

UP & RUNNING WITH

AutoSketch 3

Robert Shepherd

**Get a Fast Start in
Just 20 Basic Lessons**

**Create Attractive
Drawings Easily**

**Use *Up & Running*
to Preview AutoSketch 3
Before You Buy**

Up & Running with AutoSketch™ 3

Robert Shepherd



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Up & Running

The Up & Running series of books from SYBEX has been developed for committed, eager PC users who would like to become familiar with a wide variety of programs and operations as quickly as possible. We assume that you are comfortable with your PC and that you know the basic functions of word processing, spreadsheets, and database management. With this background, Up & Running books will show you in 20 steps what particular products can do and how to use them.

Up & Running books are designed to save you time and money. First, you can avoid purchase mistakes by previewing products before you buy them—exploring their features, strengths, and limitations. Second, once you decide to purchase a product, you can learn its basics quickly by following the 20 steps—even if you are a beginner.

The first step usually covers software installation in relation to hardware requirements. You'll learn whether the program can operate with your available hardware as well as various methods for starting the program. The second step often introduces the program's user interface. The remaining 18 steps demonstrate the program's basic functions, using examples and short descriptions.



A clock shows the amount of time you can expect to spend at your computer for each step.

Naturally, you'll need much less time if you only read through the step rather than complete it at your computer.

You can also focus on particular points by scanning the short notes in the margins and locating the sections you are most interested in.

Who this book is for

What this book provides

Contents & structure

Symbols

The Action symbol highlights important steps that you will carry out.



The Tip symbol indicates a practical hint or special technique.



The Warning symbol alerts you to a potential problem and suggestions for avoiding it.

We have structured the Up & Running books so that the busy user spends little time studying documentation and is not burdened with unnecessary text. An Up & Running book cannot, of course, replace a lengthier book that contains advanced applications. However, you will get the information you need to put the program to practical use and to learn its basic functions in the shortest possible time.

*We
welcome
your
com-
ments*

SYBEX is very interested in your reactions to the Up & Running series. Your opinions and suggestions will help all of our readers, including yourself. Please send your comments to: SYBEX Editorial Department, 2021 Challenger Drive, Alameda, CA 94501.

Preface

What should I say in this preface? Well, that depends a lot on who *you* are. Let's consider this logically...

Are you standing in a bookstore thumbing through this book because you thought **AutoSketch** is a really funky name for a computer program? Fair enough.

AutoSketch is the little sibling of AutoCAD, the CAD program from Autodesk...and none of that has anything to do with cars. It's all about drawing—CAD stands for Computer Aided Design, which means using your PC to create the kinds of drawings that drafters used to spend hours creating, hunched over drafting tables with rulers, T-squares, drippy inkpots, and piles of eraser crumbs. If you've ever sketched floorplans or organizational charts or maps on the the back of an envelope, keep reading...

You've heard that you can use your computer to create drawings, but need a little help figuring out where to start? Allow me. Computer graphics are divided into two categories:

Paint programs let you set the color of each dot (pixel) on your computer's screen and (possibly) create really stunning full-color pictures. But they're fundamentally dumb: all they know about is dots. Draw a rectangle over a line, and the line is gone forever. Try to enlarge a paint image, and it just gets grainier and more jagged. Make it smaller, and detail disappears forever.

AutoSketch is not a paint program.

Drawing programs are much smarter. They deal with the objects that make up a drawing—lines, circles, boxes, text, and so on—in terms of the geometry, position, and size of these objects. They don't care how many pixels your computer screen can display; drawing programs build databases of objects whose accuracy is solely a function of precision mathematics and geometry.

*What's
Auto-
Sketch?*

*Where
do I
start?*

CAD programs are the elite of the drawing program world. Their forte is to “push the envelope of precision,” and to give you the greatest flexibility and drawing power through an arsenal of drawing tools.

And yes, AutoSketch is a CAD program.

*Why
Auto-
Sketch?*

You know (or can safely assume) that there are several CAD programs around, so, why AutoSketch (and therefore, this book)?

One of the best reasons is that nobody knows CAD like Autodesk, the company that created AutoSketch. Back in the Dark Ages of computing, CAD was solely the province of monstrous mainframes. All that changed in 1982, when Autodesk introduced AutoCAD and quickly took over the CAD market. Nobody has ever come within shouting distance of Autodesk’s lead.

*Is
“entry-
level”
tough
enough?*

AutoSketch is sometimes called an “entry-level” CAD program, but don’t let that fool you—that just means that it’s easier to use than the big muscle-bound programs, and yet it lets you do just about anything the big boys can do. If that’s still not enough, you can transfer drawings you create with AutoSketch into big brother AutoCAD, or many other CAD programs, when the going gets too tough for AutoSketch.

*Why
should I
get this
book?*

Why this book? First, because it’s designed to get you “up and running” (just as the title promises) using AutoSketch as quickly as possible, in 20 simple steps. Second, you can trust this book—I wrote the manuals for AutoSketch Version 3, under a contract with Autodesk. You can’t go wrong going straight to the source.

