Fontname

version 2.1, July 1996
Filenames for TEX fonts

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1 Introduction

This is Fontname 2.1, a naming scheme for (the base part of) external TeX font filenames. This makes at most eight-character names from (almost) arbitrarily complex font names, thus helping portability of TeX documents. We point out some shortcomings of the scheme, and ways of dealing with them.

Please send additions, corrections, or other comments to me at `kb@mail.tug.org`, or to the mailing list '`tex-fonts@mail.tug.org`'. Email '`tex-fonts-request@mail.tug.org`' to join the list.

Besides this document, the Fontname distribution includes various encoding files, mapping files, and utilities. See the file '`README`' for details. You can retrieve the most up-to-date version of these lists by anonymous ftp as '`ftp://ftp.tug.org/tex/fontname`'. This directory is mirrored on all CTAN hosts ('`ftp.dante.de`', '`ftp.tex.ac.uk`', and their mirrors, such as '`ftp.cdrom.com`') in the directory '`tex-archive/doc/fontname`'. For a list of CTAN mirrors, finger '`ctan@ftp.tug.org`'.

1.1 History

The original inspiration for Fontname was Frank Mittelbach and Rainer Schoepf's article in *TUGboat* 11(2) (June 1990), which led to my article in *TUGboat* 11(4) (November 1990), pages 512–519. Mittelbach wrote another article criticizing the scheme below in *TUGboat* 13(1) (April 1992), pages 51–53; most of his points are well-taken, but I saw no alternative then, and see no alternative now. Others of his points are addressed in the appropriate sections below.

In August 1995, Fontname version 2 was released, concomitantly with a new release of the PostScript fonts for use with LaTeX and Dvips. After several years of experience, several modifications of the original distribution seemed desirable: more precise specification of encodings (see Section 2.4 [Variants], page 14); machine-readable mapping files (the '`*.map`' files in the distribution) and standardizing directory names as well as font filenames (included in '`supplier.map`' and '`typeface.map`').

In Fontname version 1, some encoding variant characters ('`0`', '`2`', etc.) have been reassigned to a '`7`' or '`8`' sequence (see Section 2.4 [Variants], page 14). Although this is an incompatible change, the advantages of (1) consistency in naming encoding variants, and (2) having some free variants makes it worthwhile. Also, not so coincidentally, new metrics for PostScript fonts in the Cork encoding were issued—same encoding, different metrics. So a new name served a practical purpose as well.

Many people have contributed to this work. In particular, I gratefully acknowledge Nelson Beebe, Barbara Beeton, Rocky Bernstein, Thierry Bouche, Damian Cugley, Berthold K.P. Horn, Alan Jeffrey, Russell Lang, Pierre MacKay, Sebastian Rahtz, Jean Rivlin, and Tom Rokicki.

1.2 References

Related files and distributions:

- The TeX Directory Structure (TDS) standard, available from ('`ftp://ftp.tug.org/tex/tds`' and '*CTAN:*`/tds`') specifies a directory tree for all TeX library files. The directory names given in Section 2.1 [Suppliers], page 3 and Section 2.2 [Typefaces], page 4 are intended to mesh with that standard.

- The '`modes.mf`' file ('`ftp://ftp.tug.org/tex/modes.mf`') contains recommended mode names to use as directory names.
- The PSfonts distribution ('*CTAN:*`/fonts/psfonts`') contains TEX support for many fonts, both commercially available and free.
- The Fontinst distribution ('*CTAN:*`/fonts/utilities/psfonts`') supports quite general creation of virtual fonts, named according to the scheme given here.
- The Dvips translator (original from '`ftp://labrea.stanford.edu/pub/dvips*.tar.gz`' and variation from '`ftp://ftp.cs.umb.edu/pub/tex/dvipsk.tar.gz`') supports resident and downloadable PostScript fonts. Dvips was the first real application of Fontname 1. Dvips also includes Afm2tfm, another program that can create virtual fonts.
- The Dviljk processor ('`ftp://ftp.cs.umb.edu/pub/tex/dviljk.tar.gz`') contains TEX support for the fonts built into the LaserJet 4.
- 'Designing New Typefaces with Metafont', by Richard Southall, Stanford Computer Science Department Technical Report STAN-CS-85-1074, September 1985, for a comprehensive terminology of font design.

2 Filenames for fonts

We must limit ourselves to eight character names, for compatibility with DOS filesystems and the ISO 9660 standard used for CD-ROM distribution. Names may consist of only the letters (monocase a-z), numerals (0-9), and underscore.

Here is the basic division of the eight characters (the spaces here are merely for readability):

S TT W `[`*V...*`]` `[`*N*`]` `[`*E*`]` `[`*DD*`]`

where

S represents the supplier of the font.

TT represents the typeface name.

W represents the weight.

V... represents the variant(s), and is omitted if both it and the width are normal. Many fonts have more than one variant.

N represents the encoding, and is omitted if the encoding is nonstandard. Encodings are subsumed in the section on variants (see Section 2.4 [Variants], page 14).

E represents the width ("expansion"), and is omitted if it is normal.

DD represents the design size (in decimal), and is omitted if the font is linearly scaled. Mittelbach in *TUGboat* 13(1) proposes using hexadecimal or base-36 notation. I don't think the increased range makes up for the unreadability of the common sizes (e.g., 10 pt fonts would have a suffix '`a`' (in hex), or '`j`' (in base 36)).

The weight, variants, and width are probably all best taken from the original name of the font, instead of trying to relate them to some external standard.

2.1 Suppliers

The *supplier* is the source of a font, typically a (digital) type foundry.

You should use the supplier letter which matches the supplier you obtained the font from, not the original source; for example, Avant Garde was designed by Herb Lubalin for ITC, but Adobe also sells it. The name of the font that you get from Adobe should start with '`p`'. This is because font resellers typically make modifications to the original design.

Notes on specific suppliers:

'`f`' For fonts that are distributed without any specific attribution to the creator, by individuals, or by small foundries. (Unfortunately, we don't have enough characters to assign one to every font supplier in the world.)

'`r`' obsolete; specifies raw fonts, in the old distribution of Dvips. New fonts should never use '`r`'. (The right thing to do is specify the correct encoding, variant, or whatever the font's characteristics actually are.)

'`z`' for fonts that just don't fit well into the naming scheme. The '`z`' should be followed by the real supplier letter.

Here is the table from the file '`supplier.map`'. It is organized alphabetically by abbreviation. Each line consists of an abbreviation, directory name, and comment.

```
9 unknown
a autologi     Autologic
b bitstrea     Bitstream
c cg           Compugraphic
d dtc          Digital Typeface Corporation
e apple        Apple
f public       small foundries
g gnu          Free Software Foundation
h bh           Bigelow & Holmes
i itc          International Typeface Corporation
k softkey      SoftKey
l linotype     Linotype
m monotype     Monotype
n ibm          IBM
o corel        Corel
p adobe        Adobe ('p' for PostScript)
r -            raw (for [obsolete] use with virtual fonts)
s sun          Sun
t paragrap     ParaGraph
u urw          URW
z -            bizarre (fontname is nonstandard)
- jknappen     Joerg Knappen
```

2.2 Typefaces

For our purposes, a *typeface* is a collection of related fonts.

We sometimes use the same typeface abbreviation for fonts with different supplier names, where we know (usually by inspection) that the fonts truly are the same. This helps conserve abbreviations.

Notes on specific typefaces:

'`ad`'
'`gm`'
: To explain a common confusion: '`ad`' is Adobe Garamond (with a '`FontName`' of '`AGaramond`'). This is quite different from the '`Garamond`' typeface distributed by Adobe, which is actually ITC Garamond. (Garamond No. 3 ('`f3`'), Simoncini Garamond ('`ig`'), and Stempel Garamond ('`eg`') are still other variations on the Garamond theme.)

'`lh`'
'`ls`'
'`lx`'
'`r1`'
: These abbreviations for Lucida typeface subfamilies, et al., solve a problem with names getting too long, or help conserve variant abbreviations. See Section 2.4 [Variants], page 14. Ideally, they would not exist.

'`ns`'

'nt'
'tm' Suppliers like to offer as many variations on the Times New Roman design as they do Garamond. Adobe has 'Times', 'TimesNewRoman', and 'TimesNewRomanPS'. Although this last has been used by other foundries (e.g., Monotype) for a Times variation exactly compatible with Adobe's 'Times', Adobe itself also offers it, so we must have abbreviations for all three.

'pi' For pi fonts. Since names of pi fonts are rather arbitrary, it is not useful to try to assign typeface abbreviations to all of them. Instead, we use the supplier letter, 'pi', an arbitarily-assigned three-digit number, a weight and (if necessary) a variant. For example, 'mpi001r'. Pi font '001' for one supplier has nothing to do with pi font '001' for another.

Here is the table, from the file 'typeface.map'. It is organized alphabetically by abbreviation. Each line consists of an abbreviation and directory name, possibly followed by PostScript 'FontName's and/or a comment in roman. The 'FontName' may be preceded by a letter *s* and a ':', as in 'b:Dutch'. In that case, the *s* is a supplier abbreviation, and we've used that abbreviation for the given 'FontName' from that supplier.

```
a1 arial        Arial
a2 amasis       Amasis
a3 adlib        AdLib
a4 altgoth2     AlternateGothicNo2
a5 allegro      Allegro
a6 amelia       Amelia
a7 amertext     AmericanText
a8 aurora       Aurora
a9 adsans       Adsans b:Humanist970BT
aa aachen       Aachen
ab aboeckli     ArnoldBoecklin
ac acaslon      ACaslon                                Adobe Caslon
ad agaramon     AGaramond                              Adobe Garamond
ag avantgar     AvantGarde m:MAvantGardeGothicPS u:URWGothicL
ah ashleysc     AshleyScript
ai abadi        Abadi
al albertus     Albertus b:Flareserif821BT
am amercana     Americana b:Americana
an anna         Anna
ao atqolive     AntiqueOlive b:Incised901BT
ap apollo       Apollo
aq antiqua      Antiqua u:URWAntiqua m:BookAntiqua
ar arcadia      Arcadia
as aldus        Aldus
at atypewri     AmericanTypewriter
au auriol       Auriol b:Freeform721
av avenir       Avenir
az azdzgrot     AkzidenzGrotesk b:Gothic725BT
b0 blackoak     Blackoak
```

```
b1 blado       Blado
b2 binnyos     BinnyOldStyle
b3 braggado    Braggadocio
b4 bison       Bison b:Brush738BT
b5 binghams    BinghamScript b:Freehand591BT
b6 block       Block b:Gothic821
b7 bernhard    Bernhard BernhardModern
b8 blippo      Blippo
b9 bremen      Bremen
bb bembo       Bembo b:Aldine401BT
bc banco       Banco
bd bodoni      Bodoni
be bell        Bell
bf biffo       Biffo
bg benguiat    Benguiat
bh bauhaus     Bauhaus
bi birch       Birch
bk bookman     Bookman m:MBookmanPS u:URWBookmanL
bl belwe       Belwe
bm bulmer      Bulmer
bn bernard     Bernard
bo balloon     Balloon
bp bodocamp    BodoniCampanile b:Modern735
br berling     Berling b:Revival565BT
bs bakersig    BakerSignet
bt boton       Boton
bu brush       Brush
bv baskervi    Baskerville
bw broadway    Broadway
by berkeley    Berkeley
c0 carolina    Carolina
c1 calisto     Calisto
c2 casln224    CaslonTwoTwentyFour
c3 caslon3     CaslonThree
c4 chicago     Chicago
c5 casln540    CaslonFiveForty
c6 clarion     Clarion
c7 compacta    Compacta
c8 calvert     Calvert
c9 codex       Codex b:Calligraphic421BT
ca caslon      Caslon
cb cooper      Cooper
cc cascade     Cascade b:Freehand471BT
cd clarendo    Clarendon
ce centenni    Centennial
cf clearfac    Clearface
cg charlema    Charlemagne
ch charter     Charter
```

```
ci candida      Candida
cl cloister     Cloister
cm cm           Computer Modern
cn century      Century
co cochin       Cochin
cp copperpl     Copperplate
cq cheq         Cheq
cr courier      Courier m:MCourierPS m:CourierTwelveMT u:NumbusMonL
cs cntursbk     CenturySchoolbook
ct cheltenh     Cheltenham
cu centuros     CenturyOldStyle
cv clairvx      Clairvaux
cw cottonwd     Cottonwood
cx caxton       Caxton
cy city         City b:SquareSlabserif711BT
cz choc         Choc b:Staccato555BT
d0 davida       DavidaBold
dc domcasl      Dom DomCasual DomDiagonal
dd ducberry     DucDeBerry
de dellarob     DellaRobbia
di diotima      Diotima b:Calligraphic810BT
dl dolores      Dolores
dm delima       Delima
dr doric        Doric
ds dorchesc     DorchesterScript
dt dante        Dante
e0 embassy      Embassy
e1 empire       Empire
ea lectra       Electra b:Transitional521BT
eb baskerbe     BaskervilleBE
ec applecha     e:AppleChancery
ee egyptian     Egyptian EgyptianExtended
ef egyptien     EgyptienneF
eg stgaramo     StempelGaramond b:OriginalGaramondBT
eh engsft       Engschrift
ei esprit       Esprit
ek eckmann      Eckmann b:Freeform710
el ellingtn     Ellington
en engraver     Engravers
eo amerigo      Amerigo b:AmerigoBT
er eras         Eras
es eurostil     Eurostile b:Square721BT k:Minima
et ehrhardt     Ehrhardt
eu euler        Euler
ex exclsior     Excelsior
f0 flemishs     FlemishScript
f1 fournier     Fournier
f2 facade       Facade
```

```
f3 festival     Festival
f4 footligh     Footlight
f5 french       French
fa formata      Formata
fe forte        Forte
ff fairfld      Fairfield b:Transitional551BT
fg frankgth     FranklinGothic
fi figaro       Figaro
fl flora        Flora
fn fenice       Fenice
fo folio        Folio
fq frizquad     FrizQuadrata
fr frutiger     Frutiger b:Humanist777BT
fs falstaff     Falstaff
ft fettefrk     FetteFraktur Fraktur
fu futura       Futura
fx felixttl     FelixTitling
fy flyer        Flyer
g0 gando        Gando
g1 gothic13     GothicThirteen
g2 giddyup      Giddyup
g3 garamon3     GaramondThree b:AmercianGaramondBT      Garamond No. 3
g4 gymodern     GoudyModern
g5 gycatalg     GoudyCatalogue
g6 gorilla      GorillaITC
g9 ugaramon     GaramondRetrospective
gb gothicbb     GothicBBB
ge geneva       e:Geneva
gg garthgra     GarthGraphic
gj granjon      Granjon b:ElegantGaramondBT
gl galliard     Galliard
gm garamond     Garamond
go gyoldsty     GoudyOldStyle
gp glypha       Glypha
gq grotesq      Grotesque u:URWGrotesk
gr gloucest     Gloucester
gs gillsans     GillSans m:GillAltOneMT b:Humanist521BT
gt goudytxt     GoudyText
gu guardi       Guardi
gv giovanni     Giovanni
gy goudy        Goudy
h0 handelgo     HandelGothic
hb hobo         Hobo Tramp
hc herculnm     Herculanum
hd headline     Headline
hg hiroshig     Hiroshige
hi hvinsera     HelveticaInserat b:Swiss921BT
hm charme       Charme
```

```
hn hvneue       HelveticaNeue
ho horleyos     HorleyOldStyle
hr hvround      HelveticaRounded
hs hnseati      Hanseatic B:Swiss924BT
ht hoeflert     e:HoeflerText
hv helvetic     Helvetica u:NimbusSans u:NumbusSanL b:Swiss721BT b:Monospace821BT b:Swiss911BT d:Sans Newton n:SonoranSansSerif
hw schadow      Schadow
hx huxleyvr     HuxleyVertical
i0 commscr      CommercialScript
i1 impress      Impress
i2 impuls       Impuls
ia insignia     Insignia
ib ibycus       Ibycus
ic impact       Impact
if inflex       Inflex
ig scgaramo     SimonciniGaramond b:ItalianGaramond
ii imprint      Imprint
il caecilia     Caecilia
im imago        Imago
in industri     Industria
io ionic        Ionic b:News701BT
ip impressm     Impressum
is italnos      ItalianOldStyle
it italia       Italia
iw ironwood     Ironwood
iy iowanold     IowanOldStyle
jf jeffersn     Jefferson b:Freehand575BT
jn janson       Janson
jo joanna       Joanna
jp juniper      Juniper
kb kabel        Kabel
kg bankgoth     BankGothic
kl klang        Klang
kn kino         Kino
ko bookmano     BookmanOldStyle
kr korinna      Korinna
ks kuenstsc     KuenstlerScript
ku kaufmann     Kaufmann
l1 liberty      Liberty
l2 libra        Libra
l3 lucia        Lucia
l4 lucian       Lucian
lb lubaling     LubalinGraph
lc lucida       Lucida
lf life         Life
lg lettrgth     LetterGothic ISILGothic
lh lubright     LucidaBright
li latin        Latin
```

```
ln lino         Lino
lo lithos       Lithos
ls lucsans      LucidaSans
lt lutetia      Lutetia
lw leawood      Leawood
lx lucidfax     LucidaFax
ly lydian       Lydian
m0 monospac     Monospace
m1 monolisc     MonolineScript
m2 metro        Metro b:Geometric415BT
m3 mirarae      Mirareae
m4 mrearl       MisterEarl
m5 murrayhl     MurrayHill
m6 mittlsft     Mittelschrift
m7 matura       Matura
m8 monotyos     MonotypeOldStyle
ma mandate      Mandate b:Freehand521BT
mc monaco       e:Monaco
md meridien     Meridien
me mercursc     MercuriusScript
mg marigold     Marigold
mh machine      Machine
mi medici       Medici
ml melior       Melior b:ZapfElliptical711BT
mn minion       Minion
mo modern       Modern b:Modern20BT
mp memphis      Memphis b:GeometricSlab703BT
mq mesquite     Mesquite
mr madrone      Madrone
ms mistral      Mistral b:Staccato222BT
mt minister     Minister
mv malvern      Malvern
mx maximus      Maximus
mz amazone      Amazone
n0 normande     Normande
n1 binner       Binner
na newaster     NewAster
nb nbaskerv     NewBaskerville
nc ncntrsbk     NewCenturySchlbk u:CenturySchL
nd ncaledon     NewCaledonia
nf nofret       Nofret
ng newsgth      NewsGothic
ni nimrod       Nimrod
nk neograph     Neographik
nl neuland      Neuland b:Informal011BT
nm nimbus       Nimbus
nn nclarend     NewClarendon
np nsplanti     NewsPlantin
```

```
nr nberolin    NewBerolina
ns timesnps    TimesNewRomanPS
nt timesnew    TimesNewRoman m:TimesNR n:SonoranSerif
nu nuptial     Nuptial
nv novarese    Novarese
nz neuzeits    NeuzeitS b:Geometric706BT
o0 oldreadf    OldDreadfulNo7
o1 oranda      Oranda
o2 orbitb      OrbitB
o3 colonna     Colonna
o4 oceansan    OceanSans
o7 oldsty7     OldStyleSeven
oa ocra        OCR-A
ob ocrb        OCR-B
oc concorde    Concorde
oe oldengli    OldEnglish b:English157
oi ondine      Ondine Mermaid b:FormalScript421BT
ol colmcill    Colmcille
om omnia       Omnia
on corona      Corona
op optima      Optima d:Optimum b:ZapfHumanist601BT Omega
or orator      Orator
os oldstyle    OldStyle
ot coronet     Coronet b:Ribbon131BT
ov octavian    Octavian
ox onyx        Onyx
oy olympian    Olympian l:OlympicLH
oz ozhandcr    OzHandicraft
p0 poplar      Poplar
p1 palacesc    PalaceScript
p2 pepita      Pepita
p3 palette     Palette b:Brush445BT
p4 pioneer     PioneerITC
p5 piranesi    Piranesi
p6 blueprin    Blueprint
pa parkave     ParkAvenue
pb ptbarnum    PtBarnum
pc poetica     PoeticaChancery s:Scriptoria
pd placard     Placard
pe prestige    PrestigeElite
pf profile     Profile Profil b:Decorated035BT
pg peignot     Peignot b:Exotic350BT
ph photina     Photina
pi pi          pi fonts—see text and ‘*.map’ files
pl palatino    Palatino d:Palton b:ZapfCalligraphic801BT u:URWPalladioL Palmspring k:Palindrome
pn plantin     Plantin b:Aldine721BT
po ponderos    Ponderosa
pp perpetua    Perpetua b:Lapidary333BT
```

```
pq postatqa    PostAntiqua
ps parisian    Parisian
pt present     Present
pu popplaud    PopplLaudatio
pw perrywoo    Perrywood
px popplpfx    PopplPontifex
py playbill    Playbill
pz poliphil    Poliphilus
qr quorum      Quorum
qt boulevar    Boulevard
r0 romana      Romana
r1 rotis       RotisSemi
r2 cantoria    Cantoria
ra raleigh     Raleigh
ro rotis       Rotis
rm carmina     Carmina
rp reporter    Reporter
rq russelsq    RussellSquare
rs arrus       Arrus
rt carta       Carta
ru runic       Runic
rv revue       Revue
rw rockwell    Rockwell Slate b:GeometricSlab712BT
ry ryumin      Ryumin
s0 sanmarco    SanMarco
s1 scotchro    ScotchRoman
s2 script      Script
s3 seagull     Seagull
s4 shotgun     Shotgun ShotgunBlanks
s5 snell       Snell
s6 stuyvesa    Stuyvesant
s7 sassoon     Sassoon
sb sabon       Sabon b:ClassicalGaramondBT
sc slimbach    Slimbach
sf serifa      Serifa
sg serifgth    SerifGothic
sh shannon     Shannon
sk skia        e:Skia
sl stencil     Stencil
sm spectrum    Spectrum
sn spartan     Spartan
so sonata      Sonata
sp serpenti    Serpentine
sr snellrnd    SnellRoundhand
ss stschnei    StempelSchneidler
st stone       Stone
sv souvenir    Souvenir
sw swing       Swing
```

```
sx syntax      Syntax
sy symbol      Symbol m:MSymbolPS u:StandardSymL
t0 tango       Tango
t1 thunderb    Thunderbird
t2 typo        TypoUpright
tb bebodoni    BBodoni                                Berthold Bodoni
te timeseur    TimesEuropa
tf tiffany     Tiffany
tg tradegth    TradeGothic
ti techphon    TechPhonetic
tj trajan      Trajan
tk tekton      Tekton
tl castella    Castellar
tm times       Times u:NimbusRoman u:NimbusRomNo9L b:Dutch801BT
to torino      Torino b:Industrial736BT
tp tempo       Tempo
tv trumpmed    TrumpMediaeval b:Kuenstler480BT
tw twentyc     TwentiethCentury
ty typewrit    Typewriter
u0 columbus    Columbus
ub babodoni    BauerBodoni
ug bengugth    BenguiatGothic
uh cushing     Cushing
ul universa    Universal
um umbra       Umbra
un univers     Univers b:ZurichBT
ur centaur     Centaur b:Venetian301BT
ut utopia      Utopia
uw usherwoo    Usherwood
uy universi    University
v0 vineta      Vineta
va activa      Activa
vc vectora     Vectora
vd vandijck    VanDijck
vi victoria    Victoria
vj veljovic    Veljovic
vl versaill    Versailles
vr vagrnd      VAGRounded
w0 weddingt    WeddingT
wb walbaum     Walbaum
wd weideman    Weidemann
wg wlklgth     WilhelmKlingsporGotisch
wi wingding    Wingdings
wk wilke       Wilke
wn windsor     Windsor
wr wittenbe    WitternbergerFrakt
ws weiss       Weiss
ww willow      Willow
```

```
yg centuryg     CenturyGothic
yh strayhor     Strayhorn
ym stymie       Stymie
za zantiqua     ZAntiqua
zc zapfchan     ZapfChancery m:ZapfChanceryPS u:URWChanceryL
zd zapfding     ZapfDingbats m:ZapfDingbatsPS u:Dingbats
zg neuzeitg     NeuzeitGrotesk
zt zeitgeis     Zeitgeist
```

2.3 Weights

The *weight* of a font specifies its boldness. Arranged from lightest to heaviest (more or less):

hairline, extra light, light
book, regular, medium
demibold, semibold, bold, extra bold, heavy
black, ultra, poster

Here is the table, from the file '`weight.map`'. It is organized alphabetically by abbreviation. Each line consists of an abbreviation and any parts of a PostScript '`FontName`' which use that abbreviation.

```
a Thin Hairline
b Bold
c Black
d Demi
h Heavy Heavyface
j ExtraLight
k Book
l Light
m Medium
p Poster
r Regular Roman
s Semibold
u Ultra UltraBlack
x ExtraBold ExtraBlack
```

2.4 Variants

Variants include typeface variations (e.g., italic, sans serif), and font encodings (e.g., Adobe standard, TEX text).

