DOS:
The Complete Reference

Kris Jamsa

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DOS: The Complete Reference

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Few individuals in the computer science industry possess both technical expertise and the ability to share their vast knowledge and experience. I deeply appreciate the technical contributions of Phillip Schmauder during the development cycle of this text. His technical acumen of DOS internals and his unselfish nature allowed us to develop a synergy that produced significant insights into the inner workings of DOS.

Thank you again for your contribution.

—K.A.J.

DOS is the disk operating system for the IBM PC and PC compatibles. Originally released in 1981 with the IBM PC, DOS has become the standard for microcomputer operating systems.

In general, an operating system provides the interface between the user and the computer. The operating system is responsible for managing system resources such as disks, printers, and other peripheral devices (modem, mouse, and so on). In addition, the operating system allows you to execute other programs, such as word processors or database packages, on the computer.

DOS has different faces depending upon the user. To most users, DOS simply appears as the command processor that executes the commands entered from the keyboard. DOS never appears to others; instead, a second application program takes control of the computer upon completion of the DOS startup procedures. These secondary applications are often called shells. Normally, a shell provides the user with a menu of options so that the user does not need to understand DOS commands. And to systems programmers, DOS serves as the low-level interface to disk, directory, file, and program control functions. As you will see, *DOS: The Complete Reference* covers all aspects of DOS.

Hardware Configuration

Each day more and more people are purchasing personal computers that run PC or MS-DOS. The uses of these computer systems are so diverse that it is impossible to cover all of the possible hardware configurations. Instead, this text assumes the use of an IBM PC with two floppy disk drives in the command examples. This configuration is the most widely used by PC users. If your system includes a hard disk, Chapter 9 provides a complete overview on hard disk management.

PC- Versus MS-DOS

Many DOS users are confused about PC- and MS-DOS. Essentially, PC- and MS-DOS are functionally equivalent: PC-DOS is the IBM implementation of DOS; MS-DOS is the Microsoft

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implementation. IBM and Microsoft make continual efforts to ensure that PC- and MS-DOS function identically, so the commands presented in this text are supported by both implementations. Very rarely is a command supported by only one of the two implementations.

Where to Look Next

While this text will well serve the needs of most users, programmers should also obtain a copy of the *DOS Technical Reference Guide*. The manual provides a complete examination of DOS and the services it provides. The DOS User's Group is one of the best sources of DOS information exchange. The group distributes a quarterly newsletter that includes the latest news on DOS, utility programs, product reviews, and answers to technical DOS questions. The group also offers diskette packages containing DOS utility programs and demos of popular third-party products. Many software manufacturers offer discounts to user-group members. Becoming a member of the DOS User's Group is one of the best investments that you will make after buying your computer. To join, write to

DOS User's Group
P.O. Box 26601
Las Vegas, Nevada 89126

A Brief Overview

This text provides a complete examination of DOS. The chapters are organized as follows:

- **Chapter 1** presents the information you need to get started with DOS. It examines hardware, software, floppy disks, and operating systems. In addition, the chapter presents the computer's power-on sequence and discusses several power configurations.

- **Chapter 2** introduces DOS and the DOS startup procedures. It also presents several commands essential to the daily use of DOS—the DATE, TIME, DISKCOPY, and FORMAT commands.

- **Chapter 3** introduces the basic DOS commands that you will normally use on a daily basis.

- **Chapter 4** examines DOS device names, their use, and their functions.

- **Chapter 5** presents the DOS PRINT command and methods that allow you to fully exploit the command and your system printer.

- **Chapter 6** discusses DOS subdirectories and directory-related commands. The information presented in this chapter is essential to successful disk organization.

- **Chapter 7** presents the DOS pipe and I/O redirection. In addition, the chapter examines the DOS SORT, MORE, and FIND commands.

- **Chapter 8** examines batch processing and the creation and execution of DOS BAT files. This chapter shows you how to invoke multiple DOS commands at one time, which allows them to proceed without user intervention. This frees you from having to monitor the computer constantly, waiting for one command to complete so that you can invoke the next. BAT files also allow you to abbreviate DOS commands.

- **Chapter 9** provides an in-depth examination of disk structures and DOS disk access methods. In addition, several techniques are presented to aid you in increasing your system performance by means of DOS subdirectories.

- **Chapter 10** examines the majority of DOS commands. Since the functions of these commands are diverse, they have, for the sake of simplicity, been grouped under the title "Advanced DOS Commands." The chapter also presents the DOS command editing keys.

- **Chapter 11** presents the DOS BACKUP and RESTORE commands. Several backup policies and procedures are also discussed. This chapter is essential for hard-disk users.

- **Chapter 12** examines the international DOS concerns. With the growing international success of the IBM PC, later versions of DOS have provided enhanced foreign-country support.

- **Chapter 13** introduces the DOS line editor EDLIN, which allows you to create, modify, or examine text files. If you don't have a word processor, EDLIN is essential. If you normally use a word processor for all of your text editing, it is important that you develop a basic understanding of EDLIN, since it is present on every computer that supports DOS.

- **Chapter 14** examines the DOS startup procedures and the command processor. Although the information presented in this chapter is technical, it provides even the novice DOS user with a critical understanding of DOS processing.

- **Chapter 15** shows you how to use the CONFIG.SYS file to customize DOS for your specific needs. The chapter also discusses the RAM disk and several optimization techniques.

- **Chapter 16** provides a programmers' overview of DOS and includes several useful utility programs and procedures. In addition, the chapter presents the DOS system services and explains how to access them from high-level languages. The chapter also examines the DOS linker, debugger, and librarian.

- **Chapter 17** introduces Microsoft Windows. It shows you how to install and start Windows and how to perform basic Windows functions.

- **Chapter 18** provides a detailed analysis of Microsoft Windows. Upon completion of this chapter you will have a thorough understanding of the Microsoft operating environment.

- **Appendix A** provides a complete reference guide to each DOS command. Syntax charts and examples are presented for each command.

- **Appendix B** provides an ASCII chart.

- **Appendix C** provides a summary of the DOS error messages and the steps required to resolve the errors.

- **Appendix D** outlines the steps to upgrade your system from one version of DOS to another.

In addition, each chapter includes review questions and answers.

Diskette Package

All of the routines provided in this text are available on diskette. The diskette package also contains several other useful utilities, including an on-line DOS facility that provides help for all of the DOS commands. This help facility is one of the most useful utilities you will ever use. The diskette package comes in a solid diskette folder that is ideal for carrying your floppy disks when you travel or go to work or school.

The complete cost of the diskette package is only $17.95 plus $2.00 shipping and handling ($5.00 for foreign orders).

Please send me the diskette package that accompanies *DOS: The Complete Reference.* My payment for $19.95 ($17.95 plus $2.00 for shipping and handling or $5.00 for foreign orders) is enclosed.

Name _____

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Kris Jamsa Software, Inc. Box 26031 Las Vegas, Nevada 89126

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Getting Started with DOS

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Keyboard and Special-Purpose Keys
Microfloppy Disks
Understanding Software
What Is DOS?
Different DOS Versions
Turn On Your System
DOS Disk
Input-Processing-Output (IPO)

This chapter presents several key concepts that are critical to your understanding of DOS, including

- hardware
- floppy disk
- keyboard
- microfloppy disk
- software
- operating systems
- starting up your computer
- input-processing-output

The first item to be discussed is hardware, or the physical components that make up your computer.

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