

# Boston II: Letter Quality for the Imagewriter

- Boston II is a new font of type for the Macintosh and Imagewriter.
- Boston II is more legible than any other font, both on the screen and printed out. Boston II can actually make the Imagewriter print more legibly than a daisywheel.
- Boston II also includes many common symbols that the standard fonts omit, plus a few useful fractions, and a full complement of Greek letters in upper and lower case. It comes in 10 sizes, including special miniscules for proper sub- and superscripts in MacWrite. For serious word processing, nothing equals it.
- Copy Boston II freely, and give it to your friends. Pay for it only if you use it. However, the font is copyrighted, and the time involved in creating it was substantial. So if you use it, please do pay for it. For license to use it, send a cheque for US\$10.50 (or the equivalent in Canadian dollars or other currencies) to:

Charles E. Maurer  
31 Forsyth Avenue South  
Hamilton, Ontario L8S 2A4  
Canada

(N.B.: If you currently have an older version of Boston, please see page 11 of this manual.)

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## Installing Boston II

Install Boston II like any other font, using either Font Manager or Font/DA Manager, whichever came with your Mac. While you're at it, install the large Chicago too. They come in handy for headlines, as you can see from this manual.

But before installing Boston II, you need to determine which version. There are three. One is for most applications including MacWrite; the other two are for Microsoft Word and a few others.

If you are using something other than MacWrite or Word, first determine whether the application allows you to select 7-point fonts, 8-point fonts, and 11-point fonts. If it does, then use one of the Word versions; if it does not, then use the MacWrite version.

The next two pages of this manual explain the differences between these versions. Skip whichever page doesn't apply to you.

If you don't have enough room on your System disk to install these fonts, you may have to remove some of the fonts which are already installed. For most purposes, the fonts on the Boston II disk can supplant all the fonts that came with your Mac, except for 9-, 12-, 18- and 24-point Geneva, 12-point Chicago, and 9-point Monaco.

## Boston II with Microsoft Word

Boston II comes in five sizes: 7-, 8-, 9-, 10-, and 12-point (plus their doubles, which the Mac needs for high quality printing). In addition, Boston II comes in a one-point size. This is really not a font per se; it's a lining and leading tool. It allows you to draw a line between lines of text, like between the listings on page two. And it allows you to add leading—white space—between lines. Since a one-point font cannot be called from Word, it is “disguised” as 11 points. To use it, choose Boston II-11.

For Word, the normal version of Boston II is Boston II-W. However, since Boston II supplants New York, you may want Boston II to come up automatically instead of New York. To achieve this, use the version of Boston II called Boston II-NY. This is Boston II carrying New York's identification number. Since the Mac calls fonts not by name but by number, the Mac will “think” Boston II-NY is New York.

Note that for this reason, you cannot copy Boston II-NY into any file that already contains New York, be it either a System file or a Font Manager file. Similarly, you cannot copy New York into any file that contains Boston II-NY.

## The Main Characters

12~point: ABCDEFGHIJKLMNOPQRSTUVWXYZÆEØ  
 ÂÇÀÉÂÓÜÃÑÕàçæïðùáëíòúâêíöüÿñõ  
 0123456789~€£¢¥¦§¨ª«¬®¯°±²³´µ¶·¸¹º»¼½¾¿ÀÁÂÃÄÅ  
 √•()[]{}|`^~?;!:\_—,.;:'"«»  
 &%...•\*†‡°ao~\$C£¥@!©™§¶#

□bcdefghijklmnopqrstu → wxyzæœøß  
ÔΔĖÓ„ΠΣ^®ÈΩİſł‰Ŭ·Á°□Òμ~ÚπÂÎÊıƒÙ-î

10-point: ABCDEFGHIJKLMNOPQRSTUVWXYZÆEØ  
 ÂÇÀÉÂÓÜÃÑŒàçæïðáëíöüäåêïúýãñ  
 0123456789;€¦fi+÷÷≠±<≥~ÿ≈∞  
 √·()[]{}|^\_`~?¿!¡—\_—,.,,………«»  
 &%...•\*†‡°ao"\$£¥@|±©™§¶#

□bcdefghijklmnopqrstu → wxyzæœøß  
ÔΔĚÓ„ΠΣ^®ÈΩİſð%Ů·Á°□Òμ~ÚπÂÎĖıƒÙ-î

9-point:

	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 A E Ø
	À Ç Ä È Õ Ü Å Ñ Œ à æ i ò û ä é i ó ü ä e í ö y å ñ
	0 1 2 3 4 5 6 7 8 9 ~ € ¤ £ ¢ + - ÷ × ≠ < ≥ ≤ ∞ √ ◊ ◻ ◼ ◽ ◾ ◿ ⁂ ⁄ ? ¡ ¨ ¶ • , ; : † ‡ « »
	& % ... * † ° º ♂ ♀ \$ ¥ @ ± © ™ § ¶ #

□bcdefghijklmnopqrstu → wxyzæœøß  
ÔΔĖŒ„ΠΣ^®ÈΩİşł‰Ŭ·Á◻◻Ôμ~ÚπÂÎÊıƒÙ-î

8-point:

```
ABCDEF GHIJ KLMNOP QRSTUVW XYZÆEØ
ÀÇAEAOÜÄÑÕàçæèìòüäëíóûæøÿyãñ
0123456789~€¦fi+÷÷=≠±<≥∞-Ÿ≈∞
√·()/[]{}|^\`~?;!:_@,.-+*/%&'
&%...•†°ao"?$£¥@!©™§¶#
```

□bcdefghijklmnopqrstu → wxyzæœøß  
ÔΔĖŒ„ΠΣ^®ÈΩİşđ%Ů·Á°□Ôµ~ÚπÂÎÊıƒÙ-î

## Special Characters

7-point: ABCDEFGHIJKLMNOPQRSTUVWXYZÆØ  
 ÔÉÔ,ΠΣ^®ÈΩ  
 0123456789+.=±<>≤~ÿ≈  
 ?¿¡— —,,: "''''' ' «»()[]\|/{}~&%...\*+°ao—  
 \$£¥#

□bcdefghijklmnopqrstu → wxyzæœøß

1—point creates lines—pixel by pixel with the period, or file pixels at a time with any other character. A line can combine with the \ to form records:

$$c = \sqrt{a^2 + b^2}$$

All sizes offer two horizontal spaces, the ordinary one and an optional one (option-key/space-bar). The optional space is only one pixel wide, so you can add leading to make microfine adjustments of position—to make a smooth transition between italics and plain text, for instance.

The optional space is also “non-breaking.” This means that the Mac treats it like a letter rather than a space, so the Mac won’t end a line where it occurs. If you have a phrase that you want never to be split at the end of a line, use five or six of these one-point spaces to separate the words.

Note that if you use Microsoft Word, this is also the space that appears if you hold down the command key and strike the space bar.

## Hints & Suggestions

Most of us have grown up with a typewriter in the house. We are used to reading typescript, and typescript has become our standard of neatness and legibility for papers and letters. But Boston II, the Mac and the Imagewriter let you go far beyond this.

This can mean money in your pocket, and fewer headaches. Because the more legible you make a letter or a manuscript, the more likely people are to read it carefully. And the more carefully people read it, the more likely they are to do what you ask, and the less like they are to misinterpret you.

Boston II can produce printouts that are neater and more legible than printouts produced by any other means less than a laser printer or typesetting machine—if you use it appropriately. Indeed, Boston II can come very close to looking like type, as you can see from this manual. The key is to handle it typographically—like type instead of typescript.

1. For quotation marks, use Shift[ and ShiftOption[ rather than the typewriter’s double tick. For single quotation marks and apostrophes, use Shift] and ShiftOption] rather than the typewriter’s tick:

“He didn’t say.” not "He didn't say."

2. For the hyphen, use Shift- rather than the minus sign:

12-point not 12-point

3. For the dash, use ShiftOption- rather than minus signs—like this, without spaces—not like this--or this -- or this - .

4. For the multiplication sign, use ShiftOptionV rather than the x.

8 ♦ 9 = 72 not 8 x 9 = 72

5. There's no reason to omit diæreses on i's, or to separate ligatures. *Nië* often looks better than *nië*, and *æstheticly* often looks better than *æstheticly* or *estheticly*.

To type *ï* diæresis, first strike OptionI, then strike I. *Æ* and *æ* are ShiftOption' and Option' . *Œ* and *œ* are ShiftOptionQ and OptionQ .

