

Glossary

absolute position A specific position, given in coordinates, for the origin of each character or glyph in the glyph shape. Compare **relative position**.

advance bits array An array that determines whether the points in the positions array are absolute or relative. The advance bits array contains 1 bit for every character or glyph in the shape.

advance height The distance from the top of a glyph to the bottom of the glyph, including the top-side bearing and bottom-side bearing.

advance width The full horizontal width of a glyph as measured from its origin to the origin of the next glyph on the line, including the side bearings on both sides.

alignment The process of placing text in relation to one or both margins.

alphabetic writing system The glyphs that symbolize discrete phonemic elements in a language. Compare **syllabic writing system** and **ideographic writing system**.

angled caret A caret whose angle in relation to the baseline of the display text is equivalent to the slant of the glyphs making up the text. Compare **straight caret**.

ascent line An imaginary horizontal line that corresponds approximately to the tops of the uppercase letters in the font. Uppercase letters are chosen because, among the regularly used glyphs in a font, these are generally the tallest.

automatic form substitution The process of automatically substituting one or more glyphs for one or more other glyphs.

baseline An imaginary line used to align glyphs in a line of text.

baseline delta An array of distances (in points) between the various baseline types and $y = 0$. See **baseline type**.

baseline type The classification of baseline used with a particular kind of text. See, for example, **Roman baseline**.

bottom-side bearing The white space between the bottom of the glyph and the visible ending of the glyph.

bounding box The smallest rectangle that entirely encloses the pixels or outline of a glyph.

byte offset The numbering of character codes in source text. Compare **edge offset**.

caret A vertical or slanted blinking bar, appearing at a caret position in the display text, that marks the point at which text is to be inserted or deleted. Compare **split caret**.

caret angle The angle of a caret or the edges of a highlight. The caret angle can be perpendicular to the baseline or parallel to the angle of the style run's text.

caret position A location on screen, typically between glyphs, that relates directly to a caret offset in the source text.

caret type A designation of the behavior of the caret at direction boundaries in text. See **split caret**, **left-to-right caret**, **right-to-left caret**.

character A symbol standing for a sound, syllable, or notion used in writing; one of the simple elements of a written language, for example, the lowercase letter "a" or the number "1". Compare **character code**, **glyph**.

character code A numerical representation of a character. Each writing system or language has one or more character encodings, tables that relate character codes to the characters they represent. Most character codes have either a 1-byte or 2-byte storage size.

character encoding An internal conversion table for interpreting a specific character set.

contextual form An alternate form of a glyph whose use depends on the glyph's placement in a word.

contiguous highlighting Highlighting that consists of a single, contiguous shape across direction boundaries, even when it does not exactly match the selection range it corresponds to. Compare **discontiguous highlighting**.

counter The oval in glyphs such as “p” or “d”.

cross-stream kerning The automatic movement of glyphs perpendicular to the line orientation of the text. Compare **with-stream kerning**.

cross-stream shift A type of positional shift that applies equally to all glyphs in a style run by raising or lowering the entire style run (or shifts it sideways if it's vertical text). Compare **with-stream shift**.

cursor A small icon, often an arrow or an I-beam shape, that moves with the mouse or other pointing device. Compare **caret**.

descent line An imaginary horizontal line that usually corresponds with the bottoms of the descenders in a font. The descent line is the same distance from the baseline for all glyphs in the font, whether or not they have descenders.

direction See **dominant direction**, **glyph direction**, **line direction**, **text direction**.

direction boundary A point between offsets in memory or glyphs in a display, at which the direction of stored or displayed text changes.

direction level A hierarchical ranking of dominant direction in a line. Direction levels can be nested so that complex mixed-direction formatting is preserved.

direction-level run A sequence of contiguous glyphs that share the same text direction.

direction override A means of overriding the directional behavior of glyphs, on a style-run basis, for special effects.

discontiguous highlighting Highlighting that exactly matches the selection range it corresponds to. It may consist of discontiguous areas when the selection range crosses direction boundaries. Compare **contiguous highlighting**.

display order The left-to-right order in which QuickDraw GX displays glyphs. Display order determines the glyph index of each glyph in a line and may differ from the input order of the text. See **glyph index**; compare **input order** and **source text**.

display text The visual representation of the text of a typographic shape. Display text consists of a sequence of glyphs, arranged in display order. Compare **source text**.