A fontname may require multiple variants. To resolve the worst ambiguities, we specify that any encoding variant ('`7`', '`8`', or '`9`', see below) come last and any other numeral variant come first (to avoid confusion with a design size). We recommend but do not require that the other variants be given in alphabetical order. (It's not required because it's too painful to implement the sorting in TEX, and many existing names already have non-alphabetized variants.)

The letterspacing possibilities introduced by `fontinst` and virtual fonts have not yet become sufficiently widespread to make standardization beneficial. Likewise for the many possible ways to generate small caps fonts.

Notes on specific variants, both old and new:

'1'
'4'
'6'
'b' These variants ('semisans', 'bright', 'semiserif', and 'fax') were used only for single typefaces, so to conserve variant abbreviations, they now have typeface abbreviations instead. Also, for 'b', to avoid too-long names; and for the others, to avoid variant vs. design-size ambiguities.

'g'
'h' Since these variants were not actually used in any font names, they are now obsolete and may be reassigned in the future.

'5'
'6'
'7'
'8'
'9' These characters begin a two-character *encoding variant*. Generally, '7' is for 7-bit encodings, '8' is for 8-bit encodings, and '9' is for expertised encodings with or without oldstyle digits (see the 'x' item below), but this is not an absolute rule. Also, '5' is presently used for phonetic encodings and '6' for Cyrillic encodings. The '9s' ('SuperFont') variant contain all of Adobe, Latin 1, and Expert glyphs, perhaps with slightly different metrics than the original fonts.

For a font to be named with a certain encoding variant, it's not necessary that all the characters appear in precisely the same positions as in the encoding definition. It's enough that the usual TeX macros work. In practice, this means that it's ok for a font to be labelled '7t' if the only difference from Computer Modern is that the ligatures and the 'lslash' and 'Lslash' characters are different, since it's impossible to access or change the ligature table from TeX. Standard PostScript fonts don't have an 'lslash' character the way Computer Modern does, but they do have the 'Lslash' and 'lslash' characters themselves, so the usual TeX `\lslash` and `\Lslash` macros can be made to work via ligatures. See the file 'T1.etx' file in the `fontinst` distribution for details.

If a name does not contain a specific encoding variant, its encoding is unspecified. For example, some of the fonts distributed with Dvips(k) have names like 'ptmr' for 'Times-Roman'; they use the Dvips encoding (see Section B.4 [dvips], page 92), which is close to (but not the same as) the TeX text encoding (as in Computer Modern Roman). Similarly, the TFM files distributed with Dvilj(k) for the builtin LaserJet 4 fonts have names like 'cunm', since these fonts, while compatible with TeX text, contain many additional characters.

'9' These items are needed only because 'x' (and possibly 'j') followed by a two-character regular variant makes some names too long. That is, '9t' is equivalent in meaning to 'x7t', and '9d' is equivalent to 'jx7t'. (This may not be true for all '9*x*' encodings, though.)

'k'
'z' These variants (indicating Greek and Cyrillic fonts, respectively) are obsolete; future fonts in different scripts should be assigned an appropriate encoding abbreviation. These are not currently standardized, due to ignorance of the appropriate encodings.

Please send suggestions for abbreviations to the address in Chapter 1 [Introduction], page 1.

`m`
`v`
`y` These math-related variants remain for the sake of typeface-specific math encodings, e.g., Lucida. Fonts that use the Computer Modern math encodings should use `7m` (see Section B.7 [texmital], page 101), `7v` (see Section B.5 [texmext], page 93), and `7y` (see Section B.6 [texmsym], page 97).

`n` This is used for several different (but very rare) variants: only the Stone typeface has an "informal" variant, and only a few Monotype fonts have a "schoolbook" variant, with different 'a', 'g', and 'y' shapes.

`r` Included only if no other variants, including encodings, apply, and either the width (see Section 2.5 [Widths], page 18) is not `r` or a design size is present. I.e., `r` is only used as a placeholder. When the normal version of the typeface is sans serif (e.g., Helvetica), `r` should be used when necessary, not `s`. Use `s` only when the typeface family has both serif and sans serif variants.

`s`
`t` Mittelbach in *TUGboat* 13(1) suggests that these variants (for 'sans' and 'typewriter') should be identified as part of the typeface name, because there are few typeface families with these variants. I feel that since they are logically variants, it's best to name them that way. But `LucidaSans` (see Section 2.2 [Typefaces], page 4) and a few others are exceptions, to avoid too-long names.

`x`
`8x`
`9?` `8x` indicates a font in the `Expert` encoding itself. `x` indicates an *expertised* font, i.e., a composite (virtual) font that includes characters from an `8x` font. And in fact an '`x`*ee*' sequence is replaced by '`9`*e*', to save characters.

Fontname 1 assignments are shown in brackets in the following table, from the file `variant.map`. It is organized alphabetically by abbreviation. Each line consists of an abbreviation and either any parts of a PostScript `FontName` which use that abbreviation or the PostScript `Encoding` name.

obsolete [0=>8a] Adobe standard encoding
obsolete [1 SemiSans]
obsolete [2=>7c] Fraktur encoding
obsolete [3=>7f] Fraction
obsolete [4 fax; now typeface `lx`, Lucida Fax]
`5` escape for (presently) phonetic encodings
`6` escape for Cyrillic encodings [was `SemiSerif`]
`7` escape for (mostly) 7-bit encodings
`8` escape for (mostly) 8-bit encodings
`9` escape for (presently) expert encodings [was oldstyle digits]
`a Alt Arrows Alternative` [was alternate encoding]
obsolete [b bright; now typeface lh, Lucida Bright]
`c SmallCaps`
`d Display Titling Caption Headline TallCaps SwashCaps LombardicCaps`
`e Engraved Copperplate Elite`

`f Fraktur Gothic OldEnglish Handtooled`	(‘gothic’ can also be sans)
`g SmallText`	designed for small sizes [was grooved, as in the IBM logo]
`h Shadow`	
`i Italic Kursiv Ital`	text italic
`j`	old-style digits [was invisible]
`k Greek`	obsolete
`l Outline OpenFace Blanks`	
`m` math italic	
`n Informal Fashion Schlbk`	for Stone
`o Oblique Obl`	slanted
`p Ornaments`	
obsolete [q=>8t Cork (TEX extended) encoding]	
`r`	roman or sans; often omitted, see text
`s Gothic`	sans serif
`t Monospace`	fixed-width typewriter
`u`	unslanted italic
`v MathExtension`	
`w Script Handwritten Swash Calligraphy Cursive Tango`	
`x` built with Adobe expert encoding [was expert-encoded]	
`y MathSymbol`	
`z Cyrillic`	font-dependent Cyrillic
`5a PhoneticAlternate`	
`5i PhoneticIPA`	
`5s` sil-IPA	
`6b` Cyrillic part of ISO 8859-5, seven bits	
`6d` Cyrillic CP866 encoding	
`6i` ISO 8859-5	
`6k` Cyrillic KOI-8 encoding	
`6m` Cyrillic Macintosh encoding	
`6w` Cyrillic CP1251 encoding	
`7a A`	alternate characters only
`7c Dfr`	Fraktur
`7d OsF OSF`	oldstyle digit encoding
`7f Fraction`	
`7k OT2Cyrillic`	
`7m TeXMathItalicEncoding`	see Section B.7 [texmital], page 101
`7t`	TEX text encoding (as in Computer Modern Roman)
`7v TeXMathExtensionEncoding`	see Section B.5 [texmext], page 93
`7y TeXMathSymbolEncoding`	see Section B.6 [texmsym], page 97
`82 GreekKeys`	
`83 Ibycus1`	
`84 Ibycus2`	
`8a StandardEncoding`	Adobe standard encoding, see Section B.1 [8a], page 82
`8c TeXTextCompanion`	LaTEX’s TS1
`8m` Macintosh standard encoding	
`8r TeXBase1Encoding`	see Section B.2 [8r], page 87
`8t CorkEncoding`	see Section B.3 [cork], page 90

`8u`	`XT2Encoding`	cmtt + Latin 2, see '`xl2.enc`'
`8w`	Windows 3.1 ANSI encoding	
`8x`	`Expert`	expert encoding
`8z`	`XL2Encoding`	cmr + Latin 2, see '`xl2.enc`'
`9c`	expert + Text companion	
`9d`	expert + oldstyle digits + Cork	
`9e`	expert + Cork	
`9o`	expert + oldstyle digits + TeX text	
`9s`	`SF`	SuperFont
`9t`	expert + TeX text	

2.5 Widths

The *width* of a font specifies the compression or expansion of the font. Arranged from narrowest to widest (more or less):

ultra compressed, extra condensed, compressed, condensed, narrow
regular
extended, expanded, wide

Expansion or compression of fonts is sometimes done automatically (as by the PostScript `scale` operator), and sometimes done by humans. In the latter case, the human will also presumably choose a font name which includes 'Extended' or 'Expanded' or 'Condensed' or 'Narrow' or whatever according to their own preferences; the abbreviation can follow along. When creating a new synthetically expanded or compressed font for use with TeX, e.g., with Afm2tfm or `fontinst`, use '`n`' and '`e`'.

Here is the table, from the file '`width.map`'. It is organized alphabetically by abbreviation. Each line consists of an abbreviation and any parts of a PostScript '`FontName`' which use that abbreviation.

`c` `Condensed Cond`
`e` `Expanded`
`n` `Narrow`
`o` `UltraCondensed`
`p` `Compressed Compact`
`q` `ExtraCompressed ExtraCondensed`
`r` `Normal Medium Regular` (usually omitted)
`t` `Thin`
`u` `UltraCompressed`
`v` `ExtraExpanded` more than `Expanded`, less than `Wide`
`w` `Wide`
`x` `Extended Elongated`

3 Long names

Eight characters is not enough to unambiguously represent all fonts. To do that, we have to allow ourselves arbitrarily long names. Although we certainly cannot use such names for the files themselves, we could still use them in TEX documents given a simple mapping file, as discussed below.

3.1 A fontname mapping file

At the moment, most implementations of TEX look up a TFM file (as part of the `\font` command), by searching for a file with the name given by the user (possibly in any of series of directories). But if we also looked TFM names up in *another* file (or set of files), which specifies the actual filename, the fontname given in the TEX source file could be almost anything at all, of any length.

In version 5.851d of Web2c, I implemented this mapping file. Each file '`texfonts.map`' in a search path is read for abbreviations. The file has a straightforward format: each line specifies the filename and the TEX name for one font, separated by whitespace. Extra information on the line is ignored; then more information could be specified for the benefit of DVI-reading programs in the same file. Comments start with `%` and continue to the end of the line.

Besides allowing long names, this sort of mapping file has other benefits. TEX source or DVI files can be more easily transported, because the font names in a particular file can be made work on every system. Also, when combined with a consistent naming scheme, macros could be written to access any of a number of fonts. Right now, each font family has to have specialized macros written to deal with it.

Incidentally, Professor Knuth has approved this as a legitimate "system-dependent" extension; a TEX with such a feature can still be called "TEX".

3.2 A naming scheme for long names

Once we allow ourselves long names, we can construct a naming scheme to handle arbitrary fonts without much difficulty. Here is one proposal, based on the X Window System font naming conventions.

supplier-*family*-*weight*-*variants*-*width*-*encoding*--*size*

supplier is the usual `Adobe`, `Autologic`, etc., as well as `unknown` or `bizarre`—this last meaning the rest of the name is nonstandard. If the *supplier* is missing, i.e., the name starts with a `-`, "public domain" is assumed. For fonts made by individuals, the initials of the designer would probably make a good *supplier*.

family is `ComputerModern` or `Times` or whatever.

Everything else is optional. The `--` before the *size* lets one specify a name with, say, a weight and variants, but then skip the *width* and *encoding*, but still be able to give a size.

weight and *width* are as described earlier.

If there is more than one variant, they are separated with some character other than '`-`', say '`=`':

```
B+H-Lucida-Bold-Sans=Typewriter--10
```

encoding is what Metafont calls the `font_coding_scheme`—the layout of the characters in the font. For example, '`Cork`' or '`ISOLatin1`' or '`AdobeAlternate`'.

Names are case-sensitive, for consistency with the rest of TeX and with PostScript, etc. Spaces cannot be used in the name, to make it easier for TeX to parse. Likewise, characters with default category codes other than 11 (letter) or 12 (other) should not be used.

Another possibility is to forget all the above, and simply use the vendor's name (perhaps prefixed by the vendor): '`Times-Roman`'.

Appendix A Font name lists

These sections contain a list of fonts from various suppliers together with the corresponding names.

A.1 Standard PostScript fonts

Abbreviated names for the 35 standard PostScript fonts. An encoding variant, such as '8a' for the Adobe 'StandardEncoding', is omitted.

'pagk' 'AvantGarde-Book'

'pagko' 'AvantGarde-BookOblique'

'pagd' 'AvantGarde-Demi'

'pagdo' 'AvantGarde-DemiOblique'

'pbkd' 'Bookman-Demi'

'pbkdi' 'Bookman-DemiItalic'

'pbkl' 'Bookman-Light'

'pbkli' 'Bookman-LightItalic'

'pcrb' 'Courier-Bold'

'pcrbo' 'Courier-BoldOblique'

'pcrr' 'Courier'

'pcrro' 'Courier-Oblique'

'phvb' 'Helvetica-Bold'

'phvbo' 'Helvetica-BoldOblique'

'phvbrn' 'Helvetica-NarrowBold'

'phvbon' 'Helvetica-NarrowBoldOblique'

'phvr' 'Helvetica'

'phvro' 'Helvetica-Oblique'

'phvrrn' 'Helvetica-Narrow'

'phvron' 'Helvetica-NarrowOblique'

'pncb' 'NewCenturySchlbk-Bold'

'pncbi' 'NewCenturySchlbk-BoldItalic'

'pncri' 'NewCenturySchlbk-Italic'

'pncr' 'NewCenturySchlbk-Roman'

'pplb' 'Palatino-Bold'

'pplbi' 'Palatino-BoldItalic'

‘pplri’ ‘Palatino-Italic’

‘pplr’ ‘Palatino-Roman’

‘psyr’ ‘Symbol’

‘ptmb’ ‘Times-Bold’

‘ptmbi’ ‘Times-BoldItalic’

‘ptmri’ ‘Times-Italic’

‘ptmr’ ‘Times-Roman’

‘pzcmi’ ‘ZapfChancery-MediumItalic’

‘pzdr’ ‘ZapfDingbats’

