thick-tr br))
(#/c (o-lsb stroke-special-c - rsb) (tr thick-br))
(#/d (o-lsb lc p ss-ascender n-rsb) (asc-r tr thick-br))
(#/e (o-lsb stroke-special-e - stroke-special-e rsb) (tr e-bar thick-br))
(#/f (lsb - ss-half-xht - rsb) (top-f f-bar bot-flat))
(#/g (lsb stroke-special-g-2-loops - stroke-special-g-2-loops rsb)
(special-2-loop-g))
(#/h (n-lsb ss-half-xht n ss-half-xht n-rsb) (asc-r thick-tr bot-flat))
(#/i (n-lsb ss-half-xht n-rsb) (dot thick-tr bot))
(#o177 (o-lsb ss-half-xht o-rsb) (xht bot-flat)) ; i no dot
(#/j (lsb - ss-half-xht rsb) (dot thick-tr desc-r))
(#/k (n-lsb ss-ascender - rsb) (asc-r xht bot-flat))
(#/l (n-lsb ss-ascender n-rsb) (asc-r xht bot-flat))
(#/m (n-lsb ss-half-xht m ss-half-xht m ss-half-xht n-rsb) (thick-tr bot-flat))
(#/n (n-lsb ss-half-xht n ss-half-xht n-rsb) (thick-tr bot-flat))
```

ZMACS (LISP) TimesR-D.lisp >david>params E: (10) Font: A (PHIL) *

ZMACS (LISP) TimesR-20.lisp >david>shapes E: (11) Font: A (PHIL)

Recolor pixels. L: Blacken; M: Whiten; R: Exit
09/24/84 18:35:35 david

USER: Mouse

Aliasing: Undesirable visual effects in raster images due to errors in sampling boundaries and color changes. Symptoms are jagged edges, uncolored pixels, and twinkling movement.

Anti-aliasing: Maintaining the appearance of smooth lines and edges in a raster image; normally involves arraying each pixel on or next to an edge with its neighboring ones.

Cathode Ray Tube (CRT): A vacuum-tube display device which emits light by directing an electron beam at a phosphor screen. CRTs are classified as monochrome, color, storage, refresh, vector and raster.

Clipping: Truncating those portions of a view of the scene outside of the boundaries of the screen, page or viewport. See windowing.

Color map: A table storing the color of objects or pixels on a color display defining the amounts of red, green and blue (RGB components) with which they are rendered.

Coordinates: Pairs (2D) or triplets (3D) of numbers which locate points in space.

Digitizer: Vector input device with which coordinates for points, lines and objects are generated through tracing graphics or objects with a stylus. Raster input devices are generally called scanners.

Frame Buffer: A memory device designed to store images; so ordered because the contents teach one range frame can be written to and read out simultaneously as they become available.

Display Device: An output device which can be viewed directly.

Input Device: A machine which converts drawings, photographs or spatial locations to numerical form, either as raster elements or vector coordinates. See scanner and digitizer.

Output Device: A machine which generates images or objects through converting data into visible form by drawing, scanning,

scribing or shaping forms.

Hardcopy Device: An output device which produces a permanent image, usually on paper.

Interactive Graphics: Way of making images in which a person has simultaneous control of input, processing, rendering and modification of computer graphic images.

Light Pen: Device for interaction with CRT images. Pointing at the screen with the light-sensitive stylus transmits the locations of screen coordinates to the computer.

Matrix Printer: Prints characters or groups of pixels by moving a matrix of needle-like printing elements across a page, activating the areas that make up the required character at each location on the paper.

Monitor: A video CRT display screen used to view text or images.

Pixel (picture element): The smallest displayable unit on a raster device; a specific point on an image corresponding to a memory cell in the frame buffer holding the image.

Plotter: An electromechanical vector output device which draws by moving a beam or pen. **Raster:** Grid or matrix describing images consisting of a number of parallel rows of pixels.

RGB (red, green, blue): The three additive primary colors, mixtures of which can produce any desired color.

Scanning: Sweeping a beam or light sensor back and forth to display or record an image. Raster devices scan; vector devices stroke.

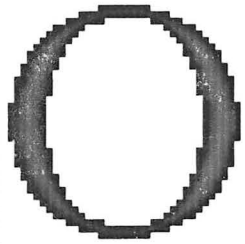
Image: A pictorial representation of objects, scenes or data of any kind. Images are always two-dimensional, regardless of the kind of space or data they portray.

