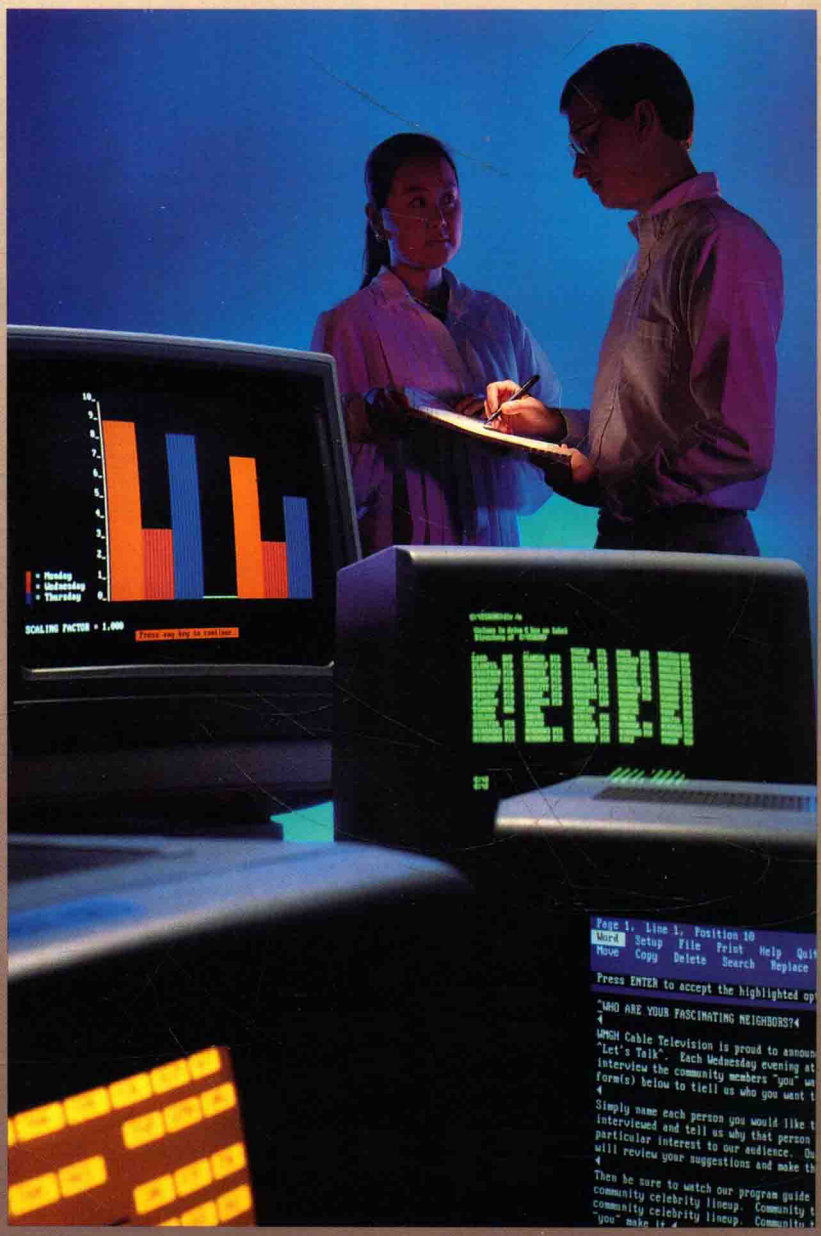
MICROCOMPUTER APPLICATIONS for TECHNICIANS



DONALD D. VOISINET

MICROCOMPUTER APPLICATIONS for TECHNICIANS

DONALD D. VOISINET

Professor of Engineering Technology
and Coordinator of Design and Drafting

Niagara County Community College
Sanborn, New York

GLENCOE

Macmillan/McGraw-Hill

New York, New York Columbus, Ohio Mission Hills, California Peoria, Illinois

Voisinet, Donald D.
Microcomputer applications for technicians / Donald D. Voisinet
p. cm.
ISBN 0-02-800941-X.—ISBN 0-02-800940-1 (3½″ disk).—ISBN 0-02-800939-8 (5¼″ disk)
1. Microcomputers. 2. Computer software. I. Title.
QA76.5.V575 1993
808′.06662′02855369—dc20 92-36081
CIP

