# A GUIDE TO SPREADSHEETS USING *VP-Planner*

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Norman Sondak

# A GUIDE TO SPREADSHEETS USING VP-PLANNER

**Norman E. Sondak**
*San Diego State University*

**HOLDEN-DAY, Inc.**
4432 Telegraph Avenue ● Oakland CA, 94609

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This book provides a detailed introduction to the use of VP-PLANNER on the IBM PC and compatibles to prepare electronic spreadsheets. It is designed for use by college students, business professionals, scientists, and engineers. The book is self-contained. It is a step-by-step, easy to follow, hands-on guide and requires no previous knowledge of personal computers or spreadsheet techniques. It provides detailed support and comprehensive examples for the individual using a personal computer for the first time, including coverage of basic personal computer system concepts and the DOS operating system.

It can be used as the principle text of an introductory course on electronic spreadsheets or as a self-study guide for those wishing to learn more about the use and application of spreadsheets.

The examples, illustrations, and conceptual material presented in the text are based upon years of spreadsheet use and instruction. The chances are more than reasonable that even an experienced spreadsheet user and developer can find the practical suggestions, hints, checklists, and advice given in this book very helpful, informative, and valuable.

A structured approach to the design, development, and implementation of spreadsheets is used throughout the text. Good spreadsheet practices are emphasized in the examples. Complete and concise documentation of spreadsheets is exemplified and encouraged. The aim is to develop an understanding of the use of spreadsheets and VP-PLANNER to solve practical business and scientific problems.

A detailed and comprehensive description of VP-PLANNER worksheet commands, functions, formulas, displays, and operation is presented. VP-PLANNER is compatible with Lotus 1-2-3 version 1A worksheets, templates, and macros, but it also has a distinctive look and feel of its own. Some of VP-PLANNER's advanced features include specialized VP-PLANNER displays and user prompts, integrated help screens, command access, direct graphics, background printing, data transfer between VP-PLANNER worksheets and dBASE II- or III-format files, listing and mapping of named ranges, autokey macros, hidden columns and cells, and multidimensional databases. VP-PLANNER also uses advanced sparse matrix design which improves processing and allows the storage of very large worksheets in computer memory.

The Educational Version of VP-PLANNER used in this book differs from VP-PLANNER only in that the Educational Version cannot create multidimensional databases and the maximum worksheet is 64 columns by 256 rows.

Worksheet concepts, commands, functions, and formulas are illustrated with a consistent set of examples and case studies. Screen displays and actual outputs are included to illustrate computer actions and the results of command execution. Since the examples are even within the scope of inexperienced students, a reader can build both worksheet and problem solving skills quickly and easily. The text provides unusually complete coverage of built-in functions, printing, graphics, and databases—areas in which students usually find the most difficulties when using spreadsheet programs.

The text also includes coverage of the handling of large worksheets, worksheet *macros*, *protected cells*, and *word processing with worksheets*. These important real world topics are not usually treated in introductory books.

Each chapter in the book ends with a list of key terms and a comprehensive set of review exercises. Answers to selected exercises are included for student self-evaluation and analysis. A glossary of VP-PLANNER terms is included in the text. Detailed reference material on VP-PLANNER is given in the appendices.

The organization, appendices, and examples make the book particularly valuable as a reference tool for both the professional version of VP-PLANNER and the Educational Version.

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## HOW THIS BOOK IS ORGANIZED

This book describes the use of VP-PLANNER to create electronic spreadsheets on the IBM PC and compatibles. The first three chapters provide the reader with the background needed to effectively use the IBM PC and compatibles to produce spreadsheets. They cover the basic concepts of electronic spreadsheets, the components of a personal computer system, and the personal computer operating system – PC DOS or MS DOS. Chapter Four allows the reader to produce an actual worksheet and examine the power and scope of VP-PLANNER. Chapters Five through Seven cover, in detail, the various command and function capabilities of VP-PLANNER. Chapter Eight covers the facilities of VP-PLANNER to produce printed and file images of worksheets and how to handle large worksheets. Chapter Nine covers the analytical and presentation graphics capabilities of VP-PLANNER. Chapters Ten and Eleven treat the database commands and facilities including data transfer between the current worksheet and dBASE files. The last chapter (Chapter Twelve) introduces some of the advanced features of VP-PLANNER including autokey macros, X commands, and multidimensional databases.