Stroke Display: Drawing lines or points by moving a beam, stylus or pen freely in two dimensions.

Storage Device: A display device which inherently maintains an image without requiring it to be continually refreshed.

Vector: mode of drawing using lines only.

Bitstream Outline 015 : Bitmap number 79 : UPPERCASE-O

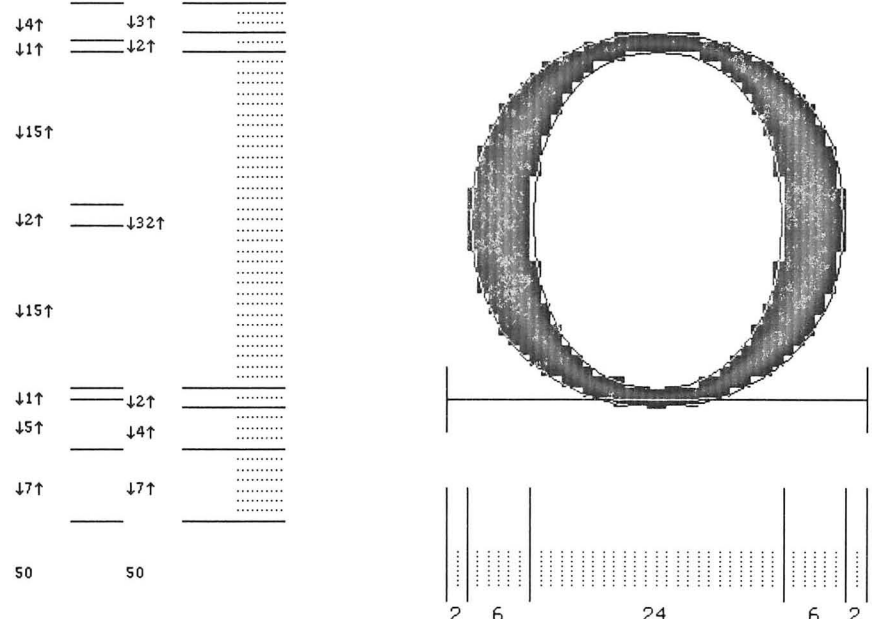


width 40

Adj lines	Font Ops	Modes
Sample	Regrid	Repixel
File	Lisp Font	Highlight
Adj *s	Tables	Perturb

50 point 72Hx72V for real
Dutch 801 Roman(TM)

abcdefghijklmnopqrstuvwxyz p&A
BCDEFGHIJKLMNOPQRSTUVWXYZ P\$%&
123456789! '()* ,. / : ; ? [] ^ _ ` { | } ~
@ # \$ % & ' () * + , - . / : ; ? [] ^ _ ` { | } ~
" ' , . . . - - - - / % & # \$ % " ' () * + , - . . . - - - -
‡



↓4↑ ↓3↑
↓1↑ ↓2↑

↓15↑

↓2↑ ↓32↑

↓15↑

↓1↑ ↓2↑
↓5↑ ↓4↑

↓7↑ ↓7↑

50 50

2 6 24 6 2 = 40

ABCDEFGHIJKLMNOPQRSTUVWXYZ&AÆC


```
(def-font-size-data "dutch 801 roman(TM)" (50 72. 72.) ;;total pixels = 49.8
;:unedited T
:lower (6597. 2. 6237. 3. 5670. 9. 4050. 1. 3888. 22. 162. 1. 0. 11. -1890. 1. -2052. 0. -2053.)
:upper (6597. 4. 5978. 1. 5778. 15. 3240. 2. 2889. 15. 189. 1. 0. 5. -837. 7. -2043.)
:digit (6597. 4. 5967. 1. 5724. 14. 3219. 1. 2989. 17. 189. 1. 0. 11. -1932. 1. -2043.)
:other (6597. 38. 0. 12. -2043.)
:straight-stroke-weight 4. ;4.4
:so-stroke-weight 5. ;4.8
:thin-horiz-weight 1. ;1.
:thick-horiz-weight 3. ;1.
:scap-stem-weight 5. ;5.5
:scap-curve-stroke-weight 6. ;5.9
:scap-thin-stem-weight 2. ;2.4
:npix-n-counter 10. ;9.6
:npix-m-counter 9. ;9.5
:npix-p-counter 13. ;12.6
:npix-n-lsb 5.
