

Lotus 1-2-3

Getting Started

Release 2.01

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Preface

Getting Started describes the contents of the 1-2-3 package and the basic procedures for getting ready to work with 1-2-3. It also provides specific information about using 1-2-3 with your computer. You should read *Getting Started* before you try to use 1-2-3.

Getting Started contains an introduction, six chapters, and two appendices.

The introduction, "Before You Begin," describes the contents of the 1-2-3 package and helps you decide what to read.

Chapter 1, "Preparing 1-2-3," describes the Initialization program, which lets you remove copy protection from your 1-2-3 disks and make a backup copy in accordance with the legal guidelines given in the Lotus License Agreement. This chapter also describes how to format disks, back up disks, and copy 1-2-3 files to a hard disk.

Chapter 2, "Installing 1-2-3," describes how to use the Install program, which lets you get ready to use 1-2-3 with your computer.

Chapter 3, "Starting and Ending," gives instructions for starting and ending 1-2-3 and the programs that come with it.

Chapter 4, "Lotus Speedup and Lotus Learn," describes how to use the 1-2-3 Add-In Manager and the Lotus Speedup and Lotus Learn add-ins.

Chapter 5, "New Drivers," explains how to set up 1-2-3 so that it works, for example, with the IBM Enhanced Graphics Adapter (EGA), IBM Video Graphics Array (VGA), and PostScript printers. This chapter also includes a list of the additional drivers.

Chapter 6, "The Network File Add-In", explains how to use 1-2-3 on a network, sharing files with other users.

Appendix A provides special instructions for computers that differ from IBM PC/XT computers.

Appendix B provides keyboard guides for the computers you can use with 1-2-3.

This book also describes some basic operating system procedures, such as starting your computer, formatting disks, and copying files. It does not describe your operating system in detail. For more complete information about your operating system, see your operating system manual.

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Lotus HAL is distinguished from HAL, which is a trademark of QANTEL for its Hotel And Leisure software.

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Before You Begin

This introduction describes the contents of the 1-2-3® package, suggests how to learn about using 1-2-3 in your work, and provides information about Lotus® Product Support.

NOTE Before you proceed you *must* read the Lotus License Agreement.

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Checking Your Package

If you have a 1-2-3 retail package, the package should contain

- Customer Assurance Plan*
- Getting Started* (this book)
- Tutorial*
- Reference Manual*
- Quick Reference*
- 1-2-3 disks, inside an envelope
- Keyboard templates

If you have a 1-2-3 Value Pack promotional package, the package should contain

- Getting Started* (this book): Replace your existing *Getting Started* with this one. Read chapters 1, 4, and 5.
- 1-2-3 Value Pack Disk(s)

If your package is not complete, see the Customer Assurance Plan for information about obtaining a complete copy.

Customer Assurance Plan

The Customer Assurance Plan includes the Limited Warranty.

To become a registered Lotus user, you *must* fill out the appropriate registration card and send it in *immediately*. Only registered users receive warranty service, product support, reduced-rate upgrades for new releases, and special offers on new products.

Getting Started You are reading *Getting Started* now. It tells you how to start 1-2-3 and how to use the Install program to indicate what equipment you have. It also contains information about the different computers you can use with 1-2-3. In addition, it describes, the 1-2-3 Add-In Manager, Lotus Speedup™, Lotus Learn™, and how to set up 1-2-3 so that it works with the IBM® Enhanced Graphics Adapter (EGA), IBM Video Graphics Array (VGA), and PostScript® printers. *Getting Started* also includes Keyboard Guides that list the special names 1-2-3 assigns to various keys on your keyboard.

Tutorial The *Tutorial* is for users who are new to computers or to 1-2-3. It uses short lessons to teach basic skills as well as more advanced procedures.

Reference Manual The *Reference Manual* contains comprehensive information on 1-2-3 commands and procedures. It also includes a Glossary.

Quick Reference The *Quick Reference* summarizes the 1-2-3 menu commands, @functions, and macro commands. It is a helpful reference after you learn how to use 1-2-3.

Disks The 1-2-3 package contains a set of either 5.25" disks or 3.5" disks.

5.25" Disks

3.5" Disks

1-2-3 Value Pack Disk*

1-2-3 Value Pack Disk*

System Disk

System Disk with PrintGraph**

PrintGraph Disk

Install Disk

Utility Disk

View of 1-2-3 with Translate

Install Library Disk

A View of 1-2-3

1-2-3 Value Pack Disk -
Suppiementary Drivers

* If you have the 1-2-3 Value Pack promotional package, the 1-2-3 Value Pack Disk is the only disk in your package.

** The System Disk with PrintGraph is referred to as the System Disk in this manual.

Keyboard Template

The keyboard template reminds you what each function key or special key combination does when you are using 1-2-3. Templates are provided for different types of keyboards. Select the template that fits your computer and affix it to your keyboard.

Hardware Chart

Fill out the hardware chart shown below. You need some of the information when you use the Install program. After you use the Install program, keep the hardware chart handy; you may need to refer to it if you call your dealer or Lotus Product Support.

- Lotus software: _____
- Release/version number: _____
- Computer make and model: _____
- Amount of memory (RAM): _____
- Type of graphics card: _____
- Type of monitor: _____
- Printer model (parallel or serial): _____
- Plotter model (parallel or serial): _____
- Other hardware (for example, external hard disk, print spooler, print buffer): _____
- Expanded memory card: _____
- DOS (Disk Operating System) version number: _____

..... Deciding What to Read

You must read Chapter 1, which describes the Initialization program. The Initialization program describes how to remove copy protection from your 1-2-3 disks and make a backup copy in accordance with the legal guidelines given in the Lotus License Agreement.

If you already have 1-2-3, you should also read Chapters 4 and 5.

If you are a new 1-2-3 user and want to use 1-2-3 right away, you can then go directly to Chapter 3 and get started. You can create a worksheet or a database with 1-2-3 immediately. You can't use a printer or display graphs, though, until you read Chapter 2 and use the Install program to tailor 1-2-3 to your equipment.

NOTE If you have an IBM Personal System/2 Model 30, 50, or 60, an IBM PC AT®, an IBM 3270-PC, or an IBM PCjr, read Appendix A before you use the Install program.

After you use the Install program, you can use the books in this package to learn how to use 1-2-3 in your work. If you are new to computers or to 1-2-3, you will probably want to start with A View of 1-2-3 before reading the *Tutorial*.

If you have used computers before and have some experience with 1-2-3, you can start with the *Reference Manual*.

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**About Lotus
Product
Support**

Lotus provides phone assistance to registered users of its software. To be eligible for phone support, you must return the Warranty Registration Card that came with your software package. Lotus cannot provide phone support if you are not a registered user. Product Support assigns you a registration number the first time you call. You must use that number for all subsequent calls.

Lotus Support Specialists are available to answer questions related to the functionality of Lotus software and how it performs with supported hardware. They cannot customize applications for you or develop macros for specific applications. They cannot provide information about unsupported hardware or about software programs not supported by Lotus.

**Before You Call
Product
Support**

If you do encounter difficulty using a Lotus software product, there are two things you should do before calling Product Support:

1. Read the section of the manual containing information on the commands or procedures you are trying to perform.
2. Press HELP to locate specific program or error message information.

**If You Call
Product
Support**

To help us provide quick and accurate phone assistance, please follow these steps before you call:

1. Describe your question or problem in detail. If you have a problem, write down the steps you followed so that you can explain them to a Support Specialist.
2. Write down the exact error message (if any).
3. Be in front of your computer and have your hardware chart available. If you are uncertain about some of the information, ask your dealer for assistance.
4. If you are calling Product Support for the first time, record the registration number Product Support assigns you. If you have called Product Support before, have your registration number handy.

Chapter 1 Preparing to Use 1-2-3

This chapter describes the operating system, DOS. In addition, it provides instructions for

- Using the Initialization program
- Formatting disks
- Backing up disks
- Copying 1-2-3 files to the hard disk

The procedure you use differs depending on the type of system you have: one-diskette, two-diskette, or hard-disk. In some cases, the instructions for a one-diskette system and a two-diskette system are the same. When this is the case, you will see the term diskette system.

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The Operating System

The operating system, DOS, is a collection of programs that assigns work to different parts of your computer and manages the operation of other programs, such as 1-2-3. DOS is the intermediary between 1-2-3 and your computer hardware.

You must start DOS before you start 1-2-3. Without DOS, 1-2-3 cannot communicate with your disk drives, monitor, printer, modem, or any other devices connected to your computer. DOS also lets you perform housekeeping chores such as formatting disks, organizing your files on a disk, and copying files.

New versions of DOS can affect whether your computer can use 1-2-3. Check for compatibility with any version of DOS other than the versions listed in the following table before you use this product. This information is available from your Lotus Authorized Dealer or by calling Information and Warranty at the number listed on the Customer Assurance Plan.

Computer	Minimum memory	DOS Version	1-2-3 (5.25") (3.5")
IBM PC	256 KB	2.0, 2.1, 3.0, 3.1	3.2
IBM PC/XT™	256 KB	2.0, 2.1, 3.0, 3.1	3.2
IBM Portable PC®	256 KB	2.0, 2.1, 3.0, 3.1	3.2
IBM PC AT	256 KB	3.0, 3.1	3.2
IBM PC Convertible	256 KB	N/A	3.2
IBM PCjr (with IBM Utility program)	256 KB	2.1	N/A
*IBM 3270-PC	256 KB	2.0, 2.1, 3.0, 3.1	3.2
*IBM 3270-PC/G	256 KB	2.0, or 2.1	3.2
*IBM 3270-PC/GX	256 KB	2.0, or 2.1	3.2
COMPAQ® Portable	256 KB	2.02, 2.11, 2.12	N/A
COMPAQ PLUS®	256 KB	2.02, 2.11, 2.12	N/A
COMPAQ DESKPRO®	256 KB	2.02, 2.11, 2.12, 3.1	N/A
AT&T® PC 6300	256 KB	2.11, or 3.1	N/A
IBM Personal System/2			
Model 30	256 KB	N/A	3.3
Model 50	256 KB	N/A	3.3
Model 60	256 KB	N/A	3.3
Certified compatibles		see your dealer	

*Supported in stand-alone PC mode only.

Starting Your Computer

Follow this procedure to start a one-diskette, two-diskette, or hard-disk system.

If you have a diskette system, make sure your DOS disk is in drive A.

If you have a hard-disk system, the following instructions assume you have DOS on your hard disk, your hard disk is drive C, and the prompt is C>. If this is not the case, or you are not sure, ask your dealer or technical resource person for assistance.

1. Turn on the computer.
2. Enter the date (if necessary) and press RETURN.
3. Enter the time (if necessary) and press RETURN.

If you enter the date or time incorrectly, DOS lets you try again. Once the date and time are correct, the A> prompt (diskette systems) or C> prompt (hard-disk systems) appears.

Initializing 1-2-3

Before you can use 1-2-3, you *must* record your name and your company's name on the System Disk. This is called initializing your disk, and you follow the procedure only once for your System Disk.

If you are not sure about the information you want to record on the System Disk, press CONTROL-BREAK to leave the Initialization program. Anything you typed is deleted, and you can start the program again. If you make a typing mistake, use the BACKSPACE key to correct it.

You supply the following information during initialization:

- Your name
- Your company's name (if no company, type your name again)
- The drive and directory that contains your 1-2-3 program files

CAUTION After you complete this procedure 1-2-3 will require approximately 4 KB of additional memory. If you have large 1-2-3 spreadsheets, retrieve your largest one and select /Worksheet Status to see how much memory is available. If you have less than 4 KB of memory available, do *not* initialize your System Disk.

Follow the steps below to initialize 1-2-3.

1. Make sure your computer is on with the DOS prompt displayed.
2. Remove any disks from drive A.
3. Insert the 1-2-3 Value Pack Disk in drive A.

NOTE If you have an IBM AT or AT-compatible, insert the 1-2-3 Value Pack Disk in the low density double-sided (360 KB) disk drive when you do this procedure. Otherwise, you will no longer be able to use your 1-2-3 Value Pack Disk in a 360 KB drive.

4. Type `a:` and press RETURN to display the `A>` prompt.

Even if you have a hard-disk system, you need to run this program from drive A.

5. Type `init` and press RETURN.
6. Read the introductory screen.
7. Press RETURN to start the initialization procedure or CONTROL-BREAK to leave the program.
8. Type your first and last name plus your company's name according to the instructions that appear on the screen.

When you type your name and your company's name, a screen appears listing the product name (1-2-3), product version, your name, and your company's name.

CAUTION If you confirm your company's name, then the information you typed becomes permanent. If you want to leave the program, press CONTROL-BREAK *before* you confirm your company's name.

9. Press RETURN.
10. When prompted, enter the drive and directory that contains 1-2-3 program files.

If you have a one-diskette system, remove the 1-2-3 Value Pack Disk from drive A, insert the System Disk in drive A, and press RETURN twice.

If you have a two-diskette system, insert the System Disk in drive B, type `b` at the drive prompt, and press RETURN twice.

If you have a hard-disk system and you have not yet copied 1-2-3 program files to the hard disk, remove the 1-2-3 Value Pack Disk from drive A, insert the System Disk in drive A, and press RETURN twice.

If you have copied 1-2-3 program files to a directory on your hard disk, type `c` at the drive prompt, and enter the path to your 1-2-3 directory at the directory prompt. For example, if your 1-2-3 program files are in a directory called 123, type `123` at the directory prompt.

You are now ready to make backup copies of your 1-2-3 disks. If you are using Release 2.01 and you already have backup copies of your 1-2-3 disks, you need to copy the new `INSTALL.SCR` file before you use the Install program. See "Copying `INSTALL.SCR`" later in this chapter.

CAUTION Although copy protection has been removed, your System Disk is still governed by copyright laws and the Lotus License Agreement.

..... Write- Protecting Disks

If you have 3.5" disks, the write-protect tab is the small movable square of plastic in one corner of the disk. When the hole is uncovered, you cannot accidentally alter or delete any information on the disk. You can, however, copy data from the disk.

If you have 5.25" disks, write-protect tabs are small rectangles that cover the notch on the right side of a disk. Put the top half of the write-protect tab on one side of the disk, and then fold it over the other side so that it sticks to the disk. The write-protect tab keeps DOS from writing information on the original 1-2-3 disks. When the tab is covering the notch, you cannot accidentally alter or delete any information on the disk. You can, however, copy data from the disk.

..... Backing Up the 1-2-3 Disks

A backup is a copy of an original disk. Use backup copies of the 1-2-3 disks and keep the originals in a safe place. If anything happens to the backup copy you are using, you can make another copy from the original.

Before you start, make sure you have write-protected your original 1-2-3 disks. The hole should be *uncovered* if you have a 3.5" system. The notch should be *covered* if you have a 5.25" system.

If you make a typing error while you are backing up your disk, use the BACKSPACE key to erase the letters back to your mistake and then type the entry correctly.

If you have already backed up or copied your disks, you can skip to "Copying `INSTALL.SCR`" later in this chapter. Otherwise, follow the steps for the type of computer you have: one-diskette, two-diskette, or hard disk.

Problems with Disks

If you damage or erase one of the backup disks, make another copy from the original disk. If one of your 1-2-3 disks is defective or if you damage or erase an original 1-2-3 disk, see the Customer Assurance Plan for instructions on returning it to Lotus for a replacement.

One-Diskette System

Follow the instructions in this section to format new disks and make backup copies of the original 1-2-3 disks. These instructions assume your computer is on and the DOS prompt is displayed on the screen.

Formatting New Disks

In this section, you prepare, or format, blank disks so that they can hold information. You should format only blank disks or disks that contain files you do not want. You will format six disks to use as backup disks plus one disk to hold your work when you start 1-2-3.

Make sure the DOS disk is in the drive when you start.

1. Type `format` and press RETURN.

The screen says Insert new diskette for drive A: and strike any key when ready.

2. Remove the DOS disk from the drive.
3. Insert a blank disk in the drive.
4. Press RETURN to start formatting.

The message Formatting... appears on the screen, the light next to the drive door goes on, and the drive makes some noise. Formatting can take as long as a minute. When the process is finished, the light goes out, and the message Format complete appears. DOS displays some information about the disk, and asks Format another (Y/N)?

5. Type `y`.

With some versions of DOS, you have to press RETURN after you type `y`.

6. Remove the formatted disk.

Label the disk so that you know you formatted it.

7. Repeat steps 3 through 6 to format the other disks. After the last disk, type `n` to stop formatting.

With some versions of DOS, you have to press RETURN after you type `n`. The `A>` prompt appears on the screen.

You are now ready to copy the original 1-2-3 disks onto the formatted blank disks to make backup copies.

Making Backup Disks

A one-diskette system uses the same drive for drive A and drive B, so DOS asks for a disk for drive A and then a disk for drive B each time it copies a file. The disk for drive A should always be the original 1-2-3 disk you are copying, and the disk for drive B should be the formatted disk you will use to make the backup copy. Before you start, it's a good idea to mark the original disks with an A and the blank disks with a B, so you remember which disks to use for drive A and drive B.

Before you start, make sure you write-protect your original 1-2-3 disks to prevent DOS from recording information on them. (You can copy from a disk with a write-protect tab.)

1. Insert a 1-2-3 disk in the drive.

You can start with any 1-2-3 disk.

2. At the DOS prompt, type `copy *.* b:` and press RETURN.

DOS lists the name of the first file on the 1-2-3 disk and says Insert diskette for drive B: and strike any key when ready.

3. Remove the 1-2-3 disk.

4. Insert a formatted blank disk in the drive and press RETURN.

DOS copies the first file from the 1-2-3 disk to the backup disk and says Insert diskette for drive A: and strike any key when ready.

5. Remove the disk from the drive.

6. Insert the 1-2-3 disk in the drive and press RETURN.

DOS lists the next file on the 1-2-3 disk and says Insert diskette for drive B: and strike any key when ready.

7. Remove the 1-2-3 disk.

8. Insert the backup disk you are making in the drive and press RETURN.

DOS copies the next file from the 1-2-3 disk to the backup disk and says Insert diskette for drive A: and strike any key when ready.

9. Repeat steps 5 through 8 until all the files are copied.

You are finished with a disk when DOS states the number of files copied. You will have to switch disks for every file. If you forget to switch disks before you press a key, DOS may assume you are finished and state the number of files copied. If that happens, copy the remaining files individually, or start the procedure again. If your screen says Write protect error writing drive B: Abort, Retry, Ignore?, you are trying to copy a file to the original 1-2-3 disk, which should have a write-protect tab on it. Take out the 1-2-3 disk and put in the backup disk you are making. Then type `r` to continue.

