

# ATARI

## EXPLORER

THE OFFICIAL ATARI JOURNAL

September/October 1989

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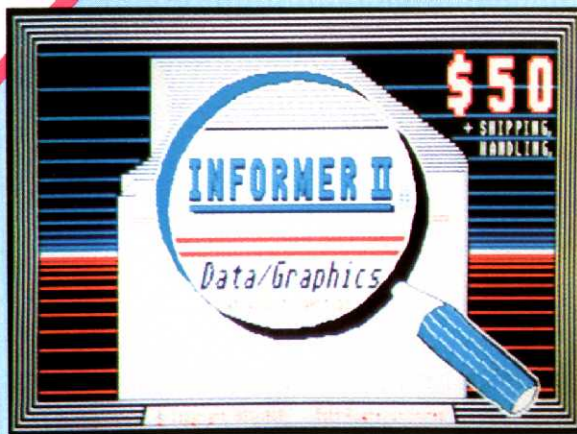


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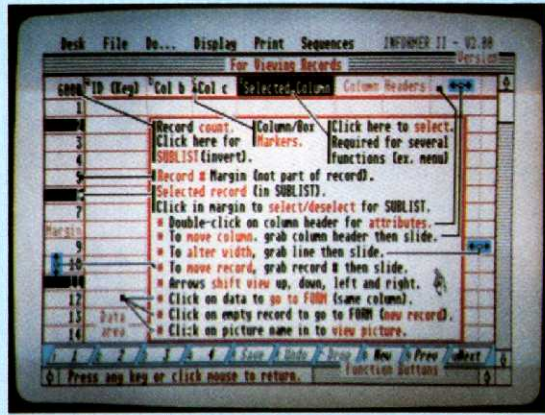
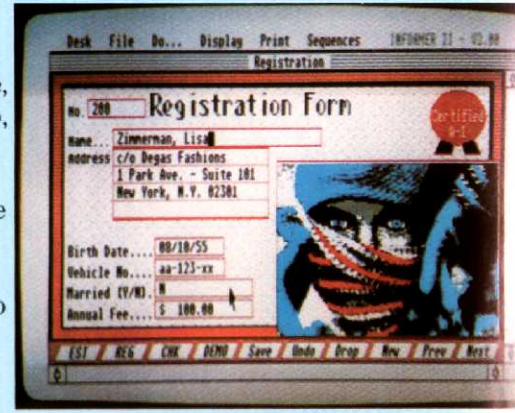
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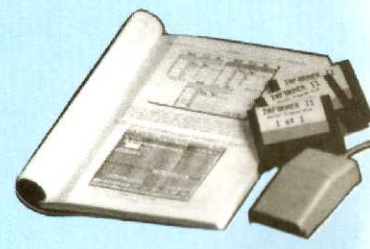
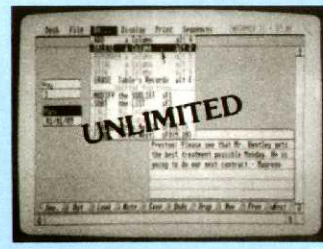


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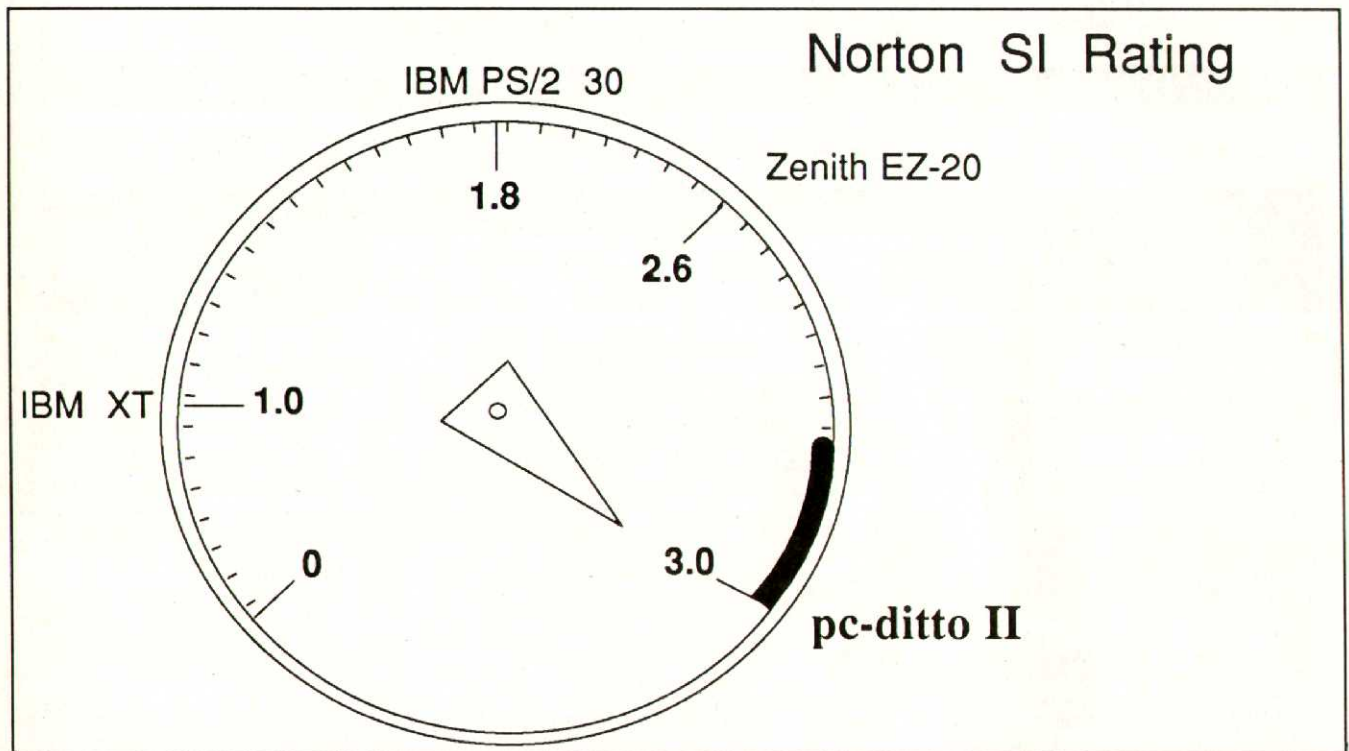
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# ATARI

## EXPLORER

THE OFFICIAL ATARI JOURNAL

September/October 1989

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## Cheers For Music

Dear Editor:

Bravo! The July/August issue had just the kind of articles I was hoping to see—music-related articles, that is. Now I am *looking forward* to the next issues!

Something that you might consider for future issues is a comprehensive listing of software for music instruction along with a brief comment about each. This would be a big help. The *Take Note* software sounds like just what I might want, but I know there must be a lot more out there.

Since the Atari ST series really seems to be the computer of choice for musicians, it seems to make lots of sense to devote a good chunk of space to music-related articles.

Again, thanks for the big improvement.

Leland W. Peck  
4110 7th Ave. N.  
St. Petersburg, FL 33713

## More On Music

Dear Editor:

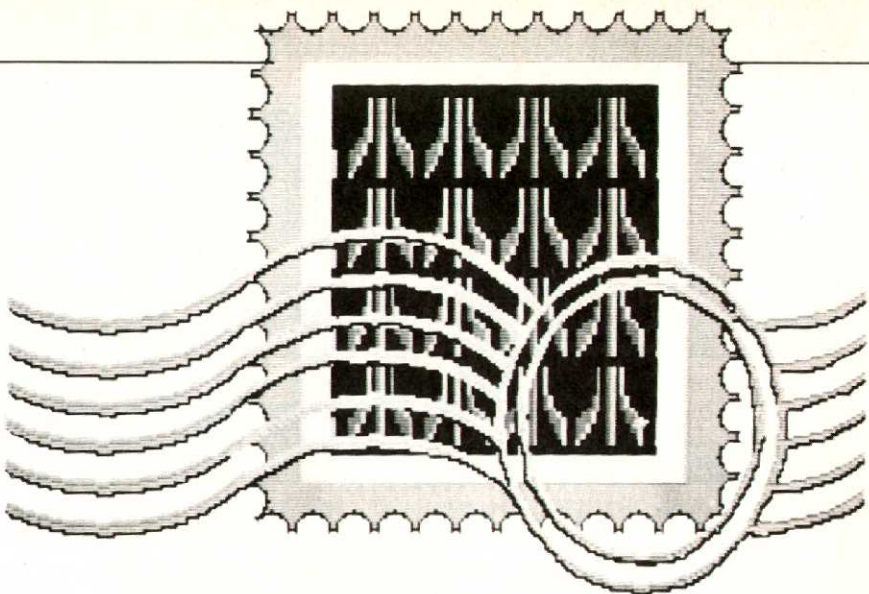
I am interested in information regarding music programs for Atari 8-bit computers. Several years ago, I bought an Atari 800XL, a 1050 disk drive, and an XDM121 printer.

