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# NSSimpleHorizontalTypesetter Class Reference

**(Not Recommended)**

[Cocoa > Text & Fonts](#)





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# NSSimpleHorizontalTypesetter Class Reference (Not Recommended)

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<b>Inherits from</b>	NSTypesetter : NSObject
<b>Conforms to</b>	NSObject (NSObject)
<b>Framework</b>	/System/Library/Frameworks/AppKit.framework
<b>Availability</b>	Available in Mac OS X v10.0 and later.
<b>Declared in</b>	NSSimpleHorizontalTypesetter.h
<b>Companion guides</b>	Text System Overview Text Layout Programming Guide for Cocoa

## Overview

**Important:** The information in this document is obsolete and should not be used for new development.

`NSSimpleHorizontalTypesetter` is deprecated in Mac OS X version 10.4. Use `NSATSTypesetter` instead.

In Mac OS X version 10.2 and earlier, by default, `NSLayoutManager` used this class to perform line layout, which includes word wrapping, hyphenation, and line breaking. `NSSimpleHorizontalTypesetter` performs what is actually fairly complex left-to-right typesetting with some support for nonspacing marks. See [layoutGlyphsInLayoutManager:startingAtGlyphIndex:maximumNumberOfLineFragments:nextGlyphIndex:](#) (page 17) for more information.

## Tasks

### Getting a Typesetter

+ [sharedInstance](#) (page 11) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.

### Getting Global Information About a Typesetter

- [baseOfTypesetterGlyphInfo](#) (page 11) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.

- [capacityOfTypesetterGlyphInfo](#) (page 12) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [currentContainer](#) (page 13) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [currentLayoutManager](#) (page 13) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [currentParagraphStyle](#) (page 13) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [currentTextStorage](#) (page 13) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [firstGlyphIndexOfCurrentLineFragment](#) (page 14) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [sizeOfTypesetterGlyphInfo](#) (page 18) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.

## Laying out Glyphs

- [breakLineAtIndex:](#) (page 11) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [fullJustifyLineAtIndex:](#) (page 14) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [glyphIndexToBreakLineByHyphenatingWordAtIndex:](#) (page 15) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [glyphIndexToBreakLineByWordWrappingAtIndex:](#) (page 15) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [insertGlyph:atGlyphIndex:characterIndex:](#) (page 16) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [layoutControlGlyphForLineFragment:](#) (page 16) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [layoutGlyphsInHorizontalLineFragment:baseline:](#) (page 16) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [layoutGlyphsInLayoutManager:startingAtIndex:maximumNumberOfLineFragments:nextGlyphIndex:](#) (page 17) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [layoutTab](#) (page 17) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [typesetterLaidOneGlyph:](#) (page 18) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [updateCurGlyphOffset](#) (page 18) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [willSetLineFragmentRect:forGlyphRange:usedRect:](#) (page 18) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.

## Glyph Caching

- [clearAttributesCache](#) (page 12) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [clearGlyphCache](#) (page 12) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [fillAttributesCache](#) (page 14) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.
- [growGlyphCaches:fillGlyphInfo:](#) (page 15) **Deprecated in Mac OS X v10.4**  
This method has been deprecated.

## Constants

### NSLayoutStatus

These constants are returned from the method [layoutGlyphsInHorizontalLineFragment:baseline:](#) (page 16) to indicate the current status of layout.

```
typedef enum _NSLayoutStatus {
    NSLayoutNotDone = 0,
    NSLayoutDone,
    NSLayoutCantFit,
    NSLayoutOutOfGlyphs
} NSLayoutStatus;
```

#### Constants

NSLayoutNotDone

Indicates that not all glyphs are laid yet, but all glyphs laid out so far fit within the given line fragment rectangle.

Available in Mac OS X v10.0 and later.

Declared in NSSimpleHorizontalTypesetter.h.

NSLayoutDone

Indicates that layout is complete and all glyphs fit within the given line fragment rectangle.

Available in Mac OS X v10.0 and later.

Declared in NSSimpleHorizontalTypesetter.h.

NSLayoutCantFit

Indicates that a glyph wouldn't fit in the line fragment rectangle.

Available in Mac OS X v10.0 and later.