A.2 Adobe fonts

The ‘adobe.map’ file has abbreviations for Adobe fonts.

```
ierb8r   ItcEras-Bold
ierd8r   ItcEras-Demi
ierk8r   ItcEras-Book
ierl8r   ItcEras-Light
ierm8r   ItcEras-Medium
ieru8r   ItcEras-Ultra
ikbb8r   ItcKabel-Bold
ikbd8r   ItcKabel-Demi
ikbk8r   ItcKabel-Book
ikbm8r   ItcKabel-Medium
ikbu8r   ItcKabel-Ultra
isyb8r   ItcSymbol-Bold
isybi8r  ItcSymbol-BoldItalic
isyc8r   ItcSymbol-Black
isyci8r  ItcSymbol-BlackItalic
isyk8r   ItcSymbol-Book
isyki8r  ItcSymbol-BookItalic
isym8r   ItcSymbol-Medium
isymi8r  ItcSymbol-MediumItalic
paab8r   Aachen-Bold
pabr8r   ArnoldBoecklin
pacb7a   ACaslon-AltBold
pacb8r   ACaslon-Bold
pacb8x   ACaslonExp-Bold
pacbi7a  ACaslon-AltBoldItalic
pacbi8r  ACaslon-BoldItalic
pacbi8x  ACaslonExp-BoldItalic
pacbwi8r ACaslon-SwashBoldItalic
pacr7a   ACaslon-AltRegular
pacr8r   ACaslon-Regular
pacr8x   ACaslonExp-Regular
```

```
pacri7a  ACaslon-AltItalic
pacri8r  ACaslon-Italic
pacri8x  ACaslonExp-Italic
pacrp8r  ACaslon-Ornaments
pacrwi8r ACaslon-SwashItalic
pacs7a   ACaslon-AltSemibold
pacs8r   ACaslon-Semibold
pacs8x   ACaslonExp-Semibold
pacsi7a  ACaslon-AltSemiboldItalic
pacsi8r  ACaslon-SemiboldItalic
pacsi8x  ACaslonExp-SemiboldItalic
pacswi8r ACaslon-SwashSemiboldItalic
padb8r   AGaramond-Bold
padb8x   AGaramondExp-Bold
padbi8r  AGaramond-BoldItalic
padbi8x  AGaramondExp-BoldItalic
padr7a   AGaramondAlt-Regular
padr8r   AGaramond-Regular
padr8x   AGaramondExp-Regular
padrd8r  AGaramond-Titling
padri7a  AGaramondAlt-Italic
padri8r  AGaramond-Italic
padri8x  AGaramondExp-Italic
pads8r   AGaramond-Semibold
pads8x   AGaramondExp-Semibold
padsi8r  AGaramond-SemiboldItalic
padsi8x  AGaramondExp-SemiboldItalic
pagb8r   AvantGarde-Bold
pagbo8r  AvantGarde-BoldObl
pagbr8rc AvantGarde-CondBold
pagd8r   AvantGarde-Demi
pagdo8r  AvantGarde-DemiOblique
pagdr8rc AvantGarde-CondDemi
pagi8r   AvantGarde-ExtraLight
pagio8r  AvantGarde-ExtraLightObl
pagk8r   AvantGarde-Book
pagko8r  AvantGarde-BookOblique
pagkr8rc AvantGarde-CondBook
pagm8r   AvantGarde-Medium
pagmo8r  AvantGarde-MediumObl
pagmr8rc AvantGarde-CondMedium
pamb8r   Americana-Bold
pamr8r   Americana
pamri8r  Americana-Italic
pamx8r   Americana-ExtraBold
panr8r   Anna
paob7a   AntiqueOliveEastA-Bold
paob8r   AntiqueOlive-Bold
```

```
paobr8rc AntiqueOlive-BoldCond
paoc7a   AntiqueOliveEastA-Black
paoc8r   AntiqueOlive-Black
paohix8r AntiqueOlive-NordItalic
paohrx8r AntiqueOlive-Nord
paol7a   AntiqueOliveEastA-Light
paol8r   AntiqueOlive-Light
paor7a   AntiqueOliveEastA-Roman
paor8r   AntiqueOlive-Roman
paori7a  AntiqueOliveEastA-Italic
paori8r  AntiqueOlive-Italic
paorr8rn AntiqueOlive-Compact
parr7a   Arcadia-A
parr8r   Arcadia
pasr8r   Aldus-Roman
pasrc8r  Aldus-RomanSC
pasri7d  Aldus-ItalicOsF
pasri8r  Aldus-Italic
patb7aa  AmericanTypewriter-BoldA
patb7ac  AmericanTypewriter-BoldCondA
patb8r   AmericanTypewriter-Bold
patbr8rc AmericanTypewriter-BoldCond
patl7a   AmericanTypewriter-LightA
patl7ac  AmericanTypewriter-LightCondA
patl8r   AmericanTypewriter-Light
patlr8rc AmericanTypewriter-LightCond
patm7a   AmericanTypewriter-MediumA
patm8r   AmericanTypewriter-Medium
patr7ac  AmericanTypewriter-CondA
patrr8rc AmericanTypewriter-Cond
paub8r   Auriol-Bold
paubi8r  Auriol-BoldItalic
pauc8r   Auriol-Black
pauci8r  Auriol-BlackItalic
paur8r   Auriol
pauri8r  Auriol-Italic
pavc8r   Avenir-Black
pavco8r  Avenir-BlackOblique
pavh8r   Avenir-Heavy
pavho8r  Avenir-HeavyOblique
pavk8r   Avenir-Book
pavko8r  Avenir-BookOblique
pavl8r   Avenir-Light
pavlo8r  Avenir-LightOblique
pavm8r   Avenir-Medium
pavmo8r  Avenir-MediumOblique
pavr8r   Avenir-Roman
pavro8r  Avenir-Oblique
```

```
pazb8r   AkzidenzGrotesk-Bold
pazc8r   AkzidenzGrotesk-Black
pazl8r   AkzidenzGrotesk-Light
pazr8r   AkzidenzGrotesk-Roman
pb0r8r   Blackoak
pbbb8r   Bembo-Bold
pbbbi8r  Bembo-BoldItalic
pbbr8r   Bembo
pbbri8r  Bembo-Italic
pbbs8r   Bembo-Semibold
pbbsi8r  Bembo-SemiboldItalic
pbbx8r   Bembo-ExtraBold
pbbxi8r  Bembo-ExtraBoldItalic
pbcr8r   Banco
pbdb8r   Bodoni-Bold
pbdbi8r  Bodoni-BoldItalic
pbdbr8rc Bodoni-BoldCondensed
pbdk8r   Bodoni-Book
pbdki8r  Bodoni-BookItalic
pbdp8r   Bodoni-Poster
pbdpi8r  Bodoni-PosterItalic
pbdpr8rp Bodoni-PosterCompressed
pbdr8r   Bodoni
pbdri8r  Bodoni-Italic
pbgb8r   Benguiat-Bold
pbgk8r   Benguiat-Book
pbhb8r   Bauhaus-Bold
pbhd8r   Bauhaus-Demi
pbhh8r   Bauhaus-Heavy
pbhl8r   Bauhaus-Light
pbhm8r   Bauhaus-Medium
pbir8r   Birch
pbkb8r   Bookman-Bold
pbkbi8r  Bookman-BoldItalic
pbkd8r   Bookman-Demi
pbkdi8r  Bookman-DemiItalic
pbkl8r   Bookman-Light
pbkli8r  Bookman-LightItalic
pbkm8r   Bookman-Medium
pbkmi8r  Bookman-MediumItalic
pblb8r   Belwe-Bold
pbll8r   Belwe-Light
pblm8r   Belwe-Medium
pblrr8rc Belwe-Condensed
pbrb8r   Berling-Bold
pbrbi8r  Berling-BoldItalic
pbrr8r   Berling-Roman
pbrri8r  Berling-Italic
```

```
pbsr8r   BakerSignet
pburw8r  BrushScript
pbvbz8r  BaskervilleCyrillic-Bold
pbvroz8r BaskervilleCyrillic-Inclined
pbvrz8r  BaskervilleCyrillic-Upright
pbyb8r   Berkeley-Bold
pbybi8r  Berkeley-BoldItalic
pbyc8r   Berkeley-Black
pbyci8r  Berkeley-BlackItalic
pbyk8r   Berkeley-Book
pbyki8r  Berkeley-BookItalic
pbym8r   Berkeley-Medium
pbyri8r  Berkeley-Italic
pc0r7c   Carolina-Dfr
pc0r8r   Carolina
pc2b8r   CaslonTwoTwentyFour-Bold
pc2bi8r  CaslonTwoTwentyFour-BoldIt
pc2c8r   CaslonTwoTwentyFour-Black
pc2ci8r  CaslonTwoTwentyFour-BlackIt
pc2k8r   CaslonTwoTwentyFour-Book
pc2ki8r  CaslonTwoTwentyFour-BookIt
pc2m8r   CaslonTwoTwentyFour-Medium
pc2mi8r  CaslonTwoTwentyFour-MediumIt
pc3r8r   CaslonThree-Roman
pc3rc8r  CaslonThree-RomanSC
pc3ri7d  CaslonThree-ItalicOsF
pc3ri8r  CaslonThree-Italic
pc5r8r   CaslonFiveForty-Roman
pc5rc8r  CaslonFiveForty-RomanSC
pc5ri7d  CaslonFiveForty-ItalicOsF
pc5ri8r  CaslonFiveForty-Italic
pcarl8r  CaslonOpenFace
pcbc8r   CooperBlack
pcbci8r  CooperBlack-Italic
pccrw8r  CascadeScript
pcdb8r   Clarendon-Bold
pcdl8r   Clarendon-Light
pcdr8r   Clarendon
pceb7d   Centennial-BoldOsF
pceb8r   Centennial-Bold
pcebi7d  Centennial-BoldItalicOsF
pcebi8r  Centennial-BoldItalic
pcec7d   Centennial-BlackOsF
pcec8r   Centennial-Black
pceci7d  Centennial-BlackItalicOsF
pceci8r  Centennial-BlackItalic
pcel8r   Centennial-Light
pcelc8r  Centennial-LightSC
```

```
pceli7d  Centennial-LightItalicOsF
pceli8r  Centennial-LightItalic
pcer8r   Centennial-Roman
pcerc8r  Centennial-RomanSC
pceri7d  Centennial-ItalicOsF
pceri8r  Centennial-Italic
pcfb8r   Clearface-Bold
pcfbi8r  Clearface-BoldItalic
pcfc8r   Clearface-Black
pcfci8r  Clearface-BlackItalic
pcfh8r   Clearface-Heavy
pcfhi8r  Clearface-HeavyItalic
pcfr8r   Clearface-Regular
pcfri8r  Clearface-RegularItalic
pcgb8r   Charlemagne-Bold
pcgr8r   Charlemagne-Regular
pcib8r   Candida-Bold
pcir8r   Candida-Roman
pciri8r  Candida-Italic
pcnb8r   Century-Bold
pcnbi8r  Century-BoldItalic
pcnbi8rc Century-BoldCondensedItalic
pcnbr8rc Century-BoldCondensed
pcnk8r   Century-Book
pcnki8r  Century-BookItalic
pcnki8rc Century-BookCondensedItalic
pcnkr8rc Century-BookCondensed
pcnl8r   Century-Light
pcnli8r  Century-LightItalic
pcnli8rc Century-LightCondensedItalic
pcnlr8rc Century-LightCondensed
pcnri8rx CenturyExpanded-Italic
pcnrr8rx CenturyExpanded
pcnu8r   Century-Ultra
pcnui8r  Century-UltraItalic
pcnui8rc Century-UltraCondensedItalic
pcnur8rc Century-UltraCondensed
pcob8r   Cochin-Bold
pcobi8r  Cochin-BoldItalic
pcor8r   Cochin
pcori8r  Cochin-Italic
pcqr8r   Cheq
pcrb8r   Courier-Bold
pcrbo8r  Courier-BoldOblique
pcrr8r   Courier
pcrro8r  Courier-Oblique
pctb8r   Cheltenham-Bold
pctbi8r  Cheltenham-BoldItalic
```

```
pctbi8rc Cheltenham-BoldCondItalic
pctbr8rc Cheltenham-BoldCond
pctk8r   Cheltenham-Book
pctki8r  Cheltenham-BookItalic
pctki8rc Cheltenham-BookCondItalic
pctkr8rc Cheltenham-BookCond
pctl8r   Cheltenham-Light
pctli8r  Cheltenham-LightItalic
pctli8rc Cheltenham-LightCondItalic
pctlr8rc Cheltenham-LightCond
pctrio8r Cheltenham-UltraCondItalic
pctrro8r Cheltenham-UltraCond
pctu8r   Cheltenham-Ultra
pctui8r  Cheltenham-UltraItalic
pcub8r   CenturyOldStyle-Bold
pcur8r   CenturyOldStyle-Regular
pcuri8r  CenturyOldStyle-Italic
pcvr7c   Clairvaux-Dfr
pcvr8r   Clairvaux
pcwr8r   Cottonwood
pcxb8r   Caxton-Bold
pcxbi8r  Caxton-BoldItalic
pcxk8r   Caxton-Book
pcxki8r  Caxton-BookItalic
pcxl8r   Caxton-Light
pcxli8r  Caxton-LightItalic
pcyb8r   City-Bold
pcybi8r  City-BoldItalic
pcyl8r   City-Light
pcyli8r  City-LightItalic
pcym8r   City-Medium
pcymi8r  City-MediumItalic
pdcb8r   DomCasual-Bold
pdcr8r   DomCasual
pddr7c   DucDeBerry-Dfr
pddr8r   DucDeBerry
pdrb8r   Doric-Bold
pefb8r   EgyptienneF-Bold
pefc8r   EgyptienneF-Black
pefr8r   EgyptienneF-Roman
pefri8r  EgyptienneF-Italic
pegb7d   StempelGaramond-BoldOsF
pegb8r   StempelGaramond-Bold
pegbi7d  StempelGaramond-BoldItalicOsF
pegbi8r  StempelGaramond-BoldItalic
pegr8r   StempelGaramond-Roman
pegrc8r  StempelGaramond-RomanSC
pegri7d  StempelGaramond-ItalicOsF
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pegri8r  StempelGaramond-Italic
pehr8r   DINEngschrift
peib8r   Esprit-Bold
peibi8r  Esprit-BoldItalic
peic8r   Esprit-Black
peici8r  Esprit-BlackItalic
peik8r   Esprit-Book
peiki8r  Esprit-BookItalic
peim8r   Esprit-Medium
peimi8r  Esprit-MediumItalic
pesb8r   Eurostile-Bold
pesb8rx2 Eurostile-BoldExtendedTwo
pesbo8r  Eurostile-BoldOblique
pesbr8rc Eurostile-BoldCondensed
pesd8r   Eurostile-Demi
pesdo8r  Eurostile-DemiOblique
pesr28rx Eurostile-ExtendedTwo
pesr8r   Eurostile
pesr8rc2 Eurostile-Condensed
pesro8r  Eurostile-Oblique
pexb7a   ExcelsiorEastA-Bold
pexb8r   Excelsior-Bold
pexbz8r  ExcelsiorCyrillic-Bold
pexr7a   ExcelsiorEastA-Roman
pexr8r   Excelsior
pexri7a  ExcelsiorEastA-Italic
pexri8r  Excelsior-Italic
pexroz8r ExcelsiorCyrillic-Inclined
pexrz8r  ExcelsiorCyrillic-Upright
pfab8r   Formata-Bold
pfabi8r  Formata-BoldItalic
pfal8r   Formata-Light
pfali8r  Formata-LightItalic
pfam8r   Formata-Medium
pfami8r  Formata-MediumItalic
pfar8r   Formata-Regular
pfari8r  Formata-Italic
pfgd8r   FranklinGothic-Demi
pfgdo8r  FranklinGothic-DemiOblique
pfgh8r   FranklinGothic-Heavy
pfgho8r  FranklinGothic-HeavyOblique
pfgk8r   FranklinGothic-Book
pfgko8r  FranklinGothic-BookOblique
pfgr8r   FranklinGothic-Roman
pfgrr8rc FranklinGothic-Condensed
pfgrr8rq FranklinGothic-ExtraCond
pflb8r   Flora-Bold
pflm8r   Flora-Medium
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pfnb8r   Fenice-Bold
pfnbo8r  Fenice-BoldOblique
pfnl8r   Fenice-Light
pfnlo8r  Fenice-LightOblique
pfnr8r   Fenice-Regular
pfnro8r  Fenice-RegularOblique
pfnu8r   Fenice-Ultra
pfnuo8r  Fenice-UltraOblique
pfob8r   Folio-Bold
pfobr8rc Folio-BoldCondensed
pfol8r   Folio-Light
pfom8r   Folio-Medium
pfox8r   Folio-ExtraBold
pfqb8r   FrizQuadrata-Bold
pfqr8r   FrizQuadrata
pfrb8r   Frutiger-Bold
pfrbi8r  Frutiger-BoldItalic
pfrbr8rc Frutiger-BoldCn
pfrc8r   Frutiger-Black
pfrci8r  Frutiger-BlackItalic
pfrcr8rc Frutiger-BlackCn
pfrl8r   Frutiger-Light
pfrli8r  Frutiger-LightItalic
pfrlr8rc Frutiger-LightCn
pfrr8r   Frutiger-Roman
pfrri8r  Frutiger-Italic
pfrrr8rc Frutiger-Cn
pfru8r   Frutiger-UltraBlack
pfrxr8rc Frutiger-ExtraBlackCn
pfsrw8r  FreestyleScript
pftrf7c  FetteFraktur-Dfr
pftrf8r  FetteFraktur
pfub8r   Futura-Bold
pfubo8r  Futura-BoldOblique
pfubo8rc Futura-CondensedBoldOblique
pfubr8rc Futura-CondensedBold
pfuh8r   Futura-Heavy
pfuho8r  Futura-HeavyOblique
pfuk8r   Futura-Book
pfuko8r  Futura-BookOblique
pful8r   Futura-Light
pfulo8r  Futura-LightOblique
pfulo8rc Futura-CondensedLightOblique
pfulr8rc Futura-CondensedLight
pfur8r   Futura
pfuro8r  Futura-Oblique
pfuro8rc Futura-CondensedOblique
pfurr8rc Futura-Condensed
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pfux8r   Futura-ExtraBold
pfuxo8r  Futura-ExtraBoldOblique
pfuxo8rc Futura-CondExtraBoldObl
pfuxr8rc Futura-CondensedExtraBold
pfycr8rc Flyer-BlackCondensed
pfyxr8rc Flyer-ExtraBlackCondensed
pg1r8r   Gothic-Thirteen
pg3b8r   GaramondThree-Bold
pg3bc8r  GaramondThree-BoldSC
pg3bi7d  GaramondThree-BoldItalicOsF
pg3bi8r  GaramondThree-BoldItalic
pg3r8r   GaramondThree
pg3rc8r  GaramondThree-SC
pg3ri7d  GaramondThree-ItalicOsF
pg3ri8r  GaramondThree-Italic
pggb8r   GarthGraphic-Bold
pggbi8r  GarthGraphic-BoldItalic
pggbr8rc GarthGraphic-BoldCondensed
pggc8r   GarthGraphic-Black
pggr8r   GarthGraphic
pggri8r  GarthGraphic-Italic
pggrr8rc GarthGraphic-Condensed
pggx8r   GarthGraphic-ExtraBold
pgjb7d   Granjon-BoldOsF
pgjb8r   Granjon-Bold
pgjr8r   Granjon
pgjrc8r  Granjon-SC
pgjri7d  Granjon-ItalicOsF
pgjri8r  Granjon-Italic
pglb8r   Galliard-Bold
pglbi8r  Galliard-BoldItalic
pglc8r   Galliard-Black
pglci8r  Galliard-BlackItalic
pglr8r   Galliard-Roman
pglri8r  Galliard-Italic
pglu8r   Galliard-Ultra
pglui8r  Galliard-UltraItalic
pgmb8r   Garamond-Bold
pgmbi8r  Garamond-BoldItalic
pgmbi8rc Garamond-BoldCondensedItalic
pgmbr8rc Garamond-BoldCondensed
pgmk8r   Garamond-Book
pgmki8r  Garamond-BookItalic
pgmki8rc Garamond-BookCondensedItalic
pgmkr8rc Garamond-BookCondensed
pgml8r   Garamond-Light
pgmli8r  Garamond-LightItalic
pgmli8rc Garamond-LightCondensedItalic
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pgmlr8rc Garamond-LightCondensed
pgmu8r   Garamond-Ultra
pgmui8r  Garamond-UltraItalic
pgmui8rc Garamond-UltraCondensedItalic
pgmur8rc Garamond-UltraCondensed
pgpa8r   Glypha-Thin
pgpao8r  Glypha-ThinOblique
pgpb8r   Glypha-Bold
pgpbo8r  Glypha-BoldOblique
pgpc8r   Glypha-Black
pgpco8r  Glypha-BlackOblique
pgpl8r   Glypha-Light
pgplo8r  Glypha-LightOblique
pgpr8r   Glypha
pgpro8r  Glypha-Oblique
pgsb8r   GillSans-Bold
pgsbi8r  GillSans-BoldItalic
pgsbr8rc GillSans-BoldCondensed
pgsl8r   GillSans-Light
pgsli8r  GillSans-LightItalic
pgsr8r   GillSans
pgsri8r  GillSans-Italic
pgsrr8rc GillSans-Condensed
pgsu8r   GillSans-UltraBold
pgsur8rc GillSans-UltraBoldCondensed
pgsx8r   GillSans-ExtraBold
pgub8r   Guardi-Bold
pgubi8r  Guardi-BoldItalic
pguc8r   Guardi-Black
pguci8r  Guardi-BlackItalic
pgur8r   Guardi-Roman
pguri8r  Guardi-Italic
pgvb8r   Giovanni-Bold
pgvbi8r  Giovanni-BoldItalic
pgvc8r   Giovanni-Black
pgvci8r  Giovanni-BlackItalic
pgvk8r   Giovanni-Book
pgvki8r  Giovanni-BookItalic
pgyb8r   Goudy-Bold
pgybi8r  Goudy-BoldItalic
pgyh8r   Goudy-Heavyface
pgyhi8r  Goudy-HeavyfaceItalic
pgyr8r   Goudy
pgyrc8r  Goudy-SC
pgyri8r  Goudy-Italic
pgyx8r   Goudy-ExtraBold
phbr8r   Hobo
phcr8r   Herculanum
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phgb8r   Hiroshige-Bold
phgbi8r  Hiroshige-BoldItalic
phgc8r   Hiroshige-Black
phgci8r  Hiroshige-BlackItalic
phgk8r   Hiroshige-Book
phgki8r  Hiroshige-BookItalic
phgm8r   Hiroshige-Medium
phgmi8r  Hiroshige-MediumItalic
phir8r   HelveticaInserat-Roman
phmr8r   Charme
phna8r   HelveticaNeue-Thin
phnai8rt HelveticaNeue-ThinItalic
phnao8rc HelveticaNeue-ThinCondObl
phnao8rx HelveticaNeue-ThinExtObl
phnar8rc HelveticaNeue-ThinCond
phnar8rx HelveticaNeue-ThinExt
phnb7a   HelveticaNeueEastA-Bold
phnb8r   HelveticaNeue-Bold
phnbi8r  HelveticaNeue-BoldItalic
phnbl8r  HelveticaNeue-BoldOutline
phnbo7a  HelveticaNeueEastA-BoldObl
phnbo8rc HelveticaNeue-BoldCondObl
phnbo8rx HelveticaNeue-BoldExtObl
phnbr8rc HelveticaNeue-BoldCond
phnbr8rx HelveticaNeue-BoldExt
phnc8r   HelveticaNeue-Black
phnci8r  HelveticaNeue-BlackItalic
phnco8rc HelveticaNeue-BlackCondObl
phnco8rx HelveticaNeue-BlackExtObl
phncr8rc HelveticaNeue-BlackCond
phncr8rx HelveticaNeue-BlackExt
phnh8r   HelveticaNeue-Heavy
phnhi8r  HelveticaNeue-HeavyItalic
phnho8rc HelveticaNeue-HeavyCondObl
phnho8rx HelveticaNeue-HeavyExtObl
phnhr8rc HelveticaNeue-HeavyCond
phnhr8rx HelveticaNeue-HeavyExt
phnj8r   HelveticaNeue-UltraLight
phnji8r  HelveticaNeue-UltraLightItal
phnjo8rc HelveticaNeue-UltraLigCondObl
phnjo8rx HelveticaNeue-UltraLigExtObl
phnjr8rc HelveticaNeue-UltraLigCond
phnjr8rx HelveticaNeue-UltraLigExt
phnl8r   HelveticaNeue-Light
phnli8r  HelveticaNeue-LightItalic
phnlo8rc HelveticaNeue-LightCondObl
phnlo8rx HelveticaNeue-LightExtObl
phnlr8rc HelveticaNeue-LightCond
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phnlr8rx HelveticaNeue-LightExt
phnm8r   HelveticaNeue-Medium
phnmi8r  HelveticaNeue-MediumItalic
phnmo8rc HelveticaNeue-MediumCondObl
phnmo8rx HelveticaNeue-MediumExtObl
phnmr8rc HelveticaNeue-MediumCond
phnmr8rx HelveticaNeue-MediumExt
phnr7a   HelveticaNeueEastA-Roman
phnr7at  HelveticaNeueEastA-Thin
phnr8r   HelveticaNeue-Roman
phnri8r  HelveticaNeue-Italic
phnro7a  HelveticaNeueEastA-RomanObl
phnro7at HelveticaNeueEastA-ThinObl
phnro8rc HelveticaNeue-CondensedObl
phnro8rx HelveticaNeue-ExtendedObl
phnrr8rc HelveticaNeue-Condensed
phnrr8rx HelveticaNeue-Extended
phnxo8rc HelveticaNeue-ExtBlackCondObl
phnxr8rc HelveticaNeue-ExtBlackCond
phrb8r   HelveticaRounded-Bold
phrbo8r  HelveticaRounded-BoldObl
phrbo8rc HelveticaRounded-BoldCondObl
phrbr8rc HelveticaRounded-BoldCond
phrc8r   HelveticaRounded-Black
phrco8r  HelveticaRounded-BlackObl
phvb7f   Helvetica-FractionBold
phvb8r   Helvetica-Bold
phvbk8r  HelveticaGreekP-Bold
phvbko8r HelveticaGreekP-BoldInclined
phvbo8r  Helvetica-BoldOblique
phvbo8rc Helvetica-Condensed-BoldObl
phvbo8rn Helvetica-Narrow-BoldOblique
phvboz8r HelveticaCyrillic-BoldIncl
phvbr8rc Helvetica-Condensed-Bold
phvbr8rn Helvetica-Narrow-Bold
phvbr8rp Helvetica-Compressed
phvbz8r  HelveticaCyrillic-Bold
phvc8r   Helvetica-Black
phvco8r  Helvetica-BlackOblique
phvco8rc Helvetica-Condensed-BlackObl
phvcr8rc Helvetica-Condensed-Black
phvl8r   Helvetica-Light
phvlo8r  Helvetica-LightOblique
phvlo8rc Helvetica-Condensed-LightObl
phvlr8rc Helvetica-Condensed-Light
phvr7f   Helvetica-Fraction
phvr8r   Helvetica
phvrk8r  HelveticaGreekP-Upright
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phvrko8r HelveticaGreekP-Inclined
phvro8r  Helvetica-Oblique
phvro8rc Helvetica-Condensed-Oblique
phvro8rn Helvetica-Narrow-Oblique
phvroz8r HelveticaCyrillic-Inclined
phvrr8rc Helvetica-Condensed
phvrr8rn Helvetica-Narrow
phvrr8rq Helvetica-ExtraCompressed
phvrr8ru Helvetica-UltraCompressed
phvrz8r  HelveticaCyrillic-Upright
piar7a   Insignia-A
piar8r   Insignia
picr8r   Impact
pigb8r   SimonciniGaramond-Bold
pigr8r   SimonciniGaramond
pigri8r  SimonciniGaramond-Italic
pilb8r   Caecilia-Bold
pilbc8r  Caecilia-BoldSC
pilbci8r Caecilia-BoldItalicSC
pilbi8r  Caecilia-BoldItalic
pilh8r   Caecilia-Heavy
pilhc8r  Caecilia-HeavySC
pilhci8r Caecilia-HeavyItalicSC
pilhi8r  Caecilia-HeavyItalic
pill8r   Caecilia-Light
pillc8r  Caecilia-LightSC
pillci8r Caecilia-LightItalicSC
pilli8r  Caecilia-LightItalic
pilr8r   Caecilia-Roman
pilrc8r  Caecilia-RomanSC
pilrci8r Caecilia-ItalicSC
pilri8r  Caecilia-Italic
pimk8r   Imago-Book
pimki8r  Imago-BookItalic
piml8r   Imago-Light
pimli8r  Imago-LightItalic
pimm8r   Imago-Medium
pimmi8r  Imago-MediumItalic
pimx8r   Imago-ExtraBold
pimxi8r  Imago-ExtraBoldItalic
pinr7a   Industria-SolidA
pinr8r   Industria-Solid
pinrh7a  Industria-InlineA
pinrh8r  Industria-Inline
pipb8r   Impressum-Bold
pipr8r   Impressum-Roman
pipri8r  Impressum-Italic
pitb8r   Italia-Bold