My original purpose was to use the system for learning and composing music. Unfortunately, the only programs for this system that I have been able to find are *Music Painter* and *Atarimusic I & II*. Is there any software available that would enable me to put a full chord on both staves and print it out on paper?

Virginia Howard  
324 Oak St. Vestal, NY 13850

*Music Construction Set from Electronic Arts, and Activision's Music Studio program both offer rudimentary scoring and printing capabilities. Unfortunately, neither program permits use of the Grand Staff (both bass and treble clefs). In addition, several sequencing programs (programs that permit a computer to function like a sophisticated tape recorder when interfaced to a MIDI-compatible electronic instrument), including MidiTrack II and III from Hybrid Arts (11920 W. Olympic Blvd., Los Angeles, CA 90064), are available for the Atari 8-bit line. Hybrid Arts also sells the interface box needed to attach an Atari 8-bit computer to a MIDI instrument.*

*Sequencers are quite useful for basic composition and arranging, because they offer the ability to edit and manipulate performance data. Unfortunately, they generally don't let you examine*



# Letters To The Editor

*that data in standard musical notation without the use of additional software, and we know of no such software for the Atari 8-bit line.*

*By contrast, quite a few sophisticated scoring packages (from Dr. T's Music Software, Mark of the Unicorn, and other companies), along with sequencers, MIDI patch-editors, and other music tools, are available for the Atari ST. If formal composition in standard notation is really your goal, perhaps you should consider upgrading to an Atari ST computer.*

## Another Vote For Music

Dear Editor:

I read your "Report from NAMM" (May/June 1989) with great delight. I strongly agree with the suggestion of having more articles about MIDI and music synthesis. Computers are a growing component of music.

I do a lot of home recording of electronic and quasi-symphonic music, and I have a Mega ST2 for printing the sheet music of my original work, but I haven't bought the MIDI software yet.

I am interested in reviews of MIDI software for the ST. I am an electrical engineer and am very familiar with the inner workings of synthesizers, computers, and software; the thing I am hardly familiar with at all is what the existing MIDI software packages actually do. You don't learn that in text books.

Essentially, I want you to realize that there are probably quite a few readers who are very interested in the wonders of computerized music and synthesis. From what I have seen so far, the ST is

probably the best all-around computer for the largest variety of music applications. Keep up the good work.

Jim Grote  
3721 Frances Ave.  
Cincinnati, OH 45211

## Scientific Success

Dear Editor:

I am writing this letter to inform you of my recent success in the world of science. My Atari 800XL with the light module kit and manual were a great asset in my overall winning of the Peterborough, ON, Science Fair (grades 7-13) and participation in the Canada-wide Science Fair held in St. Johns, Newfoundland, in May.

My project was on polarized light and its effect on the navigation of field crickets. The light module set helped me learn about polarized light, and the accessories helped me greatly with my experimentation. I found out that field crickets can detect polarized light and can use it as a navigational tool.

Last year's project was also inspired by Atari. It was on the effect of heat on the rate of a cricket's chirp. The information contained in the Atari Starter Set help me greatly.

Michael Johnsten  
Grade 8  
8 Peary Pl.  
Peterborough, ON K9H 6Y5

## Thanks For Reviews

Dear Editor:

Just a note of appreciation for your magazine, especially for the in-depth



reviews of important products—*Resolver*, *NeoDesk*, and *PageStream* being three good recent examples.

Here is a tip that *WordPerfect* users might appreciate: Since macros can record mouse moves as well as keystrokes, you will save a lot of time if you let a macro open up and size a second document window for you. Ditto closing a window and resizing the one that is left.

Also, if you have a meg of memory and an autoloading RAMdisk, the *WordPerfect* dictionary can be a pleasure rather than a chore to use when stuffed in the RAMdisk.

I must add, too, that the 8/1/88 update of *WordPerfect* really is a much better behaved product than the one that had Frank Kofsky in such a tizzy in the May/June 1988 *Explorer*.

Michael Gillgannon  
1522 Preston Ave.  
Saskatoon, SK S7H 2V4

---

### DeskJet Graphics Improved

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Dear Editor:

I want to congratulate you on the review of the HP DeskJet printer in your May/June edition. As pointed out in the review, the DeskJet makes an affordable and capable addition to an ST system.

I see, however, that you encountered some problems in alignment of your graphics printouts (i.e., the two *Degas* dumps on page 45). Like you, I had a problem with banding in my graphics images. Fortunately, however, the problem was isolated to a single print cartridge, and ever since replacing the first cartridge that came with the printer, I have had almost flawless printouts.

Also, I think your calculations in comparing the costs of the SLM804 and DeskJet were unrealistic. The street price of the DeskJet is around \$600, and contrary to what your article suggests, the DeskJet needn't be enhanced with various font and emulation cartridges to be used effectively. In fact, for such products as *PageStream*, these extra cartridges are superfluous. The DeskJet can be a better fit for low-end systems.

Nevertheless, please don't let these minor points tarnish an otherwise thorough review.

Charles McGuinness  
250 Mercer, # B201  
New York, NY 10012

---

### Which Paper Do You Use?

---

Dear Editor:

Just received your May/June issue, and felt I should write concerning the

review of the HP DeskJet by Randy Parlin.

While Mr. Parlin's review was quite favorable, I felt that some errors should be pointed out. On page 43, Mr. Parlin states, "Best results are obtained with smooth-finish xerographic paper, though results are acceptable even with textured finishes and other high-quality cotton stock." This is a complete reversal of HP's instructions concerning paper and is incorrect. I quote from page 1-12 of the DeskJet manual: "The DeskJet printer has been designed to work well with most types of paper, although some variables in paper composition may significantly affect print quality and paper-handling. Most paper manufactured for high-quality photocopying yields good results for general applications. For other applications, such as company letterhead, most cotton bond papers yield excellent results." This has been my experience.

More disturbing to me are the print examples submitted by Mr. Parlin. It is obvious that his print cartridge is not installed properly. The areas of white space and black saturation are not native to the printer, but do occur when the cart is not seated properly or is in need of priming. Again, the manual states this, and I felt the pictures gave



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## Letters To The Editor

your readers an unfair example of what I consider the best printer value today.

I am not an employee of HP. I just felt I should write and inform you of what I considered some glaring errors in your review. Thanks for your fine magazine. Keep up the good work!

Braun Tacon  
3849 Tyburn Rd.  
Beale AFB, CA 95903

*Randy Parlin replies: Contrary to what the manual states, I have obtained best results with the DeskJet using smooth-finish xerographic papers, somewhat less satisfactory results with a variety of bond papers and laid-finish letterhead stock. My own letterhead, for example, is printed on a slightly textured 24-lb. stock that apparently has enough "tooth" to diffuse the liquid ink in the DeskJet, causing a slightly feathery impression—still good, mind you, but somewhat less than the "blacker than black" I expect from a high-quality printer.*

*As for the ability of the DeskJet to print 100% black areas, streak-free, I have experimented both with re-priming and re-installing the print cartridges and am fairly sure that is not the problem. The sample sent by the reader, however, is one of many that I have seen that prove conclusively that the DeskJet is capable of printing saturated and halftone areas flawlessly. I am beginning to suspect that my review unit may have become misaligned in shipping.*

*As to the question of price, if desktop publishing is your game and Page-Stream your program, the DeskJet (at its street price of around \$595, at this writing) may indeed be the printer of choice for low-end systems. On the other hand, you may choose to employ the DeskJet primarily as a high-quality line-printer, rather than as a tool for rendering camera-ready copy. Purchase of additional font cartridges would then be quite reasonable, since they permit maximum print speed while maintaining high print quality.*

*Also, at the time the review was written, only MiGraph had managed to produce a full-service GDOS DeskJet driver, and they were charging for it. Thus, I imagined that some users might, to insure compatibility with the widest possible range of GDOS software, wish to buy HP's Epson emulation cartridge, since GDOS Epson drivers are widely available.*



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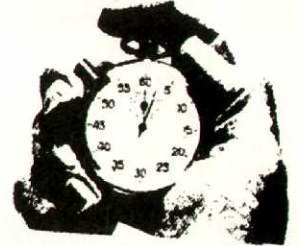


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# Who Are You?

It's time (past time, really) for another reader survey. You may remember that we asked you to fill out and return a questionnaire similar to the one below back in the fall of 1986. We tabulated the results and used them to get us started on the path to creating the kind of magazine you wanted.

Well, we have come a long way since then, and we suspect you have too, so we are asking you to take five minutes right now to make a few check marks and

write a few comments to help keep us on the track.