*I already
own a
copy of
Auto-
Sketch*

You already own a copy of AutoSketch Version 3?

Why are you wasting time reading this preface? If you don’t yet own this book, proceed directly to the front of the store and buy it. Then go back to your computer and fire it up, and get ready to get up and running with AutoSketch!

Robert Shepherd
March 1991

Acknowledgments

It's a cliché that writers and editors often get along like cats and dogs, so I feel a particular obligation to acknowledge the strong contribution that SYBEX editor Kathleen Lattinville made to this book. Kathleen improved my writing a lot, especially my tendency to put most of my commas in the wrong place. I cheerfully rewrote the first half of this book when she pointed out that the word "I" is not taboo in SYBEX books; this book is much better because Kathleen encouraged me to write as if I'm having a personal conversation with you, the reader. I was most impressed by Kathleen's substantial contribution to the content of this book. Many of her comments would begin "I don't know anything about AutoSketch, but shouldn't this be..." and would then proceed to a suggestion that showed a real insight into AutoSketch. That combination of insight and graciousness made working with Kathleen a real joy, and I hope that I have the opportunity to work with her again.

Writing a book about a computer program is a complex process. There's so much to keep track of and be aware of, that no author can do it alone. If you try, you'll either overlook something or make assumptions that trip up your readers. An author needs an objective outsider to keep him or her honest, and my conscience was Bob Callori. As technical editor, Bob looked at my manuscripts with a skeptical eye. He tried out the exercises and told me what worked and what didn't, and pointed out the instances when I assumed things that I shouldn't. This book is much stronger because of Bob's criticism.

Thanks, Kathleen and Bob, for your contribution to *Up & Running with AutoSketch 3*.

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Installing AutoSketch

AutoSketch is simple to install on almost any kind of IBM Personal Computer or compatible. It has an automated installation program that asks you questions about your computer's setup, and then sets up AutoSketch accordingly. But first...

Some Special Terms You Should Know

Autodesk has been a pioneer in the CAD field, and when you're a pioneer, you sometimes have to make things up as you go. That's why some of the words used in Autodesk products may be unfamiliar to you. Here are two terms you need to understand before you can install AutoSketch:

pointing device The generic term for any input device connected to your PC that lets you specify a location on the screen. A mouse is probably familiar to most people; AutoSketch can also work with digitizing tablets, and in a pinch, you can use the keyboard cursor keys.

plotter The generic term for any output device that puts your drawing on paper. Originally that meant only pen plotters; nowadays the term encompasses laser printers, dot-matrix printers, and even typesetters.

The Basic Requirements

AutoSketch runs on just about any kind of IBM or compatible personal computer. To be specific, you need:

- an IBM PC/XT or PC/AT, or 100% compatible; or an IBM Personal System/2
- equipped with at least 512K of memory
- running DOS (PC-DOS or MS-DOS) version 2.0 or later



- equipped with at least one diskette drive
- and equipped with a hard disk (earlier versions of AutoSketch didn't require a hard disk; Version 3 does)

You might find that AutoSketch runs uncomfortably slowly on a PC/XT. (You've probably noticed that already about a lot of modern software products—they keep making larger and larger demands on your PC.) A PC/AT would be better, and with a 386-based PC, you'll really be humming along.

Also, there are a couple of options you can add to any type of PC to help it run AutoSketch better:

*Speeding
up your
PC*

- You can add a math coprocessor chip to your PC; depending on the type of PC, that means using an 8087, 80287, or 80387 chip.
- If you add expanded memory to your PC, AutoSketch can handle larger drawings.

Installing AutoSketch



1. Make a backup copy of the distribution diskettes using the DOS command `DISKCOPY`, and store the originals in a safe place.
2. Put Disk 1 in your diskette drive and close the door. Log on to that drive (for example, by typing `A: [Enter]`).
3. Type this at the DOS prompt:

`INSTALL [Enter]`

The installation program asks you a series of questions about where to install the program, whether you have a math coprocessor, whether to copy the sample drawings, and so on. When the installation program asks whether to create **SKETCH3.BAT**, answer Yes. (See my comments at the end of this Step on the significance of this file.)

Configuring AutoSketch

AutoSketch isn't configured after you first install it. The first time you run the program, it asks you for setup information. (You can reconfigure it later in a similar way if you want to change anything; I'll describe how to do that later.) AutoSketch asks you five questions during configuration, and some of those questions may lead to questions that further refine your choices.

