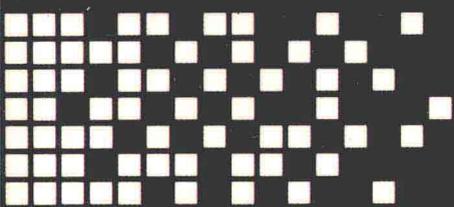


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SPREADSHEET SOFTWARE!



Using Quattro

JAMES E. SHUMAN

Spreadsheet Software!

Using QUATTRO

by James E. Shuman



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Spreadsheet Software! Using QUATTRO

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Preface

The growth of microcomputers has been extraordinary. Since their development about a decade ago, they have become an indispensable personal productivity tool. Approximately one third of the managers in the U.S. use microcomputers. Students will, most likely, work with a microcomputer in their chosen field. To be competitive in the job market, they need to develop skills in the most commonly used applications software, especially electronic spreadsheets. This text provides a practical, hands-on guide to developing expertise in one of the newest, most powerful, and most popular electronic spreadsheet programs—QUATTRO.

This program was chosen because it is comparatively easy to learn and yet has many features not found in other popular spreadsheet programs. For the beginner, QUATTRO has easy-to-use pop-up menus and both a general and a context specific help function. Some of the advanced features not found in other programs involve the development, customization, and viewing of graphs, and the development and debugging of macros. Once QUATTRO has been mastered, there is an easy transition to other spreadsheet programs. Conversely, those familiar with other programs will have no trouble with QUATTRO. In addition, QUATTRO is Lotus compatible. The menu structure and commands are very similar to Lotus, and QUATTRO can work with spreadsheets developed using Lotus.

I have tried to avoid overemphasizing the mechanics involved in learning QUATTRO. The keystrokes need to be learned, but the focus is on teaching the concepts and use of electronic spreadsheets. Emphasis is placed on how a spreadsheet is used in data analysis, problem solving, forecasting, and report development. In addition, students acquire skills in spreadsheet design, including how to preplan a spreadsheet and how to avoid common pitfalls. The examples, applications, and exercises used in the text draw from management, marketing, accounting, and finance, as well as personal budgeting.

**Who Should Use
the Text?**

The book is designed to be used as a stand-alone text in microcomputer applications courses, or as a lab supplement in introductory computer courses, or by anyone studying in disciplines (e.g., accounting) that can use the microcomputer to increase productivity.

This text can be used by those with no computer experience and by those familiar with microcomputers. Beginners can work at their own pace through the step-by-step design of the material. The extensive use of figures reinforces what the student is learning and keeps them on track. Also, the Challenge Exercises allow students to practice the skills as they learn them.

Experienced computer users can move quickly through the introductory material and into the more advanced functions. They, too, can work through the text at their own pace and use the Challenge Exercises to reinforce the learning process.

Text Organization

The text is presented as a self-paced tutorial. It is designed to be used in a lab setting, virtually self-study, with the instructor or lab assistant acting as a resource person and facilitator. Each of the four chapters begins with an overview of the material to be covered, followed by a presentation of commands using specific applications. In each chapter the student works through several examples so that new commands can be practiced as they are presented. Challenge Exercises are used to reinforce learning by requiring students to apply skills as they learn them. Figures duplicating what is displayed on the monitor are used to guide the reader through the operations involved in completing a particular application. Because many of the sections within each chapter can stand alone, students could be directed to complete all or part of the text.

- *Chapter One, Introduction to the IBM-PC*, is especially helpful for the beginner. Students develop skills necessary to operate an IBM-PC microcomputer or compatible. They also learn about the components of a microcomputer and how to use data disks to store and retrieve information. Finally, they practice the most common DOS commands.
- *Chapter Two, Electronic Spreadsheets Using QUATTRO*, includes a description of spreadsheets and step-by-step instructions for the development of practical applications. The chapter is designed to teach the most commonly used functions and assumes no prior knowledge of spreadsheets. Upon completing this chapter the students will have the skills to use an electronic spreadsheet for business and personal applications.
- *Chapter Three, Advanced Features*, teaches the students how to design sophisticated reports, develop graphs, utilize the worksheet as a database, and develop a data entry form. They also acquire skills in the use of macros, learn how to combine worksheets, and learn how to use QUATTRO with other programs.
- *Chapter Four, Customizing the QUATTRO Spreadsheet*, presents features that set this program apart from most others. Students learn how to customize QUATTRO by changing default values and altering the menu structure, including setting up a Lotus menu tree. In addition, they learn how to use the transcript Add-In program to record keystrokes and the Debug feature to find errors in macros.

