

About This Book

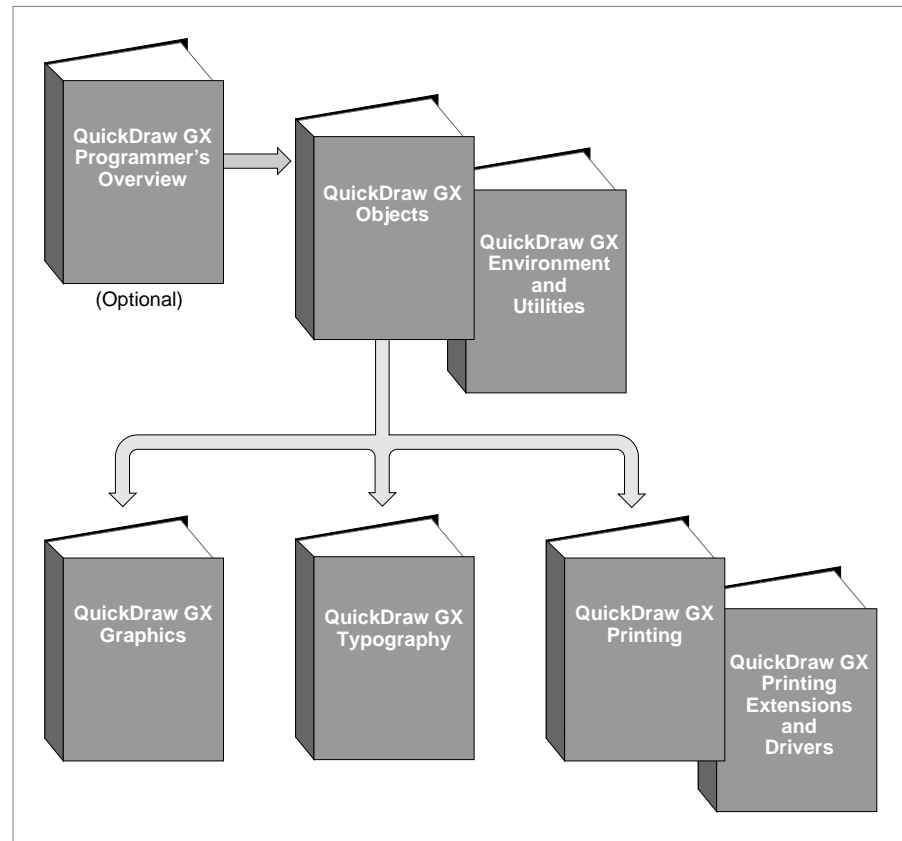
QuickDraw GX is an integrated, object-based approach to graphics programming on Macintosh computers. This book, *Inside Macintosh: QuickDraw GX Graphics*, describes the data types and functions you use to create graphic images.

For application programming purposes, QuickDraw GX augments the capabilities of some of the Macintosh system software managers documented in other parts of *Inside Macintosh*. In situations where your application uses QuickDraw GX for drawing, information in this book replaces much of the information in *Inside Macintosh: Imaging With QuickDraw*. QuickDraw and QuickDraw GX coexist without conflict, however, and you can use both in the same program. Furthermore, for tasks outside the scope of QuickDraw GX, such as managing graphics ports, you need to use QuickDraw.

Before you read this book, you should already be familiar with information described elsewhere in the *Inside Macintosh* QuickDraw GX suite of books. In particular, you should be familiar with much of the information in *Inside Macintosh: QuickDraw GX Objects*. You should read the information about QuickDraw GX shapes and objects in the chapter “Introduction to QuickDraw GX” in that book. You should also read the chapters “Shape Objects,” “Style Objects,” “Ink Objects,” and “Transform Objects” in that book.

For an alternative approach to learning QuickDraw GX, you can read *QuickDraw GX Programmer's Overview* before or along with this book. *QuickDraw GX Programmer's Overview* teaches QuickDraw GX programming through building extensive code samples. Figure P-1 shows the suggested reading order for the QuickDraw GX books.

Figure P-1 Roadmap to the QuickDraw GX suite of books



What to Read

This book describes three types of QuickDraw GX shapes you can use to make graphic images:

- geometric shapes
- bitmap shapes
- picture shapes

The other types of QuickDraw GX shapes (the typographic shapes) are discussed in *Inside Macintosh: QuickDraw GX Typography*.