AutoSketch is designed to work, right out of the box, with 99% of the combinations of display, pointing device, and plotter or printer that you'll find. You can use the standard, simple installation if your PC is equipped with one of each of the following:

- **Pointing Device:** Mouse Systems PC Mouse, Microsoft Mouse, Summagraphics SummaSketch tablet (or the keyboard cursor keys, if you have nothing else)
- **Display:** CGA, EGA, VGA, Hercules monochrome, or Hercules InColor
- **Plotter/Printer:** Epson/IBM graphics printer, Hewlett-Packard LaserJet, HP PaintJet, HP plotter, Houston Instruments plotter, IBM Proprinter, Okidata printer, PostScript laser printer, or TI 800 Omni printer

If you don't have any of the devices listed in one or more categories, there's still hope: you may be able to use an *Autodesk Device Interface* software driver for other peripherals. See *Custom Configurations* later in this Step.

Setting Up for a Standard Configuration

1. Start AutoSketch by typing:

SKETCH3 

(The PATH statement in your AUTOEXEC.BAT file should include the root directory of your hard disk, which is where the batch file SKETCH3.BAT is installed.)

2. The first question asks you about your pointing device:



1. Autodesk Device Interface Pointer
2. Mouse Systems PC Mouse
3. Microsoft Mouse
4. Summagraphics SummaSketch
5. Keyboard cursor keys

Pointer selection:

Enter the number of your pointing device and press .

3. Select your display.
4. When you see the question

Activate scrollbars for panning? <Y>

press Y. You'll want those scroll bars, as I'll explain in the next Step.

5. Select your plotter or printer. There may be several more questions asking you about your specific plotter or printer model, and about how your plotter/printer is connected.

After you've answered the last question, AutoSketch displays its drawing screen, and you can begin to use the program.

Custom Configurations

*ADI
drivers*

Each of the configuration questions included an item for something called an *Autodesk Device Interface* (ADI). ADI is a way of adding support in an Autodesk product for devices the designers didn't anticipate. Many peripheral manufacturers include an ADI driver with their products; check the documentation that came with the device, and if it includes an ADI driver, consult the AutoSketch installation guide for instructions about adding it to AutoSketch.

Reconfiguring AutoSketch

The configuration you just set up isn't cast in stone—you can change it at any time. You do this at the time you start AutoSketch by starting the program this way:

```
SKETCH -R
```

The **-R** option causes AutoSketch to go through the configuration menus just as if you were installing it for the first time.

You can also check the current configuration by starting AutoSketch this way:

```
SKETCH -C
```

Note that AutoSketch doesn't run after this; it exits to DOS. You can also check configuration while AutoSketch is running by pulling down the **File** menu and selecting **Information**.

What Could Go Wrong?

Not much, really, especially if you configure AutoSketch for the standard peripherals (those listed on the configuration menus). Some installation problems can be related to your DOS environment variables.

If you told the installation program to create a batch file called **SKETCH3.BAT** (I recommend that you do so), it installs this file in your hard disk's root directory. Since most people set up the **PATH** statement to include the root, this batch file starts AutoSketch when you type **SKETCH3**. The real significance of this batch file is that it sets two environment variables, **ASKETCHCFG** and **ASKETCH**, which identify respectively where a configuration file called **SKETCH.CFG** is stored, and where the AutoSketch support files are stored. If **ASKETCH** isn't set, and you don't start AutoSketch in its home directory, AutoSketch won't be able to find key files such as text font files. When you load drawings that require special fonts, AutoSketch will display an error message (and then continue loading the drawing). Either use **SKETCH3.BAT**, or include the appropriate statements in your **AUTOEXEC.BAT** to set these variables.

If you told the installation program to include the AutoSketch directory in the **PATH** statement in **AUTOEXEC.BAT**, you would be able to start AutoSketch simply by typing **SKETCH**. However, the necessary environment variables would not be set. In



addition to the problem just described of finding support files, if AutoSketch can't find **SKETCH.CFG**, you'll be forced to reconfigure AutoSketch each time you start it.

So use one method or the other (**SKETCH3.BAT** or setting the environment in **AUTOEXEC.BAT**) to make sure that AutoSketch can find all the files it needs.



Pointer buttons

Some users with digitizer tablets report problems with *registration* (the relationship between the digitizer puck position and the pointer's position on the screen). Often simply repeating the installation cures the problem. If you have this problem, or other peripheral problems, try reinstalling AutoSketch. If that doesn't work, call Autodesk technical support.

If your pointing device has several buttons, and AutoSketch doesn't seem to respond when you press a button, try another one. AutoSketch uses only one button for clicking, and most pointing device drivers are supposed to let AutoSketch respond to any button as if it were *the* button. However, yours may be an exception.



Finally, there are two "escape hatches" you can try—with caution—when all else fails:

- If your mouse seems to have frozen, try holding down **Alt** while you type **MOUSE**. This resets the mouse driver software, and may shake something loose.
- In truly desperate circumstances—when the display is frozen, and you're sure that AutoSketch isn't just involved in something like a long disk or print operation—hold down **Alt** while you type **CRASH**. This forces AutoSketch to exit to DOS (if at all possible), and gives you a chance to save the drawing—if at all possible. *Beware:* if this doesn't work, you will lose the unsaved changes to your drawing. Consider this a last resort.