

Norton Utilities—Advanced Edition, Version 4.5[†]

STEPHEN R. HELLER

USDA, ARS, BARC-W, SRL, Beltsville, Maryland 20705-2350

Received February 7, 1989

Next to DOS, the best thing to buy for an IBM-PC or IBM clone computer is Norton Utilities. Norton Utilities is a file management and data recovery package. The latest version, Advanced Edition, Version 4.5, continues the tradition of the previous versions, but with increased speed and a friendly front-end interface. The program comes in both low density 3-1/2- and 5-1/4-in. versions, so you cannot get an incorrect set of disks. Version 4.5 supports DOS 4.0, the DOS 3.3 extended disk partitions, and Compaq's DOS 3.31's large partitions, as well as PC-DOS/386. The documentation has been improved, and a new manual, "The Norton Trouble Shooter", has been written. There is also a 40-page booklet, "The Norton Disk Companion", that is a simple to understand guide to disks, but alas, has no pictures or figures. There is also a newly developed install program that makes the installation of this version very simple. This new version has a half-dozen new modules. These include a batch enhancer for helping to make batch files interactive. There is a file date and time function that lets one redat or back-date files. The Norton Control Center program allows one to control the hardware by setting the cursor size, screen colors, time and date, and so on. The Norton Disk Doctor is another new

program, and it diagnoses a number of floppy- and hard-disk problems and fixes physical or logical errors on the disk. Lastly, there is the Safe Format program, a PC's version of safe sex.

Norton Utilities is a very useful collection of programs to help one correct the many mistakes likely to be made with a PC. Accidentally erasing files is probably the most common error anyone makes using a PC. The Unerase program is probably the most often used routine module in the Norton Utilities package. Next there are the Wipedisk and Wipefile modules. The Wipefile program overwrites a file the user does not want anyone to see again, like the review of a research grant or research manuscript one has just bashed. Wipedisk does the same for an entire disk. Both modules use the latest U.S. Government DOD rules for assuring the data are really wiped out. Just a simple writing over the files once or twice has been found to be insufficient by those who like or need to really pry. The Text Search capabilities of the program have been improved with a faster algorithm, so searching a disk for a text string is often twice as fast as before. The System Information module summarizes all the hardware features of the user's computer and the system performance of the CPU and disk. In summary, this is a very handy and useful utility program that should be useful to everyone with an IBM-PC. I highly recommend it.

[†] Available from Peter Norton Computing, Inc., 9th Floor, 100 Wilshire Blvd, Santa Monica, CA 90401-1104 [(213) 319-2000; FAX (213) 458-2048]. \$150.00.

MathCAD

C. J. H. SCHUTTE

Department of Chemistry, University of South Africa, Pretoria 0001, South Africa

Received December 12, 1988

The first paragraph of the MathCAD manual states that *"the MathCAD program is a unique way to deal with formulas, numbers, text and plots. MathCAD is as versatile as the most powerful computational tools and programming languages, yet as easy to use as a text editor."* MathCAD is certainly very versatile and user friendly, and it gave this reviewer great pleasure to learn to use it.

One of the main features of MathCAD is that mathematical formulas can be entered just as they are printed in a book. The mathematical symbols are very cleverly designed to enable one to type the formula without any problems. The range of mathematical symbols and operators is adequate for most purposes and includes summation, integral, differentiation, etc. Also included are vector operations like addition, dot product, and vector product, as well as selected matrix operations like multiplication, raising to powers, taking the inverse, etc.

The other feature that comes to mind is the ease of use of the graphics features which allow one to prepare graphs for publication or for lecturing purposes. A package like this will be of great help for the author of textbooks, for instance.

MathCAD requires the following hardware and software: IBM PC, PC/XT, PC/AT, or compatible, including PS/2

series equipped with MS-DOS or PC-DOS version 2.x or 3.x operating systems; graphics adapter like IBM Color/Graphics Adapter with color or composite monitor, IBM Enhanced Graphics Adapter with any monitor, Hercules Graphics Card with monochrome monitor, Toshiba T3100, AT&T 6300 series with monochrome or color. The memory required is 512K RAM, and the system also supports Lotus/Intel/Microsoft Expanded Memory specification. A hard disk is advantageous, but the system can also run quite comfortably on a 5-1/4- or 3-1/2-in. floppy disk drive. A math coprocessor is not needed, since the program runs quite fast on a 10-MHz PC, but it supports an Intel 8087, 80287, or 80387 coprocessor. The system can be adapted to a large range of printers, including LaserJet printers of 80 and 132 characters, as well as plotters like the Hewlett-Packard plotters.

The first question that must be asked about any program is the ease of installation. MathCAD is delivered as two floppy disks, and the installation and configuration instructions are very clear and easy to follow.

The next question always deals with the manual. The MathCAD manual comes in the form of a ringbinder inserted into a hard binder. The problem with this type of arrangement