As you review the chapters, please note these features and benefits:

- *Latest version of popular software:* You learn advanced features of the same program that is used in business and government.
- *Compatible with other name brand software:* QUATTRO can be used with Lotus, Symphony, WordPerfect, dBASE, Paradox, and other popular software programs.
- *Underlying concepts are explained:* You gain an understanding of electronic spreadsheets and graphs beyond the specific program taught. The skills learned are easily transferred to other software programs.
- *Sequential instruction:* Step-by-step instructions allow you to progress at your own pace. You learn the basic commands first and then move to more advanced function. Chapters may be completed in an open lab setting where the instructor need not be present. Students aid one another in the learning process.
- *Extensive use of figures:* You can check what is displayed on the monitor with figures provided in the text. This helps guide you through the programmed instruction.
- *Action/Result format:* You are guided by a series of Action/Result steps that ask you to carry out an Action (keystrokes) and observe the Result (screen display). This reinforces your learning and keeps you on track.
- *Numerous examples:* Practical, real-life applications stimulate interest and reinforce key concepts at various points in each chapter.
- *Challenge Exercises:* Once a function is learned, you are challenged to use the new skill to complete a practical exercise.
- *Tested in the classroom:* The material is appropriate for students with no previous computer experience and yet is a challenge for those familiar with microcomputers and spreadsheets.
- *Data disk:* The data disk used with this text has 28 files, including practical exercises, comprehensive applications, spreadsheet templates, report setups and Challenge Exercises. Use of the data disk simulates a business environment. In addition, students are able to work with more complex and larger worksheets without having to spend time entering data, a skill that would have already been acquired.
- *Flexibility in equipment requirements:* The text is written to accommodate PCs with or without hard disk drives. The program will run on the IBM-PC, XT, or AT, and compatibles, as well as the PS/2 series. Minimum requirements are a PC with 512K memory, two floppy drives, and Dos 2.0.

Below are some of QUATTRO's special features that make data entry and analysis easy:

- *Pop-up menus:* Simply press the slash (/) key to access any of QUATTRO's commands through a series of pop-up menus that display on the screen.
- *On-line help:* Press the (F1) key to access QUATTRO's extensive help function. Whenever you press (F1), help screens appear that are relevant to the process you are currently working on.

Features and Benefits

- *Presentation quality graphs:* QUATTRO has one of the most extensive graph functions. Ten different types of graphs can be easily developed from spreadsheets; then they can be enhanced, customized, viewed and printed with only a few keystrokes.
- *Database management:* By merely adding field names, a standard worksheet can be turned into a database that can be sorted, searched, and analyzed.
- *Importing files:* QUATTRO is compatible with other popular spreadsheet, database, and word processing programs. It can automatically read files created with Lotus, dBASE, Paradox, and Symphony, as well as others.
- *Macros:* There are two ways to create macros using QUATTRO. You can enter a macro as a series of labels within the spreadsheet, or you can use the record mode to have each step you take recorded. There is also a macro debug function.
- *Functions:* QUATTRO has one hundred functions that let you perform mathematical (e.g., @SUM), financial, and statistical operations on the data in your spreadsheet.
- *Add-Ins:* QUATTRO comes with two supplementary programs called Add-Ins. Transcript allows you to record each keystroke which is saved to a file. Then, if necessary, you can run Transcript to recreate a spreadsheet that may have been lost accidentally. Menu Builder allows you to customize the menu structure by changing command names and altering how you work through the menu.
- *Speed:* QUATTRO works up to twice as fast as other spreadsheets. During recalculation, only those cells affected by changing formulas are recalculated.