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pitk8r   Italia-Book
pitm8r   Italia-Medium
piwr8r   Ironwood
pjnb7d   JansonText-BoldOsF
pjnb8r   JansonText-Bold
pjnbi7d  JansonText-BoldItalicOsF
pjnbi8r  JansonText-BoldItalic
pjnr8r   JansonText-Roman
pjnrc8r  JansonText-RomanSC
pjnri7d  JansonText-ItalicOsF
pjnri8r  JansonText-Italic
pjpr8r   Juniper
pkbc8r   Kabel-Black
pkbh8r   Kabel-Heavy
pkbk8r   Kabel-Book
pkbl8r   Kabel-Light
pkrb8r   Korinna-Bold
pkrbi8r  Korinna-KursivBold
pkrr8r   Korinna-Regular
pkrri8r  Korinna-KursivRegular
pksb28r  KuenstlerScript-TwoBold
pksc8r   KuenstlerScript-Black
pksm8r   KuenstlerScript-Medium
pkub8r   Kaufmann-Bold
pkur8r   Kaufmann
plbd8r   LubalinGraph-Demi
plbdo8r  LubalinGraph-DemiOblique
plbk8r   LubalinGraph-Book
plbko8r  LubalinGraph-BookOblique
plcb8r   Lucida-Bold
plcbi8r  Lucida-BoldItalic
plcbs8r  LucidaSans-Bold
plcbsi8r LucidaSans-BoldItalic
plcr8r   Lucida
plcri8r  Lucida-Italic
plcrm8r  LucidaMath-Italic
plcrs8r  LucidaSans
plcrsi8r LucidaSans-Italic
plcrv8r  LucidaMath-Extension
plcry8r  LucidaMath-Symbol
plfb8r   Life-Bold
plfr8r   Life-Roman
plfri8r  Life-Italic
plgb8r   LetterGothic-Bold
plgbo8r  LetterGothic-BoldSlanted
plgr8r   LetterGothic
plgro8r  LetterGothic-Slanted
plnr8r   Linotext
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plnrw8r  Linoscript
plob8r   Lithos-Bold
ploc8r   Lithos-Black
ploi8r   Lithos-ExtraLight
plol8r   Lithos-Light
plor8r   Lithos-Regular
plsr8r   DINMittelschrift
plwb8r   Leawood-Bold
plwbi8r  Leawood-BoldItalic
plwc8r   Leawood-Black
plwci8r  Leawood-BlackItalic
plwk8r   Leawood-Book
plwki8r  Leawood-BookItalic
plwm8r   Leawood-Medium
plwmi8r  Leawood-MediumItalic
pmdb8r   Meridien-Bold
pmdbi8r  Meridien-BoldItalic
pmdm8r   Meridien-Medium
pmdmi8r  Meridien-MediumItalic
pmdr8r   Meridien-Roman
pmdri8r  Meridien-Italic
pmhb8r   Machine-Bold
pmhr8r   Machine
pmirw8r  MediciScript
pmlb8r   Melior-Bold
pmlbi8r  Melior-BoldItalic
pmlr8r   Melior
pmlri8r  Melior-Italic
pmnb8r   Minion-Bold
pmnb8x   MinionExp-Bold
pmnbi8r  Minion-BoldItalic
pmnbi8x  MinionExp-BoldItalic
pmnc8r   Minion-Black
pmnc8x   MinionExp-Black
pmnr8r   Minion-Regular
pmnr8x   MinionExp-Regular
pmnrd8r  Minion-DisplayRegular
pmnrd8x  MinionExp-DisplayRegular
pmnrdi8r Minion-DisplayItalic
pmnrdi8x MinionExp-DisplayItalic
pmnri8r  Minion-Italic
pmnri8x  MinionExp-Italic
pmnrp8r  Minion-Ornaments
pmnrwdi8r Minion-SwashDisplayItalic
pmnrwi8r Minion-SwashItalic
pmns8r   Minion-Semibold
pmns8x   MinionExp-Semibold
pmnsi8r  Minion-SemiboldItalic
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pmnsi8x  MinionExp-SemiboldItalic
pmnswi8r Minion-SwashSemiboldItalic
pmpb8r   Memphis-Bold
pmpbi8r  Memphis-BoldItalic
pmpl8r   Memphis-Light
pmpli8r  Memphis-LightItalic
pmpm8r   Memphis-Medium
pmpmi8r  Memphis-MediumItalic
pmpx8r   Memphis-ExtraBold
pmqr8r   Mesquite
pmrr8r   Madrone
pmsr8r   Mistral
pmtb8r   Minister-Bold
pmtbi8r  Minister-BoldItalic
pmtc8r   Minister-Black
pmtci8r  Minister-BlackItalic
pmtk8r   Minister-Book
pmtki8r  Minister-BookItalic
pmtl8r   Minister-Light
pmtli8r  Minister-LightItalic
pmxr8r   Maximus
pnab8r   NewAster-Bold
pnabi8r  NewAster-BoldItalic
pnac8r   NewAster-Black
pnaci8r  NewAster-BlackItalic
pnar8r   NewAster
pnari8r  NewAster-Italic
pnas8r   NewAster-SemiBold
pnasi8r  NewAster-SemiBoldItalic
pnbb8r   NewBaskerville-Bold
pnbbc8r  NewBaskerville-BoldSC
pnbbi7d  NewBaskerville-BoldItalicOsF
pnbbi8r  NewBaskerville-BoldItalic
pnbr8r   NewBaskerville-Roman
pnbrc8r  NewBaskerville-SC
pnbri7d  NewBaskerville-ItalicOsF
pnbri8r  NewBaskerville-Italic
pncb7f   NewCenturySchlbk-FractionBold
pncb8r   NewCenturySchlbk-Bold
pncbi8r  NewCenturySchlbk-BoldItalic
pncbk8r  NewCenturySchlbkGreek-Bd
pncr7f   NewCenturySchlbk-Fraction
pncr8r   NewCenturySchlbk-Roman
pncri8r  NewCenturySchlbk-Italic
pncrik8r NewCenturySchlbkGreek-Ic
pncrk8r  NewCenturySchlbkGreek-Up
pndb8r   NewCaledonia-Bold
pndbc8r  NewCaledonia-BoldSC
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pndbi7d  NewCaledonia-BoldItalicOsF
pndbi8r  NewCaledonia-BoldItalic
pndc8r   NewCaledonia-Black
pndci8r  NewCaledonia-BlackItalic
pndr8r   NewCaledonia
pndrc8r  NewCaledonia-SC
pndri7d  NewCaledonia-ItalicOsF
pndri8r  NewCaledonia-Italic
pnds8r   NewCaledonia-SemiBold
pndsi8r  NewCaledonia-SemiBoldItalic
pnfb8r   Nofret-Bold
pnfbi8r  Nofret-BoldItalic
pnfl8r   Nofret-Light
pnfli8r  Nofret-LightItalic
pnfm8r   Nofret-Medium
pnfmi8r  Nofret-MediumItalic
pnfr8r   Nofret-Regular
pnfri8r  Nofret-Italic
pngb8r   NewsGothic-Bold
pngbo8r  NewsGothic-BoldOblique
pngr8r   NewsGothic
pngro8r  NewsGothic-Oblique
pnsb8r   TimesNewRomanPS-Bold
pnsbi8r  TimesNewRomanPS-BoldItalic
pnsr8r   TimesNewRomanPS
pnsri8r  TimesNewRomanPS-Italic
pnurw8r  NuptialScript
pnvb8r   Novarese-Bold
pnvbi8r  Novarese-BoldItalic
pnvk8r   Novarese-Book
pnvki8r  Novarese-BookItalic
pnvm8r   Novarese-Medium
pnvmi8r  Novarese-MediumItalic
pnvu8r   Novarese-Ultra
pnzh8r   NeuzeitS-BookHeavy
pnzk8r   NeuzeitS-Book
po7r8r   OldStyleSeven
po7rc8r  OldStyleSeven-SC
po7ri7d  OldStyleSeven-ItalicOsF
po7ri8r  OldStyleSeven-Italic
poar8r   OCRA
pobr8r   OCRB
pocb8r   Concorde-Bold
pocbi8r  Concorde-BoldItalic
pocr8r   Concorde-Roman
pocri8r  Concorde-Italic
pomr8r   Omnia
ponb8r   Corona-Bold
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ponr8r   Corona
ponri8r  Corona-Italic
popb8r   Optima-Bold
popbo8r  Optima-BoldOblique
popr8r   Optima
popro8r  Optima-Oblique
porr8r   Orator
porro8r  Orator-Slanted
poyb8r   Olympian-Bold
poybi8r  Olympian-BoldItalic
poyr8r   Olympian
poyri8r  Olympian-Italic
pp0r8r   Poplar
ppar8r   ParkAvenue
ppeb8r   PrestigeElite-Bold
ppebo8r  PrestigeElite-BoldSlanted
pper8r   PrestigeElite
ppero8r  PrestigeElite-Slanted
ppgb8r   Peignot-Bold
ppgd8r   Peignot-Demi
ppgl8r   Peignot-Light
ppi001   BorderPi-OneFiveOneFiveNine
ppi002   BundesbahnPi-One
ppi003   BundesbahnPi-Two
ppi004   BundesbahnPi-Three
ppi005   EuropeanPi-Four
ppi006   EuropeanPi-One
ppi007   EuropeanPi-Three
ppi008   EuropeanPi-Two
ppi009   LAstrologyPi-One
ppi010   LAstrologyPi-Two
ppi011   LDecorationPi-One
ppi012   LDecorationPi-Two
ppi013   LGamePi-ChessDraughts
ppi014   LGamePi-DiceDominoes
ppi015   LGamePi-EnglishCards
ppi016   LGamePi-FrenchCards
ppi017   LHolidayPi-One
ppi018   LHolidayPi-Two
ppi019   LHolidayPi-Three
ppi020   MathematicalPi-One
ppi021   MathematicalPi-Two
ppi022   MathematicalPi-Three
ppi023   MathematicalPi-Four
ppi024   MathematicalPi-Five
ppi025   MathematicalPi-Six
ppi026   WoodtypeOrnaments-One
ppi027   WoodtypeOrnaments-Two
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pplb7d	Palatino-BoldOsF
pplb8r	Palatino-Bold
pplbi7d	Palatino-BoldItalicOsF
pplbi8r	Palatino-BoldItalic
pplr8r	Palatino-Roman
pplrc8r	Palatino-SC
pplri7d	Palatino-ItalicOsF
pplri8r	Palatino-Italic
ppnb8r	Plantin-Bold
ppnb8x	PlantinExpert-Bold
ppnbi8r	Plantin-BoldItalic
ppnbi8x	PlantinExpert-BoldItalic
ppnbr8rc	Plantin-BoldCondensed
ppnl8r	Plantin-Light
ppnli8r	Plantin-LightItalic
ppnr8r	Plantin
ppnr8x	PlantinExpert
ppnri8r	Plantin-Italic
ppnri8x	PlantinExpert-Italic
ppns8r	Plantin-Semibold
ppnsi8r	Plantin-SemiboldItalic
ppor8r	Ponderosa
pppb8r	Perpetua-Bold
pppbi8r	Perpetua-BoldItalic
pppr8r	Perpetua
pppri8r	Perpetua-Italic
ppqb8r	PostAntiqua-Bold
ppqr8r	PostAntiqua-Roman
ppsr8r	Parisian
pptr8r	Present
ppxb8r	PopplPontifex-Bold
ppxbr8rc	PopplPontifex-BoldCondensed
ppxc8r	PopplPontifex-Black
ppxr8r	PopplPontifex-Roman
ppxr8rc	PopplPontifex-RomanSC
ppxri8r	PopplPontifex-Italic
pqrb8r	Quorum-Bold
pqrc8r	Quorum-Black
pqrk8r	Quorum-Book
pqrl8r	Quorum-Light
pqrm8r	Quorum-Medium
pr1b8r	RotisSemiSerif-Bold
pr1bs8r	RotisSemiSans-Bold
pr1lis8r	RotisSemiSans-LightItalic
pr1ls8r	RotisSemiSans-Light
pr1r8r	RotisSemiSerif
pr1ris8r	RotisSemiSans-Italic
pr1rs8r	RotisSemiSans

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pr1xs8r  RotisSemiSans-ExtraBold
prab8r   Raleigh-Bold
prad8r   Raleigh-DemiBold
pram8r   Raleigh-Medium
prar8r   Raleigh
prob8r   RotisSerif-Bold
probs8r  RotisSansSerif-Bold
prolis8r RotisSansSerif-LightItalic
prols8r  RotisSansSerif-Light
pror8r   RotisSerif
prori8r  RotisSerif-Italic
proris8r RotisSansSerif-Italic
prors8r  RotisSansSerif
proxs8r  RotisSansSerif-ExtraBold
prpr28r  Reporter-Two
prqr8r   RussellSquare
prqro8r  RussellSquare-Oblique
prtr8r   Carta
prvr8r   Revue
prwb8r   Rockwell-Bold
prwbi8r  Rockwell-BoldItalic
prwbr8rc Rockwell-BoldCondensed
prwl8r   Rockwell-Light
prwli8r  Rockwell-LightItalic
prwr8r   Rockwell
prwri8r  Rockwell-Italic
prwrr8rc Rockwell-Condensed
prwx8r   Rockwell-ExtraBold
ps0r7c8r SanMarco-Dfr
ps0r8r   SanMarco
ps7rp    Sassoon-Primary
psbb7d   Sabon-BoldOsF
psbb8r   Sabon-Bold
psbbi7d  Sabon-BoldItalicOsF
psbbi8r  Sabon-BoldItalic
psbr8r   Sabon-Roman
psbrc8r  Sabon-RomanSC
psbri7d  Sabon-ItalicOsF
psbri8r  Sabon-Italic
pscb8r   Slimbach-Bold
pscbi8r  Slimbach-BoldItalic
pscc8r   Slimbach-Black
pscci8r  Slimbach-BlackItalic
psck8r   Slimbach-Book
pscki8r  Slimbach-BookItalic
pscm8r   Slimbach-Medium
pscmi8r  Slimbach-MediumItalic
psfb8r   Serifa-Bold
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psfc8r   Serifa-Black
psfl8r   Serifa-Light
psfli8r  Serifa-LightItalic
psfr8r   Serifa-Roman
psfri8r  Serifa-Italic
psgb8r   SerifGothic-Bold
psgc8r   SerifGothic-Black
psgh8r   SerifGothic-Heavy
psgl8r   SerifGothic-Light
psgr8r   SerifGothic
psgx8r   SerifGothic-ExtraBold
pshb8r   Shannon-Bold
pshk8r   Shannon-Book
pshro8r  Shannon-Oblique
pshx8r   Shannon-ExtraBold
pslr8r   Stencil
psnh8r   Spartan-HeavyClassified
psnk8r   Spartan-BookClassified
psor8r   Sonata
pspb8r   Serpentine-Bold
pspbo8r  Serpentine-BoldOblique
pspl8r   Serpentine-Light
psplo8r  Serpentine-LightOblique
pspm8r   Serpentine-Medium
pspmo8r  Serpentine-MediumOblique
psrbw8r  SnellRoundhand-BoldScript
psrcw8r  SnellRoundhand-BlackScript
psrrw8r  SnellRoundhand-Script
pssb8r   StempelSchneidler-Bold
pssbi8r  StempelSchneidler-BoldItalic
pssc8r   StempelSchneidler-Black
pssci8r  StempelSchneidler-BlackItalic
pssl8r   StempelSchneidler-Light
pssli8r  StempelSchneidler-LightItalic
pssm8r   StempelSchneidler-Medium
pssmi8r  StempelSchneidler-MedItalic
pssr8r   StempelSchneidler-Roman
pssri8r  StempelSchneidler-Italic
pstb8r   StoneSerif-Bold
pstbi8r  StoneSerif-BoldItalic
pstbin8r StoneInformal-BoldItalic
pstbis8r StoneSans-BoldItalic
pstbn8r  StoneInformal-Bold
pstbs8r  StoneSans-Bold
pstr5a   StoneSerif-PhoneticAlternate
pstr5i   StoneSerif-PhoneticIPA
pstr8r   StoneSerif
pstri8r  StoneSerif-Italic
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pstrin8r StoneInformal-Italic
pstris8r StoneSans-Italic
pstrn8r  StoneInformal
pstrs5a  StoneSans-PhoneticAlternate
pstrs5i  StoneSans-PhoneticIPA
pstrs8r  StoneSans
psts8r   StoneSerif-Semibold
pstsi8r  StoneSerif-SemiboldItalic
pstsin8r StoneInformal-SemiboldItalic
pstsis8r StoneSans-SemiboldItalic
pstsn8r  StoneInformal-Semibold
pstss8r  StoneSans-Semibold
psvb8r   Souvenir-Bold
psvbi8r  Souvenir-BoldItalic
psvd8r   Souvenir-Demi
psvdi8r  Souvenir-DemiItalic
psvl8r   Souvenir-Light
psvli8r  Souvenir-LightItalic
psvm8r   Souvenir-Medium
psvmi8r  Souvenir-MediumItalic
psxb8r   Syntax-Bold
psxc8r   Syntax-Black
psxr8r   Syntax-Roman
psxri8r  Syntax-Italic
psxu8r   Syntax-UltraBlack
psyb     Symbol-Bold
psybi    Symbol-BoldItalic
psyc     Symbol-Black
psyci    Symbol-BlackItalic
psyk     Symbol-Book
psyki    Symbol-BookItalic
psym     Symbol-Medium
psymi    Symbol-MediumItalic
psyr     Symbol
ptbb8r   BBodoni-Bold
ptbbi8r  BBodoni-BoldItalic
ptbl8r   BBodoni-Light
ptbli8r  BBodoni-LightItalic
ptbm8r   BBodoni-Medium
ptbmi8r  BBodoni-MediumItalic
ptbr8r   BBodoni-Regular
ptbri8r  BBodoni-Italic
pteb8r   TimesEuropa-Bold
ptebi8r  TimesEuropa-BoldItalic
pter8r   TimesEuropa-Roman
pteri8r  TimesEuropa-Italic
ptfd8r   Tiffany-Demi
ptfdi8r  Tiffany-DemiItalic
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ptfh8r   Tiffany-Heavy
ptfhi8r  Tiffany-HeavyItalic
ptfr8r   Tiffany
ptfri8r  Tiffany-Italic
ptgb28r  TradeGothic-BoldTwo
ptgb2o8r TradeGothic-BoldTwoOblique
ptgb8r   TradeGothic-Bold
ptgb8r20c TradeGothic-BoldCondTwenty
ptgb8r20o TradeGothic-BoldCondTwentyObl
ptgbo8r  TradeGothic-BoldOblique
ptgl8r   TradeGothic-Light
ptglo8r  TradeGothic-LightOblique
ptgr188rc TradeGothic-CondEighteen
ptgr18o8r TradeGothic-CondEighteenObl
ptgr8r   TradeGothic
ptgro8r  TradeGothic-Oblique
ptjb8r   Trajan-Bold
ptjr8r   Trajan-Regular
ptkb8r   Tekton-Bold
ptkbo8r  Tekton-BoldOblique
ptkr8r   Tekton
ptkro8r  Tekton-Oblique
ptmb10   TimesTen-Bold
ptmb7a10 TimesTenEastA-Bold
ptmb7d10 TimesTen-BoldOsF
ptmb7di10 TimesTen-BoldItalicOsF
ptmb8r   Times-Bold
ptmbc8r  Times-BoldSC
ptmbi10  TimesTen-BoldItalic
ptmbi7a10 TimesTenEastA-BoldItalic
ptmbi7d  Times-BoldItalicOsF
ptmbi8r  Times-BoldItalic
ptmbk10  TimesTenGreekP-Bold
ptmbko10 TimesTenGreekP-BoldInclined
ptmboz10 TimesTenCyrillic-BoldInclined
ptmbz10  TimesTenCyrillic-Bold
ptmr10   TimesTen-Roman
ptmr7a10 TimesTenEastA-Roman
ptmr7di10 TimesTen-ItalicOsF
ptmr8r   Times-Roman
ptmrc10  TimesTen-RomanSC
ptmrc8r  Times-RomanSC
ptmri10  TimesTen-Italic
ptmri7a10 TimesTenEastA-Italic
ptmri7d  Times-ItalicOsF
ptmri8r  Times-Italic
ptmrk10  TimesTenGreekP-Upright
ptmrko10 TimesTenGreekP-Inclined
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ptmroz10 TimesTenCyrillic-Inclined
ptmrz10  TimesTenCyrillic-Upright
ptms8r   Times-Semibold
ptmsi8r  Times-SemiboldItalic
ptmx8r   Times-ExtraBold
ptphi8rc Tempo-HeavyCondensedItalic
ptphr8rc Tempo-HeavyCondensed
ptvb7d   TrumpMediaeval-BoldOsF
ptvb8r   TrumpMediaeval-Bold
ptvbi7d  TrumpMediaeval-BoldItalicOsF
ptvbi8r  TrumpMediaeval-BoldItalic
ptvr8r   TrumpMediaeval-Roman
ptvrc8r  TrumpMediaeval-SC
ptvri7d  TrumpMediaeval-ItalicOsF
ptvri8r  TrumpMediaeval-Italic
pubb7d   BauerBodoni-BoldOsF
pubb8r   BauerBodoni-Bold
pubbi7d  BauerBodoni-BoldItalicOsF
pubbi8r  BauerBodoni-BoldItalic
pubbr8rc BauerBodoni-BoldCond
pubc8r   BauerBodoni-Black
pubci8r  BauerBodoni-BlackItalic
pubcr8rc BauerBodoni-BlackCond
pubr8r   BauerBodoni-Roman
pubrc8r  BauerBodoni-RomanSC
pubri7d  BauerBodoni-ItalicOsF
pubri8r  BauerBodoni-Italic
pugb8r   BenguiatGothic-Bold
pugbo8r  BenguiatGothic-BoldOblique
pugh8r   BenguiatGothic-Heavy
pugho8r  BenguiatGothic-HeavyOblique
pugk8r   BenguiatGothic-Book
pugko8r  BenguiatGothic-BookOblique
pugm8r   BenguiatGothic-Medium
pugmo8r  BenguiatGothic-MediumOblique
puhb8r   Cushing-Bold
puhbi8r  Cushing-BoldItalic
puhh8r   Cushing-Heavy
puhhi8r  Cushing-HeavyItalic
puhk8r   Cushing-Book
puhki8r  Cushing-BookItalic
puhm8r   Cushing-Medium
puhmi8r  Cushing-MediumItalic
pulrk8r  Universal-GreekwithMathPi
pumr8r   Umbra
punaro8r Univers-ThinUltraCondensed
punb8r   Univers-Bold
punbo8r  Univers-BoldOblique
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punbo8rc Univers-CondensedBoldOblique
punbo8rx Univers-BoldExtObl
punbr8rc Univers-CondensedBold
punbr8rx Univers-BoldExt
punc8r   Univers-Black
punco8r  Univers-BlackOblique
punco8rx Univers-BlackExtObl
puncr8rx Univers-BlackExt
punl8r   Univers-Light
punlo8r  Univers-LightOblique
punlo8rc Univers-CondensedLightOblique
punlr8rc Univers-CondensedLight
punlro8r Univers-LightUltraCondensed
punr8r   Univers
punro8r  Univers-Oblique
punro8rc Univers-CondensedOblique
punro8rx Univers-ExtendedObl
punrr8rc Univers-Condensed
punrr8rx Univers-Extended
punrro8r Univers-UltraCondensed
punx8r   Univers-ExtraBlack
punxo8r  Univers-ExtraBlackObl
punxo8rx Univers-ExtraBlackExtObl
punxr8rx Univers-ExtraBlackExt
putb8r   Utopia-Bold
putb8x   UtopiaExp-Bold
putbi8r  Utopia-BoldItalic
putbi8x  UtopiaExp-BoldItalic
putc8r   Utopia-Black
putc8x   UtopiaExp-Black
putr8r   Utopia-Regular
putr8x   UtopiaExp-Regular
putrd8r  Utopia-Titling
putri8r  Utopia-Italic
putri8x  UtopiaExp-Italic
putrp8r  Utopia-Ornaments
puts8r   Utopia-Semibold
puts8x   UtopiaExp-Semibold
putsi8r  Utopia-SemiboldItalic
putsi8x  UtopiaExp-SemiboldItalic
puwb8r   Usherwood-Bold
puwbi8r  Usherwood-BoldItalic
puwc8r   Usherwood-Black
puwci8r  Usherwood-BlackItalic
puwk8r   Usherwood-Book
puwki8r  Usherwood-BookItalic
puwm8r   Usherwood-Medium
puwmi8r  Usherwood-MediumItalic
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puyr8r   UniversityRoman
pvjb8r   Veljovic-Bold
pvjbi8r  Veljovic-BoldItalic
pvjc8r   Veljovic-Black
pvjci8r  Veljovic-BlackItalic
pvjk8r   Veljovic-Book
pvjki8r  Veljovic-BookItalic
pvjm8r   Veljovic-Medium
pvjmi8r  Veljovic-MediumItalic
pvlb8r   Versailles-Bold
pvlbi8r  Versailles-BoldItalic
pvlc8r   Versailles-Black
pvlci8r  Versailles-BlackItalic
pvll8r   Versailles-Light
pvlli8r  Versailles-LightItalic
pvlr8r   Versailles-Roman
pvlri8r  Versailles-Italic
pvra8r   VAGRounded-Thin
pvrb8r   VAGRounded-Bold
pvrc8r   VAGRounded-Black
pvrl8r   VAGRounded-Light
pwbb7d   Walbaum-BoldOsF
pwbb8r   Walbaum-Bold
pwbbi7d  Walbaum-BoldItalicOsF
pwbbi8r  Walbaum-BoldItalic
pwbr8r   Walbaum-Roman
pwbrc8r  Walbaum-RomanSC
pwbri7d  Walbaum-ItalicOsF
pwbri8r  Walbaum-Italic
pwdb8r   Weidemann-Bold
pwdbi8r  Weidemann-BoldItalic
pwdc8r   Weidemann-Black
pwdci8r  Weidemann-BlackItalic
pwdk8r   Weidemann-Book
pwdki8r  Weidemann-BookItalic
pwdm8r   Weidemann-Medium
pwdmi8r  Weidemann-MediumItalic
pwgr7c   WilhelmKlingsporGotisch-Dfr
pwgr8r   WilhelmKlingsporGotisch
pwkb8r   Wilke-Bold
pwkbi8r  Wilke-BoldItalic
pwkc8r   Wilke-Black
pwkci8r  Wilke-BlackItalic
pwkr8r   Wilke-Roman
pwkri8r  Wilke-Italic
pwsb8r   Weiss-Bold
pwsr8r   Weiss
pwsri8r  Weiss-Italic
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pwsx8r   Weiss-ExtraBold
pwwr8r   Willow
pzcb8r   ZapfChancery-Bold
pzcd8r   ZapfChancery-Demi
pzcl8r   ZapfChancery-Light
pzcli8r  ZapfChancery-LightItalic
pzcmi8r  ZapfChancery-MediumItalic
pzcr8r   ZapfChancery-Roman
pzcri8r  ZapfChancery-Italic
pzdr     ZapfDingbats
pzgbr8rc DINNeuzeitGrotesk-BoldCond
pzgl8r   DINNeuzeitGrotesk-Light
zpcp29ab        Copperplate-TwentyNineAB
zpcp29bc        Copperplate-TwentyNineBC
zpcp30ab        Copperplate-ThirtyAB
zpcp30bc        Copperplate-ThirtyBC
zpcp31ab        Copperplate-ThirtyOneAB
zpcp31bc        Copperplate-ThirtyOneBC
zpcp32ab        Copperplate-ThirtyTwoAB
zpcp32bc        Copperplate-ThirtyTwoBC
zpcp33bc        Copperplate-ThirtyThreeBC
zpgbm7h  GothicBBB-Medium-78-H
zpgbm7v  GothicBBB-Medium-78-V
zpgbm8rh GothicBBB-Medium-83pv-RKSJ-H
zpgbmah  GothicBBB-Medium-Add-H
zpgbmav  GothicBBB-Medium-Add-V
zpgbmeh  GothicBBB-Medium-Ext-H
zpgbmev  GothicBBB-Medium-Ext-V
zpgbmh   GothicBBB-Medium-H
zpgbmv   GothicBBB-Medium-V
zpmicr   MICR
zpryl7h  Ryumin-Light-78-H
zpryl7v  Ryumin-Light-78-V
zpryl8rh Ryumin-Light-83pv-RKSJ-H
zprylah  Ryumin-Light-Add-H
zprylav  Ryumin-Light-Add-V
zpryleh  Ryumin-Light-Ext-H
zprylev  Ryumin-Light-Ext-V
zprylh   Ryumin-Light-H
zprylv   Ryumin-Light-V
zpshals  Shelley-AllegroScript
zpshans  Shelley-AndanteScript
zpshvos  Shelley-VolanteScript
zpsrliolh SerlioLH
zpulrncp Universal-NewswithCommPi
```