:npix-n-rsb 4.
```

```
;;Default shape table
(defconst *times-shape-table*
'((#/a (o-lsb lc - rcs n-rsb) (tr thick-br))
(#/b (n-lsb ss-ascender p rc o-rsb) (thick-tr thick-tr br))
(#/c (o-lsb stroke-special-c - rsb) (tr thick-br))
(#/d (o-lsb lc p ss-ascender n-rsb) (asc-r tr thick-br))
(#/e (o-lsb stroke-special-e - stroke-special-e rsb) (tr e-bar thick-br))
(#/f (lsb - ss-half-xht - rsb) (top-f f-bar bot-flat))
(#/g (lsb stroke-special-g-2-loops - stroke-special-g-2-loops rsb)
(special-2-loop-g))
(#/h (n-lsb ss-half-xht n ss-half-xht n-rsb) (asc-r thick-tr bot-flat))
(#/i (n-lsb ss-half-xht n-rsb) (dot thick-tr bot))
(#o177 (o-lsb ss-half-xht o-rsb) (xht bot-flat)) ;i no dot
(#/j (lsb - ss-half-xht rsb) (dot thick-tr desc-r))
(#/k (n-lsb ss-ascender - rsb) (asc-r xht bot-flat))
(#/l (n-lsb ss-ascender n-rsb) (asc-r xht bot-flat))
(#/m (n-lsb ss-half-xht m ss-half-xht n-rsb) (thick-tr bot-flat))
(#/n (n-lsb ss-half-xht n ss-half-xht n-rsb) (thick-tr bot-flat))
```

ZMACS (LISP) TimesR-D.lisp >david>params E: (10) Font: A (PHIL) *

ZMACS (LISP) TimesR-20.lisp >david>shapes E: (11) Font: A (PHIL)

Bitstream Outline 042 : Bitmap number 111 : LOWERCASE-O

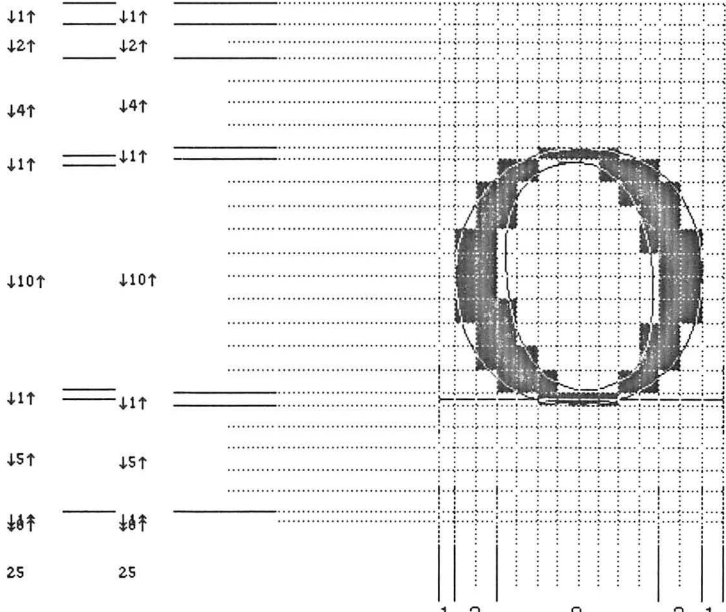


width 14

Adj lines	Font Ops	Modes
Sample	Regrid	Repixel
File	Lisp Font	Hilight
Adj #'s	Tables	Perturb

25 point 72Hx72V for real
Dutch 801 Roman(TM)

abcdefghijklmnopqrstuvwxyz p&A
BCDEFGHIJKLMNOPQRSTUVWXYZ 0-9
123456789! ' () * , . / : ; ? [] ^ _ ` { | } ~
@ # \$ % & ' () * , . / : ; ? [] ^ _ ` { | } ~
` ' . . . - - - / % & # \$ % ' " ' < > « » , » " \$ +
‡



1 2 8 2 1 = 14

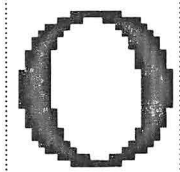
abcdefghijklmnopqrstuvwxyz

```
(def-font-size-data "dutch 801 roman(TM)" 25. 72. 72.) ;;total pixels = 24.9
;unedited T
:lower (6597. 1. 6237. 2. 5670. 4. 4050. 1. 3888. 10. 162. 1. 0. 5. -1890. 1. -2052. 0. -2053.)