10. Label the backup disk.

Use the name of the original disk, and indicate that this is a backup copy -- for example, 1-2-3 Utility Disk: Backup. Include the release number from the lower right corner of the original 1-2-3 disk label. Be careful not to mix disks from different releases.

11. Repeat steps 1 through 10 to copy the remaining 1-2-3 disks.

You will use backup copies of all the disks, so store the original 1-2-3 disks in a safe place.

Next you need to copy the new INSTALL.SCR file. See "Copying INSTALL.SCR" later in this chapter.

Two-Diskette System

Follow the instructions in this section to format new disks and make backup copies of the original 1-2-3 disks. These instructions assume your computer is on and the DOS prompt is displayed on the screen.

Formatting New Disks

In this section, you prepare, or format, blank disks so that they can hold information. You should format only blank disks or disks that contain files you don't want. If you have a 3.5" system, you format three disks to use as backup disks plus one to hold your work when you start 1-2-3. If you have a 5.25" system, you format six disks to use as backup disks plus one to hold your work when you start 1-2-3.

Make sure the DOS disk is in drive A when you start.

NOTE If you have an IBM AT or AT-compatible, insert the DOS disk in the high capacity 1.2 MB drive and the disk you are formatting in the 360 KB drive.

1. Type `format b:` and press RETURN.

The screen says Insert new diskette for drive B: and strike any key when ready.

2. Insert a blank disk in drive B.
3. Press RETURN to start formatting.

The message Formatting... appears on the screen, the light next to drive B goes on, and the drive makes some noise. Formatting can take as long as a minute. When the process is finished, the light goes out, and the message Format complete appears. DOS displays some information about the disk and asks Format another (Y/N)?

4. Type `y`.

With some versions of DOS, you have to press RETURN after you type `y`.

5. Remove the formatted disk from drive B.

Label the disk so that you know you formatted it.

6. Repeat steps 2 through 5 to format the other blank disks. After the last disk, type `n` to stop formatting.

With some versions of DOS, you have to press RETURN after you type `n`. The `A>` prompt appears on the screen.

7. Remove the DOS disk from drive A.

You are now ready to copy the original 1-2-3 disks onto the formatted blank disks to make backup copies.

Making Backup Disks

Before you start, make sure you write-protect your original 1-2-3 disks to prevent DOS from recording information on them. (You can copy from a disk with a write-protect tab.)

NOTE If you have an IBM AT or AT-compatible, insert the 1-2-3 disk in the 1.2 MB drive and the formatted disk in the 360 KB drive.

1. Insert a 1-2-3 disk in drive A.

You can start with any 1-2-3 disk.

2. Insert a formatted blank disk in drive B.

3. At the A> prompt, type `copy *.* b:` and press RETURN.

DOS copies files from the 1-2-3 disk to the formatted blank disk in drive B. DOS lists the files as it copies them. After all the files are copied, a message tells you the number of files copied, and the A> prompt appears on the screen.

4. Remove the 1-2-3 disk from drive A.
5. Remove the backup disk from drive B.
6. Label the backup disk.

Use the name of the original disk, and indicate that this is a backup copy -- for example, 1-2-3 System Disk: Backup. Include the release number from the lower right corner of the original 1-2-3 disk label. Be careful not to mix disks from different releases.

7. Repeat steps 1 through 6 to copy the remaining 1-2-3 disks.

You will use backup copies of all the disks, so store the original 1-2-3 disks in a safe place.

Next you need to copy the new INSTALL.SCR file. See "Copying INSTALL.SCR" later in this chapter.

Hard-Disk System

If you have a hard-disk system, you probably want to copy 1-2-3 onto the hard disk so that you start the program quickly, without changing disks. You can also store data files and driver set files on the hard disk.

These instructions assume you have DOS on your hard disk and that your hard disk is drive C. If this is not the case (or if you are not sure), ask your dealer or technical resource person for assistance. These instructions also assume your computer is on and the DOS prompt is displayed on the screen.

Making a Directory for 1-2-3

Directories let you organize the files on your hard disk in groups. It's a good idea to have a directory that contains just the 1-2-3 files. You must put all the 1-2-3 files in the same directory. This example names the directory 123, but you can give your directory any name.

1. At the DOS prompt, type `md \123` and press RETURN.

This creates a directory called 123 for your 1-2-3 files.

2. Type `cd \123` and press RETURN.

This makes 123 the current directory. See your DOS manual for more information about directories.

NOTE If you are using MS-DOS® 2.11 and you have trouble changing to the directory that contains your 1-2-3 program files, type `cd c:\123` and press RETURN.

Copying 1-2-3 to the Hard Disk

Copying the 1-2-3 files to your hard disk lets you run 1-2-3 and any of its companion programs without changing disks.

CAUTION Do not copy the 1-2-3 Value Pack Disk to your hard disk.

1. Make sure the 1-2-3 directory is current and the DOS prompt is displayed on the screen.

If the 1-2-3 directory is not current, use the DOS CD (change directory) command to change directories. For example, if your 1-2-3 directory is named 1-2-3, type `cd\123` and press RETURN.

2. Insert a 1-2-3 disk in drive A.

You can start with any 1-2-3 disk.

3. Type `copy a:*.*` and press RETURN.

DOS copies files from the 1-2-3 disk to the 1-2-3 directory on your hard disk. DOS lists the files as it copies them. After all the files are copied, a message tells you the number of files copied, and the C> prompt appears on the screen.

4. Remove the 1-2-3 disk from drive A.
5. Repeat steps 2 and 3 to copy the remaining disks, except for the 1-2-3 Value Pack Disk(s).

Store all the disks in a safe place.

Next you need to copy INSTALL.SCR to your hard disk. The following section provides instructions for doing so.

..... Copying INSTALL .SCR

If you are using Release 2.01, you need to copy the new INSTALL.SCR file before you can use the Install program.

- Diskette systems: Copy the file to your Utility Disk (5.25" systems) or Install Disk (3.5" systems).
- Hard-disk systems: Copy the file to your 1-2-3 directory.

NOTE If you have Release 2.0, do not follow this procedure.

One-Diskette System

Follow these steps to copy INSTALL.SCR to the Utility Disk. Make sure your computer is on and the DOS prompt is displayed on the screen.

1. Insert the 1-2-3 Value Pack Disk in drive A.
2. Type `copy a:install.scr b:` and press RETURN.
3. When prompted, remove the 1-2-3 Value Pack Disk from drive A and insert the Utility Disk.
4. Press any key.
5. Remove the disk from the drive.

Store both disks in a safe place.

Two-Diskette System

Follow these steps to copy INSTALL.SCR to the appropriate disk. Make sure your computer is on and the DOS prompt is displayed on the screen.

1. Insert the 1-2-3 Value Pack Disk in drive A and the appropriate disk in drive B.

If you have a 5.25" system, insert the Utility Disk.

If you have a 3.5" system, insert the Install Disk.

NOTE If you have an IBM AT or AT-compatible, make sure the Utility Disk or Install Disk is in the 360 KB drive.

2. Type `copy a:install.scr b:` and press RETURN.
3. Remove the disks from the drives.

Store both disks in a safe place.

Hard-Disk System

Follow these steps to copy INSTALL.SCR to your hard disk. Make sure your computer is on and the DOS prompt is displayed on the screen.

1. Make your 1-2-3 directory current.

For example, if your 1-2-3 directory is named 123, type `cd\123` and press RETURN.

2. Insert the 1-2-3 Value Pack Disk in drive A.
3. Type `copy a:install.scr c:` and press RETURN.
4. Remove the disk from the drive.

Store the disk in a safe place.

Chapter 2 Installing 1-2-3

This chapter provides instructions for using the Install program. If you start 1-2-3 without using the Install program first, you can create worksheets or databases but you can't display graphs or use a printer. The Install program lets you tell 1-2-3 whether you have the equipment to do those things. For instance, if you have a printer, you use the Install program to indicate which printer you have so that 1-2-3 can use it correctly. Unless you get new equipment, you need to use the Install program only once.

You need the following items to install 1-2-3:

Diskette system	Hard-disk system
1-2-3 System Disk	
Keyboard Guide	Keyboard Guide
DOS disk	DOS on your hard disk
Backup copies of the 1-2-3 disks	
Blank disks with sleeves and labels	

Fill in your Hardware Chart in Chapter 1 now, if you have not already done so. If you are unsure of how to do this, consult your dealer. Be sure to include the model and brand name for each piece of equipment.

NOTE If you have an IBM Personal System/2 Model 30, 50, or 60, an IBM PC AT, an IBM PC Convertible, an IBM 3270-PC, or an IBM PCjr, first read the section about your computer in Appendix A. Appendix A contains information you will need when you use the Install program.

You can start the Install program either directly from DOS or through the 1-2-3 Access System.

.....
**Starting the
Install
Program
from DOS**

The procedure you use to start the Install program from DOS differs depending on the type of system you have: diskette or hard-disk.

CAUTION If you have a file facility program that searches DOS paths, do not use it with the Install program.

Diskette System Follow this procedure to start the Install program from DOS.

1. Make sure your computer is on and the DOS prompt is on the screen.
2. If you have a 3.5" system, place the backup Install Disk in drive A. If you have a 5.25" system, place the backup Utility Disk in drive A.
3. Type `install` and press RETURN.

It takes approximately 30 seconds for the Install program to start.

If the screen says `Bad command or file name`

- Make sure the correct disk is in drive A.
- Make sure you spelled `install` correctly.

If the screen says `Abort, Retry, Ignore?`

- Make sure the disk is properly inserted in the drive. If you have a 5.25" system, make sure the drive door is closed. Type `r`.
 - Otherwise, type `a` and start again from step 1. If that doesn't solve the problem, make another backup copy of your Install Disk (for 3.5" systems) or Utility Disk (for 5.25" systems) and repeat this section.
4. When the Install main menu appears, follow the instructions on the screen.

With a diskette system, you will need to change disks a few times.

You are ready to use the Install program. Read "Using the Install Program" later in this chapter for instructions on making selections from the Install menus and for information on the choices you have to make.

Hard-Disk System

Follow this procedure to start the Install program from DOS.

1. Make sure the 1-2-3 directory is current and the DOS prompt is displayed on the screen.

If the 1-2-3 directory is not current, use the DOS CD (change directory) command to change directories. For example, if your 1-2-3 directory is named 123, type `cd\123` and press RETURN.

NOTE If you are using MS-DOS 2.11, and you have trouble changing to the directory that contains your 1-2-3 program files, type `cd c:\123` and press RETURN.

2. Type `install` and press RETURN.

If the screen says Bad command or file name

- Make sure you spelled `install` correctly.
- Make sure the directory that contains your 1-2-3 files is current. If you don't know what directory is current, type `dir` and look for the 1-2-3 files. If the wrong directory is current, type `cd \123` (substituting the path of your directory for 123) to change the directory.
- Make sure all the 1-2-3 files are in the directory. If they aren't, return to "Backing Up the 1-2-3 Disks: Hard-Disk System" in Chapter 1 and copy them again.

3. Read the introductory screen, then press RETURN.

You are now ready to use the Install program. Read "Using the Install Program" for instructions on making selections from the Install menus and for information on the choices you have to make.

..... Using the Install Program

As you go through the Install program, you specify the equipment you have and the way you want things to appear on your screen. Each time you make a choice in the Install program, you are selecting a program, called a driver, tailored to the equipment you indicated.

Before you leave the Install program, you save all the drivers you selected in a file called a driver set. When you use 1-2-3, the driver set tells 1-2-3 what equipment you have and how you want to use that equipment.

1-2-3 comes with a basic set of drivers that are in the default driver set called 123.SET. This basic set of drivers will let you use 1-2-3, but you have to add drivers to it if you want to draw graphs or print your work. You use the Install program to change the drivers in 123.SET or to add new drivers, such as the drivers that let you draw graphs and print files. You can also create other driver sets with different names by using the Install program.

You can copy your driver set to other 1-2-3 disks, as long as they are all the same release. For example, if other people in your office have the same equipment, you can create a driver set once and then copy it to other 1-2-3 disks, *as long as they all have the same release number on the label.*

Naming Driver Sets

Unless you plan to create more than one driver set, you may want to use the default name 123.SET. 1-2-3 automatically looks for this driver set when you start 1-2-3 or any of its companion programs.

You may want to use 1-2-3 with more than one type of computer (for instance, a personal computer in the office and a portable computer at home). In this case, you must create a different driver set for each computer system.

You must give each driver set you create a different name. You can use the name 123.SET for one driver set, or you can give each driver set a more descriptive name, such as HOME.SET or WORK.SET. The name you give your driver set can contain up to eight characters, but it cannot contain any of the following symbols:

[] ; , . / ? * : " + = - < > \ |

You don't have to type the extension .SET after the name of the driver set; the Install program adds that automatically. If you use a name other than 123.SET, you have to type the name when you start 1-2-3 or any of its companion programs. When you start 1-2-3, you type the name of the driver set you want to use; for instance, you type 123 home to start 1-2-3 with a driver set named HOME.SET.

Saving Driver Sets on a Diskette System

Depending on the size of your driver set and the version of DOS you are using, you may not have enough room to save your driver set on the System Disk. If after you use the Install program you find that you do not have enough room on your System Disk, follow the steps below.

NOTE Before you begin this procedure, have a blank formatted disk ready. The following instructions assume your computer's DOS prompt is A> and drive A is your computer's default drive.

1. If you have a 3.5" system, insert the Install Disk in drive A. If you have a 5.25" system, insert the Utility Disk in drive A.
2. Type `install` and press RETURN.

3. Follow the directions on the screen until a message appears that says "Saving Changes." Then press RETURN to indicate that you want to save the changes you made.
4. When Install prompts you for the System Disk, insert the blank formatted disk instead.

If a message appears that says There is not enough space to save your changes on the disk you indicated, make sure you have inserted the blank disk and not the System Disk. Do *not* delete any existing driver sets from your System Disk.

Even though the screen says your changes are saved to the System Disk, they are actually saved to the blank disk.

5. Remove the disk from the drive after Install saves the changes. Label this disk "1-2-3 Driver Disk."

If you want to use this driver set to run PrintGraph or A View of 1-2-3, insert the other 1-2-3 disks as Install prompts you. Otherwise, press ESCAPE.

6. Store the 1-2-3 Driver Disk with your original System Disk when you finish using the Install program.

When you want to use a driver set from this disk, you must tell 1-2-3 where the driver set is. For example, if your driver set is named HOME.SET, you type 123 b:home and press RETURN to start 1-2-3.

Keys Used in Install

When you use the Install program, you will use some of the 1-2-3 special keys. The Keyboard Guides in Appendix B show you where these keys are located on your computer.

Using the Install Menus

Throughout the Install program, the box on the right side of the screen describes the menu item that is highlighted. As you move the menu pointer (the highlight bar on the left side of the screen), the description changes. When the highlight covers the choice you want, press RETURN to select it. Unlike 1-2-3, the Install program does not let you select an option by typing its first letter.

If you look at a menu for which you already selected a driver, a triangle () appears in front of your selection.

..... **First-Time Installation**

Select First-Time Installation if you are using this program for the first time. The Install program will ask you questions about your equipment to guide you through creating and saving the correct driver set.

The questions in First-Time Installation relate to your computer's

- Screen Display
- Text Printer(s)
- Graphics Printer(s)

For information on using First-Time Installation to create additional driver sets, see "Creating More Than One Driver Set" later in this chapter.

..... **Change Selected Equipment**

This option lets you choose the equipment (or options) you want to change from a menu. The Install program assumes you want to make changes in a driver set called 123.SET, which is the driver set that comes with 1-2-3. If you have already used the Install program, 123.SET includes the changes you made (unless you saved them with a different name). If you want to make changes in a driver set that isn't called 123.SET, select Make Another Driver Set Current from the Advanced Options menu.

You may want to select Change Selected Equipment if you have to change just one or two selections in a driver set. If you've already chosen a driver in a particular category, a triangle () appears beside the selection you made.

If you make any changes in your driver set, select Save Changes from the menu. If you don't plan to create more than one driver set, press RETURN when Install asks you for a name and your driver set will be called 123.SET. If you use a name other than 123.SET, you have to type the name when you start 1-2-3 or any of its companion programs. For example, you type 123 color to start 1-2-3 with a driver set called COLOR.SET. If you select Exit Install before you save your changes, the Install program asks you if you want to save them. Select Yes unless you don't want to save the changes you made.

..... **Advanced Options**

Advanced Options lets you do things you can't do elsewhere in Install.

Select **Make Another Driver Set Current** to enter the name of another driver set. You can make changes in the driver set with Change Selected Equipment or Modify Current Driver Set. If you don't use this option, the Install program assumes you want to make changes in 123.SET.

Select **Add New Drivers to Library** if you want to install PostScript printer drivers, the IBM Enhanced Graphics Adapter (EGA) driver, or the IBM Video Graphics Array (VGA) driver. (See Chapter 5 for more information.) In addition, you select Add New Drivers to Library if you have new equipment that came with its own driver programs. These separate drivers should have a .DRV file extension. This option creates a library (SINGLE.LBR) from all the separate drivers. You can then select the new drivers from the Install menus.

Select **Modify Current Driver Set** to make changes in the current driver set, which is 123.SET unless you make another driver set current. There are some text display and graph display drivers that aren't available through the Screen Display option in the other Install menus; you have to select them from the Graph Display menu and then select an appropriate Text Display driver to go with them. There are also drivers (for example, collating sequence) that you can change only through this menu. You must also use this option to select a new driver that you add to the library.

If you make any changes in your driver set, select **Save Changes** from the menu. If you don't plan to create more than one driver set, press RETURN when the Install program asks you for a name and your driver set will be named 123.SET; otherwise, type a new name. For example, if your driver set is named HOME.SET, type 123 home and press RETURN. If you select Exit Install before you save your changes, the Install program asks you if you want to save your changes. Select Yes unless you don't want to save the changes you made.

.....
**Creating
More Than
One Driver
Set**

You may need more than one driver set -- for instance, you might have a computer at work and a different computer at home. If you need more than one driver set, you can use First-Time Installation to create each one. After you save the first driver set you create, return to the main menu, select First-Time Installation again, and make the correct choices for the second driver set. If you use First-Time Installation, you must go all the way through the installation procedure. The Install program does not use the selections you made for the first driver set.