6. For an ellipsis, use Option; rather than a string of periods. If the ellipsis comes at the end of a sentence, put the period (or question mark, etc.) first. Don't use spaces before or after the ellipsis, unless the ellipsis ends the sentence:

Is the distance...uncertain?... Yes it is.

7. For the music sharp sign (<sup>°</sup>), use Option0 rather than the number sign (#).

8. Use only one space after periods, colons, exclamation points and question marks.

9. Boston II is designed primarily for text rather than headlines, tables, cutlines and the like. For headlines, switch to Chicago (usually 18- or 24-point, and often boldface). For tables and cutlines, sometimes 8-point Boston II looks good; at other times Geneva looks better. (However, eschew Geneva for text. See Typography and Communication below.)

10. Text that's justified on both sides looks neat, but it isn't so legible as text that is aligned along the left only. So for letters, by all means justify both sides—but where readability is more important than appearance, keep the right side ragged. And never justify any text that's double-spaced.

11. Twelve-point is the best size to use with sub- and superscripts. Whenever you use a subscript, the Mac will automatically increase the leading between that line, which causes uneven linespacing. To avoid this, select spacing of six lines per inch. At six lines per inch, 12-spaced 12-point Boston II looks quite as good as ordinarily spaced 12-point.

12. When you are treating a single letter like a word, put it in italics:  
In  $E = MC^2$ , the *C* represents the speed of light.

13. Italics provide subtle emphasis for a word or a phrase within a sentence, and they identify foreign languages and other special cases. Boldface grabs the reader's eye more vigorously—vigorously enough to interfere with reading—so use it primarily for headings and titles. Underlining makes text harder to read. It is necessary on a typewriter, but on the Mac use boldface and italics instead.

14. I have found two desk accessories to be very useful with MacWrite: MacTricks and MockWrite. MacTricks lets you create keyboard equivalents for nearly any combination of keystrokes and mouse movements; MockWrite is a miniature word processor that lets you have a second window available for notes. MacTricks is available through ordinary commercial channels; MockWrite is software published by CE Software, 801 73rd Street, Des Moines, IA 50312, USA.

## Please Note

People who publish software need to receive fair return for the time they put into it—and it benefits you when they do. For then they can continue to develop products, and to market them so cheaply.

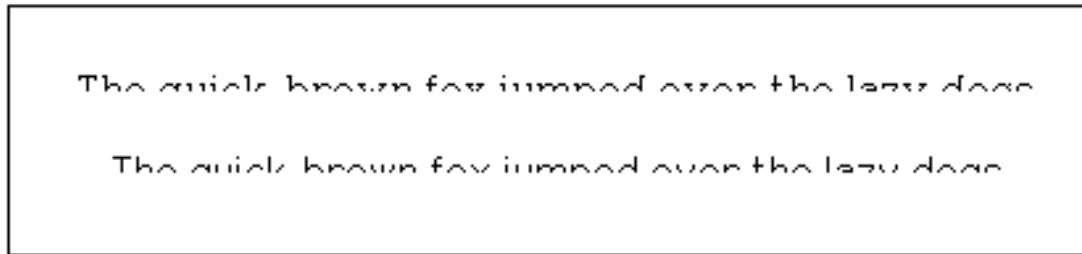
Often users intend to pay, but they procrastinate or forget. If you are using software that you haven't gotten around to paying for yet, I hope you won't put it off any longer.

## Typography & Communication

The eye sees a line of type in text (as opposed to short blocks of type in headlines) as a continuous line of a certain thickness whose continuity is constantly being interrupted by spaces and by ascending and descending lines; and whose thickness and texture is constantly being varied by curved lines weaving through and around the continuous line. These interruptions and variations distinguish one letter from another—but to be noticed as variations, the continuous line must be present constantly. Legibility requires a balance between continuity and variation.

Three major factors affect this balance. The first is proportion. Letters must be as narrow as possible, so the longest possible string of words can be taken in at a glance—yet not so narrow as to be indistinct. Spaces between letters and words must be adequate to be distinguished readily, but not so broad to break the line. And ascenders and descenders must protrude adequately with sufficient space above and below them to make them stand out. Ascenders especially are important, for since we read from the top down, we see the top of each line first.