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- FORMAT (Preparing a blank disk to be used)*
- DISKCOPY (Creating a backup data disk)*
- DISKCOMP (Comparing two disks)*
- ERASE (Deleting a file from a disk)*

Directories and Subdirectories

Paths

Installing the QUATTRO Program on a Hard Disk Drive

This chapter helps you develop the skills necessary to operate an IBM-PC microcomputer or equivalent. You will learn about components of a microcomputer system, the programs used to operate it, and how to store information using data disks. This chapter should be mastered before continuing with the rest of the book.

Getting Started with the IBM-PC

In order to complete this text you will need:

- An IBM-PC (or equivalent) computer with 512K memory, two disk drives, or a hard drive and one disk drive,
- A disk containing the disk operating system (DOS) version 2.0 or later (version 3.1 is used here),
- A blank disk,
- The student data disk that accompanies this text. The disk contains several files (documents such as budgets, sales reports, and financial statements) that utilize the QUATTRO program taught in this text. You will be using these files throughout the text and will also use the data disk to store your own work.

The standard configuration for an IBM-PC consists of a keyboard, system unit with disk drives, and a monitor. Figure 1-1 illustrates this configuration.

Overcoming Computer Anxiety

If this is your first experience with a microcomputer, then you might feel anxious. The computer can seem very mysterious because it is able to do so much so quickly, and computer jargon can complicate things further. Developing