:upper (6597. 2. 5978. 1. 5778. 7. 3240. 1. 2889. 7. 189. 1. 0. 2. -837. 4. -2043.)
:digit (6597. 2. 5967. 1. 5724. 7. 3219. 1. 2989. 7. 189. 1. 0. 6. -1932. 0. -2043.)
:other (6597. 19. 0. 6. -2043.)
:straight-stroke-weight 2. ;2.2
:to-stroke-weight 2. ;2.4
:thin-horiz-weight 1. ;1.
:thick-horiz-weight 1. ;1.
:cap-stem-weight 3. ;2.8
:cap-curve-stroke-weight 3. ;3.
:cap-thin-stem-weight 1. ;1.2
:npix-n-counter 5. ;4.8
:npix-m-counter 5. ;4.7
:npix-p-counter 6. ;6.3
:npix-n-lsb 2.
:npix-n-rsb 2.
```

ZMACS (LISP) TimesR-D.lisp >david>params E: (10) Font: A (PHIL) *

```
;;Default shape table
(defconst *times-shape-table*
'((#/a (o-lsb lc - rcs n-rsb) (tr thick-br))
(#/b (n-lsb ss-ascender p rc o-rsb) (thick-tr thick-tr br))
(#/c (o-lsb stroke-special-c - rsb) (tr thick-br))
(#/d (o-lsb lc p ss-ascender n-rsb) (asc-r tr thick-br))
(#/e (o-lsb stroke-special-e - stroke-special-e rsb) (tr e-bar thick-br))
(#/f (lsb - ss-half-xht - rsb) (top-f f-bar bot-flat))
(#/g (lsb stroke-special-g-2-loops - stroke-special-g-2-loops rsb)
(special-2-loop-g))
(#/h (n-lsb ss-half-xht n ss-half-xht n-rsb) (asc-r thick-tr bot-flat))
(#/i (n-lsb ss-half-xht n-rsb) (dot thick-tr bot))
(#/l77 (o-lsb ss-half-xht o-rsb) (xht bot-flat)) ;i no dot
(#/j (lsb - ss-half-xht rsb) (dot thick-tr desc-r))
(#/k (n-lsb ss-ascender - rsb) (asc-r xht bot-flat))
(#/l (n-lsb ss-ascender n-rsb) (asc-r xht bot-flat))
(#/m (n-lsb ss-half-xht m ss-half-xht m ss-half-xht n-rsb) (thick-tr bot-flat))
(#/n (n-lsb ss-half-xht n ss-half-xht n-rsb) (thick-tr bot-flat))
```

ZMACS (LISP) TimesR-20.lisp >david>shapes E: (11) Font: A (PHIL)

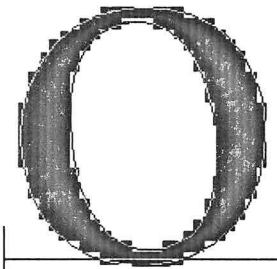
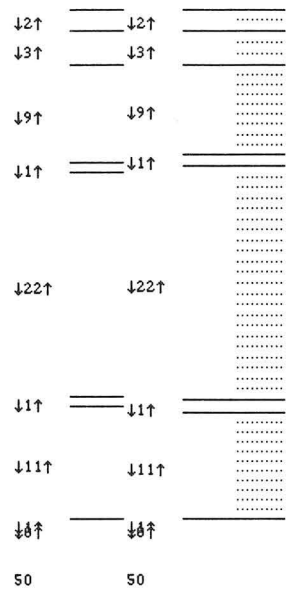


width 27

Adj lines	Font Ops	Modes
Sample	Regrid	Repixel
File	Lisp Font	Highlight
Adj #'s	Tables	Perturb

50 point 72Hx72V for real
Dutch 801 Roman(TM)

abcdefghijklmnopqrstuvwxyz p&A
BCDEFGHIJKLMNOPQRSTUVWXYZ 0-9
! " # \$ % & ' () * + , - . / : ; [] ^ _ ` { | } ~
¡ ¢ £ ¤ ¥ ¦ § ¨ © ª « ¬ ® ¯ ° ± ² ³ ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾
¿



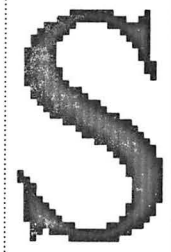
abcdefghijklmnopqrstuvwxyz

```
(def-font-size-data "dutch 801 roman(TM)" (50 72. 72.) ;;total pixels = 49.8
;:unedited T
;:lower (6597. 2. 6237. 3. 5670. 9. 4050. 1. 3888. 22. 162. 1. 0. 11. -1890. 1. -2052. 0. -2053.)