Send all inquiries to:
GLENCOE DIVISION
Macmillan/McGraw-Hill
936 Eastwind Drive
Westerville, OH 43081

ISBN 0-02-800939-8 (5¼″ disk)
0-02-800940-1 (3½″ disk)

Printed in the United States of America.
1 2 3 4 5 6 7 8 9 POH 99 98 97 96 95 94 93

MICROCOMPUTER APPLICATIONS for TECHNICIANS

PREFACE

MICROCOMPUTER APPLICATIONS FOR TECHNICIANS

As recently as a decade ago, technical laboratory reports and design projects were presented using the "age old" traditional method. That is, the narrative portion would be manually written, the results manually tabulated, and the graphs or drawings constructed by the use of a T-square, triangles, compass, irregular curve, and pencil. The only thing "electronic" about the process would be that a hand-held calculator might be used to determine the numerical result. More recently, due to the evolution of Micro CAD (Computer-Aided Design), the graphical part was able to be produced electronically. Now we see that by also using word processing for the narrative and spreadsheets for the calculations/numerical results, the entire process approaches the electronic age. One problem associated with this is having to learn three or four different software packages that are unrelated to each other. This text addresses and solves that concern. You will need to learn only one software package that truly integrates word processing with spreadsheets, graphs, and database management.

By completing the tutorials in each chapter, you will learn how to fully utilize the software and develop an integrated approach. The projects in each chapter begin with relatively easy to accomplish applications and become progressively more difficult. The projects at the end of the chapters are open-ended to suit the specific goals of virtually any course. Consequently, since they may be "tailor made" by each instructor, solutions are not included. After developing mastery of the topics in this text and with the knowledge of one CAD package, you will be producing truly complete electronically generated laboratory reports and design projects.

Donald D. Voisinet

Table of Contents

Chapter 1 Introduction

Chapter 2 Spreadsheets

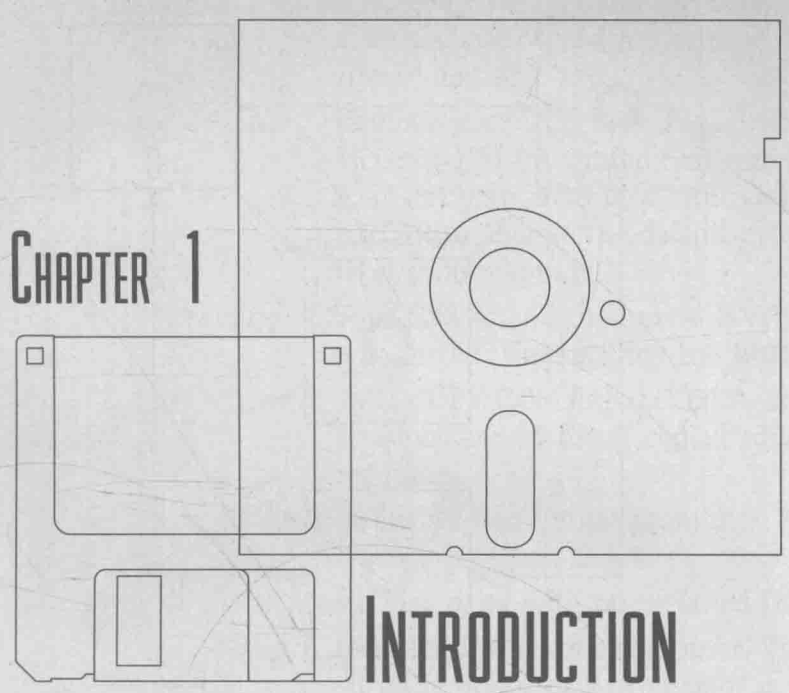
CHAPTER 3 GRAPHING

Chapter 4 Graphs From Spreadsheets

Chapter 5 Word Processing

Chapter 6 Database

Chapter 7 Integrated Projects



Chapter 1

Introduction

Concept

McGraw-Hill Integrated Software (MHIS) consists of spreadsheet, database, graphing, and word processing programs. Spreadsheets are generally used for complex calculations, databases for filing, graphing for a visual display of facts, and word processing for the creation of written documents. Each program is explained in detail later.