Obviously, the sooner we hear from you, the sooner we will be able to start acting on your suggestions, so please return your questionnaire (a photocopy is fine) promptly to:

Reader Survey  
Atari Explorer  
7 Hilltop Road  
Mendham, NJ 07945

## I. EDITORIAL CONTENT

1. Please check your reaction to each of the following as a regular feature:

	Great	Good	Fair	Forget It
Reviews and evaluations of:				
New computers from Atari	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emulators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Printers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scanners and digitizers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music-related peripherals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other peripherals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Game software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Desktop publishing software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Word processing software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graphics software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communications software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Educational software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New hardware announcements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New software announcements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Show reports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Product previews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Programming tutorials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music tutorials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graphics tutorials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type-in programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interviews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

.....

2. Please indicate how often you read or refer to each of the following:

	Every Issue	Frequently	Seldom	Never
Letters to the Editor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New Products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New and Improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
News and Views	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Puzzles and Problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graphics Gallery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Atari Classroom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Languages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
User Friendly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software Survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teletalk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sound Chip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dealer Directory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

.....

3. What type of article would you like to see more of in *Atari Explorer*?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## II. YOUR COMPUTER(S)

4. Mfr. & Model

Computer 1 \_\_\_\_\_

Computer 2 \_\_\_\_\_

Computer 3 \_\_\_\_\_

Computer 4 \_\_\_\_\_

	Use at Work	Use at School	Use at Home
Computer 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computer 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computer 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computer 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

.....

5. About the Atari computer you use most frequently: What model is it?

\_\_\_\_\_

Equipped with:

<input type="checkbox"/> Hard disk	<input type="checkbox"/> Graphics tablet
<input type="checkbox"/> Dot matrix printer	<input type="checkbox"/> Synthesizer
<input type="checkbox"/> Daisywheel printer	<input type="checkbox"/> Drum machine
<input type="checkbox"/> Laser printer	<input type="checkbox"/> Emulator
<input type="checkbox"/> Inkjet printer	<input type="checkbox"/> Modem
<input type="checkbox"/> Scanner	<input type="checkbox"/> Color monitor
<input type="checkbox"/> Digitizer	<input type="checkbox"/> Monochrome monitor

About how much did the entire system cost?

\_\_\_\_\_

.....

6. About the Atari computer you use second most frequently: What model is it?

\_\_\_\_\_

Equipped with:

<input type="checkbox"/> Hard disk	<input type="checkbox"/> Graphics tablet
<input type="checkbox"/> Dot matrix printer	<input type="checkbox"/> Synthesizer
<input type="checkbox"/> Daisywheel printer	<input type="checkbox"/> Drum machine
<input type="checkbox"/> Laser printer	<input type="checkbox"/> Modem
<input type="checkbox"/> Inkjet printer	<input type="checkbox"/> Emulator
<input type="checkbox"/> Scanner	<input type="checkbox"/> Color monitor
<input type="checkbox"/> Digitizer	<input type="checkbox"/> Monochrome monitor

About how much did the entire system cost?

\_\_\_\_\_



## YOUR COMPUTER(S)

7. About the software you use on your Atari computer(s):  
How often do you use each of the following?

	Use Frequently	Use Occasionally	Sits on the Shelf	Don't Own
Word processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spreadsheet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Database	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graphics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What is the approximate value of all the software you have for your Atari computers?

\_\_\_\_\_

.....

8. Do you plan to buy additional peripherals for your system?

Yes  No

If so, how soon?  Within the next 3 months  
 Within the next 3-6 months  
 Within the next year

.....

9. Do you program on your Atari system?  Yes  No

If so, which language(s) do you use?

Atari Basic  C  
 GFA Basic  Pascal  
 LDW Basic  Forth  
 True Basic  Action  
 Hisoft Basic

Other \_\_\_\_\_

.....

10. Do you type in programs from magazines?  Yes  No

.....

11. Do you subscribe to an information service?  Yes  No

If so, which one?  Compuserve  
 Genie  
 Delphi  
 The Source  
 Dow Jones  
 Other \_\_\_\_\_

## COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## III. MAGAZINES

12. Which of the following do you read regularly?

- Analog
  - Antic
  - STart
  - STlog
  - ST Informer
  - Byte
  - Computer Shopper
  - User group newsletter
  - Atarian
- .....

13. Please rank the following sources of information in order of importance to you when deciding what hardware and software to buy.

(1=most important, 7=least important)

- \_\_\_\_\_ Experience of friends
- \_\_\_\_\_ Salesman in store
- \_\_\_\_\_ Review in magazine
- \_\_\_\_\_ Advertising in magazine
- \_\_\_\_\_ New product announcements
- \_\_\_\_\_ Exhibit at show or convention

\_\_\_\_\_ Other \_\_\_\_\_

.....

14. Have you ever purchased a computer product as a result of having read about it in magazine ad?  Yes  No

## IV. YOU

15. Age \_\_\_\_\_

16. Sex  Male  Female

.....

17. Please write in your job function and the type of establishment for which you work. Follow the approach in the examples:

Job Function	Type of establishment
Financial manager	Automobile manufacturer
Dermatologist	3-man practice
Mathematician	Government agency
Writing	Freelance at home

\_\_\_\_\_

.....

18. Where do you live (state, province, or country)?

\_\_\_\_\_

.....

19. What is your current family income?

- Under \$15,000
- \$15-24,000
- \$25-34,000
- \$35-49,000
- \$50-74,000
- \$75-100,000
- Over \$100,000



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# NEW

New hardware  
and software releases  
for Atari computers



### Hand-Held Scanner

Migraph announces a hand-held scanner for the Atari ST computers with 1 Mb of RAM. The device, which can scan a 4"-wide strip, has four adjustable scanning resolutions and provides true 300 and 400 dpi resolution.

Initially, it will be bundled with *Touch-Up*, Migraph's image editor in a package that will include scanning soft-

ware and an ST interface, which plugs into the cartridge port. The package retails for \$499.

An additional package consists of the scanner, interface, software, and what Migraph calls a "lite" version of *Touch-Up*, which has fewer features than the full version. This limited package sells for about \$100 less than the full package.

Migraph, 200 S. 333rd (220), Federal Way, WA 98003, (800) 223-3729, (206) 838-4677.

## PRODUCTIVITY SOFTWARE

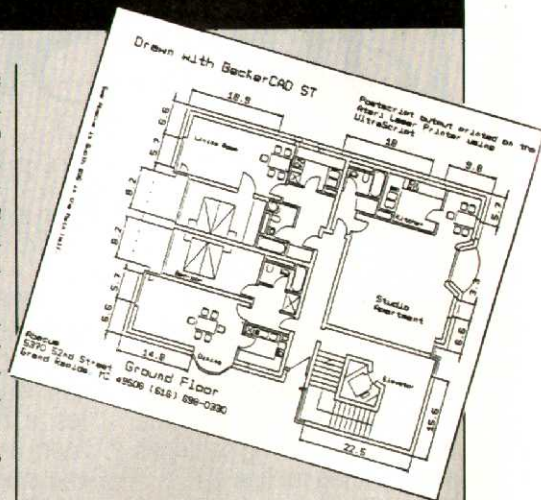
**Black Moon Systems** offers three productivity programs for Atari 8-bit computers. *LabelMaster* allows you to create and edit data on-screen, using all or part of the available 6-line by 34-character label area. *Multi-Column Lister* is a utility that allows you to print out the labels saved in data files created with *LabelMaster*.

*The Small Business System* is a menu-driven suite of programs that includes modules for invoicing, purchasing, income entry, expense entry, inventory, and reports.

Black Moon Systems, P.O. Box 152, Wind Gap, PA 18091.

**Debonair Software** has released *El-Cal: The Elementary Calculator* for the Atari ST. The program, which is intended for use primarily by scientists and engineers, features a multi-function expression-evaluating calculator, a function and data plotter, and a numerical toolbox. Other features include 16-digit internal precision, 36 standard functions, 44 statistical distribution functions, 12 user-defined functions, numerical integration, and numerical differentiation. \$44.00.

Debonair Software, P.O. Box 52116, Salt Lake City, UT 84152.



**Abacus** has announced *BeckerCAD* for the Atari ST, a new high-end computer-aided design package that includes such functions as a definable grid; multiple line widths; and trim, divide, zoom, and undo operations. Other features include symbol libraries, text capabilities, multi-layer capability, an integrated programming language, and plotter, printer, laser printer, and PostScript support. \$395.

Abacus, 5370 52nd St., SE, Grand Rapids, MI 49508, (800) 451-4319, (616) 698-0330.





## EDUCATIONAL SOFTWARE

WinterTech announces *The Computer Guide to the Solar System*, an "interactive space atlas." Animations allow you to watch atomic particles collide in the core of the sun, the planets orbit around the sun, solar and lunar eclipses, the birth and death of the sun, and more. The program is currently being offered at an introductory price of \$44.95, which expires the night of the August 1989 lunar eclipse.

WinterTech, 111 Granada Ct., Orlando, FL 32803, (407) 425-1199.

UltraBasic has released two educational packages for Atari 8-bit computers. *Superfrogs Funspeller* offers six games for one or two players. You can use the 15 included 50-word sets or enter your own for spelling practice. \$10.