;:upper (6597. 4. 5978. 1. 5778. 15. 3240. 2. 2889. 15. 189. 1. 0. 5. -837. 7. -2043.)
;:digit (6597. 4. 5967. 1. 5724. 14. 3219. 1. 2989. 17. 189. 1. 0. 11. -1932. 1. -2043.)
;:other (6597. 38. 0. 12. -2043.)
;:straight-stroke-weight 4. ;4.4
;:o-stroke-weight 5. ;4.8
;:thin-horiz-weight 1. ;1.
;:thick-horiz-weight 3. ;1.
;:cap-stem-weight 5. ;5.5
;:cap-curve-stroke-weight 6. ;5.9
;:cap-thin-stem-weight 2. ;2.4
;:inpx-n-counter 10. ;9.6
;:inpx-m-counter 9. ;9.5
;:inpx-p-counter 13. ;12.6
;:inpx-n-lsb 5.
;:inpx-n-rsb 4.
```

```
;;Default shape table
(defconst *times-shape-table*
'((#/a (o-lsb lc - rcs n-rsb) (tr thick-br))
(#/b (n-lsb ss-ascender p rc o-rsb) (thick-tr thick-tr br))
(#/c (o-lsb stroke-special-c - rsb) (tr thick-br))
(#/d (o-lsb lc p ss-ascender n-rsb) (asc-r tr thick-br))
(#/e (o-lsb stroke-special-e - stroke-special-e rsb) (tr e-bar thick-br))
(#/f (lsb - ss-half-xht - rsb) (top-f f-bar bot-flat))
(#/g (lsb stroke-special-g-2-loops - stroke-special-g-2-loops rsb)
(special-2-loop-g))
(#/h (n-lsb ss-half-xht n ss-half-xht n-rsb) (asc-r thick-tr bot-flat))
(#/i (n-lsb ss-half-xht n-rsb) (dot thick-tr bot))
(#o177 (o-lsb ss-half-xht o-rsb) (xht bot-flat)) ;i no dot
(#/j (lsb - ss-half-xht rsb) (dot thick-tr desc-r))
(#/k (n-lsb ss-ascender - rsb) (asc-r xht bot-flat))
(#/l (n-lsb ss-ascender n-rsb) (asc-r xht bot-flat))
(#/m (n-lsb ss-half-xht m ss-half-xht m ss-half-xht n-rsb) (thick-tr bot-flat))
(#/n (n-lsb ss-half-xht n ss-half-xht n-rsb) (thick-tr bot-flat))
```

ZMACS (LISP) TimesR-D.lisp >david>params E: (10) Font: A (PHIL) *

ZMACS (LISP) TimesR-20.lisp >david>shapes E: (11) Font: A (PHIL)



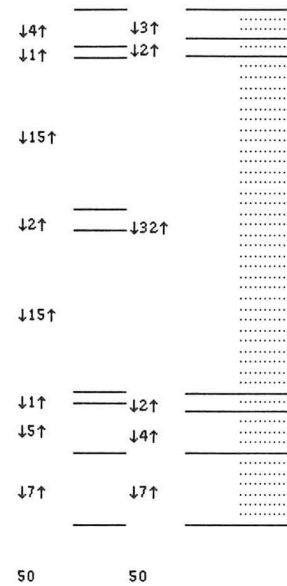
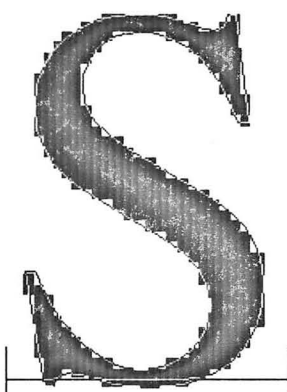
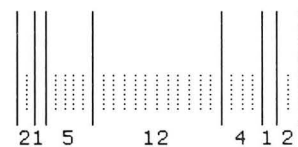
width 27

Adj lines	Font Ops	Modes
Sample	Regrid	Repixel
File	Lisp Font	Hilight
Adj #'s	Tables	Perturb

50 point 72Hx72V for real
Dutch 801 Roman(TM)

abcdefghijklmnopqrstuvwxyzd?b&A
BCDEFGHIJKLMNOPQRSTUVWXYZDŁP\$%&
123456789! ' () * , . : ; ? [] ^ _ ` { | } ~ ¨ ª « ¬ ® ¯ ° ± ² ³ ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾
¡ ¢ £ ¤ ¥ ¦ § ¨ © ª « ¬ ® ¯ ° ± ² ³ ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾
¿

Bitstream Outline 019 : Bitmap number 83 : UPPERCASE-S

21 5 12 4 1 2 = 27

ABCDEFGHIJKLMNOPQRSTUVWXYZ&ÀÆÇ

```
(def-font-size-data "dutch 801 roman(TM)" (50 72. 72.) ;;total pixels = 49.8
;unedited T
:lower (6597. 2. 6237. 3. 5670. 9. 4050. 1. 3888. 22. 162. 1. 0. 11. -1890. 1. -2052. 0. -2053.)