Besides being well proportioned, letters must also be well formed: their lines must be defined clearly with sharp edges (a problem with New York). And in most circumstances, serifs—the short, crosswise, finishing strokes of letters—aid legibility substantially. Since most serifs are uniform and horizontal, and since they mostly line up with one another, they strengthen the continuity of the basic horizontal line. Simultaneously, they provide extra information about the letters' shapes, making them more recognizable. You can see this readily on the next page in a line of type from which the lower half is removed:



The bottom line is Geneva; the top is Geneva with serifs added.

Typefaces without serifs—"sans-serif" fonts like Geneva may look like they ought to be easy to read, but they aren't. In general, they are distinctly more difficult to read (as text) than typefaces with serifs. They're useful primarily for cramming letters close together (serifs take up room) in charts and captions; and for inconspicuous cutlines and notices. And of course, sans-serif fonts can be very useful in titles and headlines, if they're bold enough.

In headlines, legibility is less important than aesthetics. A headline can be the same font as the text but be bigger and bolder (conserve but practice); or it can be different, to convey a mood—but also bigger and bolder. However, beware: heading serious text with something wild like London or Venice is like making a serious presentation wearing a scarlet necktie. With enough practice you can sometimes pull it off to excellent effect, but usually it detracts from the occasion.

On the other hand, if a headline is only slightly different from the text, the effect is awkward, like two colours that are intended to be the same, but aren't quite. Much different is usually much better, as with the 18- and 24-point Chicagos used in this manual.

## Questions?

*How were the extra characters selected?*

By consulting a great many people, including university professors in a variety of fields, and by examining a wide variety of esoteric books and papers to see how often special characters are used. The final set is extraordinarily versatile.

*Why does Boston II lack \_\_\_\_\_ (some special character)?*

The Mac's standard keyboard allows only 219 characters, including spaces. A complete list of useful characters is many times that long. The criterion of selection was not frequency of use within any one specialty; it was frequency of use overall.

*Does Boston II include all the characters that the standard fonts include?*

No. Boston II does not include these:  $\alpha^o$   $f \rightarrow \int$   $\diamond$   $<$

However, you can call these from Geneva where you need them.

*How do you use Boston II for mathematical equations?*

Center them on the page in 12-point, using 8- and 7-point for sub- and superscripts. Complicated equations with many lines are far more practical to lay out in MacPaint than in any word processor. With a 512K Mac and Switcher, you can lay out an equation in MacPaint, copy it to the Clipboard, then instantaneously switch to your word processor and paste it in place. An equation inserted like this won't print out as clearly as the rest of the text, but it will be in proper proportion, so the overall result is quite presentable.

*MacPaint is fine for equations, but how about foreign languages that require additional diacritical accents and special characters?*

This is a special purpose requiring a special font. Such a font has been developed to supplement Boston II by Dr. Paul R. Popport of the Department of Music, McMaster University, Hamilton, Ontario L8S 4M2, Canada. It produces every accent and special character used in more than 50 languages.

*Where are the extra characters located on the keyboard?*

The fractions are under the 2,3,4,5 and 6— $\epsilon$ ,  $\langle$ ,  $\rangle$ ,  $\pi$  and  $\phi$  respectively. Most of the characters shared by the other fonts are where they normally are. Often like goes with like—the  $\neq$  is under the  $=$ , for instance, and the  $\div$  is under the  $/$ . Alternately, like may go near like, or near something that looks similar (the  $\dot{U}$  is under the  $X$ , for instance). Most of the Greek letters require both the Shift and the Option keys.

*Why does Boston II (like other fonts) differ in height from real type of the same point size?*

The Mac can't make lines finer than one pixel thick. In real type, as sizes change, so do the thickness of lines in rough proportion. But with the Mac, doing this would mean changing the thickness of lines by less than one point, which is impossible. Thus the Mac's fonts can't be proportioned the same from one size to the next; they can only be fudged to look similar. It's more important that the fonts look good than that they measure accurately. So where there's a conflict, the measurements lose in favor of the appearance.



*A few of the characters aren't shaped on the screen quite as they are in high quality print-outs. Why?*

A character printed out in high quality is formed by four times as many dots as a character printed on the screen (or printed out in standard quality). This permits far more subtleties of form.