Using *Tank Math*, you can add, subtract, multiply, divide, or practice multiplication and division tables or Roman numerals. If you make a mistake the built-in tutor works the problem out step-by-step. \$10.

Ultrabasic, 10 E. 10th St., Bloomsburg, PA 17815, (717) 784-4545.

## Multi-Font Printers

Star Micronics America has introduced a pair of Epson-compatible printers, each of which offers eight resident fonts—Courier, Script, Sans Serif, Letter G, TW-Light, Orator, Cinema, and OCR B.

The XR-1500 and the XR-1000 are nine-wire printers that print at 300 cps in draft elite mode and 75 cps in near-letter-quality elite mode.

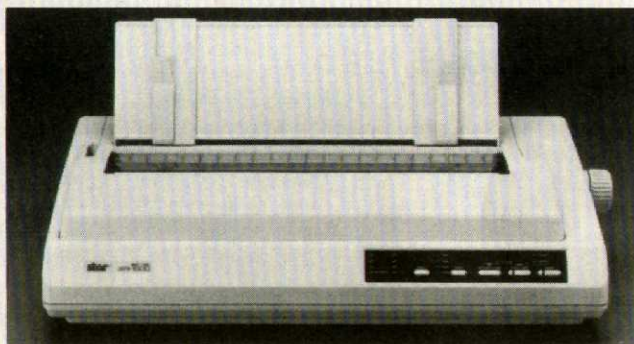
The XR-1500 Multi-Font, a 15"-carriage model, features Epson EX-1000 and IBM Proprinter IIXL emulations. The XR-1000 Multi-Font offers a 10"

carriage and Epson EX-800 and IBM Proprinter II emulations.

The standard interface for both models is Centronics parallel. An optional serial board with RS-232C and RS-422A interfaces is available. The XR-1500 sells for \$799, and the XR1000 for \$579.

An optional color-printing kit allows either printer to produce multi-color graphs and charts for business presentations and reports. The kit carries a retail price of \$50.

Star Micronics America, 200 Park Ave., Ste. 3510, New York, NY 10166, (212) 986-6770.



## Glare Eliminator

Opto-Technics introduces Glare Eliminator, an anti-glare, anti-reflective aerosol optical coating.

The product, which is said to last for the life of the monitor, can be applied to

any size screen and is easily removed. The do-it-yourself kit treats up to four screens and sells for \$29.95.

Opto-Technics Co., 310 Melvin Dr., Unit 20, Northbrook, IL 60062, (312) 205-0340.

## 30-, 50-, And 80Mb Hard Disks

Future Systems has announced a new family of hard disk drives for the Atari ST. The FS-30, which sells for \$749, offers 30Mb of storage. The FS-50, which sells for \$849, has 50Mb, and the FS-80, which sells for \$1199, has 80Mb.

All three models are self-contained, external units. Each has its own power supply, cooling fan, controller/interface, DMA interface cable, utility software, and user manual. A second DMA channel for daisy chaining additional peripherals is provided.

Future Systems, 21634 Lassen St., Chatsworth, CA 91311, (818)407-1647.





# NEW

# Products



## Glass Cleaner

Evans Specialty Company introduces its new Statkleer Concentrated Glass Cleaner, a glass cleaner that can be used on monitor screens to reduce static build-up and retard the accumulation of dust and dirt.

The concentrate is packaged in a 16-oz. plastic bottle that includes a self-contained measuring device. The product is non-abrasive, non-toxic, and biodegradable.

Evans Specialty Company, P.O. Box 24189-0189, Richmond, VA 23224, (800) 368-3061, (804) 232-8946.

## ENTERTAINMENT SOFTWARE

### STARGOOSE

Spinnaker Software has released *StarGoose* for the Atari ST. The game puts you at the controls of a top secret fighter and challenges you to steal six crystals from each of eight cities on the planet Nom. You must dive, dodge, and twist your way through an unending maze of hills and valleys to collect the gems and win the game. \$29.95.

Spinnaker Software, One Kendall Square, Cambridge, MA 02139, (617) 494-1200.

*It's All Relative* is a descendant-based genealogy program for the Atari ST. It allows you to track a family line, including all aunts, uncles, cousins, nieces, and nephews for up to 18 generations. The database can accommodate up to 500 individual records on a 520ST and up to 1400 on a 1040. \$25.

Greg Kopchak, 2233 Keeven Lane, Florissant, MO 63031, (314) 831-9482.

**UltraBasic** introduces *Superfrogs* for Atari 8-bit computers. The package includes seven games with more than 10,000 variations. \$10.

UltraBasic, 10 E. 10th St., Bloomsburg, PA 17815, (717) 784-4545.

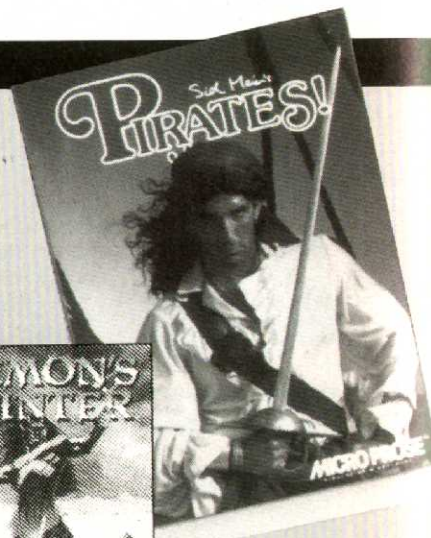
**MicroProse** announces the ST version of *Pirates*, a role-playing adventure game set along the Spanish Main in the 17th Century. You start the game as a novice seaman with one ship and handful of crew members. Through hard work, shrewd bartering, and more than a little underhandedness and disregard

for personal safety, you can increase your wealth and status. \$44.95.

MicroProse, 180 Lakefront Dr., Hunt Valley, MD 21030, (301) 771-1151.

*Demon's Winter* from **Strategic Simulations** is now available for the Atari ST. Your five-character party of adventurers may consist of dwarves, elves, or dark elves, each of which is rated for speed, strength, intellect, endurance, and skill. Your mission is to search the world for the spells needed to trap the evil demon Malifon and undo his wintry curse. \$39.95.

Strategic Simulations, 675 Almanor Ave., Sunnyvale, CA 94086, (415) 964-1353.



## BOOKS

### Dungeon Master Handbook

*The Dungeon Master Adventurer's Handbook* contains hints and maps for players of *Dungeon Master* from FTL.

The book includes detailed information about the characters, magik, combat, and monsters that players encounter in the game. In addition, there are level-by-level overviews and detailed maps, on which pits, pressure plates, dungeon doors, and secret passages and chambers are marked.

*The Dungeon Master Adventurer's Handbook* sells for \$8.95.

Computer Publications, Unltd., P.O. Box 2224, Arvada, CO 80001, (303) 423-6805.

### Epyx Hint Book

Epyx has released *The Masters Collection Advanced Hint Book* to assist players in solving the secrets of the company's Master Collection titles.

Intricate maps, gameplay hints, and interviews with game developers guide players through *Space Station Oblivion*, *Sub Battle Simulator*, *The Legend of Blacksilver* and *L.A. Crackdown*. The 46-page book sells for \$7.99.

Epyx, P.O. Box 8020, Redwood City, CA 94063, (415) 368-3200.





Cinemaware has released *Dark Side*, a space adventure for the ST that transforms you into a mercenary of the future—a one-man army dedicated to saving the world from imminent destruction. Armed with lasers, shields, and a jet power pack, he must infiltrate a heavily-guarded military zone and destroy the doomsday weapon before the apocalypse is unleashed. \$39.95.

*The Kristal*, also from Cinemaware for the ST, places you in the role of Dancis Frake, a space pirate who seeks the long-lost Kristal of Kronos. Emerging from a timeless dream with no memory of who he is or where he is from, Dancis must discover the secrets of his past as well as his future. \$49.95.

Cinemaware, 4165 Thousand Oaks Blvd., Westlake Village, CA 91362, (805) 495-6515.

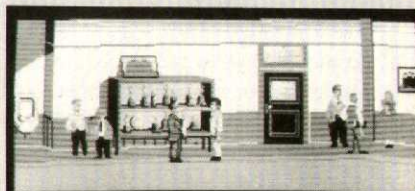
Artworx announces three new games for the Atari ST. *World Snooker* is a pool program, which offers five different types of pool: snooker, straight pool, eight-ball, English pocket billiards, and U.S. Carom billiards. The game gives you control over the direction, power, and spin of your shots, and allows you to practice, play the computer, or play another person. \$24.95.

*Tank Attack* is a two-, three-, or four-player game that puts each player in the role of the commanding general of a country's Tank Corps. The computer issues all movement order, reports on battle results and unit status, and publishes a daily newspaper that reports on each day's fighting and the weather prospects for the next day. \$24.95.