Declared in NSSimpleHorizontalTypesetter.h.

NSLayoutOutOfGlyphs

Indicates that layout is complete and there are no more glyphs to lay out.

Available in Mac OS X v10.0 and later.

Declared in NSSimpleHorizontalTypesetter.h.

**Availability**

Available in Mac OS X v10.0 and later.

**Declared In**

NSSimpleHorizontalTypesetter.h

**NSGlyphLayoutMode**

These constants are used internally by the typesetter classes:

```
typedef enum _NSGlyphLayoutMode {
    NSGlyphLayoutAtAPoint = 0,
    NSGlyphLayoutAgainstAPoint,
    NSGlyphLayoutWithPrevious
} NSGlyphLayoutMode;
```

**Constants**

NSGlyphLayoutAtAPoint

Used internally.

Available in Mac OS X v10.0 and later.

Declared in NSSimpleHorizontalTypesetter.h.

NSGlyphLayoutAgainstAPoint

Used internally.

Available in Mac OS X v10.0 and later.

Declared in NSSimpleHorizontalTypesetter.h.

NSGlyphLayoutWithPrevious

Used internally.

Available in Mac OS X v10.0 and later.

Declared in NSSimpleHorizontalTypesetter.h.

**Availability**

Available in Mac OS X v10.0 and later.

**Declared In**

NSSimpleHorizontalTypesetter.h

**NSLayoutDirection**

These constants specify layout direction:

```
typedef enum _NSLayoutDirection {
    NSLayoutLeftToRight = 0,
    NSLayoutRightToLeft
} NSLayoutDirection;
```

**Constants**

NSLayoutLeftToRight

Lay out glyphs left to right.

Available in Mac OS X v10.0 and later.

Declared in NSSimpleHorizontalTypesetter.h.



`NSLayoutRightToLeft`

Lay out glyphs right to left.

Available in Mac OS X v10.0 and later.

Declared in `NSSimpleHorizontalTypesetter.h`.

**Availability**

Available in Mac OS X v10.0 and later.

**Declared In**

`NSSimpleHorizontalTypesetter.h`



# Deprecated NSSimpleHorizontalTypesetter Methods

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A method identified as deprecated has been superseded and may become unsupported in the future.

## Deprecated in Mac OS X v10.4

### sharedInstance

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

```
+ (id)sharedInstance
```

#### Discussion

Returns a shared instance of an `NSSimpleHorizontalTypesetter`.

#### Availability

Deprecated in Mac OS X v10.4.

#### Declared In

`NSSimpleHorizontalTypesetter.h`

### baseOfTypesetterGlyphInfo

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

```
- (NSTypesetterGlyphInfo *)baseOfTypesetterGlyphInfo
```

#### Discussion

Returns the array of glyph info for the current line fragment. Because the size of the `NSTypesetterGlyphInfo` data structure could change in the future, you must not access the array elements directly. Instead, use `NSGlyphInfoAtIndex` to obtain a pointer to the glyph information at a specific index.

#### Availability

Deprecated in Mac OS X v10.4.

#### Declared In

`NSSimpleHorizontalTypesetter.h`

### breakLineAtIndex:

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

```
- (void)breakLineAtIndex:(unsigned)location
```

## Deprecated NSSimpleHorizontalTypesetter Methods

**Discussion**

Called from `layoutGlyphsInHorizontalLineFragment:baseline:` (page 16), this method breaks the current line fragment at the specified *location* by setting the current glyph to the first glyph that should appear on the next line.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

`NSSimpleHorizontalTypesetter.h`

**capacityOfTypesetterGlyphInfo**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (unsigned)capacityOfTypesetterGlyphInfo

**Discussion**

Returns the number of elements that the glyph information cache can hold.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

`NSSimpleHorizontalTypesetter.h`

**clearAttributesCache**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (void)clearAttributesCache

**Discussion**

Empties the attributes cache.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

`NSSimpleHorizontalTypesetter.h`

**clearGlyphCache**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (void)clearGlyphCache

**Discussion**

Empties the glyph cache.

**Availability**

Deprecated in Mac OS X v10.4.