If you need to change only one or two selections to make the second driver set (perhaps only your screen display is different), you can use Change Selected Equipment, which lets you make whatever changes you want without requiring you to repeat the selections you want to keep. You must give the second driver set a different name so the first one remains on the disk unchanged. Do *not* type the extension .SET after the name of the driver set; the Install program adds that automatically.

If you use a driver set other than 123.SET, you have to type its name when you start 1-2-3 or any of its companion programs. For instance, you type 123 home to start 1-2-3 with a driver set named HOME.SET.

If you have a diskette system, you may not have space for all your driver sets on the System Disk. In that case, see "Saving Driver Sets on a Diskette System" earlier in this chapter for instructions.

.....
**If You Don't
Find What
You're
Looking For**

There are some changes you can make only by selecting Modify Current Driver Set from the Advanced Options menu. These choices don't appear on any of the other menus. Use Modify Current Driver Set to

- Change the collating sequence for sorting databases.
- Select a driver you added to the library in a category where there was originally only one driver. An example is keyboard drivers.
- Select certain drivers -- such as PostScript drivers, the EGA and VGA drivers, and most of the high-resolution graphics drivers.

You set some options within the 1-2-3 program after you complete the installation procedure:

- If you use a serial printer, select the baud rate from within 1-2-3 with the /Worksheet Global Default Printer Interface command.
- If your printer can use both a serial and a parallel interface, select the one you want to use from within 1-2-3. (The default is a parallel interface.)
- If you have a math coprocessor, 1-2-3 automatically uses it.
- If you have expanded memory, 1-2-3 automatically uses it.

.....
**Additional
Information**

If you need additional information about the following topics, press HELP while in the Install program.

- Screen Display
- Text Printer(s)
- Graphics Printer(s)

.....
**Leaving the
Install
Program**

When you finish First-Time Installation, or when you choose all the selections you want from other menus, select Exit Install. If you didn't save your changes, the Install program gives you a chance to do so before you leave. When you confirm that you want to leave, you return to DOS (or to the Access System, if that's how you started Install).

If you're using a diskette system, make sure you write-protect the System Disk to prevent DOS from accidentally saving files on it. See Chapter 1 for instructions.

Chapter 3 Starting and Ending

This chapter provides step-by-step instructions for starting and ending 1-2-3 and the programs that come with it: PrintGraph, Install, Translate, A View of 1-2-3, and the Help facility. While you work, you may want to refer to the appropriate Keyboard Guide in the 1-2-3 packaging for your system.

NOTE See Chapter 4 for instructions on starting the Lotus Speedup and Lotus Learn add-ins.

Starting from Access

The Access System lets you start 1-2-3 or any of the companion programs by choosing the program's name from a menu. Access makes it easy to switch back and forth between 1-2-3 and the other programs. If you don't want to use Access, you can also start any of the programs from the operating system. See "Starting from DOS" later in this chapter.

You can start the following five programs from the Access System:

- 1-2-3, which combines worksheet, database, and graphics capabilities in one program.
- A View of 1-2-3, which introduces new users to the most commonly used 1-2-3 features and procedures.
- PrintGraph, which lets you print or plot graphs you created and saved during a 1-2-3 session. PrintGraph lets you choose colors (if you have a color graphics printer or plotter), fonts (type styles), density (the number of dots per character), and the graph's position on the paper.
- Install, which lets you tell 1-2-3 what equipment you have for printing files and displaying graphs.
- Translate, which lets you convert data files from other programs so that you can use them with 1-2-3, or vice versa.

When you start 1-2-3, A View of 1-2-3, or PrintGraph, the program uses the driver set you specify when you started Access. If you are using a diskette system, copy a driver set onto the View of 1-2-3 Disk before you start A View of 1-2-3 from Access. Make sure this driver set includes the ability to display graphs so that you can see the graphs included in the View of 1-2-3 program. If it does not, run the Install program to create a driver set that can display graphs. Then copy this driver set onto the View of 1-2-3 Disk. (The default driver set, 123.SET, does not allow you to display graphs.)

NOTE If your computer does not have a math coprocessor installed, A View of 1-2-3 may not work properly. If this is the case, use the Install program to create a driver set that does not include the Coprocessor Floating Point driver, and use this driver set during your session with A View of 1-2-3.

Starting 1-2-3 for the First Time

When you start 1-2-3 for the first time, the program makes the current directory the default startup directory. This is the directory where 1-2-3 saves your files. If you plan to store your worksheet files in another directory, you may want to change the default startup directory. To do this, refer to "Changing the Startup Directory" in Chapter 1 of the *Tutorial*. Because this procedure assumes that you are already familiar with using 1-2-3 menus to choose commands, you might want to read about using menus in Chapter 1 of the *Tutorial* before you follow the procedure for changing your startup directory.

Starting PrintGraph for the First Time

When you start PrintGraph for the first time, the program makes the current directory the default startup directory. This is the directory PrintGraph uses to retrieve your files. You may want to change the default graph directory. To do this, refer to the instructions provided in Chapter 4 of the *Tutorial*. Because this procedure assumes that you are already familiar with using menus to choose commands, you might want to read about using menus in Chapter 1 of the *Tutorial* before you follow the procedure for changing your startup directory.

One-Diskette System

These instructions assume you have already turned your computer on, and the DOS prompt is displayed on the screen.

1. Insert the System Disk in drive A.
2. Type `lotus` and press RETURN.

To use a driver set with a name other than `123.SET`, type `lotus` followed by a space and the name of the driver set; then press RETURN. For example, to start Access with a driver set called `COMPAQ.SET`, type `lotus compaq`. The Access System will use the driver set you name to start whatever programs you select from the Access menu. If you don't type the name of a driver set, the Access System will use `123.SET` to start the programs you select.

The Access menu appears at the top of the screen. The rectangular highlight covering the first menu choice (1-2-3) is the menu pointer.

3. Use RIGHT and LEFT to highlight a menu choice, and press RETURN.

You can also type the first character of your menu choice.

4. Follow the instructions on the screen if your program asks you to change a disk.

If the screen says Bad command or file name

- Make sure the System Disk is in drive A.
- Make sure you spelled `lotus` correctly.

If the screen says Abort, Retry, Ignore?

- Make sure the disk drive door is closed. If it isn't, close it and type `r`.
- Otherwise, type `a` and repeat step 2.

Two-Diskette System

These instructions assume you have already turned your computer on, and the DOS prompt is displayed on the screen.

1. Insert the System Disk in drive A.
2. Insert a formatted disk in drive B.

Use the extra disk you formatted in Chapter 1. You should always have a disk in each drive; the operating system may display an error message if a drive is empty.

3. Type `lotus` and press RETURN.

To use a driver set with a name other than `123.SET`, type `lotus` followed by a space and the name of the driver set; then press RETURN. For example, to start Access with a driver set called `COLOR.SET`, type `lotus color`. The Access System will use the driver set you name to start whatever programs you select from the Access menu. If you don't type the name of a driver set, the Access System will use `123.SET` to start the programs you select.

The Access menu appears at the top of the screen. The rectangular highlight covering the first menu choice (1-2-3) is the menu pointer.

4. Use RIGHT and LEFT to highlight a menu choice, and press RETURN.

You can also type the first character of your menu choice.

5. Follow the instructions on the screen if your program asks you to change a disk.

If you are using Translate, insert the disk that contains the data file you want to translate in drive B when prompted. Then press ESCAPE and edit the line beside `Source File` to indicate the file is on the disk in drive B.

If the screen says Bad command or file name

- Make sure the System Disk is in drive A.
- Make sure you spelled `lotus` correctly.

If the screen says Abort, Retry, Ignore?

- Make sure the disk is correctly inserted in the drive and type `r`.
- Otherwise, type `a` and repeat step 3.

Hard-Disk System

These instructions assume you have already turned your computer on, and the DOS prompt is displayed on the screen.

NOTE If you are using Translate, put the data file you want to translate on a disk in your default drive or on your hard disk.

1. Make current the directory that contains 1-2-3 program files.

For example, if the directory that contains 1-2-3 program files is called 123, type `cd \123` and press RETURN.

NOTE If you are using MS-DOS 2.11 and you have trouble changing to the directory that contains your 1-2-3 program files, type `cd c:\123` and press RETURN.

2. Type `lotus` and then press RETURN.

To use a driver set with a name other than 123.SET, type `lotus` and then the name of the driver set. For example, to start Access with a driver set called COLOR.SET, type `lotus color`. The Access System will use the same driver set to start whatever programs you select from the Access menu. If you don't type the name of a driver set, the Access System will use 123.SET to start the programs you select.

The Access menu appears at the top of the screen. The rectangular highlight covering the first menu choice (1-2-3) is the menu pointer.

3. Use RIGHT and LEFT to highlight a menu choice, and press RETURN.

You can also type the first character of your menu choice.

If the screen says Bad command or file name

- Make sure you spelled `lotus` correctly.
- Make sure the directory that contains 1-2-3 files is current. If the name of your directory does not appear beside the `C>` prompt, type `dir` and look for the 1-2-3 files. If the wrong directory is current, repeat the procedure.
- Make sure all the 1-2-3 files are in the directory. If they aren't, return to "Backing Up the 1-2-3 Disks: Hard-Disk System" in Chapter 1 and copy them again. Then repeat step 2.

Leaving 1-2-3

Before you leave 1-2-3, be sure to save your work.

1. Press / or the MENU key.

See the Keyboard Guide or your template to locate the slash(/) key or the MENU key.

2. Type q to select Quit from the menu on the screen.
3. Type y to leave 1-2-3.

If you started from Access, the Access menu reappears. You can return to DOS by selecting Exit from the Access menu. If you started from DOS, the DOS prompt reappears.

Leaving A View of 1-2-3

Press ESCAPE to leave A View of 1-2-3 at any point.

If you started from Access, the Access menu reappears. You can return to DOS by selecting Exit from the Access menu. If you started from DOS, the DOS prompt reappears.

Leaving PrintGraph

Follow these steps to leave PrintGraph.

1. Type e to select Exit.
2. Type y to confirm that you want to leave PrintGraph.

If you started from Access, the Access menu reappears. You can return to DOS by selecting Exit from the Access menu. If you started from DOS, the DOS prompt reappears.

Leaving Install

Follow these steps to leave the Install program.

1. If you made any changes, select Save Changes and press RETURN.

Follow the instructions in the Install program to save your changes.

2. Select Exit Install and press RETURN.
3. Select Yes and press RETURN.

If you started from Access, the Access menu reappears. You can return to DOS by selecting Exit from the Access menu. If you started from DOS, the DOS prompt reappears.

Leaving Translate

Follow these steps to leave Translate.

1. Press ESCAPE.
2. Type `y` to leave Translate.

If you started from Access, the Access menu reappears. You can select Exit from the Access menu to return to DOS. If you started from DOS, the DOS prompt reappears.

Leaving Access

If you start a program from Access, you return to it when you leave the program. You can start another program by selecting it from the Access menu, or you can leave Access and return to DOS. Follow the instructions below to leave the Access System.

1. Move the menu pointer to Exit and press RETURN.
2. Remove any disks from the drives.

Help

The 1-2-3 Help facility is an electronic reference manual. When you press the HELP key (see the Keyboard Guide), a Help screen provides information about what you are doing. You can get Help at any point in your work with 1-2-3 -- between commands or even in the middle of a command.

Each Help screen includes a menu of additional Help topics, so you can move to another screen easily. When you leave Help (by pressing ESCAPE), your screen looks just the way it did before you pressed the HELP key.

Starting Help

To see a Help screen, press HELP. If you have a diskette system, the System Disk must be in drive A when you press HELP. If you copied the 1-2-3 help files on your hard disk, you don't need to insert the System Disk to get Help. Help is also available in PrintGraph, Install, Translate, and Access. Just press the HELP key as you would in 1-2-3.

To see related Help screens, use the pointer-movement keys (such as RIGHT or DOWN) to highlight the Help topic you want to select and then press RETURN. To see unrelated Help screens, select Help Index and then select a topic from the index that appears.

You can press BACKSPACE up to 15 times to review the Help screens you saw in a particular Help session. (You can't use BACKSPACE to retrieve a Help screen you viewed during an earlier Help session.) Pressing HELP in the middle of any Help session returns you to the first Help screen you viewed during that session.

If you have a two-diskette system or a hard-disk system, you can get Help faster by changing your configuration file to provide Instant Help instead of Removable Help. If you have a one-diskette system, you must use Removable Help. See the *Reference Manual* for information on changing your configuration file.

Leaving Help

Press ESCAPE to leave Help. When you leave Help, you return to exactly where you were before you pressed the HELP key.

If you are using a two-diskette system, leave the System Disk in drive A so you can get Help at any time. (Except for the purpose of getting Help, you would need to have this disk in drive A only when you start 1-2-3.)

Help for Error Messages

If 1-2-3 displays an error message, you can press HELP to learn what caused the error and how you can correct it. To clear the error message, press ESCAPE

If you clear the error message before pressing HELP, you can still see the error message's Help screen by following this procedure:

1. Press HELP.
2. Select Help Index.
3. Select the Error Message Index.

Help displays the first of four screens that alphabetically list all error messages.

4. Choose the error message you want help with.
5. Select Continue to see the next screen if the error message is not on the current screen.

If, after 1-2-3 displays an error message, your computer locks up (that is, if 1-2-3 does not respond to any keystrokes), write down the error message and restart your computer. Start 1-2-3 and follow the above procedure to look up the error message to see what caused the error.

..... Starting from DOS

If you don't want to use Access, you can start 1-2-3 or any of its companion programs directly from your computer's operating system. This gives you more of your computer's memory for your work, and it saves the step of going through Access. If you start a program from DOS, you return to DOS when you leave the program.

1. Make sure the DOS prompt is on your screen.
2. If you are using a diskette system, insert the appropriate disk in drive A.

See the following table for the disk you should use for each program.

To use A View of 1-2-3 with a driver set other than 123.SET, you must first copy the driver set onto the View of 1-2-3 Disk. Make sure this driver set includes the ability to display graphs, so that you can see the graphs included in the View of 1-2-3 program.

3. Type the name of the program you want to use and press RETURN.

To use a driver set with a different name, type the program name followed by a space, type the name of the driver set, and then press RETURN. For example, to start 1-2-3 with a driver set called COLOR.SET, type `123 color` and press RETURN.

If your driver set is on a separate disk, insert that disk in a drive and type the full path to the driver set. For example, to start 1-2-3 with a driver set named HOME.SET, insert the disk that contains the driver set in drive A, type `123 a:home`, and press RETURN.

Program	5.25 " Disk	3.5" Disk	Name to type
1-2-3	System Disk	System Disk	123
PrintGraph	PrintGraph Disk	System Disk	pgraph
View of 1-2-3	A View of 1-2-3	View of 1-2-3	view
Install	Utility Disk	Install Disk	install
Translate	Utility Disk	View of 1-2-3	trans
Access	System Disk	System Disk	lotus

If the screen says Bad command or file name

- Make sure you spelled the name of the program correctly.
- If you are using a diskette system, make sure the appropriate disk is in the drive.
- If you are using a hard disk, make sure the directory that contains 1-2-3 program files is current. If the name of your directory does not appear beside the C> prompt, type `dir` and look for the 1-2-3 files. If the wrong directory is current, type `cd \123` and press RETURN (substituting the name of your directory for 1-2-3 if it is different).

NOTE If you are using MS-DOS 2.11 and you have trouble changing to the directory that contains your 1-2-3 program files, type `cd c:\123` and press RETURN.

- If you are using a hard disk, make sure all the 1-2-3 files are in the directory. If they aren't, return to "Backing Up the 1-2-3 Disks: Hard-Disk System" in Chapter 1.

If the screen says Abort, Retry, Fail?

- If you are using a diskette system, check that the disk is properly inserted and type `r`.
- Otherwise, type `a` and make a new backup copy of the disk you are using.

If the 1-2-3 opening screen appears and then disappears, make sure you have the System Disk in drive A.

Chapter 4 Lotus Speedup and Lotus Learn

A 1-2-3 add-in is a memory-resident program that works with and extends the capabilities of Lotus 1-2-3. This chapter describes how to install and use the following add-ins, provided in this package.

- The 1-2-3 Add-In Manager, Release 1.11 provides access to 1-2-3 add-ins while you are using 1-2-3.
- The Lotus Speedup Add-In enhances the performance of the 1-2-3 worksheet recalculation.
- The Lotus Learn Add-In creates 1-2-3 macros by recording keystrokes that you type during a 1-2-3 session.

These programs are available on the 1-2-3 Value Pack Disk.

..... **Before You Start**

Be sure to complete the Install procedure described in Chapter 2 and read this chapter before you use the 1-2-3 add-in programs.

You must use the Add-In Manager, Release 1.11 or later, with these add-ins. If you are already using the Add-In Manager with 1-2-3, follow the steps below to check which version you have:

1. Make sure you are in 1-2-3 in READY mode.
2. Invoke the Add-In Manager by holding down the ALT key and pressing F10.
3. Press HELP.

Add-In Manager Release 1.11 appears at the top left of the Help screen.

If you have an earlier release of the Add-In Manager, or if you are not sure which release you have, use the Add-In Manager that comes with this package.

The Add-In Manager and the Lotus Learn Add-In work with 1-2-3 Releases 2.0 and 2.01.

The Lotus Speedup Add-In works with 1-2-3 Release 2.01 only.

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1-2-3 Features You Need to Know

To use the Lotus Speedup Add-In, you should understand the 1-2-3 recalculation order and method and the concept of dependent cells. See Chapter 2 of the 1-2-3 *Reference Manual* for information on commands.

To use the Lotus Learn Add-In, you should know how to create, name, and use 1-2-3 macros. See Chapter 3 of the 1-2-3 *Reference Manual* for information on macros.

.....

The Add-In Manager

The Add-In Manager lets you attach (put into memory), invoke (use), and detach (remove from memory) 1-2-3 add-ins. You can use the Add-In Manager whenever 1-2-3 is in READY mode.

Before you use the Add-In Manager, Release 1.11, you must install it into your 1-2-3 driver set. If you have previously installed the Add-In Manager, Release 1, you must re-install the Add-In Manager. You can use the Add-In Manager, Release 1.11, with any add-ins that worked previously with Release 1.

If you have another 1-2-3 add-in in your driver set, install that add-in before you install the Add-In Manager.

If you have a two-diskette system, read "Two-Diskette System" next. If you have a hard-disk system, skip to "Hard-Disk System."