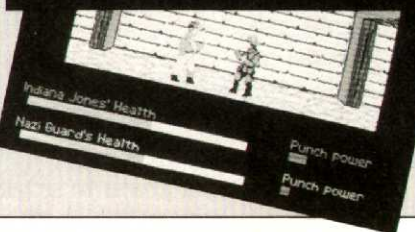
*Colossus Chess X* offers four different sets of chess pieces, control over screen orientation, six different playing modes, and an opening book of more than 11,000 records. Expert players can modify the behavior of the program in order to play certain openings or practice against particular lines of attack. \$34.95.

Artworx Software, 1844 Penfield Rd., Penfield, NY 14526, (716) 385-6120, (800) 828-6573.

Lucasfilm Games announces a pair of games for the Atari ST based on the film "Indiana Jones and the Last Crusade." *The Graphic Adventure*, which is set in 1938, casts you in the role of Indiana Jones, whose father has been



Don't be a trust, Marcus. He had it coming to him. How Marcus, have you lost your sense of humor? What do you mean, considering his situation?



kidnapped by Gestapo agents in the hope that he will lead them to the Holy Grail. Your assignment is to talk, fight, and puzzle your way to the Grail before the enemy gets it. \$49.95.

*The Action Game* starts in 1912 in Utah and finds young Indy in a cavern, trying to rescue the precious Cross of Coronado from a band of grave robbers. Level two takes place in the catacombs of Venice, where he must dodge fireballs, rats, and crumbling masonry. Level three takes him on a prowl through the catwalks of a giant zeppelin. \$39.95.

Also new from Lucasfilm is *Their Finest Hour: The Battle of Britain*, an air combat simulator that lets you fly both German and British missions in the historic confrontation. \$59.95.

Brian Moriarty, author of *Zork*, was project leader for Lucasfilm's fourth new release, *Loom*. The fantasy adventure boasts an innovative graphic interface, which dispenses with text commands and menus and relies instead on icons and music. \$59.95.

Lucasfilm Games, P.O. Box 10307, San Rafael, CA 94912, (415) 662-1800.

Intracorp announces *Miami Vice*, a game that takes you on a crime-fighting spree in the land of palm trees and contraband, fast cars and flamingos. The game offers eight levels of arcade-style action, including a car chase, a speedboat race, and search for illegal drugs. \$39.95.

Intracorp, 14160 SW 139th Ct., Miami, FL 33186, (305) 252-9040.

### The Modem Reference

*The Modem Reference*, by Michael A. Banks, is an up-to-date sourcebook of information on online services, available hardware and software, and telecommunications in general.

The book, which is published by Brady Books/Simon & Schuster, is intended to help the user buy a modem and software, choose an online service, and make good use of his telecommunications system.

Information is available from the author at P.O. Box 312, Milford, OH 45150, (513) 722-1969.

### LANGUAGES

Pascal-SC for the Atari ST has been released by **FBSsoftware**. Designed specifically for scientific computation, the extension of Pascal offers user-defined operators; a screen-oriented editor that checks syntax interactively; access to all GEMDOS, BIOS, and XBIOS functions and AES and VDI routines; accurate decimal floating-point arithmetic for all operations and standard functions (13 decimal digits, exponent range from -99 to +99); and utility procedures for solution of linear systems, inversion of matrices, computation of eigenvalues and eigenvectors, zeros of polynomials and rational functions. \$199.

FBSsoftware, 5101 Odana Rd., Madison, WI 53711, (608) 273-3702.

### SYSTEMS SOFTWARE

*ST, jr.*, the Diamond Graphics Operating System from USA Media, runs on all 48K Atari 8-bit computers. The cartridge features icons, drop-down menus, memory drivers, date/time stamping, resizable and relocatable windows, folder and RAMdisk support, and more. The *ST, jr.* desktop supports ST mouse, Atari joystick, touch tablet, track ball, joystick mouse, and cursor key movement. The cartridge, which sells for \$79.95, includes the Diamond programmer's kit.

USA Media, Rte. 2, Box 41, North Patuxent Beach Rd., California, MD 20619, (301) 863-8369.



# HiSoft Basic Professional

*A powerful, versatile Basic compiler that may provide more power and versatility than the novice programmer can use effectively*

Although HiSoft Basic Professional does provide several improvements over Atari's standard basic syntax, unless you are a relatively "serious" programmer, you may find that these gains are offset by losses in other areas. HiSoft provides some of the features you would expect to find in an extended Basic, including simple commands for making, removing, and renaming directories; listing, renaming, and deleting files; checking for the existence of a file; making hard-copy screen dumps; reading and writing individual bytes of memory; accepting mouse and joystick input; and manipulating windows. Yet many other features and functions, some of which can indeed be found in other third-party Basics, are missing here.

Moreover, in general, HiSoft tends to emphasize low-level access to operating system features—much as the typical C-language implementation does—over higher level, less versatile, but easier-to-use commands.

The result is an exceptionally versatile and powerful language, but one that is somewhat more difficult to use than most ST Basic dialects. For example, where another Basic might supply a simple function that returns a full pathname for the current directory, HiSoft Basic obliges you to assemble a pathname from component parts returned by basic operating-system functions, as shown in Figure 1. Not only is this a lot of work, but the procedure is insufficiently documented in the HiSoft manual.

Still, there is power here, if you know how to find it. In effect, HiSoft Basic Professional places a simplified version of the C programming language at your fingertips.

Structured programming is difficult or impossible to do in classic Basic. This is because ordinary Basic lacks five im-

## HiSoft Basic Professional

**System:** Atari ST

**Version reviewed:** 1.23

**Required equipment:** 1Mb RAM and hard disk recommended

**Copy protection:** None

**Summary:** Powerful basic compiler and programming environment with extensive GEM support and disappointing documentation.

**Price:** \$159.95

**Manufacturer:**

MichTron

576 S. Telegraph

Pontiac, MI 48053

(313) 334-5700

portant features found in more structured languages such as Pascal and C. The first of these features is modularity, which allows the code required to perform an isolated task to be itself isolated (as a function) and called by name, rather than by location or line number.

The second feature is parameter-passing, a system for controlling the way information is passed to a called function or routine. The third is information-hiding, by which certain variables can be declared "local" to a function or program segment, preventing their accidental access by other functions or program segments.

Fourth is modern flow-control, which helps avoid spaghetti code, laced with GOTOS, and fifth is strong typing, which obliges the programmer to think about

the kinds of data with which his program is dealing.

To some extent, HiSoft Basic provides all of these features. It permits the definition of functions that can be called by name, with passed parameters. These functions can incorporate local variables as well as have access to global variables in the manner of standard Basic. And functions are fully recursive, meaning that they can even call themselves, if necessary. Command statements such as WHILE...END WHILE, DO...LOOP UNTIL, EXIT LOOP, EXIT SUB, SELECT CASE...END SELECT, REPEAT...END REPEAT, and IF...ELSEIF...ENDIF provide a wide choice of flow control options appropriate to fully structured programming.

In addition, HiSoft Basic provides a multitude of ways to organize programming projects. Meta-Commands such as INCLUDE allow you to draw material from external Basic source files into the current compilation, just as if this material were present in the main source file. The basic function library, PBASIC.LIB, can be enhanced by the addition of your own assembly language routines (developed using HiSoft's Devpac ST version 1.2 or higher) and bound into the main library using the utility BUILDLIB. A program can, thus, call your assembly language functions by name, once they have been placed in the library.

Other meta-commands control aspects of the compilation process, enabling and disabling array checks, break checks, error messages, line numbers, overflow checks, pause checks, stack checks, underlines, variable checks, and compiler warnings. Commands also exist to leave or return memory to the system, keep a particular amount of memory for use by your program, reduce or increase the stack size, change the output filename of a compiled program, force GEM mode in a program that would otherwise have been a .TTP file, and include specific libraries for creating desk accessories.

### The Programming Environment

HiSoft Basic Professional functions from within a GEM-based shell that performs all activities related to the editing process and program execution. Although all of the compilation procedures can be set from within the basic source code, the editing shell also provides for selected compilation adjust-

By MIKE HARRINGTON



ments. All shell activities involve windows and/or menu bars, so desk accessories are readily available.

Program development is fast and convenient. Programs can be compiled either to memory or to disk. Programs that are compiled to disk are stand-alone applications that do not require a run-time module. (A warning: Incorrect use of the menu and window commands can cause HiSoft to lose track of the program menus. Sometimes it will lock the ST. Use the supplied quick save command before compiling a program.)

If you are pressed for RAM, the shell provides options for configuring the memory allotted to the text buffer, as well as the program buffer. This is a major blessing for 520ST users.

As with LDW Basic, you can execute any existing GEM program from within the HiSoft Basic Professional shell.

### The Editor

Because HiSoft Basic Professional is a basic compiler, it does not provide instantaneous syntax checking, nor does it enforce a rigorous coding format. HiSoft compiles ASCII source files; thus, any program file in ASCII format, if developed on a different brand of computer, can easily be merged into the HiSoft environment.