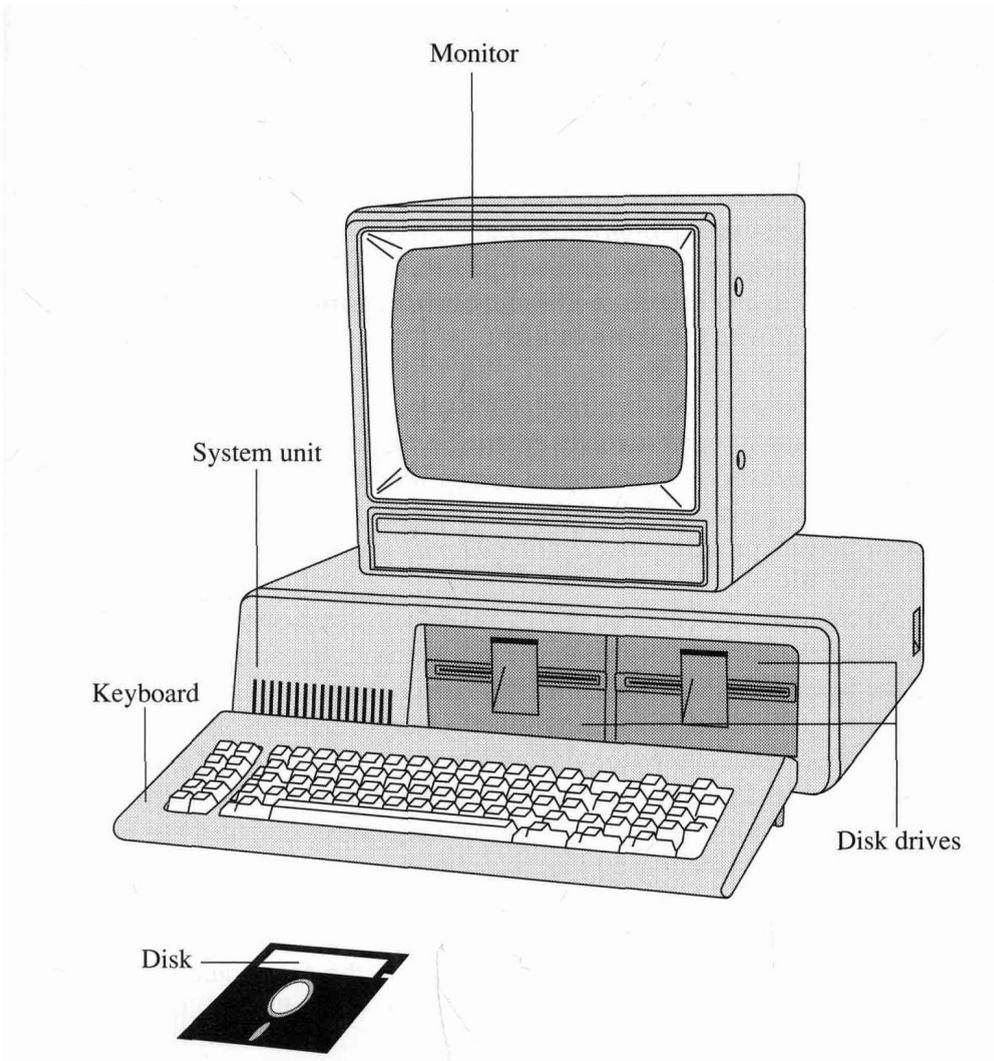


Figure 1-1 IBM-PC computer and disk

expertise in the use of microcomputers is similar to learning any new skill. Follow the instructions, learn the basics, and practice, practice, practice. As you prepare to use the microcomputer, remember that it is simply a tool—you will not do anything that will damage the computer. Other than typing at a keyboard, the only mechanical operations necessary are opening and closing disk drive doors, inserting and removing disks, and turning the computer and monitor on and off.

The Process for Using a Microcomputer

The following example will be used throughout this chapter to help explain the process for using a microcomputer.

Susan, a college instructor, is interested in computerizing her grading system. Currently, student names and scores are recorded in a grade book manually, and a calculator is used to add the scores and determine percentages for every student. When new scores are entered, the totals must be recalculated. If she computerizes her grading system, totals and percentages will be automatically recalculated each

time a new assignment or test is recorded. In order to move from the manual system to the computerized system Susan will need:

- computer components (the *hardware*),
- instructions that control the operations of the computer and perform necessary calculations (the *software* or *program*),
- student names and scores (the *data*),
- knowledge of the *procedures* necessary to use the hardware and software,
- a person to work with the above (a *user*).

These elements work together through the steps used in processing data: input, processing, and output. *Input* involves entering program instructions and data into the computer. *Processing* is what happens to data after it is entered, e.g., calculations are performed, comparisons made, editing done, and so on. Once data is processed, it may be displayed, printed, or stored: the *output*.

Input. To computerize the grade report, Susan's first step is to load the program into the computer. She has decided to use an electronic spreadsheet program that contains the instructions for calculating rows and columns of numbers—ideal for working with a grade sheet. An electronic spreadsheet comes on one or more *disks* (see Figure 1-2), a medium used to store instructions and data used by the computer. To load the program from the disk into the computer, you use a *disk drive*, which copies the instructions from the disk into the memory of the computer. Her next step is to type in the data (student names and scores).

Processing. As data for a student is typed in, the computer carries out the instructions to perform calculations, such as adding the scores and determining percentages.

Output. There are three primary ways that output can be obtained when using a microcomputer: through the monitor, disk drive, and printer. As Susan enters the student names, scores, and other data, it is displayed on the monitor. She also can save the grade report by using a disk drive to record the information onto a *data disk*—the storage medium for data developed on the computer. Unlike the disk

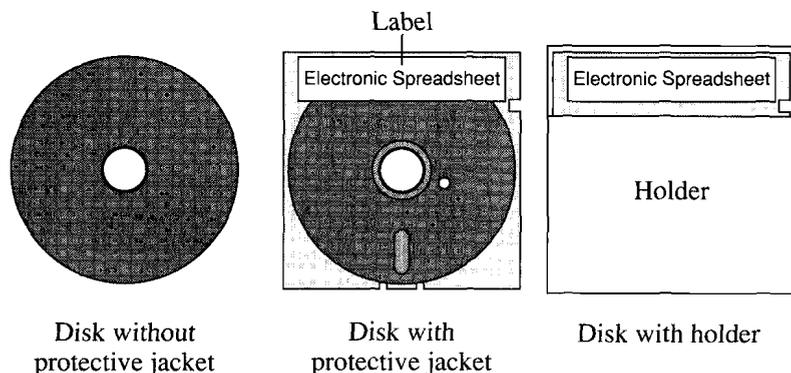


Figure 1-2 Disks

containing a program, data disks are blank when purchased. Disks with software like electronic spreadsheets cost between \$70 and \$600, while blank disks cost \$1 to \$3. Finally, if desired, the grade report may be printed to obtain what is called a *hard copy*.