Two-Diskette System

If you have a two-diskette system, follow these instructions to install the Add-In Manager into your 1-2-3 driver set.

Before you begin, make sure you have the following:

- The 1-2-3 System Disk
- **5.25" disks only:** The 1-2-3 Value Pack Disk, containing the 1-2-3 add-ins, and 1-2-3 PrintGraph Disk, containing the 123.DYN file
- **3.5" disks only:** The 1-2-3 Value Pack Disk containing the 1-2-3 add-ins
- A blank formatted disk the same size as your 1-2-3 disks (3.5" or 5.25")

Copying Files to a Blank Disk

Before you install the Add-In Manager, you must copy some files to a blank formatted disk. By doing so, you free enough space on your System Disk to store the new driver set file you create when you install the Add-In Manager. In addition, the blank formatted disk provides you with enough space to install the Add-In Manager.

NOTE The following instructions assume your computer is on and the A> prompt is displayed on the screen. The instructions also assume you have created a driver set with the Install program. If you haven't created a driver set, see Chapter 2 for instructions.

1. Insert the 1-2-3 System Disk in drive A and a blank formatted disk in drive B.

2. At the A> prompt, type `copy 123.HLP b:` and press RETURN.

This copies the 1-2-3 Help file to the blank formatted disk.

3. Type `del 123.HLP` and press RETURN.

This deletes the 1-2-3 Help file from the 1-2-3 System Disk.

4. Copy your driver set to the disk in drive B.

For example, if your driver set is called 123.SET, type `copy 123.set b:` and press RETURN.

5. Remove the System Disk from drive A.

6. Insert the 1-2-3 Value Pack Disk in drive A.

7. Type `copy ???_MGR.* b:` and press RETURN.

This copies the Add-In Manager (ADN_MGR.DRV), the Add-In Manager install program (ADD_MGR.EXE), and the Add-In Manager delete program (DEL_MGR.EXE) to the disk in drive B.

8. Leave the disks in the disk drives, and continue to the next procedure, "Installing the Add-In Manager."

Installing the Add-In Manager

The following steps explain how to install the Add-In Manager and copy your new driver set and add-in program files to your System Disk.

NOTE If you haven't already done so, follow the procedure described in the previous section, "Copying Files to a Blank Disk."

1. Type `b:` and press RETURN.

This changes the prompt to B>, the drive with the disk containing the Add-In Manager and the 1-2-3 driver set.

2. Install the Add-In Manager in your driver set.

For example, if your 1-2-3 driver set is 123.SET, type `add_mgr 123.set` and press RETURN.

A message appears indicating the update is complete.

3. Type `a:` and press RETURN.
4. Remove the 1-2-3 Value Pack Disk from drive A.
5. Insert the 1-2-3 System Disk in drive A. Type `copy b:* .set` and press RETURN.

This copies the driver set, with the Add-In Manager installed, back onto the 1-2-3 System Disk.

6. Remove the disk in drive B and label it 1-2-3 Help Disk.

Leave the Add-In Manager files (ADN_MGR.EXE, ADD_MGR.EXE, and DEL_MGR.EXE) on the 1-2-3 Help Disk in case you want to use the Add-In Manager programs later.

7. Insert the 1-2-3 Value Pack Disk in drive B.

8. Type `copy b:* .ADN` and press RETURN.

This copies the Lotus Speedup Add-In (SPEEDUP.ADN) and the Lotus Learn Add-In (LEARN.ADN) to the 1-2-3 System Disk.

9. Type `copy b:SPEEDUP.WK1` and press RETURN.

This copies the SPEEDUP.WK1 worksheet file to the 1-2-3 System Disk.

10. **5.25" disks only:** Remove the 1-2-3 Value Pack Disk from drive B, and replace it with the 1-2-3 PrintGraph Disk. Type `copy b:123.dyn` and press RETURN.

This copies the 123.DYN file to the 1-2-3 System Disk. The add-ins will not work without this file.

11. Remove the disks from both disk drives and store them in a safe place.

The 1-2-3 System Disk now contains the 1-2-3 add-in programs, the Add-In Manager, and your updated driver set.

Hints on Installing the Add-In Manager

If you later run the 1-2-3 Install program and update the 1-2-3 driver set, the updated driver set will not contain the Add-In Manager. In that case, follow these steps:

1. Insert the System Disk in drive A and the 1-2-3 Help Disk in drive B.

The 1-2-3 Help Disk is the disk you created when you originally installed the Add-In Manager.

2. Copy your driver set to the disk in drive B.

For example, if your driver set is called 123.SET, type `copy 123.set b:` and press RETURN.

3. Type `b:` and press RETURN.

4. Install the Add-In Manager in your driver set.

For example, if your driver set is called 123.SET, type `add_mgr 123.set` and press RETURN.

A message appears indicating the update is complete.

5. Type `copy *.set a:` and press RETURN.

This copies the driver set, with the Add-In Manager installed, back onto the 1-2-3 System Disk.

6. Type `a:` and press RETURN.

7. Remove the disks from both drives and store them in a safe place.

If, during installation, an error message indicates that the Add-In Manager was not installed in your driver set, delete files you do not need from the disk, delete the ---TEMP---.DLB file, and repeat the installation procedure.

Deleting the Add-In Manager from a Driver Set

If you need to remove the Add-In Manager from the 1-2-3 driver set, use the DEL_MGR.EXE program on the 1-2-3 Help Disk.

1. Insert the System Disk in drive A and the 1-2-3 Help Disk in drive B.
2. Copy your driver set from the System Disk to the 1-2-3 Help Disk.

For example, if your driver set is called 123.SET, type `copy 123.set b:` and press RETURN.

3. Type `b:` and press RETURN.

4. Delete the Add-In Manager from your driver set.

For example, if your driver set is called 123.SET, type `del_mgr 123.set` and press RETURN.

The Add-In Manager is deleted from your driver set.

5. Copy the driver set back to your System Disk.

For example, if your driver set is called 123.SET, type `copy 123.set a:` and press RETURN.

6. Type `a:` and press RETURN.

7. Remove the disks from both drives and store them in a safe place.

Using Help

To use the Help function in 1-2-3, select the 1-2-3 /Worksheet Global Default Other Help Removable command to specify that you want to use Help on a separate disk. Then use the /Worksheet Global Default Update command to save the changes in the 1-2-3 configuration file (123.CNF). When you use 1-2-3 Help, insert the 1-2-3 Help Disk in the drive you used to start 1-2-3. See Chapter 2 of the 1-2-3 *Reference Manual* for additional information.

Hard-Disk System

Follow these instructions to install the Add-In Manager into your 1-2-3 driver set:

NOTE The following instructions assume your computer is on and the `C>` prompt is displayed on the screen.

1. Make current the directory that contains the 1-2-3 program files.

For example, if 1-2-3 is in a directory named 123, type `cd \123` and press RETURN.

2. Insert the 1-2-3 Value Pack Disk in drive A.

3. Type `copy a:*.*adn` and press RETURN.

This copies the Lotus Speedup Add-In (SPEEDUP.ADN) and the Lotus Learn Add-In (LEARN.ADN) to the hard disk.

4. Type `copy ???_MGR.*` and press RETURN.

This copies the Add-In Manager (ADN_MGR.DRV), the Add-In Manager install program (ADD_MGR.EXE), and the Add-In Manager delete program (DEL_MGR.EXE) to the hard disk.

5. Install the Add-In Manager in your driver set.

For example, if your 1-2-3 driver set is 123.SET, type `add_mgr 123.set` and press RETURN.

A message appears indicating the update is complete.

NOTE If you later run the 1-2-3 Install program to update the 1-2-3 driver set, the updated driver set will not contain the Add-In Manager. You must go through this procedure again to install the Add-In Manager into your 1-2-3 driver set.

You are now ready to use the Add-In Manager. Refer to the next section, "Using the Add-In Manager," for instructions.

If you need to remove the Add-In Manager from the 1-2-3 driver set, type `del_mgr 123.set` at the DOS prompt, and press RETURN.

Using the Add-In Manager

After you begin a 1-2-3 session you can use the Add-In Manager to attach, invoke, and detach 1-2-3 add-ins.

Attaching a 1-2-3 Add-In

Use the Add-In Manager to attach as many 1-2-3 add-ins as your computer's memory will allow. Follow these instructions:

1. Start the 1-2-3 session with the driver set that contains the Add-In Manager.

For example, if the Add-In Manager is in the default driver set (123.SET), at the DOS prompt, type `123` and press RETURN to start 1-2-3.

2. Hold down the ALT key and press F10.

The Add-In Manager menu appears.

3. Select Attach.

1-2-3 displays a list of all of the 1-2-3 add-ins (files with the extension .ADN) in the current directory.

4. Highlight the add-in you want to attach and press RETURN, or type the add-in name and press RETURN.

If the add-in you want to attach is not in the current drive or directory, enter the name of the drive or directory that contains the add-in, press RETURN, and then select the add-in.

A menu of unassigned function keys appears. The choices 7, 8, and 9 represent F7, F8, and F9, respectively. By selecting a key from the menu, you assign a function key to the add-in you are attaching; when you do so, you can invoke the add-in by holding down ALT and pressing the assigned function key.

You may have an add-in such as Lotus Measure® in your driver set. If so, do not assign Lotus Speedup or Lotus Learn to the same function key as the add-in in the driver set. The add-in assigned to the driver set will override the add-in assigned by the Add-In Manager.

The menu also includes a No-Key selection. If you choose No-Key, you must use the Invoke command to invoke the add-in when you want to use it.

If all function keys have already been assigned to add-ins, the menu does not appear. In that case, you can invoke the add-in only through the Add-In Manager menu.

5. Select 7, 8, or 9 to assign the add-in to a function key, or select No-Key if you want to select the add-in through the Add-In Manager menu.

After a few seconds, the Add-In Manager menu reappears.

6. Select Quit to return to READY mode.

Invoking a 1-2-3 Add-In

Invoke an attached 1-2-3 add-in either by selecting Invoke from the Add-In Manager menu or by pressing the add-in's assigned key combination.

Follow these instructions to invoke an attached add-in using its key combination:

1. Make sure you are in 1-2-3 in READY mode.
2. Hold down ALT and press the function key you assigned to the add-in (F7, F8, or F9).

Follow these instructions to invoke an add-in from the Add-In Manager menu:

1. Make sure 1-2-3 is in READY mode.
2. Hold down the ALT key and press F10.
3. Select Invoke from the Add-In Manager menu.

1-2-3 displays a list of all the currently attached 1-2-3 add-ins.

4. Select the 1-2-3 add-in you want to use.

Detaching a 1-2-3 Add-In

When you detach an add-in, you free the memory it occupied. This makes more room for other add-ins and for larger worksheets. Once you detach an add-in, you cannot use it again during the 1-2-3 session without first re-attaching it.

1. Hold down the ALT key and press F10 to display the Add-In Manager menu.
2. Select Detach.
1-2-3 displays a list of all of the currently attached add-ins.
3. Select the add-in you want to detach and press RETURN.
4. Select Quit to return to READY mode.

NOTE Some add-ins cannot be detached by the Add-In Manager. For example, Lotus Learn is a nondetachable add-in. Refer to the documentation for each 1-2-3 add-in to determine whether you can detach it. If you attempt to detach an add-in that cannot be detached, 1-2-3 displays the message, Cannot detach this add-in. To detach a nondetachable add-in, leave 1-2-3 using the /Quit command.

To detach all detachable 1-2-3 add-ins at the same time, select Clear from the Add-In Manager menu.

1. Make sure you are in 1-2-3 in READY mode.
2. Hold down the ALT key and press F10 to display the Add-In Manager menu.
3. Select Clear.

Clear detaches all detachable add-ins and redisplay the Add-In Manager menu. If you attempt to detach an add-in that cannot be detached, 1-2-3 displays the message, Cannot detach this add-in. Press ESCAPE to remove this message.

4. Select Quit to return to READY mode.

Automatically Attaching a 1-2-3 Add-In

The steps that follow let you automatically attach, or attach and invoke, an add-in each time you start 1-2-3. You must be in 1-2-3 in READY mode to follow this procedure.

NOTE You must store add-ins you want to automatically attach in the directory from which you start 1-2-3.

1. Hold down the ALT key and press F10 to display the Add-In Manager menu.

2. Select Setup from the Add-In Manager menu.

1-2-3 displays the Add-In Manager Setup menu and the Add-In Manager Setup screen. You can specify up to eight add-ins on the Setup screen to attach; you can invoke only one automatically.

3. Select Set.

1-2-3 displays a menu with the numbers 1 through 8.

4. Select a number.

1-2-3 displays a list of the 1-2-3 add-ins in the directory from which you started 1-2-3.

5. Select an add-in.

A menu of unassigned function keys appears. By selecting a key from the menu, you assign a function key to the add-in; when you do so, you can invoke the add-in by holding down ALT and pressing the assigned function key.

The menu also includes a No-Key selection. If you choose No-Key, you must use the Invoke command to invoke the add-in when you want to use it.

If all function keys have already been assigned to add-ins, or if the add-in is already attached and assigned to a key, 1-2-3 does not display the menu. In that case, skip the next step. (If all function keys have already been assigned, you will be able to invoke the add-in through the Add-In Manager only.)

6. Select 7, 8, or 9 to attach the add-in to a function key, or select No-Key.

If you select a number, the 1-2-3 Add-In Manager attaches the add-in if it is not already attached.

If you select No-Key, you can invoke the add-in through the Add-In Manager only.

7. Select Yes if you want 1-2-3 to invoke the add-in automatically when you begin a 1-2-3 session. Select No if you do not want 1-2-3 to invoke the add-in automatically.

You can only invoke one add-in automatically.

After you have selected Yes or No, 1-2-3 returns to the Setup menu and enters your choice on the numbered entry line you previously selected.

8. Select Update.

This saves the changes you made in the Setup screen to the 1-2-3 Add-In Manager's configuration file (ADN.CFG). You must save these changes for 1-2-3 to attach and invoke the add-ins automatically when you begin your next 1-2-3 session.

The Setup menu reappears.

9. Select Quit twice to return to READY mode.

Cancelling Automatic Attach Setup

If you decide later that you do not want 1-2-3 to automatically attach a 1-2-3 add-in contained in the Setup screen, follow these instructions. You must be in 1-2-3 in READY mode.

1. Hold down ALT and press F10 to display the Add-In Manager menu.

2. Select Setup and then select Cancel.

A menu with the numbers 1 through 8 appears. The names of the add-ins you have selected to be attached automatically appear beside the numbers on the menu.

3. Select the number that corresponds to the add-in you want to remove from the Setup screen.

1-2-3 detaches the add-in. If you cannot detach the add-in, 1-2-3 displays the message, Cannot detach this add-in. Press ESCAPE to cancel the message.

1-2-3 displays the Setup menu. The add-in will no longer be attached automatically each time you start 1-2-3.

4. Select Update to save the changes you made to the 1-2-3 Add-In Manager's configuration file (ADN.CFG).

5. Select Quit twice to return to READY mode.

Using Macro Commands to Attach and Invoke Add-Ins

As an alternative to attaching and invoking 1-2-3 add-ins, you can create a macro using special 1-2-3 macro commands to do so. If you are not familiar with macros and macro commands, refer to Chapter 3 in the *1-2-3 Reference Manual*.

Attaching a 1-2-3 Add-In in a Macro

Use the macro command `{APP4}Aaddinname~keycomboQ` to automate the process of displaying the Add-In Manager menu, attaching an add-in, and assigning a key combination to invoke the add-in:

`{APP4}` is for ALT-F10.

A is for Attach.

addinname is the add-in to be attached through the macro. Do not include the extension `.ADN` in the macro.

The tilde (`~`) is for RETURN.

keycombo is the key combination you would like to use to invoke the add-in. *keycombo* can be 7, 8, or 9 (for the key combinations ALT-F7 through ALT-F9), or N for No-Key.

Q is for Quit to leave the Add-In Manager.

If the macro is used to attach an add-in when all key combinations are in use, remove the *keycombo* from the macro, because the Add-In Manager will not prompt for a key combination.

Invoking a 1-2-3 Add-In with a Macro

You can use the macro command `{APP4}Iaddinname~` to invoke an attached add-in through the Add-In Manager menu:

`{APP4}` is for ALT-F10.

I is for Invoke.

addinname is the add-in to be invoked through the macro. Do not include the extension `.ADN` in the macro.

The tilde (~) is for RETURN.

For example, if Lotus Speedup is attached, `{APP4}ISpeedup~OQ`, when entered in a macro, invokes Speedup, sets it to Optimal, and then returns to 1-2-3.

You can use the macro commands `{APP1}`, `{APP2}`, and `{APP3}`, instead of `{APP4}`, to invoke a 1-2-3 add-in that is already assigned to one of the key combinations. For example, `{APP1}` invokes the add-in that is assigned to the key combination ALT-F7; `{APP2}` invokes the add-in assigned to ALT-F8; and `{APP3}` invokes the add-in assigned to ALT-F9.

The Add-In Manager provides an `@function`, `@ISAPP`, that you can use in macros. `@ISAPP("addinname")` tests whether *addinname*, your 1-2-3 add-in, is attached. `@ISAPP` returns 0 if the add-in is not attached and 1 if it is.

The `@ISAAP("functionname")` tests whether your add-in `@function` is attached. Here ("*functionname*") is the name of your add-in `@function` entered as a quoted string. It returns 0 if the add-in `@function` is not attached and 1 if it is attached.

.....

The Lotus Speedup Add-In

The Lotus Speedup Add-In optimizes the recalculation of cells in many 1-2-3 worksheets. The add-in recalculates only those cells with formulas whose values have changed since the worksheet was last recalculated and the cells that depend on them. The amount of time saved by using the Lotus Speedup Add-In will depend on the number of formulas and the way in which the formulas depend on other worksheet cells.

How Lotus Speedup Recalculates the Worksheet

You can use Lotus Speedup to save recalculation time when the 1-2-3 Recalculation order is set to Natural and the Recalculation method is either Manual or Automatic. When you invoke Lotus Speedup, the add-in displays a menu with three options: Optimal, Standard, and Highlight.

When Lotus Speedup is set to Optimal, 1-2-3 recalculates only modified cells containing formulas, volatile cells, and any cells that depend on modified or volatile cells. By selectively recalculating only those cells with formulas that may have changed since the last recalculation, 1-2-3 usually recalculates a worksheet faster using the Lotus Speedup Optimal setting.

