

Algol Revived*

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AlgolRevived is a revival of the (photo)font *Algol* by Adrian Frutiger whose sole use was for printing ALGOL code in a manual. It is not meant to be a general purpose text font—the spacing is not optimized for that, being designed instead for printing computer code, where each letter should be distinct and text ligatures are banished. It seems to work well with the listings package, designed for exactly that purpose. Unusually for such a font, it is not monospaced, though perhaps this is no longer the issue it was in the days of FORTRAN.

Nonetheless, if you don't object to a typewritten appearance, I think the font doesn't really look as bad as you might think it should. (This document uses it as its main text font.)

Both opentype and type1 fonts are provided, along with LaTeX support files. Most characters in the T1 encoding are provided, except for f-ligatures and the Sami characters Eng, eng. There are no kerning tables, and the spacing is not uniform so that even without hyphenation, lines spread out quite well.

Usage with fontspec:

The package provides `algolrevived.fontspec`, with contents:

```
\defaultfontfeatures[algolrevived]
{
  Extension = .otf,
  UprightFont = AlgolRevived ,
  BoldFont = AlgolRevived-Medium ,
  BoldItalicFont = AlgolRevived-MediumSlanted ,
  ItalicFont = AlgolRevived-Slanted ,
}
```

which allows you to set up your preamble using simply

```
...
\usepackage{fontspec}
\setmainfont{algolrevived} % for use as main font
%\setmonofont{algolrevived} % for use as typewriter font only
...
```

*Creation of this package was spurred by Barbara Beeton's column in a recent TUGBoat, conveying a request from Jacques André for someone to digitize Frutiger's Algol alphabet.

Usage with LaTeX

The package offers OT1, LY1, T1 and TS1 encodings, and sets T1 as the default. To change to LY1, you will need something like

```
\usepackage{algolrevived}
%\usepackage[tt]{algolrevived} for just typewriter
\usepackage[LY1]{fontenc}
```

The package has two rather different modes, one intended for use as main text and the other intended for use as a typewriter font defining `\ttdefault` for use with Typewriter Text and Verbatim text environments such as `\texttt` and `\verb`. In the example above, `algolrevived` becomes the default Roman font, with the following features, details of which are described in more detail later in this document.

- Hyphenation is enabled but may be turned off with the option `nohyphens`;
- the asterisk character renders as the high asterisk `*`. The low asterisk is available using `\textasteriskcentered`, like `*`;
- lining figures do not have a slashed zero: `0123456789`;
- there is a `compoundwordmark` in the T1 encoding, and there are `capitalwordmark` and `ascenderwordmark` in the TS1 encoding;
- the TS1 encoding is quite complete and has many additional symbols that are not part of the standard TS1 encoding;
- oldstyle figures are available—they may be made the default using the option `osf` or `oldstyle`, or from the TS1 encoding;
- inferior and superior figures are provided along with a `\textfrac` macro;
- a `\textcircled` macro is provided.

Usage as Typewriter Font

The option `tt` to `algolrevived` changes the mode to Typewriter with different behavior.

- Hyphenation is suppressed;
- the asterisk is low in this case, with the same effect as `\textasteriskcentered`.
- `\ttdefault` is set to `AlgolRevived-TLF-TT`—in particular, oldstyle figure settings are ignored;
- the default lining figure zero is slashed—you may change this using the option `nozeroslash`;
- the figure style macros such as `\textosf` and the `\textcircled` remain available.

AlgolRevived-tlf-t1.tfm:

	‘0	‘1	‘2	‘3	‘4	‘5	‘6	‘7	
‘00x	` ₀	´ ₁	^ ₂	~ ₃	¨ ₄	˘ ₅	° ₆	ˇ ₇	“0x
‘01x	˘ ₈	¯ ₉	˙ ₁₀	¸ ₁₁	˘ ₁₂	¸ ₁₃	◁ ₁₄	▷ ₁₅	
‘02x	“ ₁₆	” ₁₇	„ ₁₈	« ₁₉	» ₂₀	— ₂₁	— ₂₂		“1x
‘03x		l ₂₅	j ₂₆						
‘04x		! ₃₃	" ₃₄	# ₃₅	\$ ₃₆	% ₃₇	& ₃₈	' ₃₉	“2x
‘05x	(₄₀)		* ₄₂	+ ₄₃	, ₄₄	- ₄₅	. ₄₆	/ ₄₇	
‘06x	0 ₄₈	1 ₄₉	2 ₅₀	3 ₅₁	4 ₅₂	5 ₅₃	6 ₅₄	7 ₅₅	“3x
‘07x	8 ₅₆	9 ₅₇	: ₅₈	; ₅₉	< ₆₀	= ₆₁	> ₆₂	? ₆₃	
‘10x	@ ₆₄	A ₆₅	B ₆₆	C ₆₇	D ₆₈	E ₆₉	F ₇₀	G ₇₁	“4x
‘11x	H ₇₂	I ₇₃	J ₇₄	K ₇₅	L ₇₆	M ₇₇	N ₇₈	O ₇₉	
‘12x	P ₈₀	Q ₈₁	R ₈₂	S ₈₃	T ₈₄	U ₈₅	V ₈₆	W ₈₇	“5x
‘13x	X ₈₈	Y ₈₉	Z ₉₀	[₉₁	\ ₉₂] ₉₃	^ ₉₄	_ ₉₅	
‘14x	` ₉₆	a ₉₇	b ₉₈	c ₉₉	d ₁₀₀	e ₁₀₁	f ₁₀₂	g ₁₀₃	“6x
‘15x	h ₁₀₄	i ₁₀₅	j ₁₀₆	k ₁₀₇	l ₁₀₈	m ₁₀₉	n ₁₁₀	o ₁₁₁	
‘16x	p ₁₁₂	q ₁₁₃	r ₁₁₄	s ₁₁₅	t ₁₁₆	u ₁₁₇	v ₁₁₈	w ₁₁₉	“7x
‘17x	x ₁₂₀	y ₁₂₁	z ₁₂₂	{ ₁₂₃	₁₂₄	} ₁₂₅	~ ₁₂₆	- ₁₂₇	
‘20x	Ā ₁₂₈	Ą ₁₂₉	Ć ₁₃₀	Č ₁₃₁	Ď ₁₃₂	Ě ₁₃₃	Ě ₁₃₄	Ĝ ₁₃₅	“8x
‘21x	Ĺ ₁₃₆	Ł ₁₃₇	Ł ₁₃₈	Ń ₁₃₉	Ň ₁₄₀		Ŏ ₁₄₂	Ř ₁₄₃	
‘22x	Ř ₁₄₄	Ś ₁₄₅	Š ₁₄₆	Ş ₁₄₇	Ť ₁₄₈	Ț ₁₄₉	Ů ₁₅₀	Ů ₁₅₁	“9x
‘23x	Ÿ ₁₅₂	Ž ₁₅₃	Ž ₁₅₄	Ž ₁₅₅		İ ₁₅₇	đ ₁₅₈	ſ ₁₅₉	
‘24x	ă ₁₆₀	ą ₁₆₁	ć ₁₆₂	č ₁₆₃	ď ₁₆₄	ě ₁₆₅	ę ₁₆₆	ğ ₁₆₇	“Ax
‘25x	í ₁₆₈	ł ₁₆₉	ł ₁₇₀	ń ₁₇₁	ň ₁₇₂		ó ₁₇₄	ř ₁₇₅	
‘26x	ř ₁₇₆	ś ₁₇₇	š ₁₇₈	ş ₁₇₉	ť ₁₈₀	ț ₁₈₁	ů ₁₈₂	ů ₁₈₃	“Bx
‘27x	ÿ ₁₈₄	ž ₁₈₅	ž ₁₈₆	ž ₁₈₇		ı ₁₈₉	ı ₁₉₀	£ ₁₉₁	
‘30x	À ₁₉₂	Á ₁₉₃	Â ₁₉₄	Ã ₁₉₅	Ä ₁₉₆	Å ₁₉₇	Æ ₁₉₈	Ç ₁₉₉	“Cx
‘31x	È ₂₀₀	É ₂₀₁	Ê ₂₀₂	Ë ₂₀₃	Ì ₂₀₄	Í ₂₀₅	Î ₂₀₆	Ï ₂₀₇	
‘32x	Ð ₂₀₈	Ñ ₂₀₉	Ò ₂₁₀	Ó ₂₁₁	Ô ₂₁₂	Õ ₂₁₃	Ö ₂₁₄	Œ ₂₁₅	“Dx
‘33x	Ø ₂₁₆	Ù ₂₁₇	Ú ₂₁₈	Û ₂₁₉	Ü ₂₂₀	Ý ₂₂₁	Þ ₂₂₂		
‘34x	à ₂₂₄	á ₂₂₅	â ₂₂₆	ã ₂₂₇	ä ₂₂₈	å ₂₂₉	æ ₂₃₀	ç ₂₃₁	“Ex
‘35x	è ₂₃₂	é ₂₃₃	ê ₂₃₄	ë ₂₃₅	ì ₂₃₆	í ₂₃₇	î ₂₃₈	ï ₂₃₉	
‘36x	ð ₂₄₀	ñ ₂₄₁	ò ₂₄₂	ó ₂₄₃	ô ₂₄₄	õ ₂₄₅	ö ₂₄₆	œ ₂₄₇	“Fx
‘37x	ø ₂₄₈	ù ₂₄₉	ú ₂₅₀	û ₂₅₁	ü ₂₅₂	ý ₂₅₃	þ ₂₅₄	ß ₂₅₅	
	“8	“9	“A	“B	“C	“D	“E	“F	

