

Glossary

attributes A property of many QuickDraw GX objects. The attributes property of an object is a set of flags that control various aspects of that object's behavior.

bitmap A QuickDraw GX data structure that describes a pixel map on a physical device. A bitmap structure is a property of a view device object.

bitmap color profile The object that specifies color-matching information about the device on which a bitmap was created.

bitmap color set An array of color values associated with a bitmap. If a bitmap uses a color set (as opposed to a color space), each pixel value in the bitmap's pixel image represents an index into this color set.

bitmap color space A color space associated with a bitmap. If a bitmap uses a color space (as opposed to a color set), each pixel value in the bitmap's pixel image represents a color value in this color space.

bitmap height The number of pixels in each column of a bitmap.

bitmap position The position of the upper-left corner of a bitmap in geometry space.

bitmap shape A type of QuickDraw GX shape. The geometry of a bitmap shape contains a pixel image and color information.

bitmap width The number of pixels in each row of a bitmap.

bounding rectangle The smallest rectangle that encloses a shape. The coordinates of a bounding rectangle are ordered.

bytes per row The number of bytes in a pixel image required to represent each row of a bitmap.

cap See **cap property**.

cap attributes A set of flags that modify the way QuickDraw GX draws cap shapes.

cap property A property of a style object that is used to specify how the end points of contours are drawn.

cap shape A shape drawn at the end points of another shape's contours.

color ramp A shape that blends from one color to another.

contour A connected series of lines and curves. The geometry property of a geometric shape is made up of one or more contours.

contour direction A value, either clockwise or counterclockwise, that QuickDraw GX assigns to each contour in a shape's geometry.

contour index A number used to specify a particular geometric point in a contour: the first geometric point in a contour has contour index 1, the second has contour index 2, and so on. See also **geometry index**.

control bits A set of bit flags in a path geometry that determines which geometric points are on curve and which are off curve.

control point A geometric point used to control the curvature of a curve.

curve error A property of the style object used to specify the accuracy of certain operations, such as converting paths to polygons.

curve join A join attribute specifying that a shape should be drawn with curved corners.

curve shape A type of QuickDraw GX shape. The geometry of a curve shape defines a Bézier curve.

dash (n) See **dash property**. (v) Applying a dash shape to the contours of another shape.

dash advance The distance between dashes in a dashed contour.

dash attributes A set of flags that modify the way QuickDraw GX dashes a shape.

dash phase How far into a dash a contour begins.

dash property A property of the style object used to draw contours as repeated patterns of shapes rather than continuous lines.

dash scale The factor to divide by when scaling a dash shape perpendicularly to the dashed shape's contours.

dash shape A shape used to dash the contours of another shape.

dashed shape A shape whose contours have been drawn with a dash shape.

depth A number indicating the position in front to back order at which a picture item is drawn. The greater a shape's depth, the more other shapes are drawn on top of the shape.

disk-based pixel image A bitmap pixel image that is stored in a file (rather than in memory) even when the bitmap shape is memory.

dither To approximate colors that a display device cannot draw with patterns of similar colors that the display device can draw.

empty shape A type of QuickDraw GX shape. Empty shapes have no geometry, are contained by every other shape, and do not appear when drawn.

edge A line or curve that makes up part of a shape contour.

even-odd rule A rule used when drawing filled shapes to determine which areas are filled. The even-odd rule does not fill areas which lie under overlapping contours. Compare **winding-number rule**.

fill See **shape fill**.

framed fill A shape fill that indicates a shape's geometry describes an outline—the outline defined by the contours of the shape's geometry. Framed fills include open-frame fill and closed-frame fill.

framed shape A shape that describes an outline—the outline defined by the contours of the shape's geometry. The shape fill of a framed shape can be open-frame fill or closed-frame fill.

full shape A type of QuickDraw GX shape. Full shapes have no geometry, contain every other shape, and cover all area when drawn.

geometry index A number used to specify a particular geometric point in a geometry: the first geometric point in a geometry has geometry index 1, and so on. Whereas contour indices start over with each contour in a geometry, geometry indices do not.

geometric pen The pen used by QuickDraw GX to draw framed shapes. The width and placement of this pen are affected by style properties.

geometric point An (x, y) coordinate pair used to specify a location in a shape's geometry. Geometric points can specify the ends of lines or curves or the off-curve control points used to control curvature.

geometric shape Any QuickDraw GX shape that has one of the following shape types: empty, full, point, line, curve, rectangle, polygon, path.

geometry A property of a QuickDraw GX shape object. A shape's geometry is the specification of the actual size, position, and form of the shape. For example, for a line shape, the geometry specifies the locations (in local coordinates) of the end points of the line.

grid point (1) A location in the QuickDraw GX coordinate system. Grid points are infinitely thin, and fall between pixels. (2) The distance between two grid points.

halftone A QuickDraw GX data structure that specifies a pattern and a set of colors. A halftone is used to achieve a greater range of colors than may be available on a display device.

index A number that indicates the position of and item in a list. See also **contour index** and **geometric index**.

inverse fill A shape fill that indicates a shape's geometry describes an area—the area not contained within the contours of the shape's geometry. Inverse fills include inverse even-odd fill, and inverse winding fill.

join See **join property**.

join attributes A set of flags that modify the way QuickDraw GX adds a join shape to the corners of a shape.

join property A property of a style object that specifies how the corners of a geometric shape should be drawn.

join shape A shape drawn at the corners of another shape.

layout shape A type of QuickDraw GX shape. The geometry of a layout shape contains a line of text and sophisticated typographic formatting information.