Modified cells are cells in which you have entered or changed data since the last recalculation of the worksheet. Volatile cells are cells whose values may change even if you do not modify them. 1-2-3, with Lotus Speedup, recalculates volatile cells each time it calculates the worksheet. Volatile cells include cells that contain any of the following 1-2-3 @functions: @, @RAND, @NOW, @CELL, @CELLPOINTER, @VALUE, @STRING, @DATEVALUE, @TIMEVALUE. The add-in @functions, @ISAPP and @ISAAF, are also volatile.

Lotus Speedup keeps track of any cells you have modified since the last recalculation. When you retrieve a file that has recalculation set to Manual, all cells are highlighted until you recalculate the sheet. With Lotus Speedup set to Optimal, and Highlight set to Yes, 1-2-3 highlights modified cells (those that you have changed), whether they contain formulas, labels, or values. It does not highlight volatile cells. Highlight is an option only when Lotus Speedup is set to Optimal. The highlight is visible only when the 1-2-3 Recalculation method is Manual.

When you recalculate the worksheet by pressing the CALC key (or changing the 1-2-3 Recalculation method to Automatic and modifying another cell), the highlighted cells are no longer modified cells; 1-2-3 no longer highlights those cells.

When Lotus Speedup is set to Standard, 1-2-3 recalculates the entire worksheet, making no distinction among modified cells, volatile cells, and cells that have not been affected by what you have done to the worksheet since the last recalculation.

Comparing Optimal and Standard Recalculation Times

Lotus Speedup lets you choose between two types of recalculation times: Optimal and Standard. In most situations, 1-2-3 recalculates a worksheet faster using the Optimal recalculation time. In some situations, however, recalculating the entire worksheet using the Standard recalculation time may be faster.

The Optimal recalculation time is the time it takes to determine which cells to recalculate and to recalculate them. The Standard recalculation time is the time it takes to recalculate the entire worksheet. This is the same amount of time it would take 1-2-3 to recalculate the worksheet without Lotus Speedup attached.

As the number of modified cell dependencies (cells with formulas that depend on one or more modified cells) increases, Optimal recalculation time approaches Standard recalculation time. At some point, it takes more time for Lotus Speedup to locate and recalculate dependent cells than it takes for 1-2-3 to recalculate the entire worksheet. For example, the performance increase of Lotus Speedup is not as dramatic if 75 percent of the cells depend on modified cells as it is if 10 percent of the cells are dependent.

Lotus Speedup decreases the time it takes to perform a recalculation *only* when the 1-2-3 recalculation order is set to Natural.

Using the Lotus Speedup Add-In

Before you begin a 1-2-3 work session, use Lotus Speedup to select either Optimal recalculation time or Standard recalculation time. Changing from Optimal to Standard during a 1-2-3 work session may require additional recalculations. See the previous section, "Comparing Optimal and Standard Recalculation Times," for more information.

Follow these instructions to attach and use the Lotus Speedup Add-In:

1. Begin a 1-2-3 session and attach the Lotus Speedup Add-In.

If the 1-2-3 worksheet contains modified cells when you attach Lotus Speedup, press CALC before you use the Lotus Speedup Optimal setting.

2. Invoke Lotus Speedup.

The Speedup menu appears.

3. Select Optimal or Standard.

To find out how recalculation method is set, use the /Worksheet Status command in 1-2-3. If the recalculation method is Optimal, the Worksheet Status screen displays Optimal after the description of the Recalculation order. If the recalculation method is Standard, the Worksheet Status screen displays nothing after the Recalculation order.

1-2-3 recalculates your worksheet using Optimal recalculation time only when the 1-2-3 Recalculation order is set to Natural.

If the 1-2-3 Recalculation order is set to Columnwise or Rowwise, or contains one or more circular reference, 1-2-3 recalculates the worksheet using Standard recalculation time, even if you have set Lotus Speedup to Optimal.

4. Optional: If you want Lotus Speedup to highlight modified cells, invoke Lotus Speedup and Select Highlight.

1-2-3 displays a Yes/No menu. If you select Yes, Lotus Speedup highlights modified cells when set to Optimal. If you select No, Lotus Speedup does not highlight modified cells. On a monochrome monitor, the highlighted cells are underlined. On a color monitor, modified cells are highlighted in another color.

Highlighted cells are visible only if the 1-2-3 recalculation method is set to Manual. Use the /Worksheet Global Recalculation command to set it.

5. Press ESCAPE to leave the Lotus Speedup menu.
6. Retrieve a worksheet file or create a new one.

Hints on Using Lotus Speedup

Speedup is a detachable add-in.

To use Lotus Speedup with Lotus HAL®, follow the same procedures you use with 1-2-3.

SPEEDUP.WK1 Worksheet

The file SPEEDUP.WK1 is a special 1-2-3 worksheet file you can use to demonstrate Lotus Speedup. It does not work with 1-2-3 unless Lotus Speedup is attached and invoked.

SPEEDUP.WK1 is on the 1-2-3 Value Pack Disk.

Use Lotus Speedup with this 1-2-3 worksheet to compare the Optimal and Standard recalculation times.

1. To use SPEEDUP.WK1, start the 1-2-3 session with the driver set that contains the Add-In Manager, Release 1.11.
2. Use the Add-In Manager to attach Lotus Speedup, if it was not in the Setup settings screen.
3. Retrieve the file SPEEDUP.WK1.
4. Follow the instructions contained in the worksheet.

.....
**The Lotus
Learn Add-In**

Almost any task that you perform from the keyboard in a 1-2-3 session can be automated with a keystroke macro. With one keystroke combination, you can execute the macro at any time.

A keystroke macro consists of a set of instructions that direct 1-2-3 to perform a particular task. To create a keystroke macro in 1-2-3, you type the keyboard characters, special keys, and menu choices in their macro format into a worksheet range. Then you assign a macro name to the first cell of the macro and use that name to invoke the macro.

**Writing Macros
with Lotus
Learn**

The Lotus Learn Add-In provides an alternate method of entering macro instructions. Instead of typing the macro instructions, you simply perform the task that you want to automate. 1-2-3 "learns" your keystrokes and translates them into macro format in a worksheet range called the Learn range. You then name the macro.

Using the Lotus Learn Add-In to write a macro has advantages:

- Lotus Learn lets you record a keystroke macro and test it at the same time. Because you are performing the procedure that will be automated in the macro, you can see on the screen exactly what will happen when the macro runs.
- Lotus Learn minimizes the possibility of syntax errors because it records the keystrokes in the Learn range in the proper macro format. You simply press the keys and respond to the menus and prompt lines as they appear on the screen.

Lotus Learn records the following keystrokes in the Learn range:

- Standard keyboard characters.
- The 1-2-3 Special Keys, such as EDIT, CALC, and HOME.
- Menu choices from 1-2-3 menus.

Lotus Learn will not record HELP or any keystrokes entered while using the Help facility.

You can enter advanced macro commands into a macro created with Lotus Learn by typing the commands directly into the Learn range. Advanced macro commands are special command words that you can use as a programming language within 1-2-3. These commands are described in Chapter 3 of the 1-2-3 *Reference Manual*.

Using the Lotus Learn Add-In

To create a macro using the Lotus Learn Add-In:

1. Attach and invoke the Lotus Learn Add-In, using the Add-In Manager.

Lotus Learn is a nondetachable 1-2-3 add-in; once you have attached Lotus Learn, you must leave 1-2-3, using the /Quit command, to detach it.

2. Select Range.

Normally, you enter macro instructions in a column of cells, using as many cells as you need. With Lotus Learn you must specify the entire single-column Learn range that will contain the macro instructions *before* you create the macro.

3. Specify a Learn range where 1-2-3 will store the keystrokes that make up the macro.

CAUTION Make sure you select a range above the area of your worksheet where you might insert or delete rows. Otherwise, you may inadvertently delete or insert rows in your macro.

Use an area of the worksheet that you do not intend to use for worksheet data. Specify a single-column range that is large enough to include all the keystrokes your macro will contain; the range does not need to cover the whole width of the macro, but must be at least as long as the macro instructions.

Macro instructions can be written one instruction per row, or several instructions on one row, as long as there are no blank rows before the end of the macro.

1-2-3 returns to the Lotus Learn menu after you have specified a Learn range.

4. Select Quit from the Lotus Learn menu.
5. To begin storing keystrokes as macro instructions, hold down the ALT key and press F5.

The LEARN indicator appears at the bottom of the screen.

If you select Yes from the Lotus Learn menu to begin recording keystrokes in the Learn range, you will see the keystrokes that you used to invoke the Lotus Learn menu, {APP1} for instance, in the Learn range. These characters will need to be erased if they are not part of the macro.

6. Perform the task that you want the macro to automate.

As you type, 1-2-3 records the keystrokes in the Learn range.

If you enter more keystrokes than the Learn range can contain, 1-2-3 displays the error message Learn range is full. See the next section for instructions on enlarging the learn range.

If you make a mistake in Learn mode, you can erase the entire Learn range and start again, or you can continue to record keystrokes and edit the macro later in the same way that you edit all 1-2-3 data.

7. When you have finished performing the task, hold down the ALT key and press F5 again to stop storing keystrokes.

The LEARN indicator disappears from the screen.

If you want to start over before you finish the macro, you can cancel the Learn range by selecting Cancel from the Lotus Learn menu. 1-2-3 cancels the Learn range and leaves the Lotus Learn menu.

8. Press CALC to update the screen so that you can see the keystrokes in the Learn range.
9. Move the cell pointer to the first cell of the Learn range.
10. Use the 1-2-3 Range Name Create command to assign a name to the first cell of the range that contains the macro.

The name must consist of a backslash (\) followed by a single letter.

11. Invoke the macro by holding down the ALT key and pressing the letter you have assigned to the macro.

Enlarging the Learn Range

If you get an error message Learn range is full, you can increase the size of the Learn range without losing keystrokes and then continue saving keystrokes. Follow these steps to enlarge the Learn range.

1. Press ESCAPE to erase the error message.
2. Invoke the Lotus Learn Add-In.
3. Select Range.
4. Specify a new Learn range large enough to accommodate the macro.
5. Select Quit from the Lotus Learn menu.
6. Hold down the ALT key and press F5 to continue storing keystrokes.

Editing Your Macro

If you make a mistake in Learn mode, you can erase the entire Learn range and start again, or you can continue to record keystrokes and edit the macro later in the same way that you edit all 1-2-3 data.

At any point while you are in Learn mode, you can erase and recreate the macro from the beginning:

1. Hold down the ALT key and press F5 to turn off Learn mode.
2. Invoke the Lotus Learn Add-In, select Erase, and then select Yes.

This erases the contents of the cells in the Learn range.

3. Select Quit from the Lotus Learn menu.
4. Hold down the ALT key and press F5 to turn Learn mode on.
5. Start your keystroke sequence again.

The size of the Learn range remains unchanged.

After you leave Learn mode, you can go to the Learn range to add additional steps to the macro, such as advanced macro commands, or correct any errors you made while creating the macro in the same way you would with any macro.

Hints on Using Lotus Learn

As you create macros with Lotus Learn, keep the following tips in mind.

- Lotus Learn is a nondetachable add-in.
- Select a menu choice by typing the first letter of the selection instead of highlighting it. This will ensure that your macro will select the correct menu choice.
- Select a name by typing the name and pressing RETURN instead of highlighting the name. This will ensure that your macro will select the correct name.
- Specify a range by typing the range name, or range address, instead of highlighting it with the pointer-movement keys.

- Save a Learn macro by saving the worksheet in which it was created.
- Select Cancel from the Lotus Learn menu to cancel the definition of the Learn range.
- Select Yes from the Lotus Learn menu to start recording keystrokes in the Learn range.
- Select No from the Lotus Learn menu to stop recording keystrokes in the Learn range.

Using Lotus Learn with Lotus HAL®

If you are using Lotus HAL in your 1-2-3 session, note these points:

- The Lotus HAL undo facility is disabled when you attach the Lotus Learn Add-In, even if the add-in is not invoked. Undo will remain disabled until you leave 1-2-3 and start a new work session.
- Lotus Learn does not record Lotus HAL requests, but Lotus HAL users still have transcript files to record information.
- If Learn mode is on and 1-2-3 is displaying the Lotus HAL Request box, pressing ESCAPE to leave the Request box stores a tilde (~) in the Learn range. This tilde has no effect on the keystrokes in the Learn range. If you wish, after you turn Learn mode off, edit the Learn range to remove the tilde.

Chapter 5 New Drivers

1-2-3 Value Pack contains some new drivers that enhance 1-2-3 text display, graphics resolution, and print quality. The new drivers support the following display adapters with 1-2-3:

IBM Enhanced Graphics Adapter (EGA)

IBM Video Graphics Array (VGA)

The new drivers support the following printers with 1-2-3:

Apple® LaserWriter®

Apple LaserWriter Plus

NEC® SilentWriter LC-890

AST® TurboLaser®

*HP 3630 Paintjet

*Canon LBP-8 A2

*Epson GQ3500

*Epson LQ2500

*NEC P5

*Fujitsu DPL24

*Toshiba P351

*Xerox 4045

* In the 5.25" product these drivers are to be found on a separate disk, the Value Pack Disk - Supplementary Drivers

To use the new drivers with your computer system, you must complete the following procedures:

- Select the drivers you plan to use.
- Use the Install program to incorporate the selected drivers into your 1-2-3 driver set.

NOTE The instructions in this chapter assume you are familiar with the Install program for 1-2-3. If this is not the case, refer to Chapter 2.

..... **Selecting the Drivers**

This chapter has two sections that contain instructions for selecting the drivers for new display adapters and printers. Refer to the list below to find the hardware section you should read.

The hardware sections are:

IBM Enhanced Graphics Adapter (EGA) and IBM Video Graphics Array (VGA)

PostScript Printer Devices: Apple LaserWriter, Apple LaserWriter Plus, AST TurboLaser/PS, and NEC SilentWriter LC-890

Other Printer Device Drivers: HP 3630 Paintjet, Canon LBP-8 A2, Epson GQ3500, Epson LQ2500, NEC P5, Fujitsu DPL24, Toshiba P351, Xerox 4045

Turn to the section that describes your hardware setup and select the drivers that you plan to use. Follow any special instructions in the section.

After selecting the drivers, follow the instructions in "Copying Files from the 1-2-3 Value Pack Disk" at the end of the chapter.

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**IBM
 Enhanced
 Graphics
 Adapter
 (EGA) and
 IBM Video
 Graphics
 Array (VGA)**

The EGA and VGA drivers provide improved screen performance when used with DOS or Windows/386.

The charts below list the files that contain drivers for this hardware. After you read the charts, follow the instructions in the next section, "Using the Drivers."

IBM Enhanced Graphics Adapter (EGA)

Text Display Mode	Text Display Driver File Name	Name in Install Program	Graph Display Driver File Name	Name in Install Program
80x25 IBM EGA	*Universal Text Display	SIBM1EGT.DRV	-Separate	
80x25 IBM EGA	*Universal Text Display	SIBM1EGD.DRV	-Dual	
80x43 IBM EGA	IBM EGA (80x43)-Separate	SIB0E43S.DRV	-Separate	SIBM1EGT.DRV

IBM Video Graphics Array (VGA)

Text Display Mode	Text Display Driver File Name	Name in Install Program	Graph Display Driver File Name	Name in Install Program
80x25 IBM VGA	*Universal Text Display	SIB1VGAS.DRV	-Separate	
80x25 IBM VGA	*Universal Text Display	SIB1VGAD.DRV	-Dual	
80x43 IBM VGA	IBM EGA (80x43)-Separate	SIB0E43S.DRV	-Separate	SIB1VGAS.DRV

*The Universal Text Display driver is not included on the 1-2-3 Value Pack Disk. The file is already in your 1-2-3 driver library.

Using the Drivers

To use the IBM EGA or VGA drivers, follow these instructions. Refer to the previous EGA and VGA charts to make your selections.

1. Select a Text Display Mode.

Text display mode is the number of columns and rows visible on the monitor. For example, 80 x 25 means 80 columns by 25 rows.

2. Select one Text Display Driver File Name and one corresponding Graph Display Driver File Name from the following categories:

Separate text and graph display drivers can display text or graphics on one monitor, but not both at the same time.

Dual text and graph display drivers can display text on a primary monitor and graphics on a secondary monitor, typically a color monitor.

You must choose a driver from the Text Display Driver File Name column that corresponds with the driver you choose from the Graph Display Driver File Name column. For example, if you use a monitor with a VGA display card with 1-2-3 and you want the 80 x 43 separate text display mode, select SIB0E43S.DRV, for the text display driver. The corresponding separate graph display driver file name is SIB1VGAS.DRV.

NOTE Using the IBM EGA (80 x 43) Separate driver (SIB0E43S.DRV) in 1-2-3 with some terminate-and-stay-resident programs, such as Lotus Metro®, may adversely affect the cursor display while you are using a worksheet. If this happens while using 1-2-3, press F10, and then press ESCAPE. The cursor reappears.

3. Copy the drivers you selected by following the instructions in "Copying Files from the 1-2-3 Value Pack Disk" at the end of this chapter.

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**PostScript
Printer
Devices**

The PostScript printer drivers let you print 1-2-3 worksheets or graphs on PostScript printers. These drivers allow full 1-2-3 print capability on Apple LaserWriter, Apple LaserWriter Plus, AST TurboLaser/PS, and the NEC SilentWriter LC-890 printers. You can use the printers either locally or over a supported network.

The drivers support the following network configurations:

IBM PC Network, with IBM PC LAN Program 1.1

IBM Token Ring, with IBM PC LAN Program 1.1

To use the PostScript printer drivers, you must also select the new PostScript port interface driver (SIB3POST.DRV). This port interface driver can only be used with PostScript printer drivers. It cannot be used in the same driver set with any other printer drivers.

**Using the
PostScript
Drivers**

To use the PostScript printer drivers, you must first install the DOS device driver, LOTUSPS.SYS.

NOTE In this procedure, you add a command to your CONFIG.SYS file. If you do not have a CONFIG.SYS file, see your DOS manual for information about creating one.

The following chart lists the PostScript drivers.

**Apple LaserWriter, Apple LaserWriter Plus, AST TurboLaser/PS,
NEC SilentWriter LC-890**

Printer Driver File Name	Driver Type	Printer Brand in Install Program	Name in Install Program
SXX4POST.DRV	Graphics Printer	PostScript	PostScript
SXXBPOST.DRV	Text Printer	PostScript	PostScript
SIB3POST.DRV	Port Interface	N/A	IBM Port Interface (PS)
LOTUSPS.SYS	DOS Device	N/A	N/A

1-2-3 PostScript Driver Chart

Follow the steps below to install the DOS device driver LOTUSPS.SYS.