Package options and macros:

The option `scaled=.95` or `scale=.95` renders at 95% of the default size. Option `tt` species typewriter. The macros `\sufigures 9` (same effect as `\textsu{9}`) render the figure as a superscript, ⁹, and similarly with `\infigures`, `\textinf` for inferior figures. (Note that the usual macro `\textin` is being used for the “belongs to” glyph, \in , added as a non-standard part of `textcomp`.)

The macro `\textcircled` that may be used to construct a circled version of a single letter or numeral using `\textbigcircle` for the encircling glyph. The argument is always constructed from uppercased letters and numerals, so, in effect, you can only construct circled uppercase: `\textcircled{M}` and `\textcircled{m}` have the same effect, namely \textcircled{M} . Circled numerals are also available: `\textcircled{0}`... produces $\textcircled{0}$... $\textcircled{9}$.

- `\textlf{}` and `\lfstyle` give lining figures, as do `\texttlf{}` and `\tlfstyle`;
- `\textosf{}` and `\osfstyle` give proportional oldstyle figures as do `\texttosf{}` and `\tosfstyle`;
- `\textfrac{3}{4}` uses superior and inferior figures to make the fraction $\frac{3}{4}$, and an optional argument is available for the whole number part: `\textfrac[2]{31}{32}` renders as $2^{\frac{31}{32}}$. The spacing may be tinkered with by redefining the macro `\textfrac` and by setting the two options `foresolidus` and `aftsolidus` which modify the spacing around the fraction solidus.

The `sty` file requires `textcomp` so there is no need to load it separately. `Textcomp` adds the following glyphs. (The mathematical symbols in the otherwise vacant slots in positions 192 and up were mostly borrowed from the STIX math fonts, which use the same SIL OFL as this package. The names below were in those cases are the same as the STIX names, prefixed by “text”.)

AlgolRevived-ts1.tfm:

	0	1	2	3	4	5	6	7	
'00x	` 0	´ 1	^ 2	~ 3	¨ 4	˘ 5	° 6	ˇ 7	"0x
'01x	˘ 8	¯ 9	· 10	‚ 11	€ 12	‚ 13	14	15	
'02x	16	17	„ 18	19	20	— 21	— 22	23	"1x
'03x	← 24	→ 25	ˆ 26	ˆ 27	ˆ 28	ˆ 29	30	31	
'04x	ħ 32	33	34	35	\$ 36	37	38	' 39	"2x
'05x	40	41	* 42	43	‚ 44	= 45	· 46	/ 47	
'06x	o 48	1 49	2 50	3 51	4 52	5 53	6 54	7 55	"3x
'07x	8 56	9 57	58	59	⟨ 60	— 61	⟩ 62	63	
'10x	64	65	66	67	68	69	70	71	"4x
'11x	72	73	74	75	76	77	78	○ 79	
'12x	80	81	82	83	84	85	86	Ω 87	"5x
'13x	88	89	90	∥ 91	92	∥ 93	↑ 94	↓ 95	
'14x	` 96	97	★ 98	o o 99	† 100	101	102	103	"6x
'15x	104	105	106	107	☞ 108	∞ 109	♪ 110	111	
'16x	112	113	114	115	116	117	118	119	"7x
'17x	120	121	122	123	124	125	~ 126	= 127	
'20x	˘ 128	˘ 129	˘ 130	˘ 131	† 132	‡ 133	∥ 134	% 135	"8x
'21x	• 136	137	\$ 138	¢ 139	f 140	¢ 141	142	ℳ 143	
'22x	ℳ 144	ℙ 145	£ 146	℞ 147	¿ 148	÷ 149	£ 150	™ 151	"9x
'23x	152	¶ 153	ℳ 154	Nº 155	‰ 156	e 157	o 158	SM 159	
'24x	[160] 161	¢ 162	£ 163	¤ 164	¥ 165	! 166	§ 167	"Ax
'25x	¨ 168	© 169	ª 170	© 171	¬ 172	© 173	® 174	¯ 175	
'26x	° 176	± 177	178	179	´ 180	µ 181	¶ 182	· 183	"Bx
'27x	※ 184	185	º 186	√ 187	¼ 188	½ 189	¾ 190	191	
'30x	' 192	" 193	194	195	↔ 196	↕ 197	↔ 198	↑ 199	"Cx
'31x	⇒ 200	↓ 201	⇔ 202	↕ 203	∀ 204	℄ 205	ð 206	∃ 207	
'32x	‡ 208	∅ 209	Δ 210	∇ 211	∈ 212	∉ 213	× 214	€ 215	"Dx
'33x	∃ 216	∄ 217	∃ 218	219	• 220	∧ 221	∨ 222	223	
'34x	∩ 224	∪ 225	:= 226	=: 227	≠ 228	≡ 229	≠ 230	≤ 231	"Ex
'35x	≥ 232	⊂ 233	⊃ 234	⊄ 235	⊄ 236	⊆ 237	⊇ 238	⊄ 239	
'36x	⊄ 240	⊆ 241	⊆ 242	⊆ 243	⊆ 244	⊆ 245	÷ 246	⊆ 247	"Fx
'37x	248	249	250	251	252	253	254	255	
	"8	"9	"A	"B	"C	"D	"E	"F	