Figure 1-3 illustrates these data processing steps and shows the hardware components related to each step. The following sections explain each of the hardware components that make up a microcomputer, the programs that provide the instructions for the computer, and the procedures needed to operate the computer.

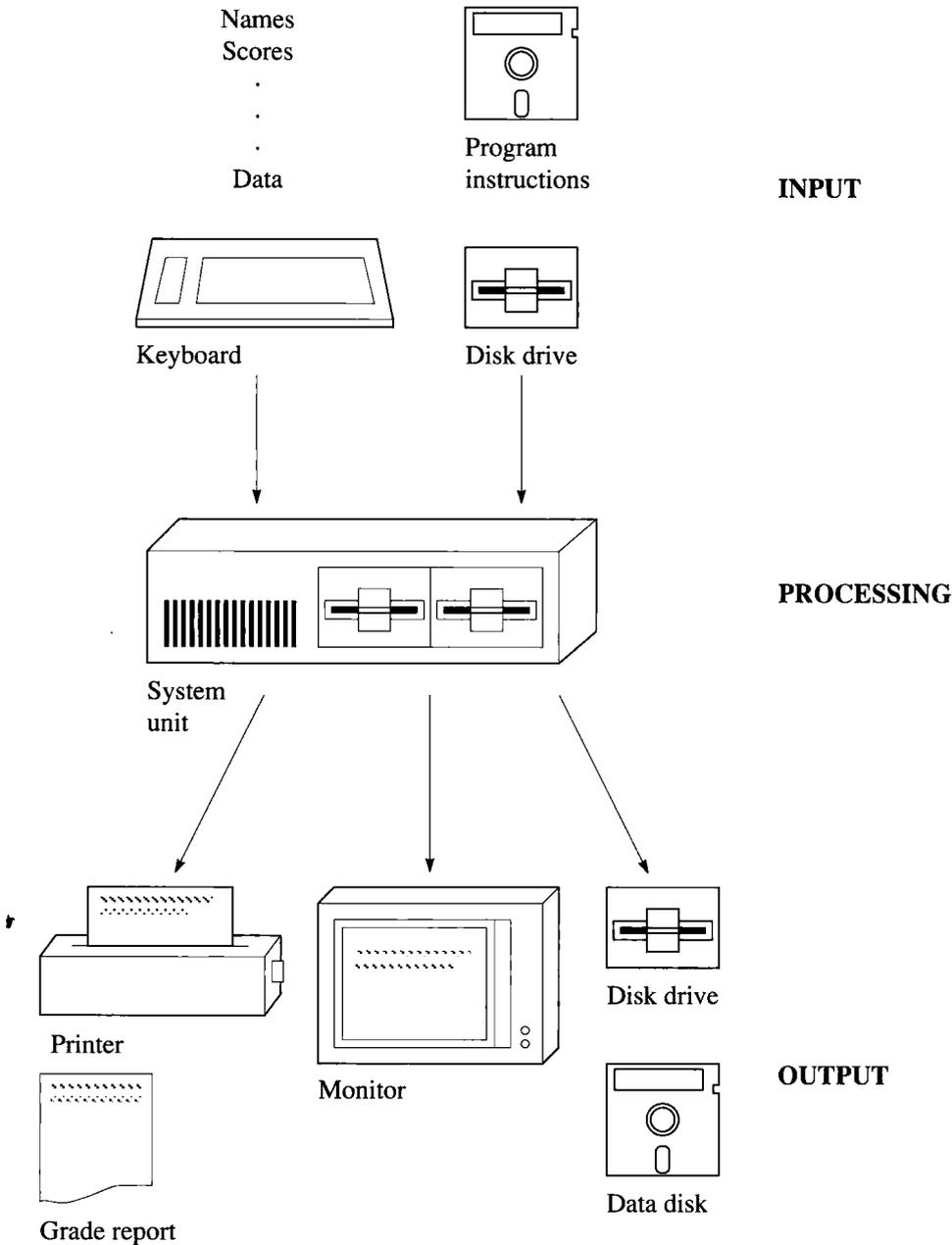


Figure 1-3 Input—processing—output

Hardware Components

Keyboard

Figure 1-4 shows the IBM-PC keyboard. It is made up of:

- Standard typewriter keys,
- Function keys,
- Special keys, and
- Ten-key numeric pad/cursor movement keys.

Learning about the use of the function keys and the special keys is important as their use varies with most software programs. For instance, the F2 function key in a word processing program may be used to save your work, whereas in a