1. Copy the file LOTUSPS.SYS into the root directory of your hard disk.
2. Add the following command to the CONFIG.SYS file in the root directory of your hard disk:

```
DEVICE=LOTUSPS.SYS port baud LPTx
```

Note that *port* can be either 1 or 2 and that *baud* must be 1200 and must match the baud rate at which you have set your printer. (The baud rate for the Apple Laserwriter Plus can be set to 9600.) The *x* in LPT*x* can be 1, 2, 3, or 4, and must match the printer interface choice you make in 1-2-3. As a default, LOTUSPS.SYS uses serial port 1 at 9600 baud with the interface name LPT3, if no arguments are given. For example, if you are using serial port 1 at 9600 baud and you set your printer interface to LPT3 in 1-2-3, the line in your CONFIG.SYS file can read: DEVICE=LOTUSPS.SYS

If you are using serial port 2 at 1200 baud and set your printer interface to LPT2 in 1-2-3, the line in your CONFIG.SYS file should read: DEVICE=LOTUSPS.SYS 2 1200 LPT2

NOTE If you are using a PostScript printer on a network, you must install LOTUSPS.SYS on the network server only, not on your local computer. Copy LOTUSPS.SYS into the root directory of the server and add the appropriate DEVICE=LOTUSPS.SYS line to the server's CONFIG.SYS file. You also need to add a line to your network startup batch file that specifies LPT*x* as a shared network device. See your network manual for more information.

NOTE When using PrintGraph with the PostScript drivers, the left and top margins must be greater than zero, because these printers cannot print to the edge of the page. Also, when queuing graphs to a network printer, you must select Settings Eject Yes from the Printgraph program. If you do not receive output when you print your file, make sure there is paper in the printer.

3. Copy the three Lotus PostScript drivers to your hard disk by following the instructions in "Copying Files from the 1-2-3 Value Pack Disk".

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Copying Files from the 1-2-3 Value Pack Disk

After you have selected the drivers for your system, you need to copy the appropriate driver files from the 1-2-3 Value Pack Disk.

Two-Diskette System

Follow these steps to copy the driver files:

1. Insert the appropriate 1-2-3 Value Pack Disk in drive A.
2. Insert a blank formatted disk in drive B.
3. Type `b :` and press RETURN.
4. Copy the driver files you selected to the disk in drive B.

For example, if you chose a driver file called `SIB0E43S.DRV`, type `copy a:sib0e43s.drv` and press RETURN.

5. Install the drivers you selected by following the instructions in "Installing the Drivers" at the end of this chapter.

Hard-Disk System

Follow these steps to copy the driver files.

1. Insert the appropriate 1-2-3 Value Pack Disk in drive A.
2. Change to the directory on your hard disk that contains your 1-2-3 program files.
3. Copy the driver files you selected to the subdirectory that contains your 1-2-3 files.

For example, if you selected a driver file called `SIB0E43S.DRV`, type `copy a:sib0e43s.drv` and press RETURN.

4. Install the drivers you selected, by following the instructions in the next section "Installing the Drivers."

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Installing the Drivers

You install drivers by using the Install program. The Install program lets you add the new drivers to your library and modify your current driver set.

Two-Diskette System

To install the new drivers, you first need to set up a separate disk; this disk will provide enough memory to run the Install program with the new drivers. You then run the Install program. After you create the new driver set, you copy that driver set to your 1-2-3 disks.

Setting Up a Disk

Follow these steps to set up a disk.

1. Create a driver set that contains each driver you need, except for the new drivers for PostScript printers, IBM EGA, or IBM VGA.

Chapter 2 describes how to use the Install program to create a driver set.

2. Insert the disk that contains the driver set in drive A.

Unless you stored your driver set on a separate disk, your System Disk contains the driver set.

3. Insert the disk that contains the new driver files in drive B.

This is the disk you created in the previous section, "Copying Files from the 1-2-3 Value Pack Disk: Two-Diskette System."

4. Copy the driver set from the disk in drive A to the disk in drive B.

For example, if your driver set is called 123.SET, type `copy 123.set b:` and press RETURN.

5. Copy the driver set from the disk in drive A to the disk in drive B, and rename it INSTALL.LBR.

For example, if your driver set is called 123.SET, type `copy 123.set b:install.lbr` and press RETURN.

6. Remove the disk from drive A, and insert the Utility Disk (5.25" systems) or Install Disk (3.5" systems).

7. Type `copy install.exe b:` and press RETURN.

8. Type `copy install.dvc b:` and press RETURN.

9. Type `copy install.scr b:` and press RETURN.

10. Type `copy util.set b:` and press RETURN.

11. Remove the disk from drive B.

Using the Install Program

Follow these steps to use the Install program.

1. Insert the disk you prepared in the previous procedure in drive A.
2. Start the Install program.

If you need help starting the Install program, refer to "Using the Install Program" in Chapter 2.

3. Select Advanced Options from the Install main menu.
4. Select Add New Drivers to Library. When Install prompts you to insert the disk with the drivers, press RETURN.

This step adds the drivers you selected to the 1-2-3 driver library.

5. When Install prompts you to insert the disk with the library, press RETURN.
6. Select Modify Current Driver Set.
7. Select Text Display, Graph Display, Port Interface, Text Printer, or Graph Printer, depending on the type of driver you want to install.

A list of drivers appears. This list includes the drivers you copied from the 1-2-3 Value Pack Disk.

8. Highlight a driver and press RETURN.

This step adds the selected driver to the current driver set.

9. If you have completed adding the drivers for your hardware, go to step 10. Otherwise, repeat this procedure from step 7.
10. Select Return to Menu to return to the Advanced Options menu.
11. Select Save Changes.
12. Follow the screen prompts for saving your new driver set to the disk in drive A.

CAUTION When the Install program prompts you to insert the 1-2-3 disks, *do not* do so.

13. Follow the screen prompts to leave the Install program.

Copying the Driver Set

Before you can use the new driver set, you must copy it to your 1-2-3 program disks. Follow these steps to do so:

1. Insert the disk that contains your new driver set in drive A.
2. Insert a 1-2-3 disk in drive B.
3. Copy the driver set from the disk in drive A to the disk in drive B.

For example, if your driver set is named 123.SET, type `copy 123.set b:` and press RETURN.

4. Remove the disk from drive B and store it in a safe place.
5. Repeat steps 2 through 4 for each 1-2-3 disk.
6. Remove the disk from drive A and store it in a safe place.

You have completed the steps necessary to prepare your computer system to use the new drivers with 1-2-3.

Hard-Disk System

Follow these steps to add the new drivers to your driver set.

1. Make sure the directory that contains your 1-2-3 program files is current.
2. Start the Install program.

If you need help starting the Install program, refer to "Using the Install Program" in Chapter 2.

3. Select Advanced Options from the Install main menu.
4. Select Add New Drivers to Library.

This step adds the drivers you selected to the 1-2-3 driver library.

5. Select Modify Current Driver Set.
6. Select Text Display, Graph Display, Port Interface, Text Printer, or Graph Printer, depending on the type of driver you want to install.

A list of drivers appears. This list includes the drivers you copied from the 1-2-3 Value Pack Disk.

7. Highlight a driver and press RETURN.

This step adds the selected driver to the current driver set.

8. If you have completed adding the drivers for your hardware, go to step 9. Otherwise, repeat this procedure from step 6.
9. Select Return to Menu to return to the Advanced Options menu.
10. Select Save Changes.
11. Follow the screen prompts for saving your new driver set.

NOTE If you are adding PostScript drivers, save them in a different driver set.

12. Follow the screen prompts to leave the Install program.

You have completed the steps necessary to prepare your computer system to use the new drivers with 1-2-3.

..... Other Printer Device Drivers

Value Pack includes a number of additional printer drivers. These are:

Printer	Driver filenames
HP 3630 Paintjet	SHPB3630.DRV, SHP4T363.DRV, SHP43630.DRV, SHPBT363.DRV
Canon LBP-8 A2	SCANTX11.DRV, SCANONA2.DRV
Epson GQ3500	SEP4GQ35.DRV, SEP4GQHI.DRV, SEPBGQ35.DRV
Epson LQ2500	SEPLQ25.DRV, SEPLQHI.DRV
NEC P5	P5TC.DRV, P5TM.DRV, P5DC.DRV, P5DM.DRV, P5SC.DRV, P5SM.DRV, P5T.DRV
Fujitsu DPL24	FPLI11.DRV, GPFJ24C1.DRV, GPFJ24C2.DRV, GPFJ24C3.DRV, GPFJ24_1.DRV, GPFJ24_2.DRV, GPFJ24_3.DRV, GPFUJ8_1.DRV, GPFUJ8_2.DRV, GPFUJ8_3.DRV
Toshiba P351	STOBP351.DRV, STO4P351.DRV, STOB351C.DRV, STO451CL.DRV, STO451CH.DRV
Xerox 4045	SXR4045L.DRV, SXR4045M.DRV, SXR4045H.DRV, SXR4045.DRV

Chapter 6 The Network File Add-in

The 1-2-3 Network File add-in gives you more control over shared worksheet files. Shared worksheet files are worksheets stored on a network so that more than one user can have access to them. The Network File add-in prevents other network users from simultaneously updating worksheet files you are working on and potentially causing loss of data integrity.

NOTE You should keep your copy of the 1-2-3 program files in a directory which is not available to other network users (for example, a private directory on the server, or on your local PC). Only data files may be shared over the network, not the 1-2-3 program itself. Please check that only .WK1, .PIC, and .PRN files are in your shared directory, and not files with .CNF, .SET, or .DYN extensions. Install, Access, and any automatically attached add-ins must reside in your local 1-2-3 directory.

By retrieving a worksheet file with Network File add-in attached, you lock the worksheet file; that is, you prevent other users from deleting the worksheet file, or modifying and saving it with the same name while you are using it. Other users can retrieve a read-only copy of the same worksheet file by selecting Yes when the add-in displays the message Worksheet file cannot be updated or locked - retrieve anyway? To change the locked worksheet file, other users must rename it when they save it. Only you can modify the worksheet file and save it with the original file name.

This chapter describes:

- How to attach the Network File add-in.
- How to work with 1-2-3's File commands when add-in is attached.
- How to print shared files.
- Network File add-in error messages.

..... Preparing to Use the Network File Add-in

NOTE To use the 1-2-3 Network File Add-in, all the users on your network must be running DOS version 3.1 or later.

You attach and detach the Network File add-in as you would any other 1-2-3 add-in. You can also set up 1-2-3 so that the Network File is automatically attached each time you start 1-2-3. This section describes how to attach the add-in, set up 1-2-3 so the add-in is automatically attached, and cancel the automatic attach setup.

NOTE In the 5.25" product the Network File Add-In is held on the Value Pack Disk - Supplementary Drivers.

If you have a hard-disk system, make sure the Network File add-in (NETFILE.ADN) is in your 1-2-3 directory. If you have a two-diskette system, make sure the Value Pack Disk is in drive A.

Attaching and Detaching the Add-in

You attach and detach the Network File Add-In as you would any other 1-2-3 add-in. You can also set up 1-2-3 so that the Network File Add-In is automatically attached each time you start 1-2-3. This section describes how to attach the add-in, set up 1-2-3 so the add-in is automatically attached, cancel the automatic attach setup, and detach the add-in.

If you want to attach the Network File add-in automatically each time you start 1-2-3, skip this section and go to the next section, "Automatically Attaching the Add-in."

You must be in 1-2-3 in READY mode to perform this procedure.

1. Hold down the ALT key and press F10.

The Add-In Manager menu appears.

2. Select Attach.

1-2-3 displays a list of all of the 1-2-3 add-ins (files with the extension .ADN) in the current directory.

3. select NETFILE.ADN.

A menu of unassigned function keys appears. The choices 7, 8, and 9 represent F7, F8, and F9, respectively. By selecting a key from the menu, you assign a function key to the Network File Add-In; when you do so, you can invoke the add-in by holding down ALT and pressing the assigned function key.

The menu also includes a No-Key selection. If you choose No-Key, you must use the Invoke command to invoke the Network File add-in when you want to use it. It is best, however, to assign the add-in to a function so you can quickly invoke the add-in.

If all function keys have already been assigned to add-ins, the menu does not appear. In that case, skip the next step.

5. Select 7, 8, or 9 to assign the add-in to a function key.

After a few seconds, the Add-In Manager menu reappears.

6. Select Quit to return to READY mode.

Automatically Attaching the Add-in

The steps that follow let you automatically attach the network File Add-In each time you start 1-2-3. When you work with 1-2-3 on a network, it is best to automatically attach the Network File Add-In to 1-2-3.

NOTE After you attach the add-in, you do not have to invoke it to use it. One of the menus that appears when you perform the following procedure lets you choose a selection that makes 1-2-3 automatically invoke the add-in when you start a 1-2-3 session. Even though you can set up 1-2-3 so that 1-2-3 attaches the add-in automatically, it is best *not* to make 1-2-3 invoke the add-in automatically.

To automatically attach the add-in, you must be in 1-2-3 in READY mode to follow this procedure.

1. Hold down the ALT key and press F10.

The Add-In Manager menu appears.

2. Select Setup and then select Set.

1-2-3 displays a menu with the numbers 1 through 8.

3. Select a number.

You must select a number you haven't already selected for another add-in.

When you select the number, a menu listing the available 1-2-3 add-ins appears.

4. Select the NETFILE.ADN.

A menu of unassigned function keys appears. By selecting a key from the menu, you assign a function key to the Network File Add-In; when you do so, you can invoke the add-in by holding down ALT and pressing the assigned function key.

The menu also includes a No-Key selection. If you choose No-Key, you must use the Invoke command to invoke the add-in when you want to use it. It is best, however, to assign the add-in to a function key so you can quickly invoke the add-in.

If all function keys have already been assigned to add-ins, or if the Network File Add-In is already attached and assigned to a key, 1-2-3 does not display the menu. In that case, skip the next step.

5. Select 7, 8, or 9 to attach the add-in to a function key, or select No-Key.

The 1-2-3 Add-In Manager attaches the Network File Add-In if it is not already attached.

6. Select No from the menu that appears to specify that the Network File Add-In should not be automatically invoked, or started, when you start 1-2-3.

The Setup menu reappears.

7. Select Update to save the settings in the Add-In Manager's configuration file, ADN.CFG.

The Setup menu reappears.

9. Select Quit twice to return to READY mode.

The Network File add-in will be attached automatically each time you start 1-2-3.

Cancelling Automatic Attach Setup

Follow the steps if you no longer want the Network File Add-In to be attached automatically each time you start 1-2-3.

To perform this procedure, you must be in 1-2-3 in READY mode.

1. Hold down ALT and press F10 to display the Add-In Manager menu.
2. Select Setup and then select Cancel.

A menu with the numbers 1 through 8 appears. The names of the add-ins you have selected to be attached automatically appear beside the numbers on the menu.

3. Select the number that corresponds to NETFILE.ADN

The 1-2-3 Add-In Manager detaches the Network File add-in and then displays the Setup menu. The add-in will no longer be attached automatically each time you start 1-2-3.

4. Select Update to save the changes you made to the 1-2-3 Add-In Manager's configuration file (ADN.CFG).
5. Select Quit twice to return to READY mode.

Working with Files

Working with files on a network is somewhat different from working with files on your own computer because you may share files with other users. In some cases, you may be the only person in your department or company to work on a file, even though that file is stored in a directory that is available to other users. Often, however, you may be working on a file that other people also use. When you do, it's important to keep the following points in mind:

- Every user who works with shared worksheet files should use the Network File add-in.

- When you use 1-2-3 to retrieve and save shared worksheet files, always attach the Network File add-in at the beginning of each session. This ensures that only one user at a time modifies a file and saves the changes using the original file name. If you accidentally retrieve a shared file without using the Network File add-in to lock it, others may modify the file while you are working with it.
- If you retrieve a worksheet file that another user has locked and save your changes with a different file name, do not copy the file with your saved changes to the original file name when it is unlocked. If you do, you may write over another user's work.
- Even when another user has locked a worksheet file with a Network File add-in, you can read the contents of the file with the File Retrieve and the File Combine commands.
- If the worksheet files you share are located in a different directory from your normal 1-2-3 data directory, you should change the default 1-2-3 directory, using /File Directory, or /Worksheet Global Default Directory.
- If you save a shared worksheet file, unlock it, and then retrieve it later, the file might not be exactly the same as when you saved it; someone else may have worked on it in the meantime and saved changes to it. (You can use the DOS DIR command to see when changes were last made to the file.)
- The Network File add-in locks only worksheet files that are stored in a shared directory on the server. DOS ignores any request to lock non-shared files.

The following section describes how to work with the Network File add-in.

Using the Network File Add-in

If you are the first user who retrieves a worksheet file with the Network File add-in attached, you can work with that file just as you would if you had retrieved it normally. You can change the file and save your changes with the original file name. The Network File add-in prevents other users on the network from updating or deleting the worksheet file while you work with it. Other users can still retrieve the file, but they cannot save changes to the file you have locked using the same file name.

NOTE If another user retrieves a shared file before you do, you can still retrieve the file, but you cannot save any changes to the file using the original file name. You can save changes to the file only if you give it a new name.

When you retrieve a file while the Network File add-in is attached, the file stays locked until you perform one of the following actions:

- Retrieve a different file.

- Remove the worksheet from memory using the Services New Yes command.

NOTE You cannot use the Erase command to delete a file you have locked.

- Detach the Network File add-in by cancelling the automatic attach setup.
- Leave 1-2-3 using /Quit Yes command.

NOTE You do not unlock the file if you use 1-2-3 /System command to go to the DOS prompt.

Using the File Commands

The way to Network File add-in affects the /File commands is described below.

Combine

/FC

.....
The File Combine command can read a file that another user has locked with the File Retrieve command.

Directory

/FD

.....
When you worked with shred files in a shared directory on a network, you may need to specify a different default directory from the one you normally use.

You can change the default 1-2-3 directory for the current session with the 1-2-3 /File Directory command, or you can change the default directory permanently in your 1-2-3 configuration file.

Erase

/FE

.....
The File Erase command deletes unlocked files, but it cannot delete a file that you or another user locked with the File Retrieve command.