*How well does Boston II reproduce?*

Very well indeed. In fact, Boston II printed by offset often looks even cleaner than the original. For reproduction at less than the original size, 12-point looks the best.

*Does Boston II work with other computers and printers? Or with the Laserwriter?*

No. Boston II works so well because it was designed pixel by pixel specifically for the Macintosh and Imagewriter, to minimize their shortcomings and circumvent their idiosyncrasies.

*Does Boston II work with both the Imagewriter I and the Imagewriter II?*

Yes, although its appearance differs very slightly between them, since the Imagewriter II forms the characters with smaller dots.

## Problems?

*Font Manager won't install it.*

The Mac "recognizes" fonts by identification numbers. If another font has Boston II's number, Font Manager will think Boston II is already installed. Try removing other fonts one by one until you find the other font with Boston's number. Next remove that font and put the others back. You should be able to install Boston II now.

*Poor printing in high quality*

To print a 9-point font in high quality, you must have the 18-point size installed in the System file; to print a 10-point font, you must have the 20-point size installed; etc. Do you?

*Bombs.*

The Mac's System and Finder have bugs; MacWrite has bugs; Word has bugs; every program has bugs. Every program will bomb now and again, without exception. The only questions are when and how often. But programs are complicated series of logical instructions that act upon one another, and can easily interfere with one another. A font, in contrast, is nothing but a collection of pictures that programs call up and modify. Hence fonts do not cause bombs.

*A character truncated in high quality  
A line improperly justified  
Spacing doesn't look right*

It is virtually impossible to write a set of instructions—i.e., a word processing program—that will cover every possible situation that the Mac can encounter when it's formatting text. For this reason, it is always necessary to check the Mac's formatting line by line, and to make manual adjustments.

This is even necessary with typesetting machines, and it's the reason for Boston II's one-pixel space: you can lengthen a space by inserting one or two pixels, or you can shorten a space by replacing it with three or four.

*Regged 16-, 18- and 24-point*

Boston II is optimized for text. The 14-, 16-, 18- and 24-point sizes are designed to make 7-, 8-, 9- and 12-point text look as good as possible when printed in high quality; they are not designed to stand on their own. In those sizes, Chicago looks best.

*In Word 1.05, the right edges of letters are slow in appearing.*

This is a bug in the release 1.05. It is more noticeable with Boston II than with some other fonts only because Boston II makes more extensive use of the right-most column of pixels forming each letter. This has been corrected in version 3.0.

## Boston II vs. Boston

- The 7-, 8-, 14- and 16-point sizes are new, as is the 1-point lining and leading tool.
- The 12- and 24-point sizes are completely re-worked, and are substantiallyly improved.
- Many of the 9-, 10-, 18- and 20-point letters are more polished, especially those with diacritical accents.
- The numerals in all sizes are completely re-worked. They are now monospaced, for easier formatting in columns.
- In all sizes the mathematical symbols have been enlarged to more useful proportions, as have been the parentheses, braces, brackets, and other symbols.
- The German ß and the music ° are new.

## Do You Have the Original Boston?

I think Boston II is as much better than the original Boston as the original Boston is better than the standard Mac fonts. For this reason, I have been sending out mailings to everyone who purchased Boston from me, offering an upgrade for a two-dollar bill and a disk (i.e., my cost).

Unfortunately, I cannot extend this offer to you if you acquired the original Boston through Microsoft. For in this case I have received from you (indirectly) only a few cents. Compared to the original Boston, Boston II represents a substantial increment of invested time. Those few cents do not begin to cover that time. Therefore, if you would like to use Boston II, I think it fair and just that you consider it quite a different product (which it is), and pay for it.

