ADVANCED TECHNIQUES IN dBASE III PLUS™

Alan Simpson

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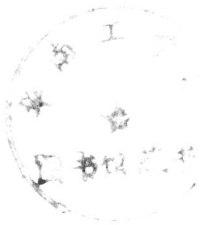

Advanced Techniques in dBASE III PLUS™

Alan Simpson

San Francisco • Paris • Düsseldorf • London

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To Susan

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Introduction

If you want to write a custom software system in dBASE III PLUS, this book is for you. The emphasis of the book is on practical business programming: writing programs that get the job done quickly and efficiently. The book presents working business systems that not only perform useful business tasks but also demonstrate programming techniques that can be used in many business applications.

Unlike most programming books, this book provides step-by-step descriptions of virtually every technique used in every program. Therefore, you don't have to try to figure out "what's going on" from a mass of dBASE commands—it's already been done for you. As the rationale for each routine in a large software system is revealed, the mystery of programming dwindles. And as the mystery dwindles, your own ability to create custom software systems grows.

This book is not intended for the computer novice. However, familiarity with the basic commands used in either dBASE II, dBASE III, or dBASE III PLUS will be sufficient background. No prior programming experience is necessary.

Structure of the Book

The book is divided into six major sections. The first four chapters discuss general programming considerations and emphasize techniques for maximizing the speed and performance of a software system. These chapters also provide firm advice for planning ahead and getting the most out of dBASE III PLUS's many capabilities.

The second part (Chapters 5–10) presents a custom software system for managing a single database. We will be working with a membership database as our example, but the techniques we present can be used to

manage any single database. In this part, specifically designed for the novice programmer, you will learn the basics of creating user-friendly, "menu-driven" systems; creating and using custom screens and reports; using index files for maximum speed; and other basic programming techniques universal to all business applications.

Chapters 11–15 present an inventory-management system and demonstrate more advanced techniques for managing multiple databases.

Chapters 16–20 discuss an accounts-receivable software system. This system demonstrates additional techniques for managing multiple databases, as well as advanced programming techniques that are unique to dBASE III PLUS.

Chapter 21 discusses some handy programs that are useful when working with dBASE, and also presents some advanced "tips and techniques" for solving tricky programming problems and tailoring existing software to your needs.

The last part consists of appendices. Appendix A describes software packages that can help you market your custom systems, including Ashton-Tate's RunTime + and the Clipper and dBIII Compilers. Appendix B discusses techniques for interfacing dBASE III PLUS data with other software systems. Appendix C presents a summary of dBASE commands for quick reference.

For consistency, the book assumes that you are using an IBM PC or similar computer with two floppy-disk drives, A and B. In drive A you should store the dBASE III PLUS System Disk, and in drive B you should store the databases and programs you develop. To ensure that the files you create are always stored on drive B, you might want to set up a Config.DB file, as discussed in Appendix A.

If you are using a hard-disk system, you'll want to store both dBASE III PLUS and the files you create on the same directory. In this case, you don't need to change the default drive as long as you access dBASE from the DOS C> prompt and the appropriate directory.

The Dot Prompt

Since you've reached the level of "dBASE programmer" (based on the fact that you are reading this book), we'll dispense with the dBASE III PLUS Assistant and work directly from the dot prompt instead. While the Assistant is fine for building and managing a database, it offers little aid to

the programmer. Besides that, things just move along at a quicker pace when you work from the dot prompt, and we have lots of material to cover here.

To leave the Assistant menu and get to the dot prompt, press the Esc key while the Assistant menu is displayed. To make dBASE III PLUS start up at the dot prompt, remove the lines

```
STATUS = ON
COMMAND = ASSIST
```

from the Config.DB file on your dBASE III PLUS System Disk 1. You can use any word processor or text editor (including the dBASE MODIFY COMMAND editor) to remove these lines.

The Config.SYS File

Chances are that you may have gotten away without using a Config.SYS file on your boot-up disk for a long time. But in this book, we'll develop more advanced applications that will eventually generate the error message

```
Too many files are open
```

if you don't have the proper Config.SYS file on your boot-up disk.