Import

/FI

.....
The File Import command can read a standard ASCII locked file, as long as you have read-access to the file. The Network File add-in does not lock text files, but if another program on the network locks a text file while permitting read access, the File Import command can read the contents of the locked file. Use this command as you would use the 1-2-3 /File Import command.

List

/FI

.....
The File List command operates the same way as it does when the Network File add-in is not attached.

Retrieve

/FR

.....
The File Retrieve command retrieves and locks worksheet files. The command locks the file for the first person who retrieves it. If you lock a file with this command, you can save changes to it or delete it as long as you have locked it.

If you retrieve a read-only file or a file that another user has already locked, a Yes/No menu is displayed with the message "Worksheet file cannot be updated or locked - retrieve anyway?"

If you select Yes, 1-2-3 retrieves the file. You can change it and then save the file with a different name, but you cannot save your changes with the original name.

If you select No or press ESCAPE or BREAK, the file is not retrieved, and 1-2-3 returns to READY mode.

Save

/FS

.....
The File Save command updates locked files. You can update a locked file only if you are the user who locked it. You cannot update a file that another user has locked; to save changes to the file, you must give it another name.

Xtract

/FX

.....
The File Extract command extracts formulas, values, and text from the current worksheet and stores them in a specified worksheet file. The Extract command cannot store extracted information in locked files.

If you try to update a locked file with the File Extract command, you receive an error message. Press ESCAPE to clear the message and extract the file using a different name.

Retrieving Files Under Macro Control

If you use 1-2-3 macros to retrieve worksheet files, remember that the Network File add-in displays a confirmation menu when the file you are retrieving is currently locked by another user:

Worksheet file cannot be updated or locked - retrieve anyway?

You can create macros that respond to the extra Network add-in menu. For example, the following macro retrieves the worksheet DATA.WK1, but only if it is currently unlocked:

```
∕frDATA.WR1~n{ESC}
```

- ∕f is the name of the macro.
- / brings up the 1-2-3 main menu.
- fr selects the File Retrieve command.
- DATA.WK1~ specifies the name of the file you want to retrieve.
- n tells the Network File add-in not to retrieve the worksheet if it is locked by another user.
- {ESC} erases the control panel if the file was not locked by another user; in this case the Network File add-in does not display the configuration menu, and 1-2-3 interprets the n as the start of a new label cell entry.

If you want to retrieve the file regardless of whether it is locked or unlocked, specify y{ESC} instead of n{ESC}.

Retrieving Unshared Worksheet Files

If you have the Network File add-in attached and are working with files that others do not share, the 1-2-3 /File commands operate normally.

Creating Passwords for Files

You can prevent or limit other users from changing a file by creating a password for it when you save it. If you password-protect a file, you are the only one who can retrieve it, unless you give the password to other users.

You use the /File Save command to create a password for a file.

CAUTION When you save a file with a password, you must enter the password exactly the same way when you retrieve the file. If you forget your password, there is no way to retrieve the contents of the worksheet file. Remember that you should never begin your password with a space. Also, uppercase and lowercase letters are not equivalent.

..... Printing Files

When you are working on a network, you may have a choice about where to print your files. For example, you may have a printer attached to your computer, and the server may also have a printer attached to it. Depending on how the network is set up, you may be able to print files on your local printer or on a server's printer. Your network administrator can tell you which printers you can use.

If you can print at more than one kind of printer, you need to include drivers for each printer in your 1-2-3 driver set. The printer that is attached to your computer may be a different kind of printer from the one attached to the server. You should include drivers for both printers in your driver set so you can use either one with 1-2-3 or PrintGraph.

Configuring Print Settings

Before you start printing with 1-2-3 or PrintGraph, make sure your configuration settings reflect the correct type of printer interface (parallel, serial, or DOS device) and name (the model of printer you specified when you used the Install program).

You may want to include a 1-2-3 setup string to reset your network printer before you print your file. Refer to your printer manual for the appropriate printer code(s).

Configuring 1-2-3

In 1-2-3, you use the /Worksheet Global Default Printer commands to set the printer interface and name.

Keep the following things in mind when you choose settings:

- The /Worksheet Global Default Printer Interface command lets you specify the interface (parallel, serial, or DOS device) between 1-2-3 and the printer you are using. To use a network printer, select (5) DOS Device LPT1, (6) DOS Device LPT2, (7) DOS Device LPT3, or (8) DOS Device LPT4. (Check with your network administrator if you are unsure which logical device name is associated with your network printer.)
- The /Worksheet Global Default Printer Name command lets you specify the printer attached to the interface you specified. If you selected more than one printer for your driver set when you installed 1-2-3, a list of the installed printers appears when you choose this command.
- If you want your configuration settings to be default settings, use the /Worksheet Global Default Update command after you choose configuration settings. If you do not use this command, the changes you make to your configuration settings will apply only to the current session. The next time you start 1-2-3, the program uses the default configuration settings.

The configuration settings you chose determine which printer prints your files. To print files on the network printer, specify the interface type and name (model) of the network printer when you choose configuration settings. To print files on your local printer, specify the interface type and name of your local printer when you choose configuration settings. It is best to include in your default configuration file the printer you use most often.

For example, if your local printer is an Epson® printer with a parallel interface to your first parallel port, choose 1 (Parallel 1) for the printer interface type and Printronix® for the printer name.

Configuring PrintGraph

In PrintGraph, you use the Settings Hardware command to set the printer interface.

Keep the following things in mind when you choose settings:

- To use network printer with PrintGraph, select (5) DOS Device LPT1:, (6) DOS Device LPT2:, (7) DOS Device LPT3:, or (8) DOS Device LPT4:, (Check with your network administrator if you are unsure which logical device name is associated with your network printer.)
- The Settings Hardware Printer command lets you specify the printer to use. If you selected more than one printer when you installed 1-2-3, a list of the installed printers appears when you choose this command.
- If you want your configuration settings to be default settings, use the Settings Save command after you choose configuration settings. If you don't use this command, the changes you make to your configuration settings apply only to the current session. It is best to include in your default configuration file the printer you use most often.

The configuration settings you choose determine which printer prints your files. To print files on the network printer, specify the interface type and name of the network printer when you choose configuration settings. To print files on your local printer, specify the interface type and name of your local printer when you choose configuration settings.

For example, if your local printer is an Epson printer with a parallel interface to your first parallel port, choose 1 (Parallel 1) for the printer interface type and Epson for the printer name. If you are using PrintGraph with a network Printronix printer with a DOS Device LPT2: interface, choose 6 (DOS Device LPT2:) for the printer interface type and Printronix for the printer name.

Sending Files to the Printer

After you have configured 1-2-3 or PrintGraph to print files on the printer you want to use, you can send files to the printer. If you are using a local printer, you print files as you normally would.

If you are using a network printer, you also print files as you normally would, but you must keep the following things in mind:

- In 1-2-3, use the /Print Printer Align Go command to send files to the network printer. This command opens the connection to the network printer. If you want to print more than one section of your file on the same printer, use this command once for each section. Use the /Print Printer Page or /Print Printer Line command to separate these sections with page breaks or blank lines, to make footers appear on the last page of the file. After you select all the sections you want to print, select Quit from the print menu.

- In PrintGraph, use the Align Go command to send the .PIC files to the network printer. If you want to print more than one file on the same printer, use this command once for each file. Use the Page command to separate these files with page breaks.

NOTE Printing Graphs on a network printer may use much of the server's disk space.

Using Laser Printers

If you are printing 1-2-3 files on a laser printer, Print Settings Page Length should be set to 60 lines per page. You should also insert a forced page break (CONTROL-N) at the end of the last page of your document.

..... Error Messages

1-2-3 and the Network File add-in display error messages for certain conditions. This section describes all error messages specific to the Network File add-in; it does not describe 1-2-3 error messages. (If you receive a 1-2-3 error message, press HELP for more information.)

All Network File add-in error messages are preceded by the word NETFILE. Network File add-in messages appear the same way 1-2-3 messages do. The computer beeps, a flashing error indicator appears on the screen, and the message is displayed in the lower left corner of the screen. After you read the message, press ESCAPE.

NETFILE: Access to file not allowed

You tried to read a file to which read-access is denied. You can read files that the Network File add-in has locked; therefore, if you receive this message, another program on the network has locked the file you want to read, and denied read access, or you do not have read-access to the file. If the file is locked, you must wait until the other application unlocks the file before you can read it. You receive this message with the Retrieve, Combine, or Import commands.

NETFILE: Cannot erase current worksheet

You tried to erase the file you most recently retrieved and locked. The Network File add-in does not allow you to erase the current worksheet. You receive this message with the Erase command.

NETFILE: Cannot erase read-only file

You tried to erase a read-only file. You can erase only files to which you have write-access. You receive this message with the Erase command.

NETFILE: Cannot unlock worksheet file

You locked a file and then cleared the worksheet or retrieved a new file, but the previously locked file could not be unlocked. You receive this message with the Services New·Yes and File Retrieve commands.

NETFILE: Cannot Xtract to locked file

You tried to extract data from a file to the current worksheet file, which you locked when you retrieved it. You cannot move extracted data into a file that you or any other user has locked.

NETFILE: Drive no longer available

You tried to gain access to a network drive that is no longer shared. You receive this message with all File commands if the server has stopped sharing the drive or if the server is no longer active on the network. Inform your network administrator if you receive this message.

NETFILE: Drive temporarily unavailable

You tried to gain access to a shared network drive that is not currently available. You receive this message with all File commands if the server has temporarily stopped sharing the drive or if the network is too busy to process your command at the time. Try the command again. If you still receive this message, inform you network administrator.

NETFILE: File or directory is read-only

You tried to update a read-only file or create a new file in a read-only shared network directory. Specify a different file or directory name. You receive this message with the Save and Xtract commands.

NETFILE: Network error

You tried to gain access to a shared network drive and an unexpected network error occurred, possibly because of hardware problems. Inform your network administrator. You receive this error message with all File commands.

NETFILE: Network File add-in is already attached

You have created a second copy of the Network File add-in under a different name, and have attempted to attach both copies at once.

NETFILE: Requires DOS 3.1 or a later version

You are using a version of DOS that is earlier than DOS 3.1. The Network File add-in requires that you use DOS 3.1 or a later version. Remember that on most networks the server and all nodes on the network must operate with the same DOS version. (Check with the network administrator before proceeding.)

NETFILE: Requires 1-2-3 2.0 or a later version

You are using a version of 1-2-3 that is earlier than 2.0. The Network File add-in requires that you use 2.0 or a later version.

NETFILE: Use /File commands to invoke

You attempted to use Services Application Invoke command with the Network File add-in. You do not need to invoke the Network File add-in; once it is attached, network worksheet file support is provided automatically when you select commands from the /File menu.

NETFILE: Worksheet file may be in use

You tried to Save or Xtract a file you retrieved but did not lock.

NETFILE: Worksheet file no longer locked

The file had to be momentarily unlocked after you updated it, and it could not be locked again. Another network user may have locked the file while it was unlocked. You can still work with the file, but you cannot save it with the same file name. You receive this message with the Save command.

Appendix A 1-2-3 and Your Computer

Appendix A describes some of the differences between the IBM PC and other personal computers you can use to run 1-2-3. If you are using 1-2-3 on a Personal System/2 Model 30, 50, or 60, IBM PC AT, IBM 3270, IBM PC Convertible, or IBM PC*jr*, read the section about your computer. If you have an IBM PC/XT, IBM Portable PC, COMPAQ Portable, COMPAQ PLUS, COMPAQ DESKPRO, or an AT&T PC 6300, you don't need any additional information to use 1-2-3.

..... IBM Personal System/2 Models 30, 50, and 60

Keyboard

The IBM Personal System/2 Models 30, 50, and 60 all use the IBM Enhanced Keyboard, which has more keys than the IBM PC keyboard.

Some of the keys on the Enhanced Keyboard are located in different places from those on the IBM PC keyboard. For example, there are two ALT keys located on either side of the SPACE BAR rather than just one on the left. The CONTROL key is also in a different place. 1-2-3 ignores any additional keys on the Enhanced Keyboard, such as the SYSRQ key.

Place the horizontal keyboard template across the top of the keyboard (below function keys 1 through 10) to show you where the 1-2-3 special keys are located.

Disk Drives

The IBM Personal System/2 Model 30 has either two disk drives, or one disk drive and an optional hard disk. The Models 50 and 60 come equipped with one or more disk drives and a hard disk.

The IBM Personal System/2 Models 50 and 60 each have a 1.44MB disk drive. The 1-2-3 program disks have a 720KB format.

CAUTION If you use a 1.44MB disk drive to record information on your 1-2-3 disks, you may have trouble recovering the information on a 720KB disk drive.

Monitor

Choose IBM Personal System/2 Model 30, 50, or 60 and the appropriate monitor from the list the Install Program provides. All IBM Personal System/2 models have built-in graphics capability.

NOTE The IBM Personal System/2 Model 30 can display both text and graphs in color. The graph display driver offered during the install procedure for the Model 30, however, does not display color. If you want graphs in color, use the IBM Color Card, Color Monitor selection in the Install program.

..... **IBM PC AT**

The IBM PC AT has a 1.2 MB disk drive. The 1-2-3 program disks have a 360 KB format.

CAUTION If you use a 1.2 MB disk drive to record information on your 1-2-3 disks, you may have trouble recovering the information on a 360 KB disk drive.

Keyboard

Some of the keys on the IBM PC AT keyboard are located in different places from those on the IBM PC keyboard. For example, the ESC key is in the upper left corner of the numeric keypad rather than above the TAB key. 1-2-3 ignores any additional keys on the IBM PC AT keyboard, such as the SYSRQ key.

..... **IBM 3270-PC, 3270-PC/G, and 3270-PC/GX**

1-2-3 works in stand-alone PC mode only.

You cannot use 1-2-3 with the IBM 3270-PC Work Station Control Program or with the IBM 3270-PC/G or 3270-PC/GX Graphics Control Program. To begin using 1-2-3, you must start DOS without starting the Control Program.

Keyboard

The IBM 3270-PC, PC/G, and PC/GX have more keys on the keyboard than the IBM PC keyboard. 1-2-3 ignores any keys that are not standard on the IBM PC keyboard. For example, 1-2-3 uses function keys 1 through 10, but does not use 11 through 24.

Some of the keys on the IBM 3270-PC, PC/G, and PC/GX keyboard are located in different places from those on the IBM PC keyboard.

For example, the ESC key is in the upper left corner of the numeric keypad rather than above the TAB key. The CONTROL key is also in a different place.

Place the horizontal keyboard template across the top of the keyboard (below function keys 1 through 10) to show you where the 1-2-3 special keys are located.

Monitor

When you select your screen display in the Install program, choose IBM 3270-PC and the appropriate monitor if you have an IBM 3270-PC. Choose IBM color card, color monitor from the list the Install program displays if you have an IBM 3270 PC/G or PC/GX. Your system must include the APA card for graphics.

IBM PC Convertible

The PC Convertible has an Application Selector program. By loading 1-2-3 and its companion programs into the Application Selector, you can start any of these programs through the Application Selector.

NOTE If your PC Convertible has only 256K memory, you cannot use the Application Selector to start 1-2-3. You must start 1-2-3 from DOS or from the Access System.

Keyboard

Some of the keys on the PC Convertible keyboard are located in different places from those on the PC keyboard. For example, the DELETE key is in the upper right corner of the keyboard rather than the bottom right. The CAPS LOCK key is below the left SHIFT key rather than the right SHIFT key.

Your keyboard also has an FN key that you use with other keys to perform certain functions.

Punch the perforated tab out of the horizontal keyboard template (A) that came in your 1-2-3 package, and place it across the top of the keyboard to show you where the 1-2-3 special keys are located. You may want to attach it to your keyboard so that it doesn't slide off.

The PC Convertible has a numeric keypad in the middle of the keyboard. To activate the numeric keypad, press the FN key and NUM LOCK. Press these keys again to deactivate the numeric keypad. Holding down the FN key temporarily while you are using the numeric keypad switches the numeric keypad between alphabetic and numeric.

Monitor

The PC Convertible has a removable LCD screen. You can also attach an external monochrome or color monitor. If you do attach an external monitor, your LCD screen can only display text. 1-2-3 displays graphs on the external monitor.

IBM PCjr

To use 1-2-3 with the IBM PCjr, you must expand the memory to at least 256 KB. You must also use the program that comes with your memory expansion hardware. You must run this program before you can start 1-2-3. In addition, you must type `mode 80` at the operating system prompt so that your monitor displays 80 columns, rather than 40. You may want to include these commands in your AUTOEXEC.BAT file. See your dealer for assistance.

Keyboard

The IBM PCjr has only one function key. To produce the 10 function keys that 1-2-3 uses, you must press FN and then the number of the function key you want to produce. For example, to produce function key 5, the 1-2-3 GOTO key, press FN and then press 5. Refer to the Keyboard Guide to learn how to produce other 1-2-3 keys.

Place the horizontal keyboard template across the top of the keyboard (over the numbers) to show you where the 1-2-3 special keys are located.

The IBM PCjr keyboard has no numeric keypad, so you must use the numbers located at the top of the keyboard when you want to type numbers or perform calculations.

Monitor

When you select your screen display in the Install program, choose the appropriate monitor from the list the Install program provides.

Appendix B Keyboard Guides

This appendix contains the Keyboard Guides for several types of computers. Locate the Keyboard Guide for your computer. The top part of each Keyboard Guide lists the 1-2-3 keynames alphabetically and tells you which of your computer's keys to use. The bottom part of each guide shows you where the keys appear on your computer's keyboard.