:upper (6597. 4. 5978. 1. 5778. 15. 3240. 2. 2889. 15. 189. 1. 0. 5. -837. 7. -2043.)
:digit (6597. 4. 5967. 1. 5724. 14. 3219. 1. 2989. 17. 189. 1. 0. 11. -1932. 1. -2043.)
:other (6597. 38. 0. 12. -2043.)
:straight-stroke-weight 4. ;4.4
:σ-stroke-weight 5. ;4.8
:thin-horiz-weight 1. ;1.
:thick-horiz-weight 3. ;1.
:cap-stem-weight 5. ;5.5
:cap-curve-stroke-weight 6. ;5.9
:cap-thin-stem-weight 2. ;2.4
:npix-n-counter 10. ;9.6
:npix-m-counter 9. ;9.5
:npix-p-counter 13. ;12.6
:npix-n-lsb 5.
:npix-n-rsb 4.
```

```
;;Default shape table
(defconst *times-shape-table*
'((#/a (o-lsb lc - rcs n-rsb) (tr thick-br))
(#/b (n-lsb ss-ascender p rc o-rsb) (thick-tr thick-tr br))
(#/c (o-lsb stroke-special-c - rsb) (tr thick-br))
(#/d (o-lsb lc p ss-ascender n-rsb) (asc-r tr thick-br))
(#/e (o-lsb stroke-special-e - stroke-special-e rsb) (tr e-bar thick-br))
(#/f (lsb - ss-half-xht - rsb) (top-f f-bar bot-flat))
(#/g (lsb stroke-special-g-2-loops - stroke-special-g-2-loops rsb)
(special-2-loop-g))
(#/h (n-lsb ss-half-xht n ss-half-xht n-rsb) (asc-r thick-tr bot-flat))
(#/i (n-lsb ss-half-xht n-rsb) (dot thick-tr bot))
(#/l77 (o-lsb ss-half-xht o-rsb) (xht bot-flat)) ;; i no dot
(#/j (lsb - ss-half-xht rsb) (dot thick-tr desc-r))
(#/k (n-lsb ss-ascender - rsb) (asc-r xht bot-flat))
(#/l (n-lsb ss-ascender n-rsb) (asc-r xht bot-flat))
(#/m (n-lsb ss-half-xht m ss-half-xht m ss-half-xht n-rsb) (thick-tr bot-flat))
(#/n (n-lsb ss-half-xht n ss-half-xht n-rsb) (thick-tr bot-flat))
```


ZMACS (LISP) TimesR-D.lisp >david>params E: (10) Font: A (PHIL) *

ZMACS (LISP) TimesR-20.lisp >david>shapes E: (11) Font: A (PHIL)

Recolor pixels. L: Blacken; M: Whiten; R: Exit
09/24/84 18:27:51 david

USER: Mouse

Bitstream Outline 008 : Bitmap number 72 : UPPERCASE-H

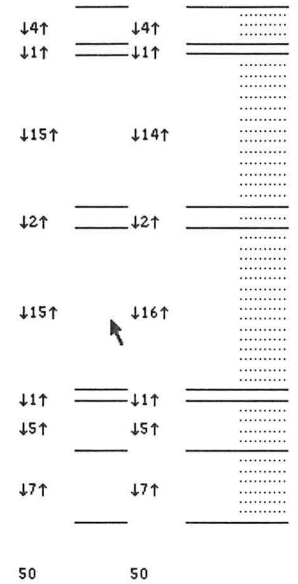



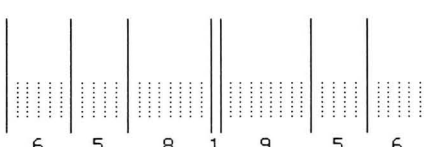
width 40

Adj lines	Font Ops	Modes
Sample	Regrid	Repixel
File	Lisp Font	Hilight
Adj #'s	Tables	Perturb

50 point 72Hx72V for real
Dutch 801 Roman(TM)

abcdefghijklmnopqrstuvwxyzd? p&A
BCDEFGHIJKLMNOPQRSTUVWXYZDŁP\$%&