level A number indicating how many pictures separate a shape from the root picture in a picture hierarchy.

level cap A cap shape that is not rotated to match the angle of the contour on which it is drawn.

level join A join shape that is not rotated to match the angle that bisects the corner on which it is drawn.

miter The length a sharp join can reach before being truncated.

off-curve control point See **control point**.

offscreen bitmap A bitmap that exists in memory or on disk but is not associated with a physical display device.

overriding ink object An optional part of a picture item. If a picture item has an overriding ink object, QuickDraw GX uses the information in the overriding ink when drawing the item, rather than the information in the original ink object.

overriding style object An optional part of a picture item. If a picture item has an overriding style object, QuickDraw GX uses the information in the overriding style when drawing the item, rather than the information in the original style object.

overriding transform object An optional part of a picture item. If a picture item has an overriding transform object, QuickDraw GX uses the information in the overriding transform when drawing the item, rather than the information in the original transform object.

path contour A connected series of straight lines and curves.

path shape A type of QuickDraw GX shape. The geometry of a path shape is made up of zero, one, or more path contours.

pattern See **pattern property**.

pattern grid A pair of vectors that determine the placement of a pattern shape over the area of another shape.

pattern property A property of a style object that specifies how the area of a shape is to be filled.

pattern shape A shape copied over the area of another shape at positions specified by a pattern grid.

picture hierarchy A picture shape that contains other picture shapes as items.

picture item An element of a picture shape's geometry. Each picture item contains a reference to a shape and, optionally, a reference to an overriding style, an overriding ink, and an overriding transform.

picture shape A type of QuickDraw GX shape that represents a collection of other shapes.

pixel depth See **pixel size**.

pixel image A two-dimensional array of pixel values, each of which describes the color of one pixel in a bitmap.

pixel size The number of bits required to represent the color information for each pixel in a bitmap. Also called *pixel depth*.

pixel value A series of bits in a bitmap's pixel image that represent a single pixel of the bitmap. This value can represent a color value (if the bitmap uses a color space) or an index into a color set (if the bitmap uses a color set).

point See **control point**, **geometric point**, **grid point**, and **point shape**.

point shape A type of QuickDraw GX shape. The geometry of a point shape specifies an x-coordinate and a y-coordinate. Point shapes appear as a single pixel (if the pen width is 0) or as a cap shape (if the pen width is greater than 0).

polygon contour A connected series of straight lines.

polygon shape A type of QuickDraw GX shape. The geometry of a polygon shape is made up of zero, one, or more polygon contours.

primitive form Having stylistic variations incorporated into the shape type, geometry, and shape fill.

primitive shape A shape whose shape type, geometry, and shape fill have had stylistic information incorporated into them.

property An item or set of data in a QuickDraw GX object. A property of an object is analogous to a field of a data structure; however, a field is accessed through its name, whereas a property is accessed through a function.

rectangle shape A type of QuickDraw GX shape. The geometry of a rectangle shape contains points representing two opposing corners of a rectangle.

reduce To remove unnecessary geometric points from a geometry.

RGB color space A color space whose three components measure the intensity of red, green, and blue. Used mostly for color video.

shape (1) A graphic or typographic item (such as a geometric shape, a bitmap, or a line of text) created and drawn with QuickDraw GX. (2) A set of QuickDraw GX objects that, taken together, describe the type and characteristics of such a graphic or typographic item. A shape consists of a shape object, a style object, an ink object, and a transform object.

shape fill A property of a shape object. The shape fill specifies whether and how QuickDraw GX fills in the outlines of a shape that it draws.

shape type A property of a shape object. The shape type specifies the classification (such as point, line, bitmap, or text) of a particular shape.

sharp join A join attribute specifying that a shape should be drawn with sharp corners.

simplify To remove crossed and overlapping contours from a geometry.

solid fill A shape fill that indicates a shape's geometry describes an area—the area surrounded by the contours of the shape's geometry. Solid fills include even-odd fill, winding fill, inverse even-odd fill, and inverse winding fill.

solid shape A shape that describes an area—the area surrounded by the contours of the shape's geometry. The shape fill of a solid shape can be even-odd shape fill, winding-number shape fill, or one of the inverse shape fills.

standard cap A type of cap. Standard caps are square caps and semicircular caps.

standard join A type of join. Standard joins are sharp joins and curve joins.

style See **style object**.

style attributes A property of a style object. Style attributes are a set of flags that influence how the information in a style object affects a shape.

style object A QuickDraw GX object associated with a shape object. A style object contains information that affects the visual appearance of a shape when it is drawn.

style property One of the pieces of information stored in a style object and maintained by QuickDraw GX.

style reference A reference to a style object.

text shape A type of QuickDraw GX shape. The geometry of a text shape contains a string of characters to be drawn in a single font and style.

transform concatenation The process by which QuickDraw GX combines the clips and mappings of transform objects at different levels of a picture hierarchy when drawing a picture shape.

true inside The right side of a clockwise contour or the left side of a counterclockwise contour.

type See **shape type**.

type conversion The process of changing a shape from one shape type to another. Often the geometry of the shape is significantly affected during this process.

typographic shape Any QuickDraw GX shape that has one of the following shape types: text, glyph, layout.

unique items attribute A shape attribute that affects the way items are added to picture shapes.

winding-number rule A rule used when drawing filled shapes to determine which areas are filled. The winding-number rule fills areas that lie under overlapping contours. Compare **even-odd rule**.