Although the HiSoft editor allows only one file in memory at a time, you can merge existing files into the current file. Also, the block copy function retains text between file loadings, so you can cut a block, load a new file, then copy the block into the new file.

An option in the HiSoft shell (easily accessible from within the editor), allows you to configure the numeric keypad of the ST so that 1=end-of-line, 2=cursor-down, 3=page-down, 4=cursor-left, 6=cursor-right, 7=start-of-line, 8=cursor-up, and 9=page-up. If you use this option, you will quickly realize that the page-up and page-down keys make the HiSoft editor one of the fastest scrolling editors currently available for the ST.

HiSoft provides all of the standard features that accompany a full screen text editor: goto top, goto bottom, goto line number, delete line, yank (to buffer) and copy, search and replace, and block yank, copy, move, paste, and print. All editor commands can be selected through the friendly features of the GEM interface or through a conventional keyboard alternative. Although occasionally misaligned by one line, the jump-to-error function is an

```

-----SUB FindPath
LOCAL addr&, hold, i, targstr$, A$
SHARED Path$

' the array dumbuffer() is DIM in main program module

i=FNdgetdrv%: Path$=CHR$(i+65) ' Get current drive
dgetpath varptr(dumbuffer(0)), 0 ' Load buffer w/path data
addr&=varptr(dumbuffer(0)) ' Pointer to buffer
do
    hold=peekb(addr&) ' Read one byte at a time
    IF hold=0 THEN EXIT loop ' Exit on empty buffer
    targstr$=targstr$+chr$(hold) ' Build the path string
    incr addr& ' Increment the pointer
loop
Path$=Path$+"": "+targstr$+"\*.DAT" ' Append path to drive
END SUB
-----
    
```

Figure 1. Code to assemble a pathname expression.

```

? TIMES$
FOR L%=1 TO 5000
A!=((4+L%)-4)*(L%/(6*12))
NEXT L%
? A!
? TIMES$
    
```

Figure 2. Execution-speed benchmark code.

extremely useful tool. The HiSoft editor is a quick and efficient.

### The Compiler

Very few changes are required in order for the HiSoft compiler to handle code that was developed with ST Basic version 1, but the additional features of ST Basic version 2 are not directly supported. The HiSoft manual lists 30 ST Basic version 2 commands that must be re-defined before HiSoft can compile the program.

Although HiSoft claims to be modeled on Microsoft's QuickBasic version 3, the HiSoft manual lists 36 QuickBasic commands that are either not supported or require modification before HiSoft can compile the source code. Couple this with the fact that QuickBasic is currently in version 5, and compatibility becomes almost non-existent. Do not expect to make any quick-and-dirty conversions between QuickBasic and HiSoft.

Once source code is in the correct format, the HiSoft compiler deals with it quickly and efficiently. Working from a hard drive, HiSoft compiled a 412-line source file in 14 seconds, including use of disk-based AES, VDI, and BIOS libraries. When using a double-sided floppy, the compilation speed of the same program increased by only three seconds.

Programs that do not require use of the operating system interface libraries compile almost instantaneously. However, considering that HiSoft Basic is

dependent on these libraries for many common functions, a program that did not require access to at least one of them would be a very limited program, indeed.

### Program Execution Speed

To test the execution speed of an LDW Basic compiled program, I used the code shown in Figure 2.

Program execution for the test loop under standard ST Basic took 26 seconds. Compiled under LDW Basic, the program completed the same loop in eight seconds. HiSoft Basic Professional performed this same test loop in less than two seconds. Very impressive.

How about screen updating? While using the v\_gtext VDI routine for output, HiSoft wrote, cleared, and rewrote 40 screens of text in six seconds—almost seven rewrites per second. Each screen consisted of 15 lines with 75 characters in each. (This test was performed while *TurboST* by SofTrek, which increases the speed of VDI routines, was installed on my computer. Without *TurboST*, the results would have been less impressive.) The same test using standard PRINT statements required 18 seconds to run.

### The HiSoft Manual

The 477-page HiSoft manual is well organized. The table of contents is a user-friendly 23 pages long. A tutorial takes you through the full creation of two sample programs, dealing with graphics, records, and disk files as it goes along.

The program editor is discussed in detail. HiSoft programming concepts, including character sets, program lines, labels, data types, constants, variables, reserved words, arrays, operators, subprograms, functions, parameters, and compiler limitations are thoroughly described. Brief program examples ac-



company almost all descriptions in the HiSoft Basic Professional command reference.

Certain of the supplied libraries are discussed in much greater detail than you would expect to find in a Basic manual. This is important, because although HiSoft's names for various low-level routines are very similar to those used in standard OS reference works, some of the routines themselves function differently.

Other libraries—notably that for GEM AES—are described in insufficient detail. For example, of the dozen or so messages that can be returned by the GEM window manager, the HiSoft manual discusses only one, while examples of a few others are relegated to sample source code supplied on disk. To use HiSoft Basic effectively, you will need additional documentation.

The manual does describe how to load and use resource files, how to set the compiler options, and how to use the stand-alone .TTP compiler. It also provides a complete list of error messages—both run-time and compiler, di-

rections for converting other basics into HiSoft format, details on creating and using assembly language to create HiSoft library routines, a "hints and tips" section, program profiling information, and technical support data.

This manual provides more detail and data than any Atari Basic manual created to date. I have 17 Atari-specific programming manuals, not one of which provides as much detail about the Atari ST as does the HiSoft manual. Why, then, the omissions? A smattering of everything and not enough of anything—this is the primary strength of the manual—and its main weakness.

### System Requirements

HiSoft Basic is distributed on two single-sided disks, which are not copy-protected. Any Atari ST system configuration can be used for the compilation process. This includes a single disk drive (single- or double-sided), two drives, or a hard drive. You can use either a color or a monochrome monitor; both editor and compiler will execute from any resolution. Compiled programs are execut-

able programs and do not require a run-time package.

To distribute applications programs developed using HiSoft Basic Professional you do not need a Developer License from HiSoft; nor must you include a HiSoft copyright notice.

MichTron provides first class, professional user support. The company operates its own BBS and a support roundtable on Genie. Efficient telephone support is also available.

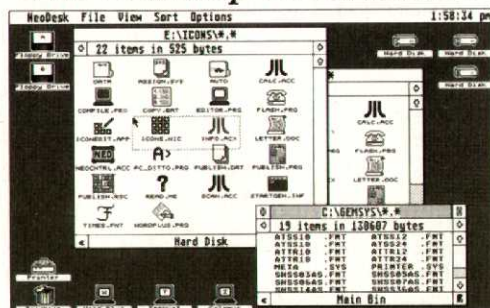
### Conclusions

HiSoft Basic Professional is a superior programming tool, but it suffers from overuse of C-like utilities and voluminous, but inadequate documentation. The Shell programming environment is versatile and easy to use. The compiler is quick. The editor is like lightning. And final compiled programs function quickly and correctly.

If, as a Basic programmer, you are willing to suffer something of what C programmers suffer to obtain superior results, HiSoft Basic Professional could well be the language for you. ■

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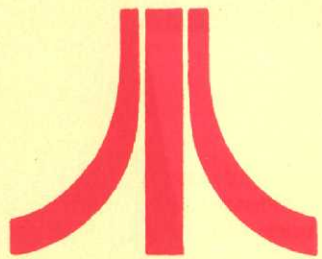
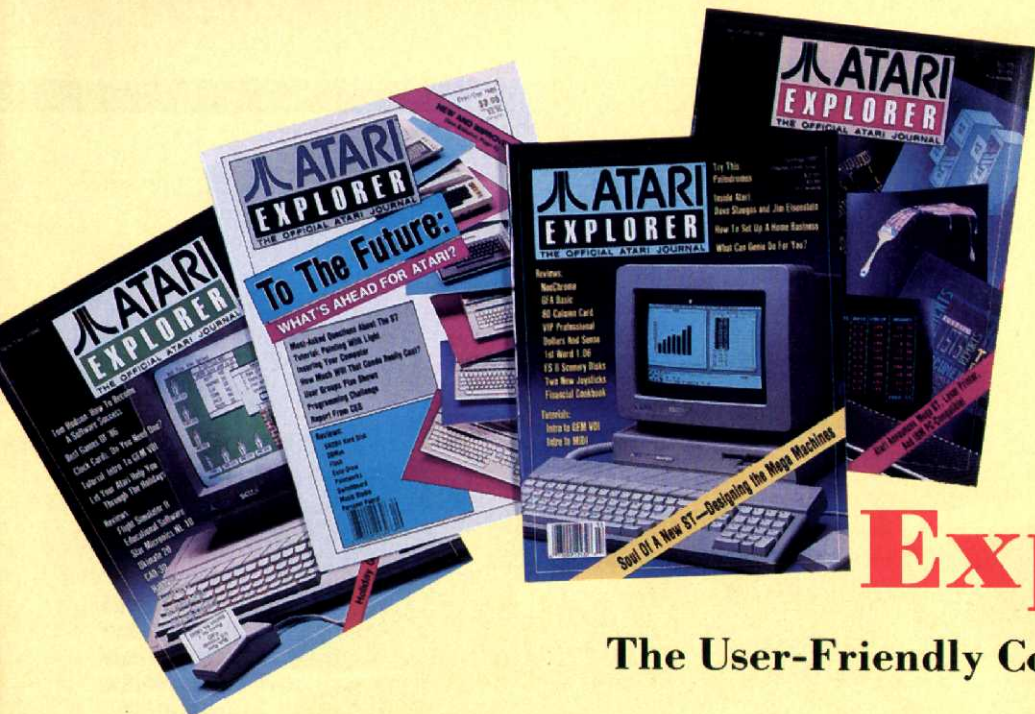
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Depending upon the balance between your satisfaction and your frustration, you may continue to use your computer or set it aside. But there is a better way: **Atari Explorer**.