## Deprecated NSSimpleHorizontalTypesetter Methods

**Declared In**

NSSimpleHorizontalTypesetter.h

**currentContainer**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (NSTextContainer \*)currentContainer

**Discussion**

Returns the container of the text currently being typeset.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**currentLayoutManager**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (NSLayoutManager \*)currentLayoutManager

**Discussion**

Returns the layout manager of the text currently being typeset.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**currentParagraphStyle**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (NSParagraphStyle \*)currentParagraphStyle

**Discussion**

Returns the paragraph style of the text currently being typeset.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**currentTextStorage**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

## Deprecated NSSimpleHorizontalTypesetter Methods

- (NSTextStorage \*)currentTextStorage

**Discussion**

Returns the text storage of the text currently being typeset.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**fillAttributesCache**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (void)fillAttributesCache

**Discussion**

Loads the attributes caches with attributes (such as font name) for the current text attributes.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**firstGlyphIndexOfCurrentLineFragment**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (unsigned)firstGlyphIndexOfCurrentLineFragment

**Discussion**

Returns the first glyph index of the current line fragment.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**fullJustifyLineAtGlyphIndex:**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (void)fullJustifyLineAtGlyphIndex:(unsigned)glyphIndexForLineBreak

**Discussion**

Given the glyph index *glyphIndexForLineBreak* at which the line is broken, fully justifies the line. Called by [glyphIndexToBreakLineByWordWrappingAtIndex:](#) (page 15) when the current text alignment is NSJustifiedTextAlignment.

## Deprecated NSSimpleHorizontalTypesetter Methods

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**glyphIndexToBreakLineByHyphenatingWordAtIndex:**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (unsigned)glyphIndexToBreakLineByHyphenatingWordAtIndex:(unsigned)*charIndex*

**Discussion**

Returns the glyph index at which the line should be broken when a word is hyphenated at *charIndex*. Called by [glyphIndexToBreakLineByWordWrappingAtIndex:](#) (page 15).

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**glyphIndexToBreakLineByWordWrappingAtIndex:**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (unsigned)glyphIndexToBreakLineByWordWrappingAtIndex:(unsigned)*charIndex*

**Discussion**

Returns the glyph index at which the line should be broken at *charIndex*. Called from [breakLineAtIndex:](#) (page 11) when the line break style of the current paragraph style is set to `NSLineBreakByWordWrapping`.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**growGlyphCaches:fillGlyphInfo:**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (unsigned)growGlyphCaches:(unsigned)*desiredCapacity*  
fillGlyphInfo:(BOOL)*fillGlyphInfo*

**Discussion**

Grows glyph-related caches to have at least the *desiredCapacity*. If *fillGlyphInfo* is YES, also fills with glyph information from the layout manager and updates `firstInvalidGlyphIndex`. Returns the number of glyphs received.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**insertGlyph:atGlyphIndex:characterIndex:**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

```
- (void)insertGlyph:(NSGlyph)glyph atGlyphIndex:(unsigned)glyphIndex
  characterIndex:(unsigned)charIndex
```

**Discussion**

Allows the typesetter to insert a new glyphs into the stream. Inserts *glyph* into the glyph cache at *glyphIndex* and maps it to the character at *charIndex*. The standard typesetter only uses this method for inserting hyphenation glyphs. Because this method keeps the glyph caches in sync, subclasses should always use this method to insert glyphs instead of calling [currentLayoutManager](#) (page 13) directly.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**layoutControlGlyphForLineFragment:**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

```
- (NSLayoutStatus)layoutControlGlyphForLineFragment:(NSRect)lineFrag
```

**Discussion**

Performs line layout for control characters in *lineFrag*, which include text attachments, tabs, and returns. Called from [layoutGlyphsInHorizontalLineFragment:baseline:](#) (page 16).