## Keyboard Locations of the Extra Characters

<u>Char.</u>	<u>Location</u>		
Æ	Shift Option '	ú	Option U then U
æ	Option '	â	Option I then A
Œ	Shift Option Q	ê	Option I then E
œ	Option Q	î	Option I then I
Ø	Shift Option O	ô	Option I then O
ø	Option O	û	Option I then U
ß	Option S	Ä	Option U then Shift A
Å	Shift Option A	Ö	Option U then Shift O
å	Option A	Ü	Option U then Shift U
Ç	Shift Option ¢	ä	Option U then A
ç	Option ¢	ë	Option U then E
À	Option ` then Shift A	ï	Option U then I
à	Option ` then A	ö	Option U then O
È	Option ` then E	ü	Option U then U
è	Option ` then E	ÿ	Option U then Y
Ì	Option ` then I	Ã	Option º then Shift A
ì	Option ` then I	Ñ	Option º then Shift º
Ò	Option ` then O	Õ	Option º then Shift O
ò	Option ` then O	ã	Option º then A
Ù	Option ` then U	ñ	Option º then º
É	Option E then Shift E	õ	Option º then O
á	Option E then A	Ô	Shift Option J
é	Option E then E	Δ	Option J
Í	Option E then I		
ó	Option E then O	Ú	Shift Option ;
<b><u>Char.</u></b>	<b><u>Location</u></b>	π	Option P
Ë	Shift Option U	Â	Shift Option ¢
Ó	Shift Option H	Í	Shift Option S
„	Shift Option W	Ê	Shift Option T
Π	Shift Option P	ı	Shift Option B
Σ	Option W	ƒ	Option F
ˆ	Shift Option º	Û	Shift Option X
®	Option ¢	¬	Option L
È	Shift Option I	Î	Shift Option D
Ω	Option Z	>	Shift Option 4
Ï	Shift Option F	€	Shift Option 2
ƒ	Option B	fl	Shift Option 6
İ	Shift Option G	<	Shift Option 3
ð	Option D	fi	Shift Option 5
‰	Shift Option E	÷	Option /
Û	Shift Option Z	◊	Shift Option V
˙	Option H	≠	Option =
Á	Shift Option Y	˘	Shift Option .
°	Option K	±	Shift Option =
□	Shift Option K	≤	Option ,
Ò	Shift Option L	≥	Option .
μ	Option M	˜	Option º
˜	Shift Option M		

Keyboꝛd Locꝛtions

## of the Extra Characters

<u>Char.</u>	<u>Location</u>
Ÿ	Shift Option `
≈	Option X
∞	Option 5
√	Option V
·	Shift Option 9
,	Shift Option 0
/	Shift Option 1
'	Option E then Option E
<u>Char.</u>	<u>Location</u>
«	Option \
»	Shift Option \
...	Option ;
•	Option 8
†	Option T
°	Shift Option 8
ª	Option 9
º	Option 0

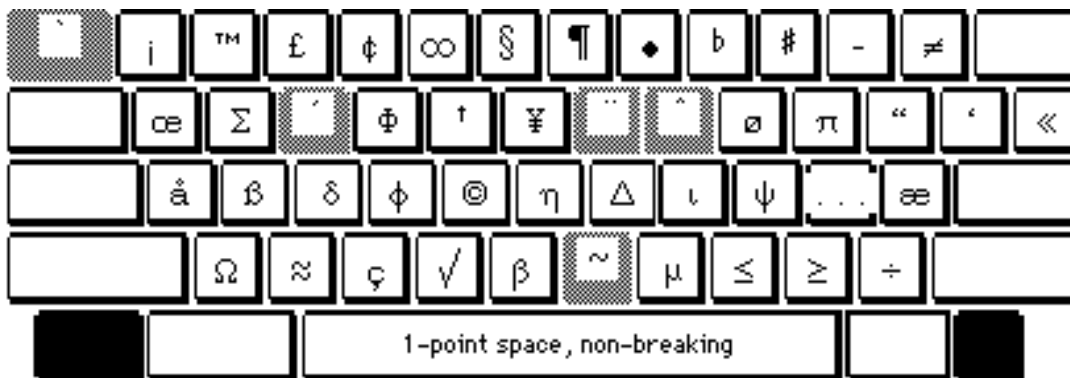
“	Option U then Option U
¿	Option Shift /
¡	Option 1
—	Option -
—	Option -
“	Option [
”	Shift Option [
‘	Option ]
’	Shift Option ]
—	Shift Option ,
¢	Option 4
£	Option 3
¥	Option Y
±	Shift Option 7
©	Option G
™	Option 2
§	Option 6
¶	Option 7

## Keyboard Layouts for Extra Characters

With shift and option keys depressed:



With option key depressed:



Dead key: character appears above next character typed.