spreadsheet program it may be used to edit the data. Instructions that come with the software program, called *documentation*, specify the use of these keys. Refer to Figure 1-4 as you read the following description of the keyboard.

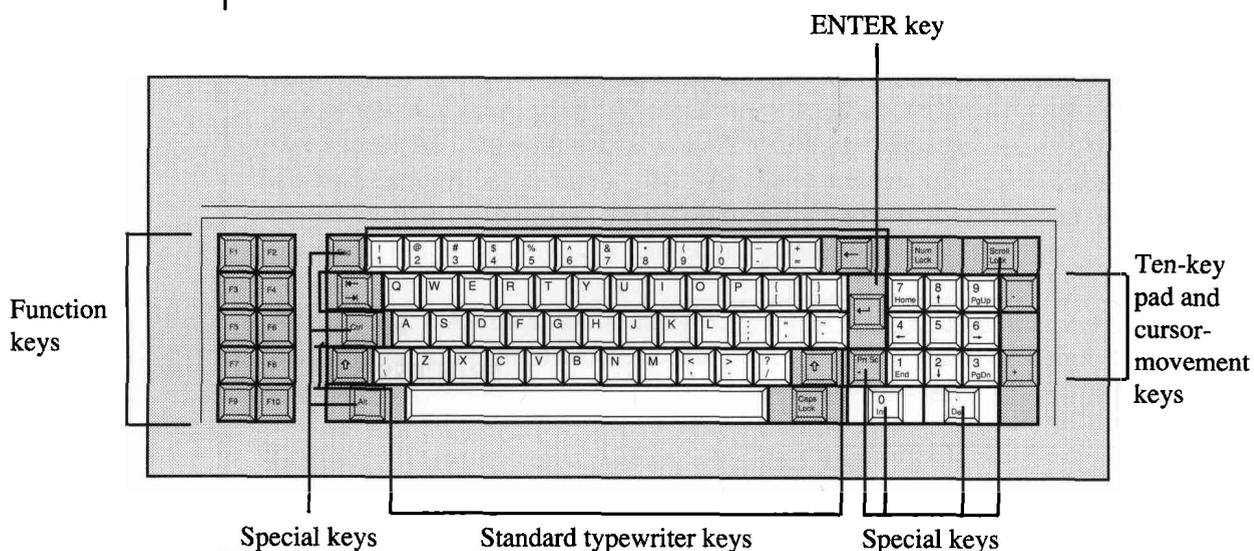


Figure 1-4 Keyboard

Key

Operation

Standard Typewriter Keys

(TAB) Tab

(Key is a left-pointing arrow over a right-pointing arrow.) Press to move the *cursor*, the blinking indicator of the screen position where the next keystroke will be placed, to the next tab position to the right. Hold the shift key down and press the tab key to move the cursor one tab position to the left.

(SHIFT) Shift

(Key is an outlined arrow pointing up.) Hold down and press another key for uppercase.

Letters, numbers, special characters

Similar to a typewriter keyboard.