Figures, Tables, and Listings

| Preface | About This Book xvii | | | | | |
|-----------|----------------------|---|--|--|--|--|
| Chapter 1 | Device Manag | jer 1-1 | | | | |
| • | Figure 1-1 | Devices and the Macintosh 1-4 | | | | |
| | Figure 1-2 | Communication with devices 1-5 | | | | |
| | Figure 1-3 | The device control entry 1-7 | | | | |
| | Figure 1-4 | The unit table 1-9 | | | | |
| | Figure 1-5 | Relationship of the Device Manager data structures 1-11 | | | | |
| | Table 1-1 | Device Manager I/O functions and responsible driver routines 1-12 | | | | |
| | Figure 1-6 | Structure of a driver resource 1-13 | | | | |
| | Figure 1-7 | Hierarchy of Device Manager functions 1-14 | | | | |
| | Figure 1-8 | Device Manager parameter blocks 1-16 | | | | |
| | Listing 1-1 | Opening a device driver 1-18 | | | | |
| | Listing 1-2 | Closing a device driver 1-20 | | | | |
| | Listing 1-3 | Reading from a device driver 1-21 | | | | |
| | Listing 1-4 | Writing to a device driver 1-22 | | | | |
| | Listing 1-5 | Controlling and monitoring a device driver 1-23 | | | | |
| | Figure 1-9 | The driver header 1-25 | | | | |
| | Listing 1-6 | Driver flag constants 1-27 | | | | |
| | Listing 1-7 | An assembly-language driver header 1-28 | | | | |
| | Listing 1-8 | An assembly-language dispatching routine 1-29 | | | | |
| | Listing 1-9 | Example driver open routine 1-32 | | | | |
| | Listing 1-10 | Example driver close routine 1-33 | | | | |
| | Listing 1-11 | Example driver prime routine 1-34 | | | | |
| | Listing 1-12 | Example driver control routine 1-35 | | | | |
| | Listing 1-13 | Example driver status routine 1-36 | | | | |
| | Table 1-2 | Reserved unit numbers 1-38 | | | | |
| | Listing 1-14 | Finding space in the unit table 1-39 | | | | |
| | Figure 1-10 | The Chooser window 1-41 | | | | |
| | Figure 1-11 | Structure of a device package 1-45 | | | | |
| | Table 1-3 | Device package flags 1-46 | | | | |
| | Table 1-4 | Chooser messages and their meanings 1-47 | | | | |
| | Listing 1-15 | 'DRVR' resource format 1-89 | | | | |
| Chapter 2 | Slot Manager | 2-1 | | | | |
| | Figure 2-1 | Simplified processor-bus and NuBus architecture 2-4 | | | | |
| | Figure 2-1 | The NuBus 32-bit address space 2-6 | | | | |
| | Table 2-1 | Slot address allocations by slot ID 2-6 | | | | |
| | Figure 2-3 | The structure of a typical sResource 2-8 | | | | |
| | Figure 2-4 | The format of the sBlock and sExecBlock data | | | | |

| | Table 2-2 Figure 2-5 Figure 2-6 Figure 2-7 Figure 2-8 Listing 2-1 Listing 2-2 Table 2-3 Listing 2-3 Table 2-4 | Large data types used in sResources 2-9 The sRsrcType entry format 2-10 A sample board sResource 2-12 The structure of the sResource directory 2-13 The format block and sResources for a sample video card 2-14 Disabling and enabling an sResource 2-18 Searching for a specified type of sResource 2-19 The Slot Manager search routines 2-19 Searching for the name of a board sResource 2-21 How the Slot Manager determines the base address of a slot device 2-55 |
|-----------|--|--|
| Chapter 3 | SCSI Manage | er 3-1 |
| | Table 3-1 Figure 3-1 Figure 3-2 Listing 3-1 Listing 3-2 | SCSI bus signals 3-5 SCSI bus phases and allowable transitions 3-6 The role of the SCSI Manager 3-9 Reading data from a SCSI device 3-16 Using TIB and CDB structures 3-18 |
| Chapter 4 | SCSI Manage | er 4.3 4-1 |
| | Figure 4-1 Table 4-1 Table 4-2 | The SCSI Manager 4.3 architecture 4-4 Original SCSI Manager parameter conversion 4-17 SCSIAction function selector codes 4-39 |
| Chapter 5 | ADB Manage | er 5-1 |
| | Figure 5-1 Figure 5-2 Figure 5-3 Figure 5-4 Table 5-1 Figure 5-5 Table 5-2 Table 5-3 Table 5-4 Table 5-5 Figure 5-6 Figure 5-7 Figure 5-8 Figure 5-9 Figure 5-10 Listing 5-1 | The ADB Manager and device handlers 5-6 Command formats for Talk, Listen, and Flush 5-8 Command format for SendReset 5-8 A typical ADB transaction 5-9 Register 0 in the Apple Standard keyboard 5-10 Format of device register 3 5-11 Bits in device register 3 5-11 Defined default ADB device addresses 5-12 Special device handler IDs 5-13 Typical ADB device table at initialization 5-14 Resolving address conflicts 5-16 Polling the ADB 5-18 How an ADB device responds to a polling request by the ADB Manager 5-19 The ADB service request signal 5-20 An ADB device asserts the service request signal 5-21 Determining whether an ADB device is an Apple Extended keyboard 5-23 |
| | Figure 5-11 Listing 5-2 Listing 5-3 | The ADBOp routine and an ADB completion routine 5-25 Sending an ADB command synchronously 5-25 Reading the current state of the LED lights 5-26 |

| | Listing 5-4 Listing 5-5 Listing 5-6 Listing 5-7 | Setting the current state of the LED lights 5-27 Counting in binary using a keyboard's LED lights 5-28 Installing an ADB device handler 5-32 Installing a routine pointer into JADBProc 5-35 | | | |
|-----------|--|---|--|--|--|
| | Listing 5-8 | A sample device handler 5-37 | | | |
| Chapter 6 | Power Manager 6-1 | | | | |
| | Figure 6-1 | A network driver's sleep dialog box 6-5 | | | |
| | Table 6-1 | Response of network services to sleep requests and sleep demands 6-10 | | | |
| | Listing 6-1 | Determining which Power Manager dispatch routines exist 6-15 | | | |
| | Listing 6-2 | Setting the wakeup timer 6-17 | | | |
| | Listing 6-3 | Adding an entry to the sleep queue 6-18 | | | |
| | Listing 6-4 | Installing a sleep procedure that uses application global variables 6-20 | | | |
| | Listing 6-5 | Accepting and denying a sleep request 6-21 | | | |
| | Listing 6-6 | A sleep procedure 6-21 | | | |
| | Listing 6-7 | Retrieving the sleep queue record and the selector code 6-22 | | | |
| | Listing 6-8 | Displaying a dialog box in response to a sleep demand 6-23 | | | |
| | Listing 6-9 | A modal dialog filter function that times out 6-24 | | | |
| Chapter 7 | Serial Driver | 7-1 | | | |
| | Figure 7-1 | The format of serialized bits 7-5 | | | |
| | Figure 7-2 | The role of the Serial Driver 7-9 | | | |
| | Listing 7-1 | Using the Serial Driver 7-11 | | | |
| | Figure 7-3 | The serConfig parameter format 7-19 | | | |
| | | | | | |