What Is An Integrated Software Program And What Can It Do?

The four programs included in the McGraw-Hill Integrated Software series are fully integrated. In other words, files created in one program can be used in other programs. For example, you can input data in Spreadsheet. Then, if you want to see what the data would look like in a graph, you follow a simple procedure: First you save the file, then load the GRAPHING program. Once the Graphing program is loaded, you then load the file you prepared in Spreadsheet. The beauty of an integrated software system is that the data does not have to be typed in again. Data from Spreadsheet can be loaded into Database and Graphing; data from Database, into Spreadsheet and Graphing; and data from Graphing, into Spreadsheet and Database. The files created in each program can then be merged into a Word Processing document. Figure 1.1 shows how the programs are integrated. Some

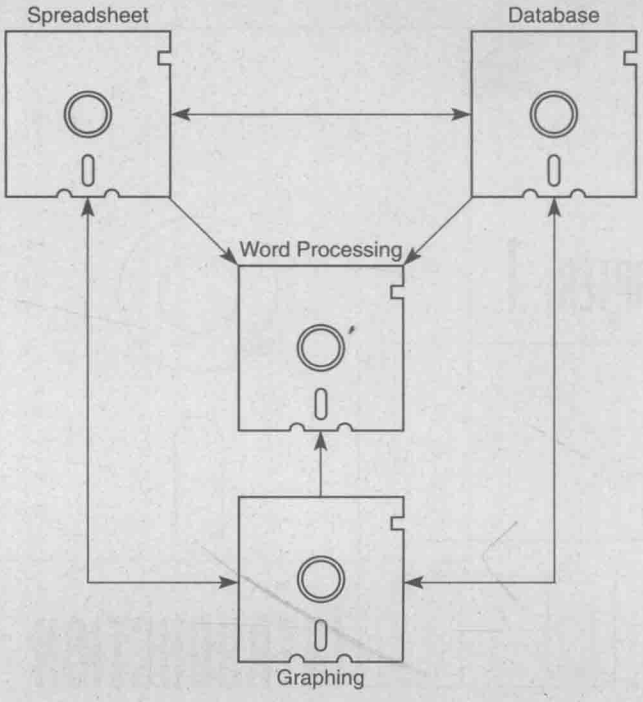


FIGURE 1.1

additional features make knowing an integrated software system a valuable productivity tool.

As you go through this Lab Manual and learn how to use the four programs, you will discover other ways in which the McGraw-Hill Integrated Software series will become a valuable productivity tool for you.

Equipment Required to Run This Program

In order to use the McGraw-Hill Integrated Software program you will need:

- An IBM PC or an IBM compatible computer with at least 128K of memory.
- A color or monochrome monitor.
- One or two floppy disk drives or a floppy disk drive and a hard disk drive.
- McGraw-Hill Integrated Software program disks.
- A DOS disk, version 2.0 through 3.1. (If DOS has already been installed onto your program disks, you will not need the DOS disk.)
- A data disk. (Be sure your data disk has been formatted—check Exercise 1.1 for formatting instructions.)
- A printer and printer paper.

Installing DOS on Your Program Disks

For a two-drive system:

Step 1. Load DOS into your computer. (Put your DOS disk in Drive A, close the disk drive door, and turn on the computer.)

Step 2. DOS will prompt you for the date (month, day, and year [mm-dd-yy]) and then ask for the time (you only need to provide the hour and minutes [hh:mm]). Press ENTER

after you have typed in the date, and press ENTER again after you have typed in the time. The A prompt (A>) should appear.

Step 3. Remove your DOS disk from drive A and insert your McGraw-Hill Integrated Software program disk 1 in drive A. Insert your DOS disk in drive B. Type B: and press ENTER to change the default drive to B. The B prompt (B>) should appear.

Step 4. Type SYS A: and then press ENTER. The message "System transferred" displays and the B prompt reappears.

Step 5. Type COPY COMMAND.COM A: and then press ENTER. The message "1 file(s) copied" displays and the B prompt reappears.

Step 6. To install DOS on program disk 2, repeat steps 3 through 5 using program disk 2.