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To make sure that you get the most out of your computer, **Atari Explorer** brings you objective, in-depth reviews of hardware and

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We know that some of our readers are beginners and others are experts. Thus it is our responsibility to make what we publish both comprehensible to newcomers and interesting to veterans. That does not necessarily mean that the material is simple; we know you like to be challenged. What it does mean is that we provide the inexperienced user with every possible means to seize the subject matter and make it his own.

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Before you even turn it on, the new Atari Portfolio is quite the little fashion statement with its subtly color-coordinated display and keyboard. Note that the caption s. Sheet under the W key on this prototype reads a more mnemonic W. Sheet on production models.

# Atari Portfolio

**A close look at Atari's sleek new handheld MS-DOS machine**

One of the most perennially intriguing ideas in personal computing was first advanced by Alan Kay during his tenure at Xerox Palo Alto Research Center in the late 1960's. Kay envisioned the ultimate hybrid of microcomputer and communications technology—a powerful, multimedia terminal and computing engine in a handheld package. Called DynaBook, the device would serve its user locally as secretary, teacher, and tool—globally as an intelligent gateway into a worldwide network of information resources.

In the years since Kay first suggested DynaBook, the inspiration to create “the ultimate portable/personal electronic device” has surfaced again and again, ultimately forking into two distinct philosophies of innovation. On the one hand, the philosophy of *portable* computing (whence “luggables” and

“laptops”) says that we ought to be able to take our office electronics on the road.

On the other hand, the philosophy of *personal* electronics (whence Sony Watchmen, wristwatch-datebooks, electronic running shoes, calorie calculators, and the like) says that we ought to apply vest-pocket microtechnology to the problems of everyday life.

In many ways, the two philosophies are mutually exclusive—the former, ultimately public and driven by the will to power; the latter, eminently private and driven by the will to . . . well, cuteness. It is hardly surprising, therefore, that only a handful of products have aspired to crossover status—none of them with complete success.

Not, at least, until the middle of this year, when Atari announced its new Portfolio handheld MS-DOS computer. Having recently spent several days

playing with the Portfolio in final prototype form, I would be willing to advance the claim that Atari has come closer than anyone else to successfully resolving the DynaBook compromise between objective power and subjective charm. Here we present a first, in-depth look at the Atari Portfolio. Whether it be the perfect capitalist tool or the ultimate executive plaything, we'll let you decide.

## Externals

Since its announcement, the Portfolio has repeatedly been described as being “slightly smaller than a standard video cassette.” Not to quibble, but aside from MTV execs and pornographers, what kind of businessperson carries a video cassette around in his breast pocket? To clarify, then, the device measures about 8"×4"×1" and weighs quite a bit less than one pound.

It is, therefore, just about the size of a gentleman's *portfolio* (and you thought Atari just made these names up!) and will fit comfortably into the inside breast pocket of any decently-tailored suit coat (Burberry's, Armani, etc.) without spoiling the line.

The Portfolio is housed in dark, char-

By JOHN JAINSCHIGG



## Atari Portfolio

**Processor:** 80C88 (CMOS 8088),  
4.77 MHz

**Memory:** 256K ROM, 128K RAM;  
expandable to 800K+

**Dimensions:** 8"×4"×1"

**Weight:** <1 lb.

**Display:** Reflective supertwist LCD.  
40-characters×8-lines

**Keyboard:** 63-key PC-compatible with  
special function keys, embedded  
numeric keypad.

**Mass storage:** 1 RAMcard drive

**Ports:** Power adapter, 60-pin bus/  
peripheral connector

**Operating System:** DIP DOS (MS-DOS  
2.11 superset compatible)

**Power requirements:** 3 AA batteries

**Peripherals:** 360K RAM expansion;  
256K RAM expansion/RAMdrive;  
RS-232 smart connector; Centronics  
parallel smart connector. Prices not  
yet available

**Price:** \$399

**Manufacturer:**

Atari Corp.  
P.O. Box 61657  
Sunnyvale, CA 94088

coal-grey, kid-finish PCB—an advanced plastic that resists fingerprinting and feels slightly warm to the touch. The case is lightly knurled at the corners and contoured in such a way that it can be removed from and returned to the abovementioned suit coat pocket with a casual gesture. The top of the case is unmarked.

The memory-card drive aperture—a small slot—opens on the left-hand side. At the right, curving around toward the bottom of the case, is a contoured panel that covers the 60-pin smart cable connector. At the bottom rear of the case, a similar panel covers the battery well, which accommodates three AA batteries. The bottom of the case also sports a deeply recessed reset button, and a slightly raised, rubber friction strip, designed to keep the Portfolio in place on a desktop.

The case is opened by sliding to one side a pair of locking tabs on the front edge. In mild contrast to its sombre exterior, the inside of the Portfolio is done in light gray, with logo and geometric accents in deep lavender. The LCD screen is standard issue slate grey-green, displaying matching lavender text. Tiny, multipurpose keytops, whose background color matches the grey-green of the display, are delicately coded in jet-black, red, and lilac. Inset to the left of the screen, a small, faux Art Deco grille hides a piezoelectric speaker, used to tone-dial telephones and produce the usual assortment of clicks and beeps.

In short, even before you turn it on, the Atari Portfolio is quite the little fashion statement—conservative, but with a distinctive flair. One could do worse, in fact, than simply dress to match the machine... dark grey suit, lavender cravat, MontBlanc fountain pen, and your Portfolio. What more does the modish captain of industry require?

### First Contact

Don't bother looking for an on-off switch; the Portfolio coldstarts when you first install the batteries. Thereafter, the machine is always on, protecting the files stored in its memory, though its screen shuts down automatically whenever the machine is idle, thus conserving battery power (the screen can also be shut down manually by pressing the O key in combination with the special Atari-symbol master function key or by entering OFF at the MS-DOS command prompt).

A set of NiCads on the circuit board—trickle-charged by the main set of AA cells—protects the memory even when batteries are removed for replacement. Depending on how the machine is used, battery life naturally varies. However, you can expect a set of alkaline AA's to last for several weeks.

Press any key, and the lavender-on-grey screen jumps to life, displaying your cursor just where you left it when you closed the case. The jewel-like keyboard bears a total of 63 keys, labeled in standard QWERTY fashion and arranged in offset rows like those of a normal-sized computer or typewriter.

There are two Shift keys, a Return key, and a spacebar—all where you would expect them to be and all correctly proportioned, though still very small. The Control, Alt, and Fn (Function) keys lie to the left of the spacebar alongside the Atari-symbol key (used mostly to access special functions of the built-in application package) and the Lock key (used as both shift and numeric keypad lock, as well as to display the current date and time). Four cursor-control keys lie in a row to the right of the spacebar.

The ten function keys of the IBM PC are emulated by pressing a number key (0-9) along with the Fn key. As is commonly the case with portable comput-

ers, a group of alphabetic keys to the right of the keyboard does double-duty as a numeric keypad. Indeed, most of the Portfolio keys do some sort of double-duty when used in combination with a function key. Many features of the built-in applications package are assigned to individual keys, greatly simplifying work with these powerful programs.

The key mechanisms themselves are very much like those found on a real computer keyboard—this as opposed to the membrane or Chiclet keys commonly found on devices of similarly diminutive size. The keyboard offers distinct positive feedback, and the system supports audible key-click (which can be turned off, if desired).

Unfortunately, the thing is just marginally too small to type on normally—at least without some practice. Two-finger hunt-and-peck is thus the order of the day, though the fact that the keys are laid out in offset rows makes this more comfortable and rapid than it otherwise might be. Interestingly, the Portfolio keyboard can be reconfigured internally to conform to the French AZERTY or the German QWERTZ pattern, so executives should be hunting-and-pecking all over the Common Market before too long.