dominant direction The direction in which successive groups of glyphs are read. Dominant direction is independent of glyph direction. See also **glyph direction**, **line direction**.

drop capital A large uppercase letter that drops below the main line of text for aesthetic reasons.

dual caret See **split caret**.

dynamic highlighting The process of continually drawing and redrawing the highlighted area as the user moves the cursor through the text while holding down the mouse button.

edge offset A byte offset into the source text of a layout shape that specifies a position *between* byte values. Edge offsets in source text are related to caret positions in display text. Compare **caret position** and **byte offset**.

face layers A structure that describes part of a text face. Several face layers are combined to form the visual composite of a glyph.

feature selectors A means of defining particular font features in a feature type. See also **feature type**.

feature type A group of font features in a style object that are applied to each style run based on font defaults. See also **feature selectors**.

flat font list A list that QuickDraw GX creates when you flatten a shape that contains fonts. This list specifies which fonts were used in a shape, which glyphs were used in a font, or both.

font A collection of glyphs that usually have some element of design consistency such as the shapes of the counters, the design of the stem, stroke thickness, or the use of serifs.

font attributes A group of flags that modify the behavior or identity of a font.

font descriptors The identifiable characteristics of each font object within a family, such as weight, width, italic slant, and optical point size.

font embedding The technique of storing a font object's binary data in a document so that the text in the document always displays the correct font.

font family A group of fonts that share certain characteristics and a common family name.

font features The set of typographic and layout capabilities that create a specific appearance for a layout shape.

font instance A setting identified by the font's designer that matches specific values along the available variation axes and gives those values a name.

font name A set of specific information in a font object about a font, such as its family name, style, copyright date, version, and manufacturer. Some font names are used to build menus in an application, whereas other names are used to identify the font uniquely.

font object An object type that hides the complexity of font data from your application.

font variation An algorithmic way to produce a range of timesteps along a particular variation axis.

font variation suite A complete listing of every axis supported in a font in the order specified by the font. Each axis is given a value in the listing.

glyph The distinct visual representation of a character in a form that a screen or printer can display. A glyph may represent one character (the lowercase *a*), more than one character (the *fi* ligature), part of a character (the dot over an *i*), or a nonprinting character (the space character). See also **character**.

glyph code A number that specifies a particular glyph in a font. Fonts map character codes to glyph codes, which in turn specify individual glyphs.

glyph direction The direction in which successive glyphs are read. Compare **dominant direction**.

glyph ductility The ability to stretch the actual form of a glyph during justification.

glyph index The order of a glyph in a line of display text. The leftmost glyph in a line of text has a glyph index of 1; each succeeding glyph to the right has an index one greater than the previous glyph. Compare **glyph code**, **edge offset**.

glyph justification overrides array An array that alters the standard justification behavior of one or more individual glyphs.

glyph origin The point that QuickDraw GX uses to position a glyph when drawing.

glyph shape A typographic shape that allows you to vary the position, font, rotation, and scale of each glyph in a line of text. Compare **layout shape** and **text shape**. See **typographic shapes**.

glyph substitutions array An array of glyph codes in a style object that defines which glyph to substitute for another in a specific style run.

grow limit The maximum amount by which glyphs of a given priority can be extended during justification, before processing passes to glyphs of lower priority. Compare **shrink limit**.

hanging baseline The baseline used by Devanagari and similar scripts, where most of the glyph is below the baseline.

hanging glyphs A set of glyphs, usually punctuation, that typically extend beyond the left and right margins of the text area and whose widths are not counted when line length is measured.

highlighting The display of text in inverse video or with a colored background. Highlighting in display text corresponds to a selection range in source text.

highlight type The angular character of carets and edges of highlighting areas. Highlighting and carets are either straight or angled; see **angled caret**, **straight caret**.

hit-testing The process of converting a location within a line of display text into a caret offset in the source text of that line.

hyphenation point An entry in an array of edge offsets in the source text at which it is appropriate to break a line of display text.

ideographic centered baseline The baseline used by Chinese, Japanese, and Korean ideographic scripts, in which glyphs are centered halfway on the line height.

ideographic writing system The glyphs that symbolize component meanings of words in a language. Compare **syllabic writing system** and **alphabetic writing system**.

imposed width A run control feature that forces a specific width onto the glyphs of a style run, regardless of its text content or other style properties.

index See **glyph index**.

input order The order in which characters are written or entered from a keyboard. The input order of a line of text can differ from its display order. Compare **display order**.