123456789! ' () * , . / : ; ? [] ^ _ ` { | } ~ ¨ €
œ ª » ¼ ½ ¾ À Á Â Ã Ä Å Æ Ç È É Ê Ë Ì Í Î Ï Ñ Ò Ó
Ô Õ Ö × Ø Ù Ú Û Ü Ý Þ ß à á â ã ä å æ ç è é ê ë ì
í î ï ð ñ ò ó ô õ ö ÷ ø ù ú û ü ý þ ÿ



ABCDEFGHIJKLMNOPQRSTUVWXYZ&ÀÆÇ

```
(def-font-size-data "dutch 801 roman(TM)" (50 72. 72.) ;;total pixels = 49.8
;unedited T
:lower (6597. 2. 6237. 3. 5670. 9. 4050. 1. 3888. 22. 162. 1. 0. 11. -1890. 1. -2052. 0. -2053.)
:upper (6597. 4. 5978. 1. 5778. 15. 3240. 2. 2889. 15. 189. 1. 0. 5. -837. 7. -2043.)
:digit (6597. 4. 5967. 1. 5724. 14. 3219. 1. 2989. 17. 189. 1. 0. 11. -1932. 1. -2043.)
:other (6597. 38. 0. 12. -2043.)
:straight-stroke-weight 4. ;4.4
:ro-stroke-weight 5. ;4.8
:thin-horiz-weight 1. ;1.
:thick-horiz-weight 3. ;1.
:scap-stem-weight 5. ;5.5
:scap-curve-stroke-weight 6. ;5.9
:scap-thin-stem-weight 2. ;2.4
:npix-n-counter 10. ;9.6
:npix-m-counter 9. ;9.5
:npix-p-counter 13. ;12.6
:npix-n-lsb 5.
:npix-n-rsb 4.
```

```
;;Default shape table
(defconst *times-shape-table*
'((#/a (o-lsb lc - rcs n-rsb) (tr thick-br))
(#/b (n-lsb ss-ascender p rc o-rsb) (thick-tr thick-tr br))
(#/c (o-lsb stroke-special-c - rsb) (tr thick-br))
(#/d (o-lsb lc p ss-ascender n-rsb) (asc-r tr thick-br))
(#/e (o-lsb stroke-special-e - stroke-special-e rsb) (tr e-bar thick-br))
(#/f (lsb - ss-half-xht - rsb) (top-f-bar bot-flat))
(#/g (lsb stroke-special-g-2-loops - stroke-special-g-2-loops rsb)
(special-2-loop-g))
(#/h (n-lsb ss-half-xht n ss-half-xht n-rsb) (asc-r thick-tr bot-flat))
(#/i (n-lsb ss-half-xht n-rsb) (dot thick-tr bot))
(#/l77 (o-lsb ss-half-xht o-rsb) (xht bot-flat)) ;i no dot
(#/j (lsb - ss-half-xht rsb) (dot thick-tr desc-r))
(#/k (n-lsb ss-ascender - rsb) (asc-r xht bot-flat))
(#/l (n-lsb ss-ascender n-rsb) (asc-r xht bot-flat))
(#/m (n-lsb ss-half-xht m ss-half-xht m ss-half-xht n-rsb) (thick-tr bot-flat))
(#/n (n-lsb ss-half-xht n ss-half-xht n-rsb) (thick-tr bot-flat))
```

ZMACS (LISP) TimesR-D.lisp >david>params E: (10) Font: A (PHIL) *

ZMACS (LISP) TimesR-20.lisp >david>shapes E: (11) Font: A (PHIL)