A.3 Apple fonts

The '`apple.map`' file has abbreviations for Apple fonts.

eecr8r	AppleChancery
eger8r	Geneva
ehtr8r	HoeflerText
emcr8r	Monaco
epi001	Zeal
eskr8r	Skia

A.4 Bitstream fonts

The '`bitstrea.map`' file has abbreviations for Bitstream fonts.

ba3r8r	AdLibBT-Regular	1154a___
ba4r8r	AlternateGothicNo2BT-Regular	0542a___
ba5r8r	AllegroBT-Regular	1138a___
ba6r8r	AmeliaBT-Regular	0510a___
ba7r8r	AmericanTextBT-Regular	0211a___
ba8b8rc	AuroraBT-BoldCondensed	1028a___
ba9b8r	Humanist970BT-BoldC	0265a___
ba9r8r	Humanist970BT-RomanC	0264a___
baab8r	AachenBT-Bold	1103a___
baar8r	AachenBT-Roman	1102a___
balb8r	Flareserif821BT-Bold	0918a___
ball8r	Flareserif821BT-Light	0916a___
balr8r	Flareserif821BT-Roman	0917a___
bamb8r	AmericanaBT-Bold	0500a___
bamr8r	AmericanaBT-Roman	0498a___
bamri8r	AmericanaBT-Italic	0499a___
bamx8r	AmericanaBT-ExtraBold	0501a___
bamx8rc	AmericanaBT-ExtraBoldCondensed	0502a___
baob8r	Incised901BT-Bold	0390a___
baob8rc	Incised901BT-BoldCondensed	0467a___
baoc8r	Incised901BT-Black	0391a___
baoh8rx	Incised901BT-Nord	0469a___
baohi8rx	Incised901BT-NordItalic	0470a___
baol8r	Incised901BT-Light	0387a___
baop8r	Incised901BT-Compact	0468a___
baor8r	Incised901BT-Roman	0388a___
baori8r	Incised901BT-Italic	0389a___
baub8r	Freeform721BT-Bold	0999a___
baubi8r	Freeform721BT-BoldItalic	1000a___
bauc8r	Freeform721BT-Black	1001a___
bauci8r	Freeform721BT-BlackItalic	1002a___
baur8r	Freeform721BT-Roman	0997a___
bauri8r	Freeform721BT-Italic	0998a___
bazb8r	Gothic725BT-BoldA	0541a___
bazc8r	Gothic725BT-BlackA	1007a___

bb4r8r	Brush738BT-RegularA	0806a___
bb5r8r	Freehand591BT-RegularA	1043a___
bb6r8rc	Gothic821CondensedBT-Regular	0807a___
bb7b8r	BernhardModernBT-Bold	0838a___
bb7b8rc	BernhardBoldCondensedBT-Regular	1003a___
bb7bi8r	BernhardModernBT-BoldItalic	0839a___
bb7r8r	BernhardModernBT-Roman	0607a___
bb7ri8r	BernhardModernBT-Italic	0837a___
bb7rn8r	BernhardFashionBT-Regular	1051a___
bb7rw8r	BernhardTangoBT-Regular	0986a___
bb8c8r	BlippoBT-Black	0511a___
bb9b8r	BremenBT-Bold	1231a___
bb9c8r	BremenBT-Black	1232a___
bbbb8a	Aldine401BT-BoldA	0304a___
bbbbi8a	Aldine401BT-BoldItalicA	0305a___
bbbr8a	Aldine401BT-RomanA	0302a___
bbbri8a	Aldine401BT-ItalicA	0303a___
bbdb8r	BodoniBT-Bold	0037a___
bbdb8rc	BodoniBT-BoldCondensed	0973a___
bbdbi8r	BodoniBT-BoldItalic	0038a___
bbdk8r	BodoniBT-Book	0035a___
bbdki8r	BodoniBT-BookItalic	0036a___
bbdp8r	PosterBodoniBT-Roman	0129a___
bbdpi8r	PosterBodoniBT-Italic	0130a___
bbdr8r	BodoniBT-Roman	0055a___
bbdri8r	BodoniBT-Italic	0056a___
bblb8r	BelweBT-Bold	1024a___
bbll8r	BelweBT-Light	1022a___
bblm8r	BelweBT-Medium	1023a___
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btvc8r	Kuenstler480BT-Black	1026a___
btvr8r	Kuenstler480BT-Roman	0761a___
btvri8r	Kuenstler480BT-Italic	0762a___
bumr8r	UmbraBT-Regular	1074a___
bunb8r	ZurichBT-Bold	0180a___
bunb8rc	ZurichBT-BoldCondensed	0300a___
bunb8rq	ZurichBT-BoldExtraCondensed	0960a___
bunb8rx	ZurichBT-BoldExtended	0261a___

```
bunbi8r  ZurichBT-BoldItalic                    0181a___
bunbi8rc ZurichBT-BoldCondensedItalic           0301a___
bunc8r   ZurichBT-Black                         0182a___
bunc8rx  ZurichBT-BlackExtended                 0262a___
bunci8r  ZurichBT-BlackItalic                   0183a___
bunl8r   ZurichBT-Light                         0176a___
bunl8rc  ZurichBT-LightCondensed                0296a___
bunl8rq  ZurichBT-LightExtraCondensed           0958a___
bunli8r  ZurichBT-LightItalic                   0177a___
bunli8rc ZurichBT-LightCondensedItalic          0297a___
bunr8r   ZurichBT-Roman                         0178a___
bunr8rc  ZurichBT-RomanCondensed                0298a___
bunr8rq  ZurichBT-ExtraCondensed                0959a___
bunr8rx  ZurichBT-RomanExtended                 0260a___
bunri8r  ZurichBT-Italic                        0179a___
bunri8rc ZurichBT-ItalicCondensed               0299a___
bunu8rx  ZurichBT-UltraBlackExtended            0263a___
bunx8r   ZurichBT-ExtraBlack                    0970a___
burb8r   Venetian301BT-Bold                     1099a___
burbi8r  Venetian301BT-BoldItalic               1100a___
burd8r   Venetian301BT-Demi                     1097a___
burdi8r  Venetian301BT-DemiItalic               1098a___
burr8r   Venetian301BT-Roman                    1095a___
burri8r  Venetian301BT-Italic                   1096a___
buyb8r   UniversityRomanBT-Bold                 0317a___
buyr8r   UniversityRomanBT-Regular              0316a___
bv0r8r   VinetaBT-Regular                       0215a___
bvrr8r   VAGRoundedBT-Regular                   0756a___
bw0r8r   WeddingTextBT-Regular                  0985a___
bwnl8r   WindsorBT-Light                        0909a___
bwnl8rc  WindsorBT-LightCondensed               0326a___
bwnr8r   WindsorBT-Roman                        0122a___
bwnr8rx  WindsorBT-Elongated                    0327a___
bwnrl8r  WindsorBT-Outline                      0988a___
zbshals  ShelleyAllegroBT-Regular               0594a___
zbshans  ShelleyAndanteBT-Regular               0593a___
zbshvos  ShelleyVolanteBT-Regular               0595a___
```

A.5 DTC fonts

The '`dtc.map`' file has abbreviations for DTC (Digital Typeface Corporation) fonts.

```
dhvc8rc  SansBlackCondensed-DTC
dhvco8rc SansBlackCondensed-Oblique-DTC
dhvm8rx  SansExtended-Medium-DTC
dhvr8rx  SansExtended-Regular-DTC
dhvro8rc SansExtended-RegularOblique-DTC
dhvx8rc  SansExtraBlackCondensed-DTC
dhvl8rx  SansLightExtended-DTC
```

```
dhvh8rc  SansThinCondensed-DTC
dhvho8rc SansThinCondensed-Oblique-DTC
dnbb8r   NewBaskerville-Bold-DTC
dnbbi8r  NewBaskerville-BoldItalic-DTC
dnbri8r  NewBaskerville-RomanItalic-DTC
dnbr8r   NewBaskerville-Roman-DTC
dopr8r   Optimum-Roman-DTC
dopb8r   Optimum-Bold-DTC
dopbo8r  Optimum-BoldItalic-DTC
doro8r   Optimum-RomanItalic-DTC
dpll8r   Palton-Light-DTC
```

A.6 Linotype fonts

The '`linotype.map`' file has abbreviations for Linotype fonts.

```
lenb8r   EngraversLH-BoldFace
lpi001   OlympicLH-Pi
ltgb8rx  TradeGothicLH-BoldExtended
ltgr8rx  TradeGothicLH-Extended
lvcc8r   VectoraLH-Black
lvcci8r  VectoraLH-BlackItalic
lvcb8r   VectoraLH-Bold
lvcbi8r  VectoraLH-BoldItalic
lvcri8r  VectoraLH-Italic
lvcl8r   VectoraLH-Light
lvcli8r  VectoraLH-LightItalic
lvcr8r   VectoraLH-Roman
lpi002   WarningLH-Pi
lpi003   AudioLH-Pi
lcfcs8r  ClearfaceGothicLH-Black
lcfbs8r  ClearfaceGothicLH-Bold
lcfls8r  ClearfaceGothicLH-Light
lcfms8r  ClearfaceGothicLH-Medium
lcfrs8r  ClearfaceGothicLH-Roman
lpi004   EECLH-Pi
lffb8r   FairfieldLH-Bold
lffbi8r  FairfieldLH-BoldItalic
lffbc8r  FairfieldLH-BoldSC
lffbd8r  FairfieldLH-CaptionBold
lffhd8r  FairfieldLH-CaptionHeavy
lffld8r  FairfieldLH-CaptionLight
lffmd8r  FairfieldLH-CaptionMedium
lffh8r   FairfieldLH-Heavy
lffhi8r  FairfieldLH-HeavyItalic
lffhc8r  FairfieldLH-HeavySC
lffl8r   FairfieldLH-Light
lffli8r  FairfieldLH-LightItalic
lfflc8r  FairfieldLH-LightSC
```

```
lffm8r   FairfieldLH-Medium
lffmi8r  FairfieldLH-MediumItalic
lffmc8r  FairfieldLH-MediumSC
lffbiw7d FairfieldLH-SwBoldItalicOsF
lffhiw7d FairfieldLH-SwHeavyItalicOsF
lffliw7d FairfieldLH-SwLightItalicOsF
lffmiw7d FairfieldLH-SwMediumItalicOsF
```