Hold down first key,
press second key

THE KEYS

Press and release first key,
then press second key

ABS		ESCAPE		RETURN		Combinations	
BACKSPACE		GOTO		RIGHT		BIG LEFT	
BACKTAB		HELP		SCROLL LOCK		BIG RIGHT	
CALC		HOME		SHIFT		BREAK	
COMPOSE		LEFT		SPACE		END DOWN	then
CONTROL		MACRO		STEP		END HOME	then
DELETE		MENU		TAB		END LEFT	then
DOWN		NAME		TABLE		END RIGHT	then
GRAPH		PAGE DOWN		UP		END UP	then
EDIT		PAGE UP		WINDOW			
END		QUERY					

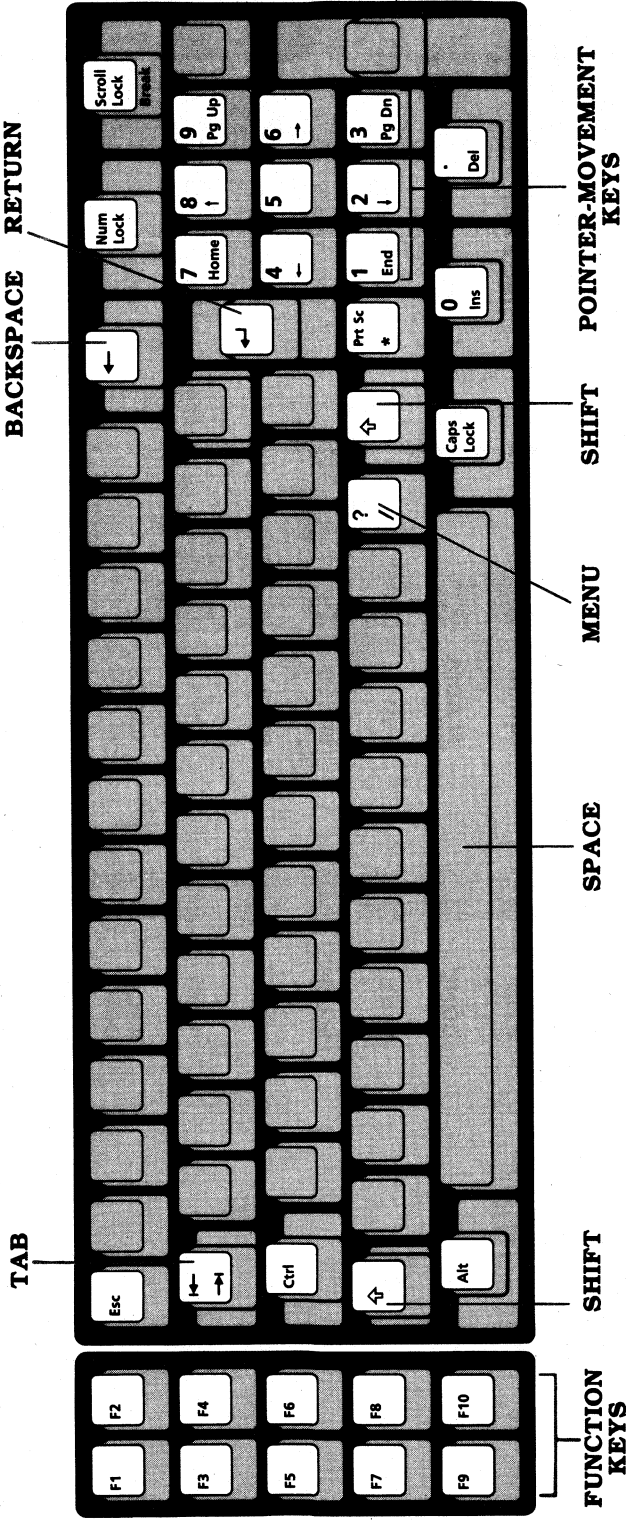
Keyboard Guide

- IBM PC, IBM PC/XT
- IBM Portable PC
- COMPAQ Portable
- COMPAQ PLUS
- COMPAQ DESKPRO
- AT&T PC 6300

THE KEYBOARD

Keyboard Guide for:

IBM PC, IBM PC/XT, IBM Portable PC
COMPAQ Portable, PLUS, DESKPRO
AT&T PC 6300



Hold down first key,
press second key

THE KEYS

Press and release first key,
then press second key

ABS		ESCAPE		RETURN		Combinations	
BACKSPACE		GOTO		RIGHT		BIG LEFT	
BACKTAB		HELP		SCROLL LOCK		BIG RIGHT	
CALC		HOME		SHIFT		BREAK	
COMPOSE		LEFT		SPACE		END DOWN	
CONTROL		MACRO		STEP		END HOME	
DELETE		MENU		TAB		END LEFT	
DOWN		NAME		TABLE		END RIGHT	
GRAPH		PAGE DOWN		TYPE		END UP	
EDIT		PAGE UP		UP			
END		QUERY		WINDOW			

Hold down first key,
press second key

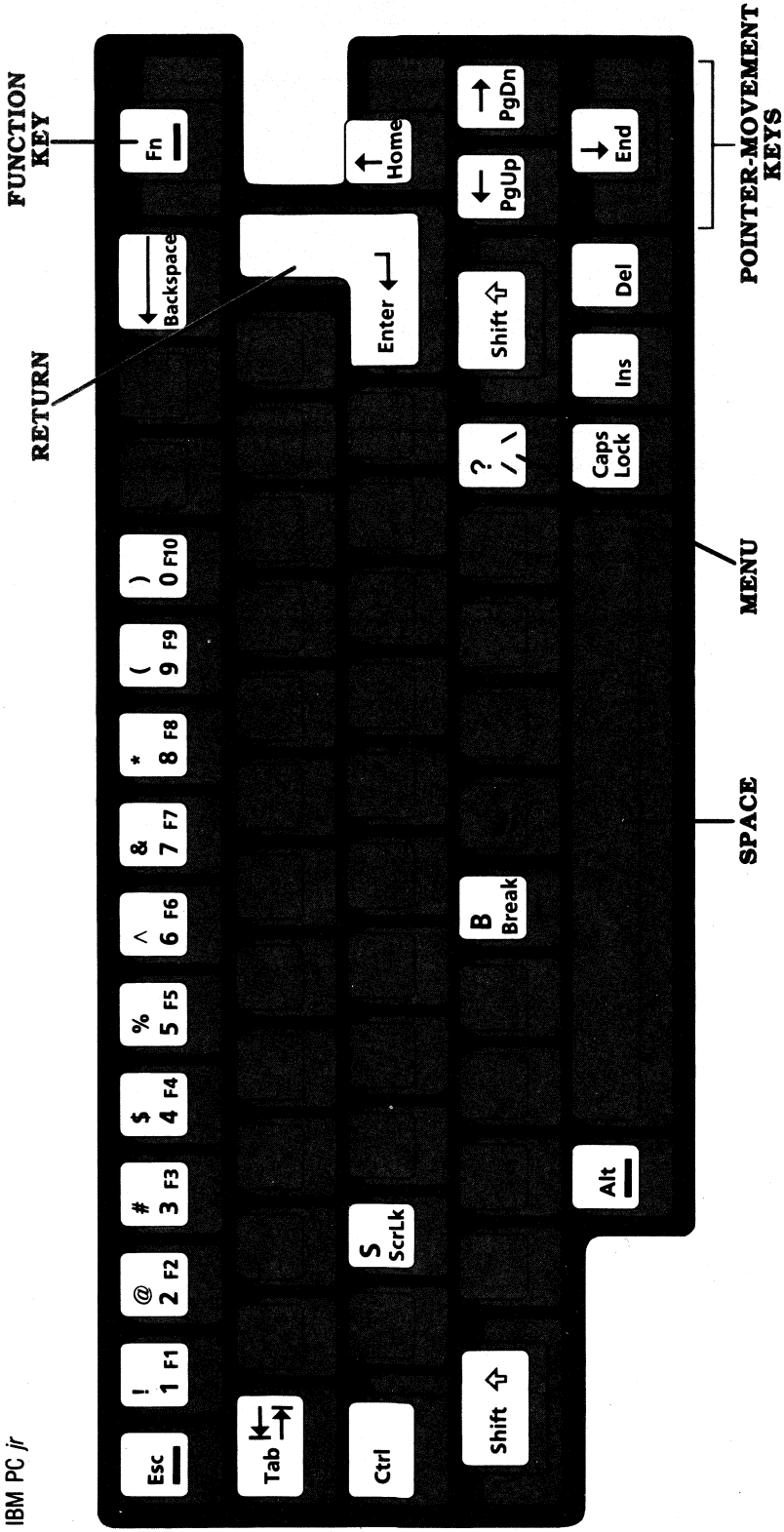
THE KEYS

Press and release first key,
then press second key

ABS	Fn then 4 F4	ESCAPE	Esc	RETURN	Enter ↵	Combinations	
BACKSPACE	Backspace	GOTO	Fn then 5 F5	RIGHT	→ PgDn	BIGLEFT	Ctrl ← PgUp
BACKTAB	Shift ⇧ then Tab	HELP	Fn then 1 F1	SCROLL LOCK	Fn then S ScrLk	BIGRIGHT	Ctrl → PgDn
CALC	Fn then C 9 F9	HOME	Fn then ↑ Home	SHIFT	Shift ⇧	BREAK	Fn then B Break
COMPOSE	Alt then 1 F1	LEFT	← PgUp	SPACE		END DOWN	Fn then ↓ End
CONTROL	Ctrl	MACRO	Alt	STEP	Alt then 2 F2	END HOME	Fn then ↓ End then ↑ Home
DELETE	Del	MENU	? /	TAB	Tab	END LEFT	Fn then ← PgUp
DOWN	↓ End	NAME	Fn then 3 F3	TABLE	Tab then ⇄	END RIGHT	Fn then ↓ End then ↑ PgDn
GRAPH	Fn then 0 F10	PAGE DOWN	Fn then → PgDn	UP	Fn then ↑ Home	END UP	Fn then ↓ End then ↑ Home
EDIT	Fn then 2 F2	PAGE UP	Fn then ← PgUp	WINDOW	Fn then ^ 6 F6		
END	Fn then ↓ End	QUERY	Fn then 7 F7				

THE KEYBOARD

Keyboard Guide for:
IBM PC jr



Hold down first key,
press second key

Press and release first key,
then press second key

THE KEYS

ABS		ESCAPE		RETURN		Combinations		or		
BACKSPACE		GOTO		RIGHT		BIG LEFT			or	
BACKTAB		HELP		SCROLL LOCK		BIG RIGHT			or	
CALC		HOME		SHIFT		BREAK				
COMPOSE		LEFT		SPACE		END DOWN			then	
CONTROL		MACRO		STEP		END HOME			then	
DELETE		MENU		TAB		END LEFT			then	
DOWN		NAME		TABLE		END RIGHT			then	
GRAPH		PAGE DOWN		UP		END UP			then	
EDIT		PAGE UP		WINDOW						
END		QUERY								

Hold down first key,
press second key

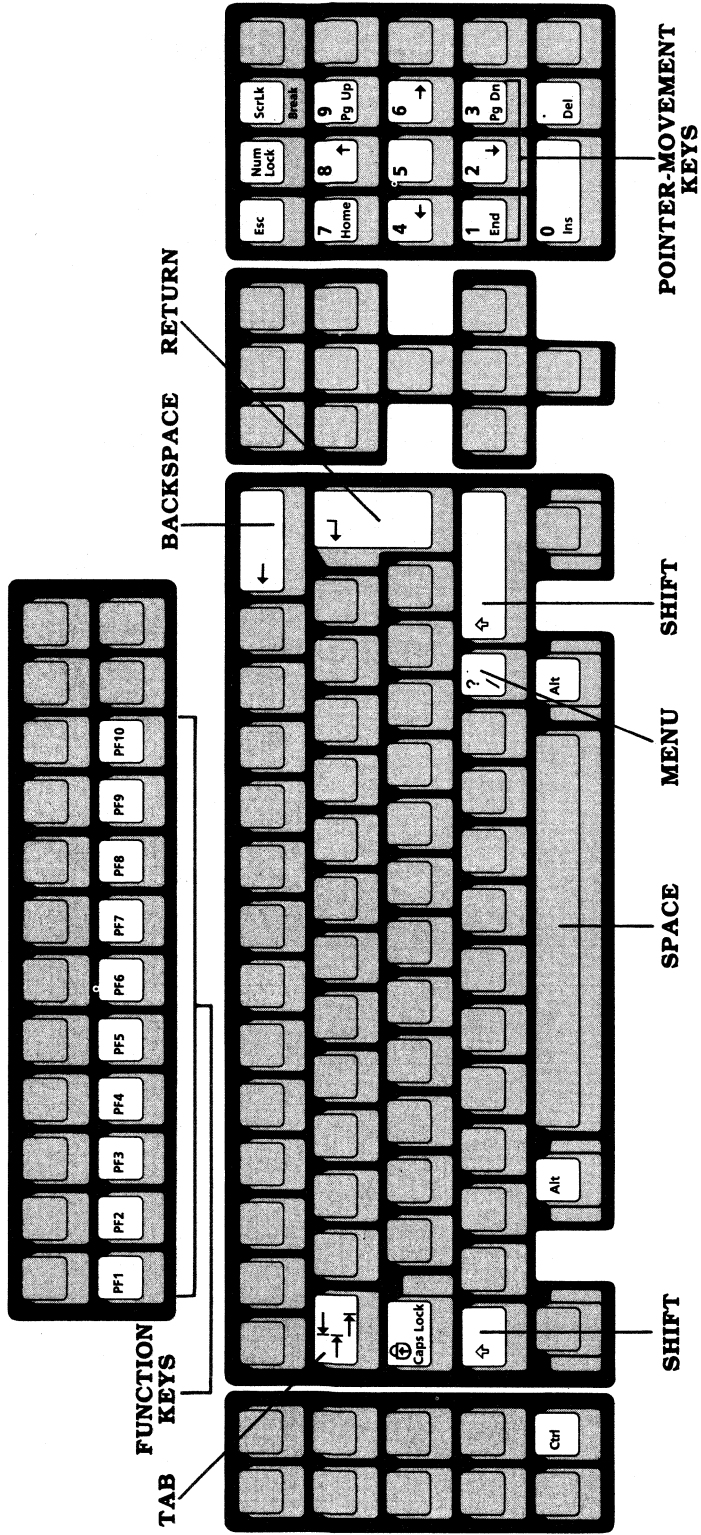
THE KEYS

Press and release first key,
then press second key

ABS	PF4	ESCAPE	Esc	RETURN	↵	Combinations	
BACKSPACE	←	GOTO	PF5	RIGHT	6 →	BIG LEFT	Ctrl 4 ←
BACKTAB	⇧	HELP	PF1	SCROLL LOCK	ScrLk	BIG RIGHT	Ctrl 6 →
CALC	PF9	HOME	7 Home	SHIFT	⇧	BREAK	Ctrl ScrLk
COMPOSE	Alt PF1	LEFT	4 ←	SPACE	Space	END DOWN	1 End then 2 ↓
CONTROL	Ctrl	MACRO	Alt	STEP	Alt PF2	END HOME	1 End then 7 Home
DELETE	Del	MENU	7 /	TAB	⇧ ⇨ ⇩ ⇪	END LEFT	1 End then 4 ←
DOWN	2 ↓	NAME	PF3	TABLE	PF8	END RIGHT	1 End then 6 →
GRAPH	Alt PF10	PAGE DOWN	3 Pg Dn	UP	8 ↑	END UP	1 End then 8 ↑
EDIT	PF2	PAGE UP	9 Pg Up	WINDOW	PF6		
END	1 End	QUERY	PF7				

THE KEYBOARD

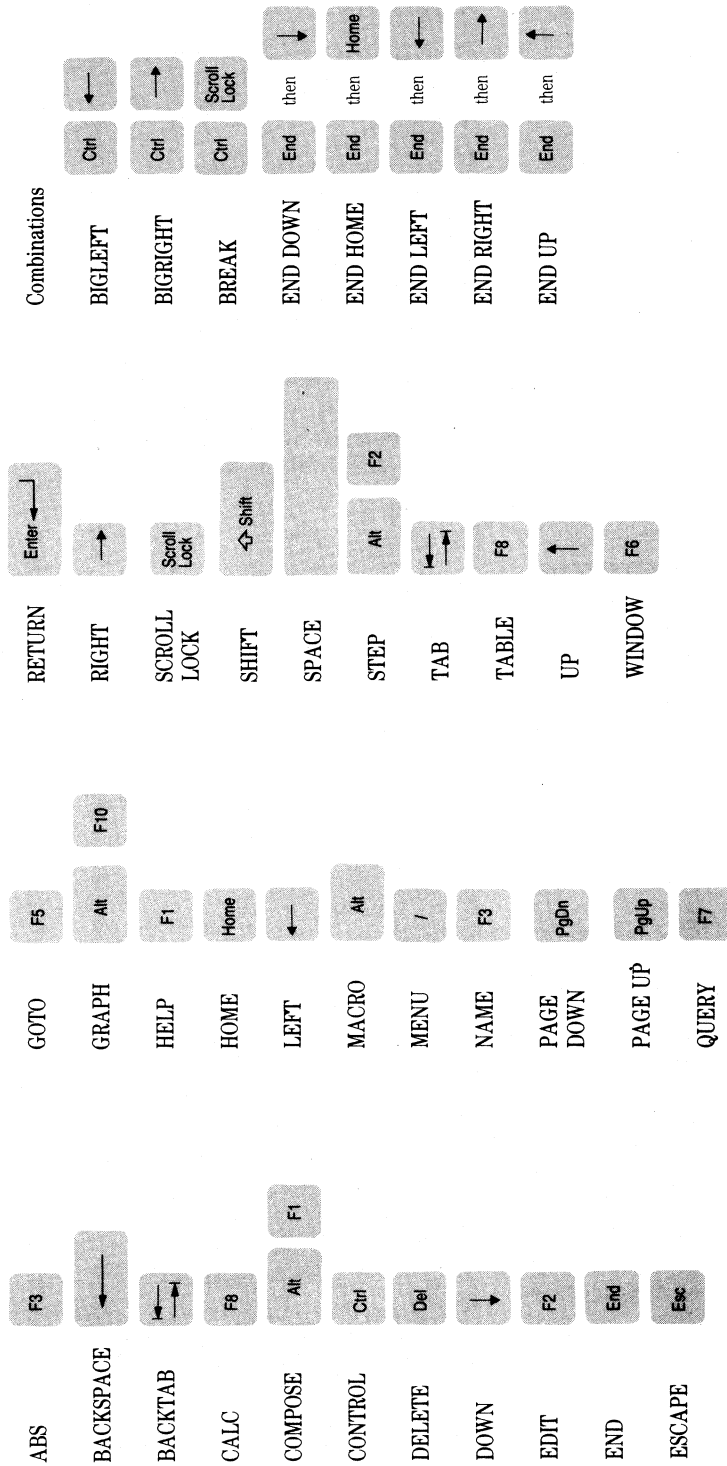
Keyboard Guide for:
IBM 3270-PC, PC/6, PC/GX



Hold down first key,
press second key

THE KEYS

Press and release first key,
then press second key



THE KEYBOARD

Keyboard Guide for:
TOSHIBA T1100 PLUS
T3100