For a hard disk drive with no installed DOS:

Step 1. Load DOS into your computer. Turn on the computer. Be sure the floppy disk drive door is open. DOS will prompt you for the date (month, day, and year [mm-dd-yy]), and then ask for the time (you only need to provide the hour and minutes [hh:mm]). Press ENTER after you have typed in the date, and press ENTER again after you have typed in the time. The C prompt (C>) should appear.

Step 2. Insert program disk 1 into drive A.

Step 3. Type SYS A: and then press ENTER. The message "System transferred" displays and the C prompt reappears.

Step 4. Type COPY COMMAND.COM A: and then press ENTER. The message "1 file(s) copied" displays and the C prompt reappears.

Step 5. To install DOS on program disk 2, repeat steps 2 through 4 using program disk 2.

Name _____ Date _____

EXERCISE 1.1 DOS

The following operating system commands will be used:

FORMAT
COPY
DISKCOPY
MAKE DIRECTORY
CHANGE DIRECTORY
DIRECTORY

DOS (Disk Operating System) must first be loaded into your system. If you are using a system with a hard drive, this will automatically be done during booting up (booting up occurs when the computer is turned on). If your system has only one or two floppy disk drives for operation, insert the DOS disk in the top disk drive (called A) prior to turning on the switches. Be certain to insert the floppy disk with the slot end first and the notch to the left. Slide the disk all the way in until you hear a click (or close the knob). Turn on the computer.

Format

You should make an extra (backup) copy of the supplied software (each disk) and store it in a safe place. Obtain some blank disks for this purpose. Prepare each one to accept the program. This is accomplished by using the DOS FORMAT command. Remember, DOS has already been loaded. Be sure that the disk you are using is compatible with the disk drive (e.g., use a double-density disk for a double-density drive).

Step 1. Key FORMAT A: and press ENTER (be sure you entered a space before A and a colon after A).

Step 2. Insert a floppy disk in the top disk drive (A).

Step 3. Press ENTER.

Repeat the procedure so that you have a formatted disk for each disk you wish to copy. Format one extra disk.

Copy

Write the name of the program you will be copying on a label. Then attach the label to the disk. Never use a hard pen or pencil on the label after it has been secured to the disk.

If you have two floppy drives, the copies will be easy to produce.

Step 1. Insert the program disk into the bottom drive (B).

Step 2. Insert the formatted new disk into the top drive (A).

Step 3. Key COPY B:*.* A: and press ENTER. Be sure to leave a space before A and before B. The STAR DOT STAR part of this command (*.*) indicates all file names.

Step 4. Press ENTER.

Repeat for each disk.

As an alternative to the format and copy commands, you may use the DISKCOPY command. This command combines FORMAT and COPY.

If you have only one floppy disk drive and no hard drive, the copies will be a bit trickier to produce.

Directory

After the copies have been made, you will want to check each disk before storing them away. This is quickly accomplished by:

Step 1. Insert the new disk 1 in drive A.

Step 2. Key A: and press ENTER.

Step 3. At the A> prompt, key DIR and press ENTER.

Step 4. Check that the disk contains data. Look for the MHIS.EXE file to be certain it has been copied. This is the file name that you will key in when you want to execute (EXE) the program. Although it is not the case for our situation, a disk may contain so much data that the directory list will scroll down the screen. To view one page at a time, key DIR/P and press ENTER. Press any key to view the next page.

Note: Each of the DOS commands that we have just covered will be easy to use because you will be instructed each step of the way. Simply read the prompt (message) at the bottom of the screen and follow the instruction.

Installing MHIS on a Hard Disk

You may install the program directly on the hard drive (called C) if you have one. Make a directory by keying MD to MHIS. Change directory by keying CD\MHIS and pressing ENTER. Place each program floppy disk in drive A and load its contents by keying COPY A:*.* C: and pressing ENTER.

Loading the McGraw-Hill Integrated Software Program Into Your Computer

Using a DOS Disk to Load the Program

In order to begin working with the McGraw-Hill Integrated Software program, you should follow these procedures:

Step 1. Load DOS into your computer. (Put your DOS disk in Drive A, close the disk drive door, and turn on the computer.)

Step 2. DOS will prompt you for the date (month, day, and year [mm-dd-yy]), and then ask for the time (you need to provide only the hour and minutes [hh:mm]). Press ENTER after you have typed in the date, and press ENTER again after you have typed in the time. The A prompt (A>) should appear.