List of LaTeX macros to access the TS1 symbols in text mode:

0 \capitalgrave
1 \capitalacute
2 \capitalcircumflex
3 \capitaltilde
4 \capitaldieresis
5 \capitalhungarumlaut
6 \capitalring
7 \capitalcaron
8 \capitalbreve
9 \capitalmacron
10 \capitaldotaccent
11 \capitalcedilla
12 \capitalogonek
13 \textquotestraightbase
18 \textquotestraightdblbase
21 \texttwelveudash
22 \textthreequartersemdash
23 \textcapitalcompwordmark
24 \textleftarrow
25 \textrightarrow
26 \t % tie accent, skewed right
27 \capitaltie % skewed right
28 \newtie % tie accent centered
29 \capitalnewtie % ditto
31 \textascendercompwordmark
32 \textblank
36 \textdollar
39 \textquotesingle
42 \textasteriskcentered
45 \textdblhyphen
47 \textfractionsolidus
48 \textzerooldstyle
49 \textoneoldstyle
50 \texttwooldstyle
49 \textthreeoldstyle
50 \textfouroldstyle
51 \textfiveoldstyle
52 \textsixoldstyle
53 \textsevenoldstyle
54 \texteightoldstyle
55 \textnineoldstyle
60 \textlangle
61 \textminus
62 \textrangle
77 \textmho
79 \textbigcircle

87 \textohm
91 \textlbrackdbl
93 \textrbrackdbl
94 \textuparrow
95 \textdownarrow
96 \textasciigrave
96 \textasciigrave
98 \textborn
99 \textdivorced
100 \textdied
108 \textleaf
109 \textmarried
110 \textmusicalnote
126 \texttildebelow
127 \textdblhyphenchar
128 \textasciibreve
129 \textasciicaron
130 \textacutedbl
131 \textgravedbl
132 \textdagger
133 \textdaggerdbl
134 \textbardbl
135 \textperthousand
136 \textbullet
137 \textcelsius
138 \textdollaroldstyle
139 \textcentoldstyle
140 \textflorin
141 \textcolonmonetary
142 \textwon
143 \textnaira
144 \textguarani
145 \textpeso
146 \textlira
147 \textrecipe
148 \textinterrobang
149 \textinterrobangdown
150 \textdong
151 \texttrademark
152 \textpertenthousand
153 \textpilcrow
154 \textbaht
155 \textnumero
156 \textdiscount
157 \textestimated
158 \textopenbullet
159 \textservicemark
160 \textlquill