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h

**layoutGlyphsInHorizontalLineFragment:baseline:**

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

```
- (NSLayoutStatus)layoutGlyphsInHorizontalLineFragment:(NSRect *)lineFragmentRect
  baseline:(float *)baseline
```

**Discussion**

Lays out a single line horizontally. Called from

[layoutGlyphsInLayoutManager:startingAtGlyphIndex:maximumNumberOfLineFragments:nextGlyphIndex:](#) (page 17) to perform the core line layout. *lineFragmentRect* is a rectangle specifying



## Deprecated NSSimpleHorizontalTypesetter Methods

the location and maximum possible size of the line fragment. *baseline* specifies the baseline of the text; if it contains the value `NSBaselineNotSet`, this method will determine the baseline itself. *baseline* may not be `NULL`. Returns a layout status value indicating the current state of the layout. See “Constants” (page 7) for the possible return values.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

`NSSimpleHorizontalTypesetter.h`

## layoutGlyphsInLayoutManager:startingAtGlyphIndex:maximumNumberOfLineFragments:nextGlyphIndex:

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

```
- (void)layoutGlyphsInLayoutManager:(NSLayoutManager *)layoutManager
    startingAtGlyphIndex:(unsigned)startGlyphIndex
    maximumNumberOfLineFragments:(unsigned)maxNumLines nextGlyphIndex:(unsigned
*)nextGlyph
```

**Discussion**

Lays out glyphs in *layoutManager* starting at *startGlyphIndex*. *maxNumLines* are generated as long as the `NSGlyphStorage` doesn't run out of glyphs. *nextGlyph* will be set to the index of the next glyph that needs to be laid out. Calls `layoutGlyphsInHorizontalLineFragment:baseline:` (page 16) once for each line to perform the actual line layout.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

`NSSimpleHorizontalTypesetter.h`

## layoutTab

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

```
- (void)layoutTab
```

**Discussion**

Called within `layoutControlGlyphForLineFragment:` (page 16) to lay out a tab character. This method sets the extent of the current glyph to the left side of the tab stop and sets the current glyph offset to the position of the tab stop represented by this character.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

`NSSimpleHorizontalTypesetter.h`

## sizeofTypesetterGlyphInfo

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (unsigned)sizeofTypesetterGlyphInfo

### Discussion

Returns the size of the NSTypesetterGlyphInfo data structure.

### Availability

Deprecated in Mac OS X v10.4.

### Declared In

NSSimpleHorizontalTypesetter.h

## typesetterLaidOneGlyph:

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (void)typesetterLaidOneGlyph:(NSTypesetterGlyphInfo \*)*glyph*

### Discussion

Subclasses of NSSimpleHorizontalTypesetter can optionally implement this method.

[layoutGlyphsInHorizontalLineFragment:baseline:](#) (page 16) calls this method (if it exists) after laying out a *glyph*, allowing a subclass to hook into the layout machinery directly.

### Availability

Deprecated in Mac OS X v10.4.

### Declared In

NSSimpleHorizontalTypesetter.h

## updateCurGlyphOffset

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

- (void)updateCurGlyphOffset

### Discussion

Updates the location where the current glyph should be laid out. Note that this value is computed only when it's needed; this routine will compute it if necessary.

### Availability

Deprecated in Mac OS X v10.4.

### Declared In

NSSimpleHorizontalTypesetter.h

## willSetLineFragmentRect:forGlyphRange:usedRect:

This method has been deprecated. (Deprecated in Mac OS X v10.4.)

## Deprecated NSSimpleHorizontalTypesetter Methods

- (void)willSetLineFragmentRect:(NSRect \*)*aRect* forGlyphRange:(NSRange)*aRange*  
usedRect:(NSRect \*)*bRect*

**Discussion**

Subclasses of NSSimpleHorizontalTypesetter can optionally implement this method.

[layoutGlyphsInHorizontalLineFragment:baseline:](#) (page 16) calls this method (if it exists) after laying out each line fragment, immediately before

[layoutGlyphsInLayoutManager:startingAtGlyphIndex:maximumNumberOfLineFragments:nextGlyphIndex:](#) (page 17) calls NSLayoutManager's

`setLineFragmentRect:forGlyphRange:usedRect:` method to record the line fragment rectangles. Subclasses can override this method to globally modify attributes such as line spacing within *aRange* of glyphs. *bRect* is expected to be smaller than or equal to *aRect*.

**Availability**

Deprecated in Mac OS X v10.4.

**Declared In**

NSSimpleHorizontalTypesetter.h



# Document Revision History

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This table describes the changes to *NSSimpleHorizontalTypesetter Class Reference*.

Date	Notes
2006-05-23	First publication of this content as a separate document.

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