insertion point The point in the source text at which text is to be inserted or deleted. An insertion point is specified by a single caret position. Compare **caret**; see also **caret position**.

justification The process of typographically expanding or compressing a line of text to fit a text width.

justification gap The difference in the length of a line before and after justification.

justification priority The priority order in which classes of glyphs are processed during justification.

kashida An extension-bar glyph that is added to certain Arabic glyphs during justification.

kerning An adjustment to the normal spacing that occurs between two or more specifically named glyphs, known as the *kerning pair*.

kerning adjustments array An array in the style object that overrides the normal kerning for individual pairs of glyphs by specifying a point-size factor and scaling factor.

kerning pair Two specifically named glyphs that are kerned together by a set amount. See also **kerning**.

language The written and spoken methods of combining words to create meaning used by a particular group of people.

layer flag An element of a face layer that describes the characteristics of one layer of a text face. Layer flags are used primarily to determine the underlining capabilities of the text face.

layout shape A typographic shape that allows you to vary a layout shape in typographic aspects. Compare **glyph shape** and **text shape**. See **typographic shapes**.

leading edge The edge of a glyph that is encountered first when reading text of that glyph's language. For glyphs of left-to-right text, the leading edge is the left edge; for glyphs of right-to-left text, the leading edge is the right edge.

left-side bearing The white space between the glyph origin and the visible beginning of the glyph.

left-to-right caret A type of caret that, at direction boundaries, appears at the proper caret position for inserting left-to-right text. Compare **right-to-left caret**, **split caret**.

ligature Two or more glyphs connected to form a single new glyph.

ligature decomposition The replacement of ligatures with the glyphs for their component characters during justification.

ligature splitting The process of separating a ligature into its component glyphs.

line breaking The process of determining the proper location at which to truncate a line of text so that it fits within a given text width.

line direction The overall direction in which a line of text is read. Line direction is the lowest nested level of dominant direction on a line.

line length The distance, in points, from the origin of the first glyph on a line through the advance width of the last glyph.

line span The distance, in points, from the lowest descender on a line to the highest ascender.

margins The left, right, top, and bottom sides of the text area.

math baseline The baseline used for setting mathematical expressions; it is centered on operators such as the minus sign.

mixed-direction text The combination of text with both left-to-right and right-to-left directions within a single line of text.

neutral type A glyph directionality in which the glyph direction is always that of the surrounding glyphs. Compare **strong type**, **weak type**.

point size The size of a font's glyphs as measured from the baseline of one line of text to the baseline of the next line of single-spaced text. In the United States, point size is measured in typographic points.

point size factor A specific point size that you force onto a style run to create custom kerning. See also **scaling factor** and **kerning adjustments array**.

positions array An array that contains positions for the origin of each character or glyph in the shape. These positions, stored as points, can be relative to the advance width of the previous character or glyph, or they can be absolute positions in coordinates.

postcompensation action The extra processing, such as addition of kashidas and ligature decomposition, that occurs after glyphs have been repositioned during justification.

priority justification override array An array that alters the standard justification behavior for all glyphs of a given justification priority.

QuickDraw GX Font Feature Registry An official document maintained by Apple Computer, Inc., in which feature types and feature selectors are defined and named.

relative position A position for the origin of each character or glyph in the glyph shape given in coordinates relative to the preceding character or glyph. Compare **absolute position**.

right-side bearing The white space on the right side of the glyph; this value may or may not be equal to the value of the left-side bearing.

right-to-left caret A type of caret that, at direction boundaries, appears at the proper caret position for inserting right-to-left text. Compare **left-to-right caret**, **split caret**.

Roman baseline The baseline used in most Roman scripts and in Arabic and Hebrew.

run A sequence of glyphs that are contiguous in memory and share a set of common attributes.

run controls structure An array that is a property of every style object but is used only by layout shapes. This structure controls various features associated with text in a style run.

run features See **font features**.

scaling factor A specific scale that you force onto a style run to create custom kerning. See also **point size factor** and **kerning adjustments array**.

script A method for depicting words visually.

selection range The contiguous sequence of characters in the source text that mark where the next editing operation is to occur. The glyphs corresponding to those characters are commonly highlighted on screen.

serif The fine lines stemming from and at an angle to the upper and lower ends of the main strokes of a letter—for example, the little “feet” on the bottom of the vertical strokes in the upper-case letter “M” in Times Roman typeface.

shape attributes A group of flags that modify the behavior of a shape object.

