

About This Book

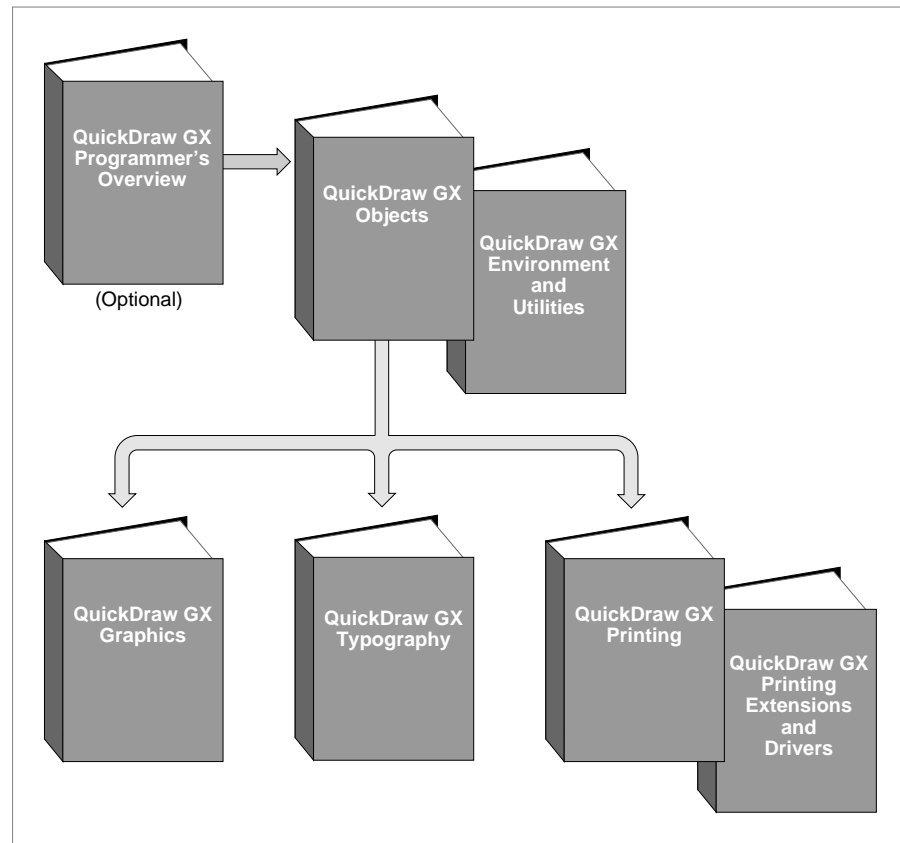
QuickDraw GX is an integrated, object-based approach to graphics programming on Macintosh computers. This book, *Inside Macintosh: QuickDraw GX Objects*, gets you started by describing the object system and showing you how to create and manipulate the fundamental QuickDraw GX objects.

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*. However, QuickDraw and QuickDraw GX coexist without conflict, and you can use both within the same program. Furthermore, for tasks outside the scope of QuickDraw GX, such as managing cursors or hardware color tables, you need to use QuickDraw.

Before you read this book, you should already be familiar with the Macintosh Toolbox, as described in *Inside Macintosh: Macintosh Toolbox Essentials* and *Inside Macintosh: More Macintosh Toolbox*. See the inside back cover of this book for a diagram showing those books and the others that make up the *Inside Macintosh* suite.

This book is the first reference book in the *Inside Macintosh* QuickDraw GX suite; read it before reading other references, such as *Inside Macintosh: QuickDraw GX Graphics* and *Inside Macintosh: QuickDraw GX Typography*. Figure P-1 shows the suggested reading order for the QuickDraw GX books.

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 Roadmap to the QuickDraw GX suite of books

What to Read

This book is for all QuickDraw GX programmers. You can read the chapters in any order, except that the first chapter introduces concepts that the others build on:

- Chapter 1, “Introduction to QuickDraw GX,” provides an overview of all of QuickDraw GX, concentrating especially on its capabilities for managing and drawing objects. Read this chapter first.
- Chapter 2, “Shape Objects,” describes how to create and use QuickDraw GX shapes, the basic objects that you draw. (To apply shape objects to specific graphic and typographic tasks, the chapter refers you to the books *Inside Macintosh: QuickDraw GX Graphics* and *Inside Macintosh: QuickDraw GX Typography*, respectively.)

- Chapter 3, “Style Objects,” describes how to create and use QuickDraw GX style objects, whose purpose is to modify the appearance or behavior of shape objects. (To apply style objects to specific graphic and typographic tasks, the chapter refers you to the books *Inside Macintosh: QuickDraw GX Graphics* and *Inside Macintosh: QuickDraw GX Typography*, respectively.)
- Chapter 4, “Colors and Color-Related Objects,” describes the QuickDraw GX approach to color representation, and the objects that contain color information. This chapter describes how to create and use color set objects, which are used to implement indexed color spaces, and color profile objects, which are used for color matching.
- Chapter 5, “Ink Objects,” describes how to create and use QuickDraw GX ink objects, which specify the color and transfer mode used to draw a shape.
- Chapter 6, “Transform Objects,” describes how to create and use QuickDraw GX transform objects, which are used to position and transform the appearance of a shape, and to store information for hit-testing.
- Chapter 7, “View-Related Objects,” describes how to create and use view ports, view devices, and view groups, which are QuickDraw GX objects that work together to provide flexible capabilities in onscreen and offscreen drawing.
- Chapter 8, “Tag Objects,” describes how to create and use QuickDraw GX tag objects, which can contain any kind of information that you can use in any way to extend the capabilities of other QuickDraw GX objects.

Other kinds of QuickDraw GX objects are described in other books. See the chapter “Introduction to QuickDraw GX” for information and cross-references.

The color plate at the front of this book shows full-color examples of some of the figures found elsewhere in the book, in the chapters “Colors and Color-Related Objects” and “Ink Objects.”

Chapter Organization

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

- “About Transform Objects.” This section provides an overview of transform objects.
- “Using Transform Objects.” This section describes how you can create and manipulate transform objects using QuickDraw GX. It describes how to use the most common functions, gives related user interface information, provides code samples, and supplies additional information.

- “Transform Object Reference.” This section provides a complete reference for transform objects by describing the constants, data types, and functions that you use with transform objects. 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 Transform Objects.” This shows the C interface for the constants, data types, and functions associated with transform objects.

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 “Terminology Note.” (An example appears on page 1-4.) ♦

IMPORTANT

A note like this contains information that is especially important. (An example appears on page 2-35.) ▲

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

This book uses several conventions in its illustrations.

In illustrations that show object properties, properties that are object references are in *italics*. See, for example, Figure 2-2 in Chapter 2.

Objects in diagrams, whether shown with their properties or without, are represented by distinctive icons, such as these:



See, for example, Figure 1-1 in Chapter 1 and Figure 2-1 in Chapter 2.

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.

Developer Products and Support

APDA is Apple's worldwide source for over three hundred development tools, technical resources, training products, and information for anyone interested in developing applications on Apple platforms. Customers receive the quarterly *APDA Tools Catalog* featuring all current versions of Apple development tools and the most popular third-party development tools. Ordering is easy; there are no membership fees, and application forms are not required for most of our products. APDA offers convenient payment and shipping options, including site licensing.

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If you provide commercial products and services, call 408-974-4897 for information on the developer support programs available from Apple.