

About This Book

This book describes QuickTime, an extension of Macintosh system software that enables you to integrate time-based data into mainstream Macintosh applications. This book also provides a complete technical reference to the Movie Toolbox, the Image Compression Manager, and the movie resources.

Time-based data types contain data that can be stored and retrieved as values over time. Examples include sound, video, animation, data produced by scientific instruments, and financial results. Time-based data can now be manipulated in the same ways as other standard types of data in the Macintosh environment. In QuickTime, a set of time-based data is referred to as a **movie**. This book shows in detail how your application can allow users to display, edit, cut, copy, and paste movies and movie data in the same way that they can work with text and graphic elements today.

If you want your application to be able to handle time-based data, you should first read the chapter “Introduction to QuickTime” for an introduction to the QuickTime concepts, architecture, managers, and components.

If you want your application to be able to paste and run QuickTime movies, to edit them, or to create new movies, you should read the chapter “Movie Toolbox.” Your application may only need to paste a movie from the Clipboard and play it—for example, a word processor might paste a movie as it does a picture, and the user might use a movie controller to play the movie. A more media-intensive application might add the ability to edit the movie after it is pasted—for example, the user might cut a segment of the movie, add a video segment, or add a different sound track. Full “mediagenic” applications could create a movie from disparate sources such as CD tracks, video clips, sounds, animation from graphics programs, or still images.

If you want your application to use the facilities of QuickTime to compress and decompress still images, you should read the chapter “Image Compression Manager.” These single images are not QuickTime movies—they do not contain time-based data. Nevertheless, you can use the image compression and decompression facilities of QuickTime for images that are not stored in movies. The chapter describes the Image Compression Manager, including compression and decompression algorithms, and the steps involved in compressing and decompressing single images and sequences of images.

If you are going to play movies or compress images, you should be familiar with QuickDraw and Color QuickDraw, described in *Inside Macintosh: Imaging*. If you are going to create QuickTime movies, you should also be familiar with the Sound Manager, described in *Inside Macintosh: More Macintosh Toolbox*, and with the human interface guidelines as described in *Macintosh Human Interface Guidelines*. If you are going to use QuickTime

components, you should be familiar with the Component Manager as described in *Inside Macintosh: More Macintosh Toolbox*.

If your application imports or exports movies to other platforms, you should read the chapter “Movie Resource Formats.” It presents details of the movie file format used by QuickTime. Most applications do not need this information.

The companion to this book, *Inside Macintosh: QuickTime Components*, includes descriptions of the Apple-supplied QuickTime components: clock components, compressor components, standard image-compression dialog components, movie controller components, sequence grabber components, sequence grabber channel components, sequence grabber panel components, video digitizer components, media data-exchange components, preview components, and media handler components.

Format of a Typical Chapter

Almost all chapters in this book follow a standard structure. For example, the chapter “Image Compression Manager” contains these sections:

- “Introduction to the Image Compression Manager.” This section presents a general introduction to image compression.
- “About Image Compression.” This section provides an overview of the features provided by the Image Compression Manager.
- “Using the Image Compression Manager.” This section describes the tasks you can accomplish using the Image Compression Manager. It describes how to use the most common functions, gives related user interface information, provides code samples, and supplies additional information.
- “Image Compression Manager Reference.” This section provides a complete reference to the Image Compression Manager by describing the constants, data structures, and functions that it uses. Each function description also follows a standard format, which gives the function declaration and description of every parameter of the function. Some function descriptions also give additional descriptive information, such as assembly-language information or result codes.
- “Summary of the Image Compression Manager.” This section provides the Image Compression Manager’s C interface, as well as the Pascal interface, for the constants, data structures, functions, and result codes associated with the Image Compression Manager.

Conventions Used in This Book

Inside Macintosh uses various conventions to present information. Words that require special treatment appear in specific fonts or font styles. Certain types of information, such as parameter blocks, use special formats so that you can scan them quickly.

Special Fonts

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

Words that appear in **boldface** are key terms or concepts and are defined in the glossary.

Types of Notes

There are several types of notes used in this book.

Note

A note like this contains information that is interesting but possibly not essential to an understanding of the main text. (An example appears on page 1-3.) ♦

IMPORTANT

A note like this contains information that is essential for an understanding of the main text. (An example appears on page 2-84.) ▲

▲ WARNING

Warnings like this indicate potential problems that you should be aware of as you design your application. Failure to heed these warnings could result in system crashes or loss of data. (An example appears on page 2-59.) ▲

Development Environment

The system software functions described in this book are available using C or Pascal interfaces. How you access these functions depends on the development environment you are using. This book shows system software functions in their C interface using the Macintosh Programmer's Workshop (MPW) version 3.2.

P R E F A C E

All code listings in this book are shown in C. They show methods of using various functions and illustrate techniques for accomplishing particular tasks. All code listings have been compiled and, in most cases, tested. However, Apple Computer, Inc., does not intend that you use these code samples in your application.

In a few cases, the functions documented in one chapter may be listed in the MPW interface files associated with another manager. An example is the `MakeFilePreview` function, which is documented for conceptual consistency in the chapter “Movie Toolbox.” This function does not appear in the `Movies.h` MPW interface file; rather, it is listed in the `ImageCompression.h` MPW interface file. When this occurs, the disparity is noted in the function descriptions.

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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.

For information on registering signatures, file types, Apple events, and other technical information, contact

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