shrink limit The maximum amount by which glyphs of a given priority may be compressed during justification, before processing passes to glyphs of lower priority. Compare **grow limit**.

smart swash A variation of an existing glyph (often ornamental) that is contextual. Compare **swash**.

source text A stored sequence of character codes that represents a line of text. Characters in source text are stored in input order. Compare **display order**, **display text**; see also **input order**.

split caret A type of caret that, at the boundary between text of opposite directions, divides into two parts: a high caret and a low caret, each measuring half the line's height. The two separate half-carets merge into one in unidirectional text. Compare **left-to-right caret**, **right-to-left caret**.

stake An edge offset in the source text that marks the point at which a line break would be most efficient in terms of layout processing.

storage order See **input order, display order, source text**.

storage reference A specification of the storage type used to store a font. See **storage type**.

storage type The method used to store a font in a font object. See **storage reference**.

straight caret A caret that is perpendicular to the baseline of the display text, regardless of the angle of the glyphs making up the text. Compare **angled caret**.

strong type A glyph directionality that is always left to right or right to left. Compare **weak type, neutral type**.

style run A sequence of memory backing store contiguous glyphs that share the same style.

swash A variation of an existing glyph (often ornamental) that is noncontextual. Compare **smart swash**.

syllabic writing system The glyphs that symbolize syllables in a language. Compare **alphabetic writing system** and **ideographic writing system**.

tangents array An array that determines the scaling and orientation of the characters or glyphs in the shape. It contains one entry for each character or glyph in the shape.

text A set of specific symbols that, when displayed in a meaningful order, conveys information.

text area The space on the display device within which the text should fit.

text attributes The set of flags that allow you to specify how QuickDraw GX alters glyph outlines or chooses the proper metrics for horizontal or vertical text.

text direction The direction in which reading proceeds. Roman text has a left-to-right direction; Hebrew and Arabic have a (predominantly) right-to-left direction; Chinese and Japanese can have a vertical direction.

text face An algorithmic way for your application to produce typestyles.

text run A complete unit of text, made up of character codes or glyph codes.

text shape A typographic shape object containing a string of text associated with a single style object. Compare **glyph shape** and **layout shape**. See **typographic shapes**.

text width The area between the margins; it is the length available for displaying a line of text.

tiled highlighting A highlighting mechanism whereby the highlighted area corresponding to every character in a line of text is unique, without gaps or overlaps.

top-side bearing The white space between the top of the glyph and the visible beginning of the glyph.

tracking Kerning between all glyphs in the shape, not just the kerning pairs already defined by the font. You can increase or decrease interglyph spacing by using a track number. See **kerning**.

track setting A value that specifies the relative tightness or looseness of interglyph spacing.

trailing edge The edge of a glyph that is encountered last when reading text of that glyph's language. For glyphs of left-to-right text, the trailing edge is the right edge; for glyphs of right-to-left text, the trailing edge is the left edge.

typestyle A variant version of glyphs in the same font family. Typical typestyles available on the Macintosh computer include bold, italic, underline, outline, shadow, condensed, and extended.

typographic bounding rectangle The smallest rectangle that encloses the full span of the glyphs from the ascent line to the descent line.

typographic point A unit of measurement describing the size of glyphs in a font. There are 72.27 typographic points per inch, as opposed to 72 points per inch in QuickDraw GX.

typographic shapes The QuickDraw GX shapes that display text: text shapes, glyph shapes, and layout shapes.

unidirectional text A sequence of text that has a single direction. Compare **mixed-direction text**.

unlimited gap absorption The assignment of all justification gap to an individual glyph or priority of glyphs, regardless of the specified grow or shrink limits for that glyph or glyphs.

variation axis A range included in a font by the font designer that allows a font to produce different typestyles.

weak type A glyph directionality that depends on context to determine whether it is left to right or right to left. Compare **strong type**, **neutral type**.

with-stream kerning The automatic movement of glyphs parallel to the line orientation of the text. Compare **cross-stream kerning**.

with-stream shift A positional shift that applies equally to all glyphs in a style run by adding or removing space before or after each glyph in the run. Compare **cross-stream shift**.

WorldScript A group of Macintosh system software managers, extensions, and resources that facilitate multilanguage text processing.

x-height The position where the top of the lowercase “x” in the font lies; this measurement usually marks the height of the body of all lowercase glyphs, excluding ascenders and descenders, in the font.