A.7 Monotype fonts

The 'monotype.map' file has abbreviations for Monotype fonts.

```
ma1b8r   ArialMT-Bold
ma1b8rn  ArialNarrowMT-Bold MArial-NarrowBold
ma1b9s   ArialSFMT-Bold
ma1bi8r  ArialMT-BoldItalic
ma1bi8rn ArialNarrowMT-BoldItalic MArial-NarrowBoldItalic
ma1bi9s  ArialSFMT-BoldItalic
ma1bot8r ArialMonospacedMT-BoldObliq
ma1br8rc ArialMT-CondensedBold
ma1bt8r  ArialMonospacedMT-Bold
ma1c8r   ArialMT-Black
ma1ci8r  ArialMT-BlackItalic
ma1l8r   ArialMT-Light
ma1l8rc  ArialMT-CondensedLight
ma1li8r  ArialMT-LightItalic
ma1m8r   ArialMT-Medium
ma1mi8r  ArialMT-MediumItalic
ma1r8r   ArialMT
ma1r8rc  ArialMT-Condensed
ma1r8rn  ArialNarrowMT MArial-Narrow
ma1r9s   ArialSFMT
ma1ri8r  ArialMT-Italic
ma1ri9s  ArialSFMT-Italic
ma1rin8r ArialNarrowMT-Italic MArial-NarrowItalic
ma1ro8r  ArialMonospacedMT-Oblique
ma1rt8r  ArialMonospacedMT
ma1x8r   ArialMT-ExtraBold
ma1x8rc  ArialMT-CondensedExtraBold
ma1xi8r  ArialMT-ExtraBoldItalic
ma2b8r   AmasisMT-Bold
ma2bi8r  AmasisMT-BoldItalic
ma2c8r   AmasisMT-Black
ma2ci8r  AmasisMT-BlackItalic
ma2l8r   AmasisMT-Light
ma2li8r  AmasisMT-LightItalic
ma2m8r   AmasisMT-Medium
ma2mi8r  AmasisMT-MediumItalic
ma2r8r   AmasisMT
```

```
ma2ri8r  AmasisMT-Italic
magd8r   MAvantGardeGothicPS-Demi
magdo8r  MAvantGardeGothicPS-DemiObl
magk8r   MAvantGardeGothicPS-Book
magko8r  MAvantGardeGothicPS-BookObl
mahr8r   AshleyScriptMT
maib8r   AbadiMT-Bold MAbadi-Bold
maib8rc  AbadiMT-CondensedBold
maibi8r  AbadiMT-BoldItalic MAbadi-BoldItalic
maij8r   AbadiMT-ExtraLight MAbadi-ExtraLight
maiji8r  AbadiMT-ExtraLightItalic MAbadi-ExtraLightItalic
mail8r   AbadiMT-Light MAbadi-Light
mail8rc  AbadiMT-CondensedLight
maili8r  AbadiMT-LightItalic MAbadi-LightItalic
mair8r   AbadiMT MAbadi
mair8rc  AbadiMT-Condensed
mairi8r  AbadiMT-Italic MAbadi-Italic
maix8r   AbadiMT-ExtraBold MAbadi-ExtraBold
maix8rc  AbadiMT-CondensedExtraBold
maixi8r  AbadiMT-ExtraBoldItalic MAbadi-ExtraBoldItalic
mall8r   MAlbertus-Light AlbertusMT-Light
malr8r   MAlbertus AlbertusMT
malri8r  MAlbertus-Italic AlbertusMT-Italic
mapr8r   ApolloMT MApollo
maprc8r  ApolloMT-SC
mapri7d  ApolloMT-ItalicOsF
mapri8r  ApolloMT-Italic MApollo-Italic
mapri8x  ApolloMT-ItalicExpert
maps7d   ApolloMT-SemiBoldOsF
maps8r   ApolloMT-SemiBold MApollo-SemiBold
maps8x   ApolloMT-SemiBoldExpert
maqb8r   BookAntiqua-Bold
maqbi8r  BookAntiqua-BoldItalic
maqr8r   BookAntiqua
maqri8r  BookAntiqua-Italic
mb1ri8r  BladoMT-Italic MBlado-Italic
mb1ri8x  BladoExpertMT-Italic
mb2r8r   BinnyOldStyleMT
mb2ri8r  BinnyOldStyleMT-Italic
mb3r8r   MBraggadocio
mbbb7a   Bembo-AltBold
mbbb8r   Bembo-Bold
mbbb8x   BemboExpert-Bold MBemboExpert-Bold
mbbbi7a  Bembo-AltBoldItalic
mbbbi8r  Bembo-BoldItalic
mbbbi8x  BemboExpert-BoldItalic MBemboExpert-BoldItalic
mbbbin8r BemboMT-SchlbkBoldItalic
mbbbn8r  BemboMT-SchlbkBold
```

```
mbbr7a   Bembo-Alt
mbbr8r   Bembo
mbbr8x   BemboExpert MBemboExpert
mbbrd8r  BemboTitlingMT
mbbrdi8r BemboTitlingMT-Italic
mbbri7a  Bembo-AltItalic
mbbri8r  Bembo-Italic
mbbri8x  BemboExpert-Italic MBemboExpert-Italic
mbbrin8r BemboMT-SchlbkItalic
mbbrn8r  BemboMT-Schlbk
mbbs7a   Bembo-AltSemiBold
mbbs8r   Bembo-Semibold
mbbs8x   BemboExpert-SemiBold MBemboExpert-SemiBold
mbbsi7a  Bembo-AltSemiBoldItalic
mbbsi8r  Bembo-SemiboldItalic
mbbsi8x  BemboExpert-SemiBoldItalic MBemboExpert-SemiBoldItalic
mbbx7a   Bembo-AltExtraBold
mbbx8r   Bembo-ExtraBold
mbbx8x   BemboExpert-ExtraBold MBemboExpert-ExtraBold
mbbxi8r  Bembo-ExtraBoldItalic
mbbxi8x  BemboExpert-ExtraBoldItalic MBemboExpert-ExtraBoldItalic
mbdb8r   BodoniMT-Bold
mbdb8rc  BodoniMT-CondensedBold MBodoni-BoldCondensed
mbdbi8r  BodoniMT-BoldItalic
mbdbi8rc BodoniMT-CondensedBoldItalic MBodoni-BoldCondensedItalic
mbdc8r   BodoniMT-Black MBodoni-Black
mbdci8r  BodoniMT-BlackItalic MBodoni-BlackItalic
mbdk8r   BodoniMT-Book MBodoni-Book
mbdki8r  BodoniMT-BookItalic MBodoni-BookItalic
mbdr8r   BodoniMT
mbdri8r  BodoniMT-Italic
mbdu8r   BodoniMT-UltraBold MBodoni-UltraBold
mbdui8r  BodoniMT-UltraBoldItalic MBodoni-UltraBoldItalic
mbeb8r   BellMT-Bold MBell-Bold
mbeb8x   BellExpertMT-Bold
mbebi8r  BellMT-BoldItalic
mbebi8x  BellExpertMT-BoldItalic
mber7a   BellMT-Alt
mber8r   BellMT MBell
mber8x   BellExpertMT
mbera8x  BellExpertMT-Alt
mberi7a  BellMT-AltItalic
mberi8r  BellMT-Italic MBell-Italic
mberi8x  BellExpertMT-Italic
mbes7a   BellMT-AltSemiBold
mbes8r   BellMT-SemiBold MBell-SemiBold
mbes8x   BellExpertMT-SemiBold
mbesa8x  BellExpertMT-AltSemiBold
```

```
mbesi7a  BellMT-AltSemiBoldItalic
mbesi8r  BellMT-SemiBoldItalic
mbesi8x  BellExpertMT-SemiBoldItalic
mbfr8r   BiffoMT
mbkd8r   MBookmanPS-Demi
mbkdi8r  MBookmanPS-DemiItalic
mbkl8r   MBookmanPS-Light
mbkli8r  MBookmanPS-LightItalic
mbmb7a   BulmerMT-BoldAlt
mbmb8r   BulmerMT-Bold
mbmb8x   BulmerMT-BoldExpert
mbmbd7a  BulmerMT-BoldDisplayAlt
mbmbd8r  BulmerMT-BoldDisplay
mbmbdi7a BulmerMT-BoldItalDisplayAlt
mbmbdi8r BulmerMT-BoldItalicDisplay
mbmbi7a  BulmerMT-BoldItalicAlt
mbmbi8r  BulmerMT-BoldItalic
mbmbi8x  BulmerMT-BoldItalicExpert
mbmr7a   BulmerMT-RegularAlt
mbmr8r   BulmerMT-Regular
mbmr8x   BulmerMT-RegularExpert
mbmrc8r  BulmerMT-RegularSC
mbmrd7a  BulmerMT-RegularDisplayAlt
mbmrd8r  BulmerMT-RegularDisplay
mbmrdi7a BulmerMT-ItalicDisplayAlt
mbmrdi8r BulmerMT-ItalicDisplay
mbmri7a  BulmerMT-ItalicAlt
mbmri8r  BulmerMT-Italic
mbmri8x  BulmerMT-ItalicExpert
mbms7a   BulmerMT-SemiBoldAlt
mbms8r   BulmerMT-SemiBold
mbms8x   BulmerMT-SemiBoldExpert
mbmsi7a  BulmerMT-SemiBoldItalicAlt
mbmsi8r  BulmerMT-SemiBoldItalic
mbmsi8x  BulmerMT-SemiBoldItalExpert
mbmss8r  BulmerMT-SemiBoldSC
mbnr8rc  BernardMT-Condensed
mbtm     Boton-Medium
mbtmi    Boton-MediumItalic
mbtr     Boton-Regular
mbtri    Boton-Italic
mburw8r  BrushScriptMT
mbvb8r   BaskervilleMT-Bold
mbvb8x   BskvillExpMT-Bold MBaskervilleExpert-Bold
mbvbi8r  BaskervilleMT-BoldItalic
mbvbi8x  BskvillExpMT-BoldItalic MBaskervilleExpert-BoldItalic
mbvr8r   BaskervilleMT
mbvr8x   BskvillExpMT MBaskervilleExpert
```

```
mbvri8r  BaskervilleMT-Italic
mbvri8x  BskvillExpMT-Italic MBaskervilleExpert-Italic
mbvs8r   BaskervilleMT-SemiBold
mbvs8x   BskvillExpMT-SemiBold MBaskervilleExpert-SemiBold
mbvsi8r  BaskervilleMT-SemiBoldItalic
mbvsi8x  BskvillExpMT-SemiBoldItalic MBaskervilleExpt-SemiBoldIta
mc1b8r   CalistoMT-Bold
mc1bi8r  CalistoMT-BoldItalic
mc1r8r   CalistoMT
mc1ri8r  CalistoMT-Italic
mc6b8r   ClarionMT-Bold MClarion-Bold
mc6r8r   ClarionMT MClarion
mc6ri8r  ClarionMT-Italic MClarion-Italic
mc7b8r   CompactaMT-Bold
mc8b8r   CalvertMT-Bold
mc8l8r   CalvertMT-Light
mc8m8r   CalvertMT-Medium
mc8r8r   CalvertMT
mcard8r  CaslonTitlingMT
mcdr8r   ClarendonMT MtClarendon
mcfb8r   ClearfaceMT-Bold
mcfbs8r  ClearfaceGothicMT-Bold
mcfds8r  ClearfaceGothicMT-DemiBold
mcnb8r   CenturyMT-Bold MCentury-Bold
mcnbi8r  CenturyMT-BoldItalic MCentury-BoldItalic
mcnr8rx  CenturyMT-Expanded MCentury-Expanded
mcnri8rx CenturyMT-ExpandedItalic MCentury-ExpandedItalic
mcr8r12  CourierTwelveMT
mcrb8r   CourierPS-Bold MCourierPS-Bold
mcrbi8r  CourierPS-BoldItalic MCourierPS-BoldItalic
mcrr8r   CourierPS MCourierPS
mcrri8r  CourierPS-Italic MCourierPS-Italic
mcsb8r   CenturySchbookMT-Bold MCenturySchoolbook-Bold
mcsbi8r  CenturySchbookMT-BoldItalic MCenturySchoolbook-BoldItalic
mcsr8r   CenturySchbookMT MCenturySchoolbook
mcsri8r  MCenturySchoolbook-Italic
mcub8r   CenturyOSMT-Bold MCenturyOldStyle-Bold
mcubi8r  CenturyOSMT-BoldItalic MCenturyOldStyle-BoldItalic
mcur8r   CenturyOSMT MCenturyOldStyle
mcuri8r  CenturyOSMT-Italic MCenturyOldStyle-Italic
mdmb8r   DelimaMT-Bold
mdmbi8r  DelimaMT-BoldItalic
mdml8r   DelimaMT-Light
mdmli8r  DelimaMT-LightItalic
mdmr8r   DelimaMT
mdmri8r  DelimaMT-Italic
mdms8r   DelimaMT-SemiBold
mdmsi8r  DelimaMT-SemiBoldItalic
```

```
mdmx8r   DelimaMT-ExtraBold
mdmxi8r  DelimaMT-ExtraBoldItalic
mdsr8r   DorchesterScriptMT
mdtb7a   DanteMT-AltBold
mdtb8r   DanteMT-Bold
mdtb8x   DanteExpertMT-Bold
mdtbi7a  DanteMT-AltBoldItalic
mdtbi8r  DanteMT-BoldItalic
mdtbi8x  DanteExpertMT-BoldItalic
mdtm7a   DanteMT-AltMedium
mdtm8r   DanteMT-Medium
mdtm8x   DanteExpertMT-Medium
mdtmi7a  DanteMT-AltMediumItalic
mdtmi8r  DanteMT-MediumItalic
mdtmi8x  DanteExpertMT-MediumItalic
mdtr7a   DanteMT-Alt
mdtr8r   DanteMT
mdtr8x   DanteExpertMT
mdtrd8r  DanteTitlingMT
mdtri7a  DanteMT-AltItalic
mdtri8r  DanteMT-Italic
mdtri8x  DanteExpertMT-Italic
mebm8r   BaskervilleBE-Medium
mebmi8r  BaskervilleBE-MediumItalic
mebr8r   BaskervilleBE-Regular
mebri8r  BaskervilleBE-Italic
meer8r   EgyptianMT-Extended MEgyptianExtended
melb8r   EllingtonMT-Bold MEllington-Bold
melbi8r  EllingtonMT-BoldItalic MEllington-BoldItalic
mell8r   EllingtonMT-Light MEllington-Light
melli8r  EllingtonMT-LightItalic MEllington-LightItalic
melr8r   EllingtonMT MEllington
melri8r  EllingtonMT-Italic MEllington-Italic
melx8r   EllingtonMT-ExtraBold MEllington-ExtraBold
melxi8r  EllingtonMT-ExtraBoldItalic MEllington-ExtraBoldItalic
menb8r   EngraversMT-Bold
menr8r   EngraversMT
menrf8r  EngraversOldEnglishMT
metr8r   EhrhardtMT
metr8x   EhrhardtExpMT MEhrhardtExpt
metri8r  EhrhardtMT-Italic
metri8x  EhrhardtExpMT-Italic MEhrhardtExpt-Italic
mets8r   EhrhardtMT-SemiBold
mets8x   EhrhardtExpMT-SemiBold MEhrhardtExpt-SemiBold
metsi8r  EhrhardtMT-SemiBoldItalic
metsi8x  EhrhardtExpMT-SemiBoldItal MEhrhardtExpt-SemiBoldItalic
mf1r7a   FournierMT-Alt
mf1r8r   FournierMT
```

```
mf1r8x   FournierExpertMT
mf1rd8r  FournierMT-TallCaps
mf1rdi8r FournierMT-TallCapsItalic
mf1ri7a  FournierMT-AltItalic
mf1ri8r  FournierMT-Italic
mf1ri8x  FournierExpertMT-Italic
mf1rp8r  FournierOrnamentsMT
mf2r8rc  FacadeMT-Condensed
mf3rd8r  FestivalTitlingMT
mf4b8r   FootlightMT-Bold
mf4bi8r  FootlightMT-BoldItalic
mf4l8r   FootlightMT-Light
mf4li8r  FootlightMT-LightItalic
mf4r8r   FootlightMT
mf4ri8r  FootlightMT-Italic
mf4x8r   FootlightMT-ExtraBold
mf4xi8r  FootlightMT-ExtraBoldItalic
mfer8r   ForteMT MForte
mfgr8rq  FrankGothMT-ExtraCondensed
mfir8r   FigaroMT MFigaro
mfsr8r   FalstaffMT MFalstaff
mfsrd8r  FalstaffFestivalMT
mfxr8r   FelixTitlingMT
mg2rw    Giddyup
mg4r8r   MGoudyModern
mg4ri8r  MGoudyModern-Italic
mg5r8r   GoudyCatalogueMT MGoudyCatalogue
mg5ri8r  GoudyCatalogueMT-Italic MGoudyCatalogue-Italic
mgmb8r   GaramondMT-Bold
mgmb8x   GaramondExpertMT-Bold MGaramondExpert-Bold
mgmbi8r  GaramondMT-BoldItalic
mgmbi8x  GaramondExpertMT-BoldItalic MGaramondExpert-BoldItalic
mgmr8r   GaramondMT
mgmr8x   GaramondExpertMT MGaramondExpert
mgmrd8r  GaramondMT-SwashCaps
mgmri7a  GaramondMT-AlternativeItalic
mgmri8r  GaramondMT-Italic
mgmri8x  GaramondExpertMT-Italic MGaramondExpert-Italic
mgmrw8r  GaramondMT-Swash
mgor8r   GoudyOldStyleMT MGoudyOldStyle
mgori8r  GoudyOldStyleMT-Italic MGoudyOldStyle-Italic
mgqb8r   GrotesqueMT-Bold MGrotesque-Bold
mgqb8rx  GrotesqueMT-BoldExtended
mgqbd8rc GrotesqueDisplayMT-BoldCond
mgqbd8rx GrotesqueDisplayMT-BoldExt
mgqc8r   GrotesqueMT-Black MGrotesque-Black
mgql8r   GrotesqueMT-Light MGrotesque-Light
mgql8rc  GrotesqueMT-LightCondensed MGrotesque-LightCondensed
```

```
mgqli8r  GrotesqueMT-LightItalic MGrotesque-LightItalic
mgqr8r   GrotesqueMT MGrotesque
mgqr8rc  GrotesqueMT-Condensed MGrotesque-Condensed
mgqr8rq  GrotesqueMT-ExtraCondensed MGrotesque-ExtraCondensed
mgqri8r  GrotesqueMT-Italic MGrotesque-Italic
mgrb8r   GloucesMT-Bold MGloucester-Bold
mgrb8rc  GloucesMT-CondensedBold MGloucester-BoldCondensed
mgrb8ro  GloucesMT-ExtraCondensedBold MGloucester-BoldExtraCondensed
mgrb8rx  GloucesMT-ExtendedBold MGloucester-BoldExtended
mgrr8r   MGloucester-OldStyle
mgs8rc   GillSans-Condensed
mgsb7a   GillAltOneMT-Bold
mgsb8r   GillSans-Bold
mgsb8rc  GillSans-BoldCondensed
mgsb8rq  GillSansMT-ExCondensedBold
mgsbd8r  GillSansDisplayMT-Bold
mgsbd8rc GillSansDisplayMT-CondBold
mgsbi7a  GillAltOneMT-BoldItalic
mgsbi8r  GillSans-BoldItalic
mgsbin8r GillSansMT-SchlbkBoldItalic
mgsbn8r  GillSansMT-SchlbkBold
mgsh7a   GillAltOneMT-Heavy
mgsh8r   GillSans-Heavy
mgshi7a  GillAltOneMT-HeavyItalic
mgshi8r  GillSans-HeavyItalic
mgsk7a   GillAltOneMT-Book
mgsk8r   GillSans-Book
mgski7a  GillAltOneMT-BookItalic
mgski8r  GillSans-BookItalic
mgsl7a   GillAltOneMT-Light
mgsl8r   GillSans-Light
mgsli7a  GillAltOneMT-LightItalic
mgsli8r  GillSans-LightItalic
mgsr7a   GillAltOneMT
mgsr8r   GillSans
mgsr8rc  GillSans-Condensed
mgsrh8r  GillSansMT-Shadow
mgsri7a  GillAltOneMT-Italic
mgsri8r  GillSans-Italic
mgsrin8r GillSansMT-SchlbkItalic
mgsrl8r  GillSansShadowedMT-Light
mgsrn8r  GillSansMT-Schlbk
mgsu8r   GillSans-UltraBold
mgsu8rc  GillSans-UltraBoldCondensed
mgsx8r   GillSans-ExtraBold
mgsxd8r  GillSansDisplayMT-ExtraBold
mgtr7a   GoudyTextMT-Alternate
mgtr7c   GoudyTextMT-Dfr
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mgtr8r   MGoudyText GoudyTextMT
mgtrd8r  GoudyTextMT-LombardicCapitals
mgyb8r   GoudyMT-Bold MGoudyBold
mgybi8r  GoudyMT-BoldItalic
mgyrp8r  GoudySorts
mgyx8r   GoudyMT-ExtraBold MGoudyExtraBold
mhdr8r   HeadlineMT-Bold MHeadlineBold
mhob8r   HorleyOSMT-Bold MHorleyOldStyle-Bold
mhobi8r  HorleyOSMT-BoldItalic MHorleyOldStyle-BoldItalic
mhol8r   HorleyOSMT-Light MHorleyOldStyle-Light
mholi8r  HorleyOSMT-LightItalic MHorleyOldStyle-LightItalic
mhor8r   HorleyOSMT MHorleyOldStyle
mhori8r  HorleyOSMT-Italic MHorleyOldStyle-Italic
mhos8r   HorleyOSMT-SemiBold MHorleyOldStyle-SemiBold
mhosi8r  HorleyOSMT-SemiBoldItalic MHorleyOldStyle-SemiBolItalic
mhrb8r   ArialRoundedMT-Bold
mhrl8r   ArialRoundedMT-Light
mhrr8r   ArialRoundedMT
mhrx8r   ArialRoundedMT-ExtraBold
mi0r8r   CommercialScriptMT
micr8r   ImpactMT
mifb8r   InflexMT-Bold MInflex-Bold
miib8r   ImprintMT-Bold MImprint-Bold
miib8x   ImprintExpertMT-Bold
miibi8r  ImprintMT-BoldItalic MImprint-BoldItalic
miibi8x  ImprintExpertMT-BoldItalic
miir8r   ImprintMT MImprint
miir8x   ImprintExpertMT
miirh8r  ImprintMT-Shadow
miirhi8r ImprintMT-ShadowItalic
miiri8r  ImprintMT-Italic MImprint-Italic
miiri8x  ImprintExpertMT-Italic
miirp    ImprintExtras
miob8r   IonicMT-Bold MIonic-Bold
mior8r   IonicMT MIonic
miori8r  IonicMT-Italic MIonic-Italic
misb8r   ItalianOldStyleMT-Bold MItalianOldStyle-Bold
misbi8r  ItalianOldStyleMT-BoldItalic MItalianOldStyle-BoldItalic
misr8r   ItalianOldStyleMT MItalianOldStyle
misri8r  ItalianOldStyleMT-Italic MItalianOldStyle-Italic
mjnb8r   JansonMT-Bold MJanson-Bold
mjnb8x   JansonExpertMT-Bold
mjnbi8r  JansonMT-BoldItalic MJanson-BoldItalic
mjnbi8x  JansonExpertMT-BoldItalic
mjnr8r   JansonMT MJanson
mjnr8x   JansonExpertMT
mjnri8r  JansonMT-Italic MJanson-Italic
mjnri8x  JansonExpertMT-Italic
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mjob7d   JoannaMT-BoldOSF
mjob8r   JoannaMT-Bold
mjob8x   JoannaMT-BoldExpert
mjobi7d  JoannaMT-BoldItalicOSF
mjobi8r  JoannaMT-BoldItalic
mjobi8x  JoannaMT-BoldItalicExpert
mjor8r   JoannaMT
mjor8x   JoannaMT-Expert
mjorc7d  JoannaMT-SCOSF
mjori7d  JoannaMT-ItalicOSF
mjori8r  JoannaMT-Italic
mjori8x  JoannaMT-ItalicExpert
mjos8r   JoannaMT-SemiBold
mjos8x   JoannaMT-SemiBoldExpert
mjosi7d  JoannaMT-SemiBoldItalicOSF
mjosi8r  JoannaMT-SemiBoldItalic
mjosi8x  JoannaMT-SemiBoldItaExpert
mjoss7d  JoannaMT-SemiBoldSCOSF
mjox7d   JoannaMT-ExtraBoldOSF
mjox8r   JoannaMT-ExtraBold
mjox8x   JoannaMT-ExtraBoldExpert
mklr8r   KlangMT MKlang
mkn8r    KinoMT
mkob8r   BookmanOldStyle-Bold
mkobi8r  BookmanOldStyle-BoldItalic
mkor8r   BookmanOldStyle
mkori8r  BookmanOldStyle-Italic
mlgb8r   LetterGothicMT-Bold
mlgbo8r  LetterGothicMT-BoldOblique
mlgr8r   LetterGothicMT
mlgro8r  LetterGothicMT-Oblique
mlir8rc  LatinMT-Condensed
mlyr8r   LydianMT
mlyrw8r  LydianCursiveMT
mm1r8r   MonolineScriptMT
mm7r8r   MaturaMT
mm7rw8r  MaturaMT-ScriptCapitals
mm8bl8r  MonotypeOldStyleMT-BoldOut
mmeb8r   MercuriusMT-BoldScript MercuriusScriptMT-Bold
mmob8r   ModernMT-Bold MModern-Bold
mmobi8r  ModernMT-BoldItalic MModern-BoldItalic
mmor8r   ModernMT-Extended MModernExtended
mmor8rc  ModernMT-Condensed
mmor8rw  ModernMT-Wide
mmori8r  ModernMT-CondensedItalic MModernExtended-Italic
mmori8rw ModernMT-WideItalic
mmori8rx ModernMT-ExtendedItalic
mn1p8r   BinnerPosterMT
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mn1r8r   BinnerGothicMT
mncb8r   MCenturySchoolbookPS-Bold
mncbi8r  CentSchlbookPS-BoldItalic MCenturySchoolbookPS-BoldIta
mncr8r   CentSchlbookPS MCenturySchoolbookPS
mncri8r  CentSchlbookPS-Italic MCenturySchoolbookPS-Ita
mngb8r   NewsGothicMT-Bold
mngb8rc  NewsGothicMT-CondensedBold
mngr8r   NewsGothicMT
mngr8rc  NewsGothicMT-Condensed
mngri8r  NewsGothicMT-Italic
mnib8r   NimrodMT-Bold
mnibi8r  NimrodMT-BoldItalic
mnir8r   NimrodMT
mniri8r  NimrodMT-Italic
mnkr8r   NeographikMT
mnnb8r   NewClarendonMT-Bold MNewClarendon-Bold
mnnr8r   NewClarendonMT MNewClarendon
mnpb8r   NewsPlantinMT-Bold
mnpbi8r  NewsPlantinMT-BoldItalic
mnpr8r   NewsPlantinMT
mnpri8r  NewsPlantinMT-Italic
mnrr8r   NewBerolinaMT
mnsb8r   TimesNewRomanPS-Bold
mnsb8x   TimesNRPSExpert-Bold
mnsbi8r  TimesNewRomanPS-BoldItalic
mnsbi8x  TimesNRPSExpert-BoldItalic
mnsr8r   TimesNewRomanPS
mnsr8x   TimesNRPSExpert
mnsri8r  TimesNewRomanPS-Italic
mnsri8x  TimesNRPSExpert-Italic
mntb78r  TimesNRSevenMT-Bold
mntb8r   TimesNRMT-Bold
mntb8rc  TimesNewRomanMT-BoldCond TimesNRMT-CondensedBold
mntb8x   TimesNRExpertMT-Bold MTimesNewRomanExpert-Bold
mntb9s   TimesNewRomanSF-Bold
mntbi78r TimesNRSevenMT-BoldItalic
mntbi8r  TimesNRMT-BoldItalic
mntbi8x  TimesNRExpertMT-BoldItalic MTimesNewRomanExpt-BoldItalic
mntbi9s  TimesNewRomanSF-BoldItalic
mntbk8r  MTimesNewRomanGreek-Bold
mntbko8r MTimesNewRomanGreek-BoldInc
mntboz8r MTimesNewRomanCyrillic-BolInc
mntbz8r  MTimesNewRomanCyrillic-Bold
mntm8r   TimesNRMT-Medium MTimesNewRoman-Medium
mntmi8r  TimesNRMT-MediumItalic MTimesNewRoman-MediumItalic
mntr78r  TimesNRSevenMT
mntr8r   TimesNRMT
mntr8rc  TimesNewRomanMT-Cond TimesNRMT-Condensed
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mntr8x   TimesNRExpertMT MTimesNewRomanExpert
mntr9s   TimesNewRomanSF
mntri78r TimesNRSevenMT-Italic
mntri8r  TimesNRMT-Italic
mntri8rc TimesNewRomanMT-CondItalic TimesNRMT-CondensedItalic
mntri8x  TimesNRExpertMT-Italic MTimesNewRomanExpert-Italic
mntri9s  TimesNewRomanSF-Italic
mntrk8r  MTimesNewRomanGreek
mntrko   MTimesNewRomanGreek-Inclined
mntroz8r MTimesNewRomanCyrillic-Inc
mntrz8r  MTimesNewRomanCyrillic
mnts8r   TimesNRMT-SemiBold
mntsi8r  TimesNRMT-SemiBoldItalic
mntx8r   TimesNRMT-ExtraBold
mo3r8r   ColonnaMT
mo4b8r   OceanSansMT-Bold
mo4bi8r  OceanSansMT-BoldItalic
mo4ji8r  OceanSansMT-BookItalic
mo4k8r   OceanSansMT-Book
mo4l8r   OceanSansMT-Light
mo4li8r  OceanSansMT-LightItalic
mo4s8r   OceanSansMT-SemiBold
mo4se8r  OceanSansMT-SemiBoldItalic
mo4x8r   OceanSansMT-ExtraBold
mo4xi8r  OceanSansMT-ExtraBoldItalic
moer8r   OldEnglishTextMT MOldEnglishText
molb7a   ColmcilleAltMT-Bold
molb8r   ColmcilleMT-Bold
molbi7a  ColmcilleAltMT-BoldItalic
molbi8r  ColmcilleMT-BoldItalic
molr7a   ColmcilleAltMT
molr8r   ColmcilleMT
molri7a  ColmcilleAltMT-Italic
molri8r  ColmcilleMT-Italic
molrp8r  ColmcilleOrnamentsMT
mosb8r   OldStyleMT-Bold MOldStyle-Bold
mosbi8r  OldStyleMT-BoldItalic MOldStyle-BoldItalic
mosbl8r  MOldStyle-BoldOutline
mosr8r   OldStyleMT MOldStyle
mosri8r  OldStyleMT-Italic MOldStyle-Italic
motb8r   CoronetMT-Bold
movr8r   OctavianMT
movr8x   OctavianMT-Expert
movrc8r  OctavianMT-SC
movri7d  OctavianMT-ItalicOsF
movri8r  OctavianMT-Italic
movri8x  OctavianMT-ItalicExpert
moxr8r   MOnyx OnyxMT
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mp1r8r	PalaceScriptMT
mp1rs8r	PalaceScriptMT-SemiBold
mp2r8r	PepitaMT
mp6b8r	BlueprintMT-Bold
mp6bi8r	BlueprintMT-BoldItalic
mp6r8r	BlueprintMT
mp6ri8r	BlueprintMT-Italic
mpdb8rc	PlacardMT-CondensedBold
mpdr8rc	PlacardMT-Condensed
mphb8r	PhotinaMT-Bold
mphbi8r	PhotinaMT-BoldItalic
mphr8r	PhotinaMT
mphri8r	PhotinaMT-Italic
mphs8r	PhotinaMT-SemiBold MPhotina-SemiBold
mphsi8r	PhotinaMT-SemiBoldItalic MPhotina-SemiBoldItalic
mphu8r	PhotinaMT-UltraBold MPhotina-UltraBold
mphui8r	PhotinaMT-UltraBoldItalic MPhotina-UltraBoldItalic
mpi001	RococoOrnamentsOne
mpi002	RococoOrnamentsTwo
mpi003	ArabesqueOrnamentsOne
mpi101	AlmanacMT Almanac
mpi102	BotanicalMT Botanical
mpi103	DirectionsMT Directions
mpi104	SportsOne SportsOneMT
mpi105	SportsTwo SportsTwoMT
mpi106	TransportMT Transport
mpi107	VacationMT Vacation
mpi108	SportsThree SportsThreeMT
mpi109	SportsFour SportsFourMT
mpi201	CircleFrameMT CircleFrame
mpi202	CircleFrameNegMT CircleFrameNeg
mpi203	SquareFrameMT SquareFrame
mpi204	SquareFrameNegMT SquareFrameNeg
mpi205	DiamondBodoni DiamondBodoni
mpi206	DiamondPositive DiamondPositive
mpi207	DiamondNegative DiamondNegative
mpi208	OvalFrameMT circled numerals
mpi209	OvalFrameNegativeMT ditto
mpi300	Giddyup-Thangs
mpi301	Petrucchio
mpi302	AquaLifeMT fish
mpi303	BonApetit food
mpi304	DinosaursMT dinosaurs
mpi305	FrontierMT cowboys & indians
mpi306	Holidays clip art
mpi307	KeystrokesExtrasMT keyboards
mpi308	KeystrokesMT ditto
mpi309	Melodies musical instruments

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mpi310   MilestonesOneMT greeting card illos
mpi311   MilestonesTwoMT ditto
mpi312   MonkeyBusiness animals
mpi313   MonotypeSorts dingbats
mpi314   NatureMT animals
mpi315   Parties clip art
mpi319   PlaytimeMT toys
mpi320   SignsMT signs
mpi321   SouthwestOrnamentsMT geometrics
mpi322   KeystrokesShadowExtrasMT
mpi323   KeystrokesShadowMT
mpnb8r   Plantin-Bold
mpnb8rc  Plantin-BoldCondensed
mpnb8x   PlantinExp-Bold PlantinExpert-Bold
mpnbd8rc PlantinHeadlineMT-BoldCond
mpnbi8r  Plantin-BoldItalic
mpnbi8x  PlantinExp-BoldItalic PlantinExpert-BoldItalic
mpnbin8r PlantinMT-SchlbkBoldItalic
mpnbn8r  PlantinMT-SchlbkBold
mpnl8r   Plantin-Light
mpnl8x   PlantinExp-Light MPlantinExpt-Light
mpnld8rc PlantinHeadlineMT-LightCond
mpnli8r  Plantin-LightItalic
mpnli8x  PlantinExp-LightItalic MPlantinExpt-LightItalic
mpnmd8rc PlantinHeadlineMT-MedCond
mpnr8r   Plantin
mpnr8x   PlantinExp PlantinExpert
mpnra8x  PlantinExp-AltFigures
mpnri8r  Plantin-Italic
mpnri8x  PlantinExp-Italic PlantinExpert-Italic
mpnrin8r PlantinMT-SchlbkItalic
mpnrn8r  PlantinMT-Schlbk
mpns8r   Plantin-Semibold
mpns8x   PlantinExp-SemiBold MPlantinExpt-SemiBold
mpnsi8r  Plantin-SemiboldItalic Plantin-SemiboldItalic
mpnsi8x  PlantinExp-SemiBoldItalic MPlantinExpt-SemiBoldItalic
mppb8r   Perpetua-Bold
mppb8x   PerpetuaExpert-Bold MPerpetuaExpert-Bold
mppbd8r  PerpetuaTitlingMT-Bold
mppbi8r  Perpetua-BoldItalic
mppbi8x  PerpetuaExpert-BoldItalic MPerpetuaExpert-BoldItalic
mppld8r  PerpetuaTitlingMT-Light
mppr8r   Perpetua
mppr8x   PerpetuaExpert MPerpetuaExpert
mpprd8r  PerpetuaTitlingMT
mppri8r  Perpetua-Italic
mppri8x  PerpetuaExpert-Italic MPerpetuaExpert-Italic
mpum     PopplLaudatio-Medium
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mpumi    PopplLaudatio-MediumItalic
mpur     PopplLaudatio-Regular
mpuri    PopplLaudatio-Italic
mpwb8r   PerrywoodMT-Bold
mpwbi8r  PerrywoodMT-BoldItalic
mpwl8r   PerrywoodMT-Light
mpwli8r  PerrywoodMT-LightItalic
mpwr8r   PerrywoodMT
mpwri8r  PerrywoodMT-Italic
mpws8r   PerrywoodMT-SemiBold
mpwsi8r  PerrywoodMT-SemiBoldItalic
mpwx8r   PerrywoodMT-ExtraBold
mpwxi8r  PerrywoodMT-ExtraBoldItalic
mpzr8r   PoliphilusMT MPoliphilus
mpzr8x   PoliphilusExpertMT
mqtr     Boulevard
mr2b8r   CantoriaMT-Bold
mr2bi8r  CantoriaMT-BoldItalic
mr2l8r   CantoriaMT-Light
mr2li8r  CantoriaMT-LightItalic
mr2r8r   CantoriaMT
mr2ri8r  CantoriaMT-Italic
mr2s8r   CantoriaMT-SemiBold
mr2si8r  CantoriaMT-SemiBoldItalic
mr2x8r   CantoriaMT-ExtraBold
mr2xi8r  CantoriaMT-ExtraBoldItalic
mr5rw8r  FrenchScriptMT
mrur8rc  RunicMT-Condensed
mrwb8r   Rockwell-Bold
mrwb8rc  Rockwell-BoldCondensed
mrwbi8r  Rockwell-BoldItalic
mrwl8r   Rockwell-Light
mrwli8r  Rockwell-LightItalic
mrwr8r   Rockwell
mrwr8rc  Rockwell-Condensed
mrwri8r  Rockwell-Italic
mrwx8r   Rockwell-ExtraBold
ms1r8r   ScotchRomanMT MScotchRoman
ms1ri8r  ScotchRomanMT-Italic MScotchRoman-Italic
ms2b8r   ScriptMT-Bold
ms7bai   SassoonInfant-BoldAlt
ms7bais  SassoonSanSlope-BoldAlt
ms7bap   SassoonPrimary-BoldAlt
ms7bas   SassoonSans-BoldAlt
ms7bi    SassoonInfant-Bold
ms7bis   SassoonSanSlope-Bold
ms7bp    SassoonPrimary-Bold
ms7bs    SassoonSans-Bold
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ms7mais  SassoonSanSlope-MediumAlt
ms7mas   SassoonSans-MediumAlt
ms7mis   SassoonSanSlope-Medium
ms7ms    SassoonSans-Medium
ms7rai   SassoonInfant-Alt
ms7rais  SassoonSanSlope-Alt
ms7rap   SassoonPrimary-Alt
ms7ras   SassoonSans-Alt
ms7ri    SassoonInfant
ms7ris   SassoonSanSlope
ms7rp    SassoonPrimary
ms7rs    SassoonSans
msbr8r   SabonMT MSabon
msbrc7d  SabonMT-SCOSF
msbri7d  SabonMT-ItalicOSF
msbri8r  SabonMT-Italic MSabon-Italic
msbs7c   SabonMT-SemiBoldOSF
msbs8r   SabonMT-SemiBold MSabon-SemiBold
msmr8r   SpectrumMT MSpectrum
msmr8x   SpectrumMT-Expert
msmrc8r  SpectrumMT-SC
msmri7d  SpectrumMT-ItalicOsF
msmri8r  SpectrumMT-Italic MSpectrum-Italic
msmri8x  SpectrumMT-ItalicExpert
msms7d   SpectrumMT-SemiBoldOsF
msms8r   SpectrumMT-SemiBold MSpectrum-SemiBold
msms8x   SpectrumMT-SemiBoldExpert
msn8r1   MSpartan-SizeOne
msn8r2   MSpartan-SizeTwo
msn8r3   MSpartan-SizeThree
msn8r4   MSpartan-SizeFour   SpartanFourMT
msnb8r1  MSpartan-BoldSizeOne
msnb8r12 SpartanOneTwoMT-Bold
msnb8r13 SpartanOneThreeMT-Bold
msnb8r2  MSpartan-BoldSizeTwo
msnb8r24 SpartanTwoFourMT-Bold
msnb8r3  MSpartan-BoldSizeThree
msnb8r34 SpartanThreeFourMT-Bold
msnb8r4  SpartanFourMT-Bold MSpartan-BoldSizeFour
msni8r12 SpartanOneTwoMT-Italic
msni8r13 SpartanOneThreeMT-Italic
msni8r24 SpartanTwoFourMT-Italic
msni8r34 SpartanThreeFourMT-Italic
msnr8r12 SpartanOneTwoMT
msnr8r13 SpartanOneThreeMT
msnr8r24 SpartanTwoFourMT
msnr8r34 SpartanThreeFourMT
msnri8r1 MSpartan-ItalicSizeOne
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msnri8r2 MSpartan-ItalicSizeTwo
msnri8r3 MSpartan-ItalicSizeThree
msnri8r4 SpartanFourMT-Italic MSpartan-ItalicSizeFour
mswb8r   SwingMT-Bold
msyr     MSymbolPS SymbolPS
mtlr8r   MCastellar CastellarMT
mtmbg8r  TimesSmallTextMT-Bold MTimesSmallText-Bold
mtmrg8r  TimesSmallTextMT MTimesSmallText
mtmrgi8r TimesSmallTextMT-Italic MTimesSmallText-Italic
mtwb8r   TwCenMT-Bold MTwentiethCentury-Bold
mtwb8rc  TwCenMT-CondensedBold MTwentiethCentury-BoldCondensed
mtwbi8r  TwCenMT-BoldItalic MTwentiethCentury-BoldItalic
mtwl8r   TwCenMT-Light MTwentiethCentury-Light
mtwli8r  TwCenMT-LightItalic MTwentiethCentury-LightItalic
mtwm8r   TwCenMT-Medium MTwentiethCentury-Medium
mtwm8rc  TwCenMT-CondensedMedium MTwentiethCentury-MediumCondensed
mtwmi8r  TwCenMT-MediumItalic MTwentiethCentury-MediumItalic
mtws8r   TwCenMT-SemiBold MTwentiethCentury-SemiBold
mtwsm8r  TwCenMT-SemiMedium MTwentiethCentury-SemiMedium
mtwu8r   TwCenMT-UltraBold MTwentiethCentury-UltraBold
mtwu8rc  TwCenMT-CondensedUltraBold MTwentiethCentury-UltraBoldCondensed
mtwui8r  TwCenMT-UltraBoldItalic MTwentiethCentury-UltraBoldItalic
mtwx8r   TwCenMT-ExtraBold MTwentiethCentury-ExtraBold
mtwx8rc  TwCenMT-CondensedExtraBold MTwentiethCentury-ExtraBoldCondensed
mtwxi8r  TwCenMT-ExtraBoldItalic MTwentiethCentury-ExtraBoldItalic
mtyr8r   TypewriterMT
mtyre8r  TypewriterEliteMT
mtyrs8r  TypewriterGothicMT
mu0b8r   ColumbusMT-Bold
mu0b8x   ColumbusExpMT-Bold
mu0bi8r  ColumbusMT-BoldItalic
mu0bi8x  ColumbusExpMT-BoldItalic
mu0r8r   ColumbusMT
mu0r8x   ColumbusExpMT
mu0ri8r  ColumbusMT-Italic
mu0ri8x  ColumbusExpMT-Italic
mu0rp8r1 ColumbusOrnamentsOneMT
mu0rp8r2 ColumbusOrnamentsTwoMT
mu0s8r   ColumbusMT-SemiBold
mu0s8x   ColumbusExpMT-SemiBold
mu0si8r  ColumbusMT-SemiBoldItalic
mu0si8x  ColumbusExpMT-SemiBoldItal
murb7a   CentaurMT-AltBold
murb8r   CentaurMT-Bold
murb8x   CentaurExpertMT-Bold
murbi7a  CentaurMT-AltBoldItalic
murbi8r  CentaurMT-BoldItalic
murbi8x  CentaurExpertMT-BoldItalic
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murr7a   CentaurMT-Alt
murr8r   CentaurMT
murr8x   CentaurExpertMT
murrai   CentaurMT-ItalicA
murri7a  CentaurMT-AltItalic
murri8r  CentaurMT-Italic
murri8x  CentaurExpertMT-Italic
murrw8r  CentaurSwashMT
mvdr8r   VanDijckMT MVanDijck
mvdr8x   VanDijckExpertMT
mvdra8x  VanDijckExpertMT-AltFigs
mvdrai8x VanDijckExpertMT-AltFigsIta
mvdri8r  VanDijckMT-Italic
mvdri8x  VanDijckExpertMT-Italic
mvird8rc VictoriaTitlingMT-Condensed
mwbm8r   WalbaumMT-Medium MWalbaum-Medium
mwbm8x   WalbaumExpMT-Medium
mwbmi8r  WalbaumMT-MediumItalic MWalbaum-MediumItalic
mwbmi8x  WalbaumExpMT-MediumItalic
mwbr8r   WalbaumMT MWalbaum
mwbr8x   WalbaumExpMT
mwbri8r  WalbaumMT-Italic MWalbaum-Italic
mwbri8x  WalbaumExpMT-Italic
mwnr8r   WindsorMT
mwrb8r   WitternbergerFraktMT-Bold
mwrr8r   WitternbergerFraktMT
mygb8r   CenturyGothic-Bold
mygbi8r  CenturyGothic-BoldItalic
mygr8r   CenturyGothic
mygri8r  CenturyGothic-Italic
myhb8r   StrayhornMT-Bold
myhbi8r  StrayhornMT-BoldItalic
myhl8r   StrayhornMT-Light
myhli8r  StrayhornMT-LightItalic
myhr8r   StrayhornMT-Regular
myhri8r  StrayhornMT-Italic
myhx8r   StrayhornMT-ExtraBold
myhxi8r  StrayhornMT-ExtraBoldItalic
mzab8r   MZAntiqua-Bold
mzabi8r  MZAntiqua-BoldItalic
mzar8r   MZAntiqua
mzari8r  MZAntiqua-Italic
mzcb8r   ZapfChancery-Bold
mzcd8r   ZapfChancery-Demi
mzcmi8r  MZapfChanceryPS-MediumItalic
mzdr     MZapfDingbatsPS
mztb8r   ZeitgeistMT-Bold
mztb8x   ZeitgeistExpertMT-Bold
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mztr7a   ZeitgeistMT-Alternative
mztr8r   ZeitgeistMT
mztr8rc  ZeitgeistMT-Condensed
mztr8x   ZeitgeistExpertMT
mztr8xc  ZeitgeistExpertMT-Condensed
mztri8r  ZeitgeistMT-Italic
mztri8x  ZeitgeistExpertMT-Italic
zmztcm8r ZeitgeistMT-Cameo
zmztcz8r ZeitgeistMT-CrazyPaving
zmztr8xc ZeitgeistExpertMT-Cameo
```