Step 3. Remove the DOS disk from Drive A and replace it with either the McGraw-Hill Integrated Software program disk 1 (Spreadsheet, Database, and Graphing), or disk 2 (Word Processing). Close the disk drive door.

Step 4. Type in M H I S at the A prompt and then press ENTER.

The McGraw-Hill logo screen should appear for a few seconds, and then the program title screen and copyright notice will appear.

Step 5. Press any key to continue. The Main Menu will appear.

Using a Self-Loading Program Disk

A self-loading program disk is a program disk that has had DOS instructions installed on it. If you would like instructions for installing DOS onto your program disk, see the instructions for installing DOS.

Step 1. Load one of the program disks into your computer. (Put one of your program disks in Drive A, close the disk drive door, and turn on the computer.)

The McGraw-Hill logo screen should appear for a few seconds and then the program title screen and copyright notice will appear.

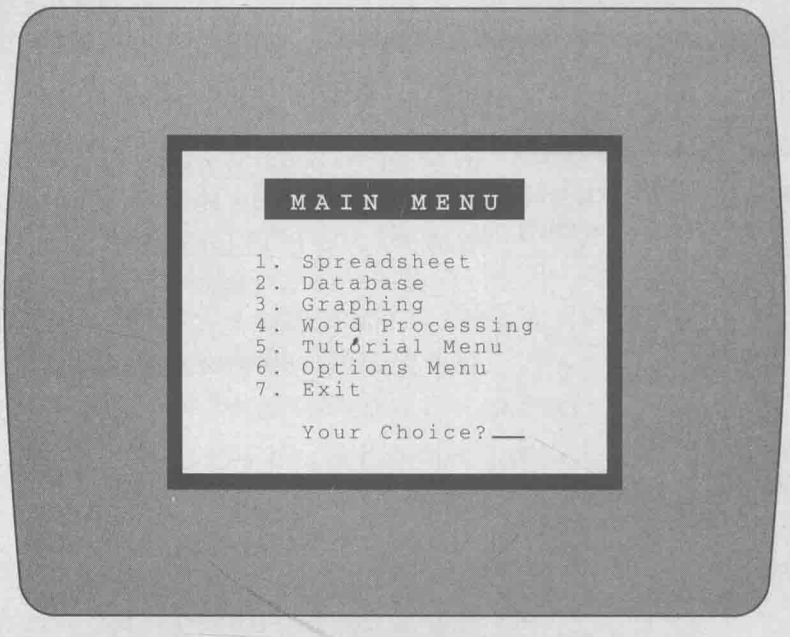
Step 2. Press any key to continue. The Main Menu will appear.

The Main Menu

The Main Menu for the McGraw-Hill Integrated Software program, shown in Figure 1.2 offers you five options:

1. **Spreadsheet.** If you want to create a new spreadsheet or do spreadsheet work with a spreadsheet, database, or graphing file stored on your data disk, press 1.
2. **Database.** If you want to create a new database or do database work with a database, spreadsheet, or graphing file that you have stored on your data disk, press 2.

FIGURE 1.2



3. **Graphing.** If you want to create a new graph or do graphing work with a graphing, spreadsheet, or database file that you have stored on your data disk, press 3.
4. **Word Processing.** If you want to create a new document or work on a word processing file that you have stored on your data disk, press 4.
5. **Tutorial Menu.** If you are unfamiliar with this program and want to learn how it operates by following the tutorials included, press 5.

Data Options

The Options Menu, shown in Figure 1.3, offers you five options. To select the Options Menu, press 6.

1. **Data Disk.** If you have a one-drive system and want to change the default drive from Drive B to Drive A for use with your data disk, press 1. If you are using a computer with a hard disk drive, you can use the Data Disk option to change the default drive from Drive B to Drive C or to designate a path for your subdirectory. Press 1 to select DATA DISK. Once you set the drive and/or the path, they remain the default until they are changed again.
2. **Mailing Labels.** If you want to print mailing labels from a database file, press 2.
3. **Printer Selection.** If you want to select a printer other than the default printer (Epson/IBM), press 3.
4. **Hardware Configuration.** If you are using a hardware configuration other than the default of a two disk drive system, press 4.