Chapter One provides the background of electronic spreadsheet programs and spreadsheet terminology. It presents the reasons for the unprecedented success and popularity of electronic spreadsheets and traces the evolution of spreadsheet software. The chapter also introduces the concept of structured design and implementation of spreadsheets. It emphasizes the need to document spreadsheets.

Chapter Two covers the computer environment for spreadsheet development. It introduces the functional parts of a personal computer system including the system unit, monitor, and printer. Computer storage and memory are discussed. The proper use and handling of floppy disks is presented.

Chapter Three covers the DOS commands needed to support spreadsheet maintenance and development. The DATE, TIME, DIR, FORMAT, COPY, and ERASE commands are explained. DOS file concepts are covered.

Chapter Four offers an overview of the entire process of spreadsheet development and implementation. The simple worksheet is created and printed. Graphs are created from the worksheet data. VP-PLANNER commands and functions are introduced.

Chapter Five introduces VP-PLANNER's command structure. Command menus and command chains are covered. The WORKSHEET and RANGE commands are covered in detail and applied in worksheet construction.

Chapter Six continues the discussion of VP-PLANNER commands. The COPY, MOVE, FILE, and QUIT commands are reviewed. These commands are applied in the development of a more complex worksheet.

Chapter Seven covers VP-PLANNER's built-in functions. The nine different categories of built-in functions are presented. Each of the functions is discussed and most are illustrated with practical examples.

Chapter Eight covers the PRINT command in detail. Personal computer printers are reviewed. The PRINT command offers a rich variety of outputs. Several different worksheets are created to illustrate the various techniques used in printing worksheets. Methods for successfully handling large worksheets are covered.

Chapter Nine treats the VP-PLANNER GRAPH command and the basic techniques of analytical and presentation graphics. The GRAPH command is used to create, print, and store each of the graphs that VP-PLANNER can produce.

Chapter Ten covers the database concepts and the DATA SORT and DATA QUERY commands. These two powerful commands are used to order and examine worksheet databases and data tables. The DATA FILL command is used to reduce keyboarding in database and worksheet generation.

Chapter Eleven continues the examination of Data commands. The Database statistical functions are used to analyze worksheet data. Frequency distributions of data are generated using the DATA DISTRIBUTION command. The DATA TABLE commands are presented and used to answer "what if" questions. The techniques required to transfer data between the current worksheet and dBASE files are illustrated using the DATA EXTERNAL commands.

Chapter Twelve covers some of the advanced features of VP-PLANNER including the development of autokey and keyboard macros, the /X commands, protected cells, word processing with a worksheet, and an introduction to multi-dimensional databases. The worksheet optimizer, WHAT'S BEST, is discussed.

A Glossary of VP-PLANNER terms is included.

Appendices at the end of the book cover the commonly used reference materials for VP-PLANNER, including VP-PLANNER Program Modes, Editing keys, Operators, Cursor controls, and Maximums and Minimums.

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# CHAPTER 1
# The Electronic Spreadsheet

## OBJECTIVES

After completing this chapter you will be able to:

- Recognize the impact of the electronic spreadsheet in business and science.
- Trace the history of electronic spreadsheet programs.
- Understand why VP-PLANNER was selected for student use.
- Understand the organization, structure, and operation of an electronic spreadsheet.
- Use the three basic steps of structured worksheet development.
- Recognize the importance of being able to use graphs to analyze spreadsheet data.
- Understand the logical relationship of databases to spreadsheets.

## HISTORY AND BACKGROUND

The electronic spreadsheet has been called the single most important idea in computer software of the decade. Electronic spreadsheets have certainly changed the way Americans do business. The first spreadsheet program was developed in 1978 by Dan Bricklin, then a student at the Harvard Business School. Bricklin conceived of the electronic spreadsheet as a means to eliminate the long and tedious calculations required with paper spreadsheets and to adjust forecasts and income statements when the Harvard MBA professors altered the assumptions in their case study assignments.

Bricklin and his friend, Bob Frankston, produced a commercial version of their electronic spreadsheet program for the Apple II® Computer. The two friends visualized their program as a sort of electronic blackboard and chalk, and called it VisiCalc™, short for visible calculator. The business community was quick to realize the amazing versatility, power, and convenience of an electronic spreadsheet, and VisiCalc became an instant success. The sales of Apple II computers for business applications of spreadsheets skyrocketed. And the impact of electronic spreadsheets was such that spreadsheet programs have remained at or near the top of the business program best-seller list ever since.



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