A.8 URW fonts

The 'urw.map' file has abbreviations for URW fonts.

```
uagd8r   URWGothicL-Demi
uagdo8r  URWGothicL-DemiObli
uagk8r   URWGothicL-Book
uagko8r  URWGothicL-BookObli
ubkd8r   URWBookmanL-DemiBold
ubkdi8r  URWBookmanL-DemiBoldItal
ubkl8r   URWBookmanL-Ligh
ubkli8r  URWBookmanL-LighItal
ucrb8r   NimbusMonL-Bold
ucrbo8r  NimbusMonL-BoldObli
ucrr8r   NimbusMonL-Regu
ucrro8r  NimbusMonL-ReguObli
uhvb8r   NimbusSanL-Bold
uhvbo8r  NimbusSanL-BoldItal
uhvboc8r NimbusSanL-ReguCondItal
uhvbrc8r NimbusSanL-BoldCond
uhvr8r   NimbusSanL-Regu
uhvro8r  NimbusSanL-ReguItal
uhvro8rc NimbusSanL-BoldCondItal
uhvr8rc  NimbusSanL-ReguCond
uncb8r   CenturySchL-Bold
uncbi8r  CenturySchL-BoldItal
uncr8r   CenturySchL-Roma
uncri8r  CenturySchL-Ital
uplb8r   URWPalladioL-Bold
uplbi8r  URWPalladioL-BoldItal
uplr8r   URWPalladioL-Roma
uplri8r  URWPalladioL-Ital
usyr     StandardSymL
utmb8r   NimbusRomNo9L-Medi
utmbi8r  NimbusRomNo9L-MediItal
utmr8r   NimbusRomNo9L-Regu
utmri8r  NimbusRomNo9L-ReguItal
uzcmi8r  URWChanceryL-MediItal
```

`uzdr` `Dingbats`

Appendix B Encodings

The following sections define various encodings as PostScript encoding vectors. These files can be installed in the Dvips header directory and then used in '`psfonts.map`' to change font encodings of downloadable or builtin fonts (see section "psfonts.map" in *Dvips*).

You can also specify these '`.enc`' files to Afm2tfm when building a font (see section "Changing font encodings" in *Dvips*).