You can quickly see the contents of the Config.SYS file using the DOS TYPE command. Log onto the disk you usually boot your computer from (the root directory on your hard disk, or the DOS disk you insert before turning on your computer). This is usually *not* one of the dBASE III PLUS disks. At the DOS A> or C:> prompt, enter this command:

```
TYPE Config.SYS
```

Then press Return. If you do not see a configuration such as

```
FILES = 20
BUFFERS = 15
```

you need to create a Config.SYS file. You can use any word processor (with a nondocument mode), the dBASE MODIFY COMMAND editor, or just the DOS COPY command. To use the COPY command, leave the boot-up disk in place and type the following command at the DOS

A> or C> prompt:

```
COPY CON Config.SYS
```

Press Return. Type in the lines

```
FILES = 20
BUFFERS = 15
```

pressing Return once after each line. Next press F6 (or Ctrl-Z, whichever displays the ^Z on the screen) and Return. When the DOS A> or C> prompt reappears, you're done. To verify that you've created the file, enter this command once again at the A> or C> prompt:

```
TYPE Config.SYS
```

You should see the FILES and BUFFERS commands in the file exactly as you typed them. Next time you boot up your computer, DOS will read the Config.SYS file and set aside enough memory to hold open 20 files and 15 buffers simultaneously. This means you can have lots of dBASE database and command files open simultaneously without seeing the "Too many files are open" error message.

How to Buy the Programs in this Book

If you would like to try out the sample programs in this book but don't want to take the time to type them in yourself, see the last page of this book for instructions on purchasing a disk containing all the sample programs.

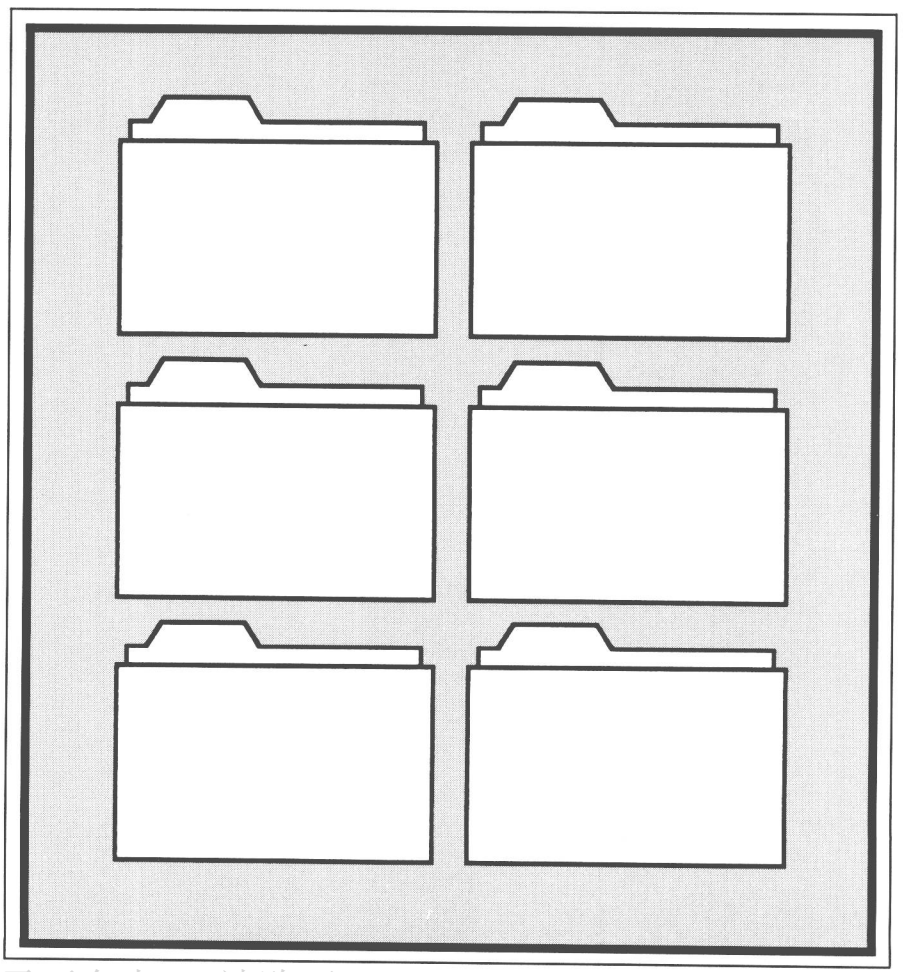
Typographical Conventions

The following typographical conventions are used throughout the book:

- dBASE III PLUS commands are entirely capitalized (CREATE).
- The first letters of variables and field names are capitalized (Memo field).

- Keyboard keys are upper- and lowercase (PgUp).
- Control-key commands are indicated with the caret (^) symbol. ^C means: hold down Control and C at the same time.

dBASE III PLUS Database Designs



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