161 \textrquill
 162 \textcent
 163 \textsterling
 164 \textcurrency
 165 \textyen
 166 \textbrokenbar
 167 \textsection
 168 \textasciidieresis
 169 \textcopyright
 170 \textordfeminine
 171 \textcopyleft
 172 \textlnot
 173 \textcircledP
 174 \textregistered
 175 \textasciimacron
 176 \textdegree
 177 \textpm
 178 \texttwosuperior
 179 \textthreesuperior
 181 \textmu
 182 \textparagraph
 183 \textperiodcentered
 184 \textreferencemark
 185 \textonesuperior
 186 \textordmasculine
 187 \textsurd
 188 \textonequarter
 189 \textonehalf
 190 \textthreequarters
 191 \texteuro
 192 \textprime
 193 \textdprime
 196 \textleftrightharrow
 197 \textupdownarrow
 198 \textLeftarrow
 199 \textUparrow
 200 \textRightharrow
 201 \textDownarrow
 202 \textLeftrightarrow
 203 \textUpdownarrow
 204 \textforall
 205 \textcomplement
 206 \textpartial
 207 \textexists
 208 \textnexists
 209 \textvarnothing
 210 \textincrement
 211 \textnabla

212 `\textin`
 213 `\textnotin`
 214 `\texttimes`
 215 `\textsmallin`
 216 `\textni`
 217 `\textnni`
 218 `\textsmallni`
 219 `\textsmallsetminus`
 220 `\textlargebullet`
 221 `\textland`
 222 `\textlor`
 224 `\textcap`
 225 `\textcup`
 226 `\textcoloneq`
 227 `\texteqcolon`
 228 `\textneq`
 229 `\textequiv`
 230 `\textnequiv`
 231 `\textleq`
 232 `\textgeq`
 233 `\textsubset`
 234 `\textsupset`
 235 `\textnsubset`
 236 `\textnsupset`
 237 `\textsubseteq`
 238 `\textsupseteq`
 239 `\textnsubseteq`
 240 `\textnsupseteq`
 241 `\textsqsubset`
 242 `\textsqsubset`
 243 `\textsqsupset`
 244 `\textsqsubseteq`
 245 `\textsqcap`
 246 `\textdiv`
 247 `\textsqcup`

For example, typing in `A\textcoloneq B` results in $A:=B$.

Package Details

The package is laid out a bit differently from the typical one, and it may help some to know a few details.

There are six `fd` files corresponding to each of the text encodings OT1, T1, LY1, and two for TS1, the text companion encoding. These are:

`LY1AlgolRevived-Inf.fd`
`LY1AlgolRevived-Sup.fd`
`LY1AlgolRevived-OsF.fd`
`LY1AlgolRevived-TLF.fd`

LY1AlgolRevived-OsF-TT.fd
 LY1AlgolRevived-TLF-TT.fd
 OT1AlgolRevived-Inf.fd
 OT1AlgolRevived-Sup.fd
 OT1AlgolRevived-OsF.fd
 OT1AlgolRevived-TLF.fd
 OT1AlgolRevived-OsF-TT.fd
 OT1AlgolRevived-TLF-TT.fd
 T1AlgolRevived-Inf.fd
 T1AlgolRevived-Sup.fd
 T1AlgolRevived-OsF.fd
 T1AlgolRevived-TLF.fd
 T1AlgolRevived-OsF-TT.fd
 T1AlgolRevived-TLF-TT.fd
 TS1AlgolRevived-OsF.fd
 TS1AlgolRevived-TLF.fd

The last two have essentially identical effect, each pointing to tfm files of the form AlgolRevived-ts1.tfm, AlgolRevived-Medium-ts1.tfm and so on. These were all crafted with afm2tfm because otftotfm had repeated problems with distinguishing dollar from dollaroldstyle and cent from centoldstyle. To get the compound word marks right involved modifying the afm files after each edit to make their heights correct, then running afm2tfm with the -v option to get a virtual font which would register those heights correctly.

Each of the text font encodings have essentially the same structure, so I'll limit my remarks mainly to T1. All except the -TT were generated by autoinst.

The -Inf and -Sup are for the inferior and superior letters respectively, while -TLF and OsF are for the two normal figure styles you might choose from in text mode. The -TT case is more interesting, having been generated by afm2tfm because autoinst and otftotfm don't give you much help with making the changes needed for a Typewriter font as distinct from a normal text font. For T1 and LY1 encoded fonts, the main difference, aside from lacking f-ligatures and the like, is that the asterisk is low in Typewriter and high in normal text. However, for OT1, there are sixteen additional changes required in order to match the typewriter encoding used in cmtt.

Each of the -TT fd files points to tfm files with names like AlgolRevived-t1tt.tfm with no figure style mentioned, because the figure style there is always TLF. That is, T1AlgolRevived-OsF-TT.fd and T1AlgolRevived-TLF-TT.fd have essentially identical contents, but both are required to be there to conform to the LaTeX font selection scheme. There is in all cases a 0 or 1 in the name, signifying the slashed zero (1) or the unslashed 0 (0).