B.1 '`8a.enc`': Adobe standard encoding

```
% @psencodingfile{
%   author = "Adobe",
%   version = "1.0",
%   date = "22 June 1996",
%   filename = "8a.enc",
%   email = "kb@mail.tug.org",
%   address = "135 Center Hill Rd. // Plymouth, MA 02360",
%   codetable = "ISO/ASCII",
%   checksum = "269     317    2399",
%   docstring = "Adobe StandardEncoding as an afm2tfm/dvips .enc file."
% }
/StandardEncoding [
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
```

```
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/space
/exclam
/quotedbl
/numbersign
/dollar
/percent
/ampersand
/quoteright
/parenleft
/parenright
/asterisk
/plus
/comma
/hyphen
/period
/slash
/zero
/one
/two
/three
/four
/five
/six
/seven
/eight
/nine
/colon
/semicolon
/less
/equal
/greater
/question
/at
/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
/bracketleft
/backslash
/bracketright
/asciicircum
/underscore
/quoteleft
/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
/braceleft
/bar
/braceright
/asciitilde
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
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/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/exclamdown
/cent
/sterling
/fraction
/yen
/florin
/section
/currency
```

```
/quotesingle
/quotedblleft
/guillemotleft
/guilsinglleft
/guilsinglright
/fi
/fl
/.notdef
/endash
/dagger
/daggerdbl
/periodcentered
/.notdef
/paragraph
/bullet
/quotesinglbase
/quotedblbase
/quotedblright
/guillemotright
/ellipsis
/perthousand
/.notdef
/questiondown
/.notdef
/grave
/acute
/circumflex
/tilde
/macron
/breve
/dotaccent
/dieresis
/.notdef
/ring
/cedilla
/.notdef
/hungarumlaut
/ogonek
/caron
/emdash
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
```

```
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/AE
/.notdef
/ordfeminine
/.notdef
/.notdef
/.notdef
/.notdef
/Lslash
/Oslash
/OE
/ordmasculine
/.notdef
/.notdef
/.notdef
/.notdef
/.notdef
/ae
/.notdef
/.notdef
/.notdef
/dotlessi
/.notdef
/.notdef
/lslash
/oslash
/oe
/germandbls
/.notdef
/.notdef
/.notdef
/.notdef
] def
```

B.2 '8r.enc': TEX base encoding

```
% @psencodingfile{
%   author = "S. Rahtz, P. MacKay, Alan Jeffrey, B. Horn, K. Berry",
%   version = "0.6",
%   date = "22 June 1996",
%   filename = "8r.enc",
```

```
%   email = "kb@mail.tug.org",
%   address = "135 Center Hill Rd. // Plymouth, MA 02360",
%   codetable = "ISO/ASCII",
%   checksum = "119     662    4424",
%   docstring = "Encoding for TrueType or Type 1 fonts to be used with TeX."
% }
%
% Idea is to have all the characters normally included in Type 1 fonts
% available for typesetting. This is effectively the characters in Adobe
% Standard Encoding + ISO Latin 1 + extra characters from Lucida.
%
% Character code assignments were made as follows:
%
% (1) the Windows ANSI characters are almost all in their Windows ANSI
% positions, because some Windows users cannot easily reencode the
% fonts, and it makes no difference on other systems. The only Windows
% ANSI characters not available are those that make no sense for
% typesetting -- rubout (127 decimal), nobreakspace (160), softhyphen
% (173). quotesingle and grave are moved just because it's such an
% irritation not having them in TeX positions.
%
% (2) Remaining characters are assigned arbitrarily to the lower part
% of the range, avoiding 0, 10 and 13 in case we meet dumb software.
%
% (3) Y&Y Lucida Bright includes some extra text characters; in the
% hopes that other PostScript fonts, perhaps created for public
% consumption, will include them, they are included starting at 0x12.
%
% (4) Remaining positions left undefined are for use in (hopefully)
% upward-compatible revisions, if someday more characters are generally
% available.
%
% (5) hyphen appears twice for compatibility with both ASCII and Windows.
%
/TeXBase1Encoding [
% 0x00 (encoded characters from Adobe Standard not in Windows 3.1)
  /.notdef /dotaccent /fi /fl
  /fraction /hungarumlaut /Lslash /lslash
  /ogonek /ring /.notdef
  /breve /minus /.notdef
% These are the only two remaining unencoded characters, so may as
% well include them.
  /Zcaron /zcaron
% 0x10
 /caron /dotlessi
% (unusual TeX characters available in, e.g., Lucida Bright)
 /dotlessj /ff /ffi /ffl
 /.notdef /.notdef /.notdef /.notdef
```

```
 /.notdef /.notdef /.notdef /.notdef
 % very contentious; it's so painful not having quoteleft and quoteright
 % at 96 and 145 that we move the things normally found there down to here.
 /grave /quotesingle
% 0x20 (ASCII begins)
 /space /exclam /quotedbl /numbersign
 /dollar /percent /ampersand /quoteright
 /parenleft /parenright /asterisk /plus /comma /hyphen /period /slash
% 0x30
 /zero /one /two /three /four /five /six /seven
 /eight /nine /colon /semicolon /less /equal /greater /question
% 0x40
 /at /A /B /C /D /E /F /G /H /I /J /K /L /M /N /O
% 0x50
 /P /Q /R /S /T /U /V /W
 /X /Y /Z /bracketleft /backslash /bracketright /asciicircum /underscore
% 0x60
 /quoteleft /a /b /c /d /e /f /g /h /i /j /k /l /m /n /o
% 0x70
 /p /q /r /s /t /u /v /w
 /x /y /z /braceleft /bar /braceright /asciitilde
 /.notdef % rubout; ASCII ends
% 0x80
 /.notdef /.notdef /quotesinglbase /florin
 /quotedblbase /ellipsis /dagger /daggerdbl
 /circumflex /perthousand /Scaron /guilsinglleft
 /OE /.notdef /.notdef /.notdef
% 0x90
 /.notdef /.notdef /.notdef /quotedblleft
 /quotedblright /bullet /endash /emdash
 /tilde /trademark /scaron /guilsinglright
 /oe /.notdef /.notdef /Ydieresis
% 0xA0
 /.notdef % nobreakspace
 /exclamdown /cent /sterling
 /currency /yen /brokenbar /section
 /dieresis /copyright /ordfeminine /guillemotleft
 /logicalnot
 /hyphen % Y&Y (also at 45); Windows' softhyphen
 /registered
 /macron
% 0xD0
 /degree /plusminus /twosuperior /threesuperior
 /acute /mu /paragraph /periodcentered
 /cedilla /onesuperior /ordmasculine /guillemotright
 /onequarter /onehalf /threequarters /questiondown
% 0xC0
 /Agrave /Aacute /Acircumflex /Atilde /Adieresis /Aring /AE /Ccedilla
```

```
 /Egrave /Eacute /Ecircumflex /Edieresis
 /Igrave /Iacute /Icircumflex /Idieresis
% 0xD0
 /Eth /Ntilde /Ograve /Oacute
 /Ocircumflex /Otilde /Odieresis /multiply
 /Oslash /Ugrave /Uacute /Ucircumflex
 /Udieresis /Yacute /Thorn /germandbls
% 0xE0
 /agrave /aacute /acircumflex /atilde
 /adieresis /aring /ae /ccedilla
 /egrave /eacute /ecircumflex /edieresis
 /igrave /iacute /icircumflex /idieresis
% 0xF0
 /eth /ntilde /ograve /oacute
 /ocircumflex /otilde /odieresis /divide
 /oslash /ugrave /uacute /ucircumflex
 /udieresis /yacute /thorn /ydieresis
] def
```

B.3 'cork.enc': Cork encoding

```
%   This is the Cork encoding, aka EC, Cork, aka TeX Latin 1, as
%   described in TTN 1(4), December 1992, and TUGboat 11(4), November
%   1990, page 514. EC is the name of the Computer Modern-based fonts in
%   this encoding. NFSS and Fontinst know it by 'T1'.
%
%   These are the ligs and kerns in addition to those found in the
%   AFM file.  (The only ligs in the Times-Roman.afm file are the
%   fi and fl ligatures.)
%
% LIGKERN space l =: lslash ; space L =: Lslash ;
% LIGKERN question quoteleft =: questiondown ; exclam quoteleft =: exclamdown ;
% LIGKERN hyphen hyphen =: endash ; endash hyphen =: emdash ;
% LIGKERN quoteleft quoteleft =: quotedblleft ;
% LIGKERN quoteright quoteright =: quotedblright ;
%
%   We blow away kerns to and from spaces (TeX doesn't have a
%   space) and also remove any kerns from the numbers (although
%   the only kern pair that mentions a number in Times-Roman.afm
%   is one one.)
%
% LIGKERN space  * ; *  space ; zero  * ; *  zero ;
% LIGKERN one  * ; *  one ; two  * ; *  two ;
% LIGKERN three  * ; *  three ; four  * ; *  four ;
% LIGKERN five  * ; *  five ; six  * ; *  six ;
% LIGKERN seven  * ; *  seven ; eight  * ; *  eight ;
```

```
% LIGKERN nine  * ; *  nine ;
% LIGKERN comma comma =: quotedblbase ; less less =: guillemotleft ;
% LIGKERN greater greater =: guillemotright ;
%
/CorkEncoding [          % now 256 chars follow
% 0x00
  /grave /acute /circumflex /tilde /dieresis /hungarumlaut /ring /caron
  /breve /macron /dotaccent /cedilla
  /ogonek /quotesinglbase /guilsinglleft /guilsinglright
% 0x10
  /quotedblleft /quotedblright /quotedblbase /guillemotleft
  /guillemotright /endash /emdash /compworkmark
  /perthousandzero /dotlessi /dotlessj /ff /fi /fl /ffi /ffl
% 0x20
  /visualspace /exclam /quotedbl /numbersign
  /dollar /percent /ampersand /quoteright
  /parenleft /parenright /asterisk /plus /comma /hyphen /period /slash
% 0x30
  /zero /one /two /three /four /five /six /seven
  /eight /nine /colon /semicolon /less /equal /greater /question
% 0x40
  /at /A /B /C /D /E /F /G /H /I /J /K /L /M /N /O
% 0x50
  /P /Q /R /S /T /U /V /W
  /X /Y /Z /bracketleft /backslash /bracketright /asciicircum /underscore
% 0x60
  /quoteleft /a /b /c /d /e /f /g /h /i /j /k /l /m /n /o
% 0x70
  /p /q /r /s /t /u /v /w
  /x /y /z /braceleft /bar /braceright /asciitilde /hyphen
% 0x80
  /Abreve /Aogonek /Cacute /Ccaron /Dcaron /Ecaron /Eogonek /Gbreve
  /Lacute /Lcaron /Lslash /Nacute /Ncaron /Ng /Ohungarumlaut /Racute
% 0x90
  /Rcaron /Sacute /Scaron /Scedilla
  /Tcaron /Tcedilla /Uhungarumlaut /Uring
  /Ydieresis /Zacute /Zcaron /Zdotaccent /IJ /Idotaccent /dbar /section
% 0xA0
  /abreve /aogonek /cacute /ccaron /dcaron /ecaron /eogonek /gbreve
  /lacute /lcaron /lslash /nacute /ncaron /ng /ohungarumlaut /racute
% 0xB0
  /rcaron /sacute /scaron /scedilla
  /tquoteright /tcedilla /uhungarumlaut /uring
  /ydieresis /zacute /zcaron /zdotaccent
  /ij /exclamdown /questiondown /sterling
% 0xC0
  /Agrave /Aacute /Acircumflex /Atilde /Adieresis /Aring /AE /Ccedilla
  /Egrave /Eacute /Ecircumflex /Edieresis
```

```
  /Igrave /Iacute /Icircumflex /Idieresis
% 0xD0
  /Eth /Ntilde /Ograve /Oacute /Ocircumflex /Otilde /Odieresis /OE
  /Oslash /Ugrave /Uacute /Ucircumflex /Udieresis /Yacute /Thorn /Germandbls
% 0xE0
  /agrave /aacute /acircumflex /atilde /adieresis /aring /ae /ccedilla
  /egrave /eacute /ecircumflex /edieresis
  /igrave /iacute /icircumflex /idieresis
% 0xF0
  /eth /ntilde /ograve /oacute /ocircumflex /otilde /odieresis /oe
  /oslash /ugrave /uacute /ucircumflex /udieresis /yacute /thorn /germandbls
] def
```

B.4 ‘dvips.enc’: Dvips encoding

```
% @psencodingfile{
%   author = "T. Rokicki, K. Berry",
%   version = "2.0",
%   date = "22 June 1996",
%   filename = "dvips.enc",
%   email = "kb@mail.tug.org",
%   address = "135 Center Hill Rd. // Plymouth, MA 02360",
%   codetable = "ISO/ASCII",
%   checksum = "75     515    3715",
%   docstring = "An encoding for PostScript fonts to be used with TeX."
% }
%
% This is almost the default encoding produced by the afm2tfm program
% that comes with the dvips distribution, when it is applied to a
% StandardEncoding PostScript font.  The positions of the accented
% characters (which afm2tfm assigned more or less randomly in the
% previous set of fonts) have been held fixed.
%
% It is almost upward-compatible with TeX text.  (The primary exceptions
% are dotaccent and hungarumlaut.)  Some of the ligatures are also in
% different positions, but this is not important, since ligature
% positions are defined in the TFM file, not by macros.
%
% The character positions were assigned in this order:
%   1) non-composite characters in the afm2tfm encoding (except dotlessj
%      was included in its plain TeX position);
%   2) available characters in the Cork (EC) encoding;
%   3) remaining composite characters in the base encoding (starting at
%      position 130 decimal).  We don't include all the other base
%      characters because that changes the height/depth/width tables in
%      the TFM files (because more characters mean more distinct values).
```

```
%
% We leave the initial positions open for the Greek letters in Times-Roman.
%
/DvipsEncoding [
  /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
  /.notdef /.notdef /.notdef /.notdef
    /.notdef /quotesingle /exclamdown /questiondown
  /dotlessi /dotlessj /grave /acute /caron /breve /macron /ring
  /cedilla /germandbls /ae /oe /oslash /AE /OE /Oslash
  /space /exclam /quotedbl /numbersign /dollar /percent /ampersand /quoteright
  /parenleft /parenright /asterisk /plus /comma /hyphen /period /slash
  /zero /one /two /three /four /five /six /seven
  /eight /nine /colon /semicolon /less /equal /greater /question
  /at /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 /bracketleft /backslash /bracketright /circumflex /underscore
  /quoteleft /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 /braceleft /bar /braceright /tilde /dieresis
  /asciicircum /asciitilde /Ccedilla /Iacute
      /Icircumflex /atilde /edieresis /egrave
  /scaron /zcaron /Eth /ff /ffi /ffl /.notdef /.notdef
  /.notdef /.notdef /Scaron /.notdef /.notdef /.notdef /.notdef /.notdef
  /Ydieresis /.notdef /Zcaron  /.notdef /.notdef /.notdef /.notdef /.notdef
  /.notdef /.notdef /cent /sterling /fraction /yen /florin /section
  /currency /copyright /quotedblleft /guillemotleft
      /guilsinglleft /guilsinglright /fi /fl
  /degree /endash /dagger /daggerdbl /periodcentered /.notdef /paragraph /bullet
  /quotesinglbase /quotedblbase /quotedblright /guillemotright
      /ellipsis /perthousand /.notdef /.notdef
  /Agrave /Aacute /Acircumflex /Atilde /Adieresis /Aring /.notdef /dotaccent
  /Egrave /Eacute /Ecircumflex /Edieresis
      /Igrave /hungarumlaut /ogonek /Idieresis
  /emdash /Ntilde /Ograve /Oacute /Ocircumflex /Otilde /Odieresis /.notdef
  /.notdef /Ugrave /Uacute /Ucircumflex /Udieresis /Yacute /Thorn /.notdef
  /agrave /aacute /acircumflex /ordfeminine
      /adieresis /aring /.notdef /ccedilla
  /Lslash /eacute /ecircumflex /ordmasculine
      /igrave /iacute /icircumflex /idieresis
  /.notdef /ntilde /ograve /oacute /ocircumflex /otilde /odieresis /.notdef
  /lslash /ugrave /uacute /ucircumflex /udieresis /yacute /thorn /ydieresis
] def
```

B.5 ‘texmext.enc’: TEX math symbol encoding

```
% TeX math extension encoding.
```

```
% No ligatures or kerns.
%
/TeXMathExtensionEncoding [          % now 256 chars follow

% 0x0
/parenleftbig
/parenrightbig
/bracketleftbig
/bracketrightbig
/floorleftbig
/floorrightbig
/ceilingleftbig
/ceilingrightbig

% 0x8
/braceleftbig
/bracerightbig
/angbracketleftbig
/angbracketrightbig
/vextendsingle
/vextenddouble
/slashbig
/backslashbig

% 0x10
/parenleftBig
/parenrightBig
/parenleftbigg
/parenrightbigg
/bracketleftbigg
/bracketrightbigg
/floorleftbigg
/floorrightbigg

% 0x18
/ceilingleftbigg
/ceilingrightbigg
/braceleftbigg
/bracerightbigg
/angbracketleftbigg
/angbracketrightbigg
/slashbigg
/backslashbigg

% 0x20
/parenleftBigg
/parenrightBigg
/bracketleftBigg
```

```
/bracketrightBigg
/floorleftBigg
/floorrightBigg
/ceilingleftBigg
/ceilingrightBigg

% 0x28
/braceleftBigg
/bracerightBigg
/angbracketleftBigg
/angbracketrightBigg
/slashBigg
/backslashBigg
/slashBig
/backslashBig

% 0x30
/parenlefttp
/parenrighttp
/bracketlefttp
/bracketrighttp
/bracketleftbt
/bracketrightbt
/bracketleftex
/bracketrightex

% 0x38
/bracelefttp
/bracerighttp
/braceleftbt
/bracerightbt
/braceleftmid
/bracerightmid
/braceex
/arrowvertex

% 0x40
/parenleftbt
/parenrightbt
/parenleftex
/parenrightex
/angbracketleftBig
/angbracketrightBig
/unionsqtext
/unionsqdisplay

% 0x48
/contintegraltext
```

```
/contintegraldisplay
/circledottext
/circledotdisplay
/circleplustext
/circleplusdisplay
/circlemultiplytext
/circlemultiplydisplay

% 0x50
/summationtext
/producttext
/integraltext
/uniontext
/intersectiontext
/unionmultitext
/logicalandtext
/logicalortext

% 0x58
/summationdisplay
/productdisplay
/integraldisplay
/uniondisplay
/intersectiondisplay
/unionmultidisplay
/logicalanddisplay
/logicalordisplay

% 0x60
/coproducttext
/coproductdisplay
/hatwide
/hatwider
/hatwidest
/tildewide
/tildewider
/tildewidest

% 0x68
/bracketleftBig
/bracketrightBig
/floorleftBig
/floorrightBig
/ceilingleftBig
/ceilingrightBig
/braceleftBig
/bracerightBig
```

```
% 0x70
/radicalbig
/radicalBig
/radicalbigg
/radicalBigg
/radicalbt
/radicalvertex
/radicaltp
/arrowvertexdbl

% 0x78
/arrowtp
/arrowbt
/bracehtipdownleft
/bracehtipdownright
/bracehtipupleft
/bracehtipupright
/arrowdbltp
/arrowdblbt

% Have to have 128 .notdef's now to fill things out.
%
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
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/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
] def
```

B.6 ‘texmsym.enc’: TEX math symbol encoding

```
% TeX math symbols encoding.
% No ligatures or kerns.
%
/TeXMathSymbolEncoding [          % now 256 chars follow
% 0x0
/minus
```

```
/periodcentered
/multiply
/asteriskmath
/divide
/diamondmath
/plusminus
/minusplus

% 0x8
/circleplus
/circleminus
/circlemultiply
/circledivide
/circledot
/circlecopyrt
/openbullet
/bullet

% 0x10
/equivasymptotic
/equivalence
/reflexsubset
/reflexsuperset
/lessequal
/greaterequal
/precedesequal
/followsequal

% 0x18
/similar
/approxequal
/propersubset
/propersuperset
/lessmuch
/greatermuch
/precedes
/follows

% 0x20
/arrowleft
/arrowright
/arrowup
/arrowdown
/arrowboth
/arrownortheast
/arrowsoutheast
/similarequal
```

```
% 0x28
/arrowdblleft
/arrowdblright
/arrowdblup
/arrowdbldown
/arrowdblboth
/arrownorthwest
/arrowsouthwest
/proportional

% 0x30
/prime
/infinity
/element
/owner
/triangle
/triangleinv
/negationslash
/mapsto

% 0x38
/universal
/existential
/logicalnot
/emptyset
/Rfractur
/Ifractur
/latticetop
/perpendicular

% 0x40
/aleph
/A
/B
/C
/D
/E
/F
/G

% 0x48
/H
/I
/J
/K
/L
/M
/N
```

```
/O

% 0x50
/P
/Q
/R
/S
/T
/U
/V
/W

% 0x58
/X
/Y
/Z
/union
/intersection
/unionmulti
/logicaland
/logicalor

% 0x60
/turnstileleft
/turnstileright
/floorleft
/floorright
/ceilingleft
/ceilingright
/braceleft
/braceright

% 0x68
/angbracketleft
/angbracketright
/bar
/bardbl
/arrowbothv
/arrowdblbothv
/backslash
/wreathproduct

% 0x70
/radical
/coproduct
/nabla
/integral
/unionsq
```

```
/intersectionsq
/subsetsqequal
/supersetsqequal

% 0x78
/section
/dagger
/daggerdbl
/paragraph
/club
/diamond
/heart
/spade

% Have to have 128 .notdef's now to fill things out.
%
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
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/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
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/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
] def
```

B.7 ‘texmital.enc’: TeX math italic encoding

```
% TeX math italic encoding.
% No ligatures or kerns.
%
/TeXMathItalicEncoding [          % now 256 chars follow
% 0x0
/Gamma
/Delta
/Theta
/Lambda
/Xi
/Pi
/Sigma
```

```
/Upsilon

% 0x8
/Phi
/Psi
/Omega
/alpha
/beta
/gamma
/delta
/epsilon1

% 0x10
/zeta
/eta
/theta
/iota
/kappa
/lambda
/mu
/nu

% 0x18
/xi
/pi
/rho
/sigma
/tau
/upsilon
/phi
/chi

% 0x20
/psi
/omega
/epsilon
/theta1
/pi1
/rho1
/sigma1
/phi1

% 0x28
/arrowlefttophalf
/arrowleftbothalf
/arrowrighttophalf
/arrowrightbothalf
/arrowhookleft
```

```
/arrowhookright
/triangleright
/triangleleft

% 0x30
/zerooldstyle
/oneoldstyle
/twooldstyle
/threeoldstyle
/fouroldstyle
/fiveoldstyle
/sixoldstyle
/sevenoldstyle

% 0x38
/eightoldstyle
/nineoldstyle
/period
/comma
/less
/slash
/greater
/star

% 0x40
/partialdiff
/A
/B
/C
/D
/E
/F
/G

% 0x48
/H
/I
/J
/K
/L
/M
/N
/O

% 0x50
/P
/Q
/R
```

```
/S
/T
/U
/V
/W

% 0x58
/X
/Y
/Z
/flat
/natural
/sharp
/slurbelow
/slurabove

% 0x60
/lscript
/a
/b
/c
/d
/e
/f
/g

% 0x68
/h
/i
/j
/k
/l
/m
/n
/o

% 0x70
/p
/q
/r
/s
/t
/u
/v
/w

% 0x78
/x
```

```
/y
/z
/dotlessi
/dotlessj
/weierstrass
/vector
/tie

% Have to have 128 .notdef's now to fill things out.
%
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
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/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
] def
```

Appendix C Font legalities

This section owes a great deal to Charles Bigelow (co-designer with Kris Holmes of the Lucida typeface family, among others), who has generously answered our many queries about fonts and the law around the world with remarkable patience and understanding. (But he is naturally not responsible for any errors here, much less our opinions.)

Fonts have always been treated rather strangely under the law, as befits their rather strange nature: letterforms are indivisibly both *useful* and *artistic*. In most countries—in all countries until recently—utility has taken precedence; i.e., it has been legal to copy fonts without permission or fee.

In any case, to the best of my knowledge, the situation in those countries which have adopted any sort of typeface protection is as follows:

United States

Typeface designs can be patented, but not copyrighted. Only a few designs have been patented. (Lucida and Stone are the only ones I know of. I don't know what the grounds were for patenting Stone, but Lucida had some novel features in its design which make it reasonable to patent, given the acceptance of the patent system in the first place.)

Particular programs which instantiate a font can be copyrighted just as any other computer program can. This is arguably wrong, since font programs are nothing but a description of the shapes, possibly with some simple hints, and there's only one basic way to describe the shapes in any given language. Thus, the creativity lies in making the shape right, not in making the computer program right, so it would seem that to be consistent, the copyright laws should protect the design, not the program—the opposite of the current situation.

Germany

Typeface designs have been copyrightable as original works of art since 1981. As a result, many (perhaps most) designs have been copyrighted there. The law is not retroactive, but German courts have upheld the intellectual property rights of designers of earlier fonts as well: In one case the heirs of Paul Bauer (designer of Futura) won a suit against the Bauer foundry for arbitrarily discontinuing a portion of their royalties.

England

A copyright law passed in 1989 covers typeface designs first published in England (or published in Britain within 30 days of its publication elsewhere), and it *is* retroactive. It's unclear how far back the law extends, but Times Roman, designed in the late 1920's and 1930's by Stanley Morison and cut by Victor Lardent for Monotype is probably covered. This does not mean GNU (for example) cannot have a Times Roman; it just means we cannot start with an English version, as the law does not forbid importing foreign versions of English typefaces.

France

The Romain du Roi typeface designed by Philippe Grandjean in 1702 for the French royal family is protected, and perhaps other such "royal" designs. There is no protection for designs in general.

In 1973 the international Vienna treaty on typeface design protection was proposed. France ratified it in 1974 or 1975, and Germany in 1981. The English law might constitute ratification, but this has not been settled. In any case, since at least four countries have to ratify it before it takes effect (and even then it takes effect only in those countries which ratify it), it is still of no consequence for now.

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