The chapters of this book cover these topics:

- Geometric shapes, which are the building blocks for graphics. These shapes, which include points, lines, curves, rectangles, polygons, and paths, make up the graphic elements supported by most drawing programs. The chapter “Geometric Shapes” in this book describes geometric shapes in detail.
- Geometric styles, which are the stylistic variations you can make to geometric shapes. The chapter “Geometric Styles” in this book describes these variations.
- Geometric operations, which are the functions you can use to manipulate geometric shapes and obtain geometric information about geometric shapes. The chapter “Geometric Operations” in this book describes these functions.
- Bitmap shapes, which contain pixel images. These shapes allow you to create graphics by specifying the color value of each pixel in the image. The chapter “Bitmap Shapes” in this book describes bitmap shapes in detail. This chapter also references a number of the color plates you can find at the front of this book.
- Picture shapes, which are collections of QuickDraw GX shapes, including other picture shapes. You can find this type of shape described in the chapter “Picture Shapes,” in this book.

Chapter Organization

Most chapters in this book follow a standard general structure. For example, the chapter “Geometric Shapes” contains these major sections:

- “About Geometric Shapes.” This section provides an overview of geometric shapes.
- “Using Geometric Shapes.” This section describes how you can create and manipulate geometric shapes using QuickDraw GX. It describes how to use the most common functions, gives related user interface information, provides code samples, and supplies additional information.
- “Geometric Shapes Reference.” This section provides a complete reference to geometric shapes by describing the constants, data types, and functions that you use with geometric shapes. Each function description follows a standard format, which gives the function declaration; a description of every parameter; the function result, if any; and a list of errors, warnings, and notices. Most function descriptions give additional information about using the function and include cross-references to related information elsewhere.
- “Summary of Geometric Shapes.” This shows the C interface for the constants, data types, and functions associated with geometric shapes.

Conventions Used in This Book

This book uses various conventions to present certain types of information.

Special Fonts

All code listings, reserved words, and the names of data structures, constants, fields, parameters, and functions are shown in Courier (`this is Courier`).

When new terms are introduced, they are in **boldface**. These terms are also defined in the glossary.

Types of Notes

There are several types of notes used in this book.

Note

A note formatted like this contains information that is interesting but possibly not essential to an understanding of the main text. The wording in the title may say something more descriptive than just “Note,” for example “Implementation Note.” (An example appears on page 2-22.) ♦

IMPORTANT

A note like this contains information that is especially important. (An example appears on page 2-28.) ▲

Numerical Formats

Hexadecimal numbers are shown in this format: 0x0008.

The numerical values of constants are shown in decimal, unless the constants are flag or mask elements that can be summed, in which case they are shown in hexadecimal.

Type Definitions for Enumerations

Enumeration declarations in this book are commonly followed by a type definition that is not strictly part of the enumeration. You can use the type to specify one of the enumerated values for a parameter or field. The type name is usually the singular of the enumeration name, as in the following example:

```
enum gxDashAttributes {
    gxBendDash          = 0x0001,
    gxBreakDash          = 0x0002,
    gxClipDash           = 0x0004,
    gxLevelDash          = 0x0008,
    gxAutoAdvanceDash    = 0x0010
};
typedef long gxDashAttribute;
```

Illustrations

The following conventions are used in illustrations in this book.

In illustrations that show object properties, properties that are object references are in italics.

In order to focus attention on the key part of some drawings, other parts are printed in gray, rather than black.

This book also uses other conventions for representing shape objects, style objects, ink objects, and transform objects.

See Figure 1-1, Figure 1-2, and Figure 1-6 in Chapter 1, “Introduction to QuickDraw GX Graphics,” for examples of these conventions.

Development Environment

The QuickDraw GX functions described in this book are available using C interfaces. How you access these functions depends on the development environment you are using.

Code listings in this book are shown in ANSI C. They suggest methods of using various functions and illustrate techniques for accomplishing particular tasks. Although most code listings have been compiled and tested, Apple Computer, Inc., does not intend for you to use these code samples in your applications.

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