### DIP DOS?

The onboard software for the new machine was designed by Distributed Information Processing, of Guildford, England, under contract to Atari Corp. Although the software is quite fully integrated, the Portfolio user perceives it as falling naturally into two conceptual layers.

The first layer is DIP DOS, an apparent clone of MS-DOS 2.11—the most widely-distributed version of Microsoft's disk operating system for the IBM PC and compatibles. DIP DOS looks and works exactly like MS-DOS under COMMAND.COM, presenting you with a command-line interface to various disk (or, in the case of the Portfolio, internal RAMdisk or removable RAMcard), I/O, program control, batch processing, configuration, file and directory management, and other functions.

The second layer is the internal DIP applications, which pop up from behind DOS when you press Atari/Z or enter the Portfolio-specific command app at the command prompt.

The major difference between MS-DOS 2.11 and DIP DOS is that the former is designed to load from disk,



whereas the latter is built into the Portfolio ROM. DIP DOS is thus in a position to finesse the distinction MS-DOS normally makes between internal commands (functions, such as DIR, built into the resident portion of DOS) and external commands (functions, such as FORMAT, loaded from disk and executed as applications). All DIP DOS standard commands are internal, meaning that under normal circumstances, Portfolio users will not be obliged to set up a special DOS directory and employ the PATH command to retain constant access to frequently-used external commands.

In all other respects, DIP DOS seems to work like an ever-so-slightly-improved version of MS-DOS 2.11. Figure 1 shows the standard command set as displayed by the DIP DOS help command (MS-DOS does not normally support a help function, which is one way in which DIP DOS is ever-so-slightly-better!).

Standard MS-DOS input and output redirection (via the <, >, and >> symbols) is supported, though piping (usually accomplished with the | character) is not. A full brace of devices (CON:, PRN:, etc.), including a "black hole" null device (NUL:) is available.

Environment strings seem to be present and handled normally (at least if one can judge by the presence of a SET command). The absence of a MODE command is justified by the extensive system-setup facilities provided with the built-in application package.

Though technical documentation was not available at the time of this writing, DIP DOS is said to be in most respects internally compatible with MS-DOS as well, and Atari assures us that a good degree of BIOS-level compatibility with the PC has also been preserved. As a result, provided they are made available on RAMcard or can be downloaded, most well-behaved PC applications should run just fine on the Portfolio, either as is or with minor revisions.

The major difficulty, of course, is the Portfolio screen, which in its native mode offers only eight lines of 40 characters each. Alternatively, the screen can be reconfigured to act as a window that scrolls over an 80x25 virtual "PC monochrome" display, and for certain applications, this may be a workable solution.

The other problem, at least in the short run, is memory. The basic Portfolio contains 256K of ROM but only

File	Dir	Disk	Etc . . .	Batch		
copy	cd	chkdsk	app	run	@	if
del	mkdir	fdisk	break	set	do	in
dir	rmdir	format	cls	time	echo	not
ren	path	label	date	ver	errorlevel	pause
type		verify	off	help	exist	rem
		vol	prompt		for	shift
					goto	

Figure 1. Commands available under MS-DOS-compatible DIP DOS 2.11.

128K of RAM, dynamically allocated as both "disk" space and application store.

This is where the 60-pin smart connector comes in. Ultra-compact expansion modules that plug into the connector will be available in two flavors: one with 360K RAM and the other with 256K RAM and a second RAM drive, destined to become drive B.

At least two of these expansion modules can be chained to the connector (this will not inhibit the use of the connector to attach peripherals), giving the Portfolio a maximum configuration of better than 800K RAM on-board—more than enough to run all but the most memory-hungry applications. This in a box the size of a pencil case!

As you would expect, the Portfolio employs a fully MS-DOS compatible, hierarchical filing system. Physically speaking, however, the mass storage for the tiny device, both internal and external, is RAM-based. A portion of internal RAM is addressed as drive C (normally the hard disk on a PC) and is viewed as the boot drive. The built-in RAMcard drive is drive A. If attached, an optional external RAMcard drive can be addressed as B).

RAMcards, like floppy disks, must be formatted before use; hence the FORMAT, FDISK, and CHKDSK commands. On the subject of RAMcards, I am sorry to report that I was unable to examine any. However, Atari's engineers confirm that Portfolio RAM cards will be available in a variety of capacities, that they employ volatile CMOS RAM memory backed up by a battery with approximately a one-year life span, and that they are extremely durable.

### The Applications

In addition to the power and versatility that derive from being able to run MS-DOS software, an extensive system of integrated applications, most of which can communicate with one another via a shared "clipboard" facility

makes the Portfolio even more useful.

The applications suite consists of an address book, a sophisticated business calculator, an appointment calendar (or diary), a text editor, a spreadsheet, and a system setup utility. The applications are accessed (mostly via single key-stroke commands) through an easy-to-understand, hierarchical menu system and are always available (in the manner of *SideKick*), even when an MS-DOS foreground application is running.

While the Portfolio programs are not as self-explanatory as many Atari ST applications, it is possible to do considerable useful work with the built-in tools without ever looking at a manual. Without going into excruciating detail, my overall impression of the Portfolio applications is that they are enormously sophisticated in comparison with other programs of this type that I have seen.

The address book is just that—a Rolodex-type program optimized for the storage and retrieval of names, addresses, and telephone numbers. It is particularly strong in terms of its ability to parse and understand telephone data. You can specify dial prefixes for overall or specific application, switch between local and long distance autodial options with a single keypress (useful if, for example, you often have to dial the same numbers locally and via long distance, as a travelling salesperson might), and make temporary changes to phone numbers without permanently altering the address-base records.

Autodialing from a touch-tone phone is as simple as holding the phone handset up to the Portfolio speaker and pressing a key. Clearly, this is a machine designed for use on the road.

The calculator is marvelous. Totally unlike most computer-based calculator utilities, the Portfolio calculator works like a combination of a standard office adding machine, mini spreadsheet, and full-featured scientific calculator/expression evaluator. The calculator has five memories, operates in general,



fixed-point, scientific, and engineering modes; and offers an unusually wide range of numeric formats and functions, including a brace of percentage-calculation tools that must be seen to be believed.

As you work with the calculator, it maintains an in-memory "tape" of the expressions you have entered. This tape can then be edited in various ways, permitting "what-if" modifications to values and operators. New results are produced instantly whenever a change is made.

The Diary, or appointment calendar, is also quite different from, and more efficient than, most similar applications that you might see running on a desktop PC. The biggest problem with calendar programs, in general, is that they group appointment information inefficiently. It is often impossible, for example, to view two days worth of appointments at once.

The Portfolio Diary, by contrast, seems to have been designed with efficient information-grouping in mind. The Diary is set up around a calendar display that can be scrolled by weeks, instead of the usual months. Thus you can get an overall view of appointments for the end of September and the beginning of October, for example, without cumbersome calendar-page flipping.

In similar fashion, depending on how many appointments you have recorded for a single day, you can view detailed notes for several days worth of appointments on the same screen. Appointment times can be altered conveniently without extensive editing, and regular appointments that occur daily, weekly, week-daily, monthly, or yearly can be set to re-activate themselves on the appropriate dates, automatically. Naturally, alarms can be set to remind you of any appointment, and Portfolio will switch on automatically and sound these alarms, even if currently dormant.

The Portfolio text editor is a bit of a disappointment. While it supports word wrap, a wide range of fast cursor-movement commands, and a variety of delete commands (all of which can be "undone"), it does not offer the kind of cut-and-paste features required to do real editing. Perhaps this deficiency can be excused, based on the fact that the Portfolio itself isn't really a typing machine. Still, I have this vision of eventually training myself to type on it at normal speed. . . .

If the text editor is a letdown, the Portfolio spreadsheet more than makes

## ***While of limited size, the spreadsheet is closely compatible with industry-standard Lotus 1-2-3.***

up for it. While of limited size (127 columns by 255 rows), the spreadsheet is, in most other respects, closely compatible with industry-standard Lotus 1-2-3, offering a full set of functions, a variety of cell-reference options, range functions, etc. An added plus: the spreadsheet both reads and writes Lotus .WKS and .WK1 file formats, simplifying data interchange with a desktop system.

Finally, we come to the setup utility, which is sophisticated enough to be referred to as an application in its own right. The Portfolio Setup program goes way, way beyond the standard MS-DOS MODE command in placing both hardware and software functions under your control. You can re-configure the display in a variety of ways, allowing for the different ways in which MS-DOS programs may function in addressing the Portfolio screen.

Sounds produced by the system can be controlled and muted. The language of prompts and instructions used by the internal applications can be changed from the default of English to either French or German, and while I can't judge the German, the quality of the French translations is both idiomatic and correct. This is clearly a machine designed to reach an international audience.

Settings for the printer and RS-232 port can be defined, and Setup even performs file transfers. Unfortunately, because the Portfolio I worked with was not equipped with the appropriate smart cables for linking to printers or modems, I cannot yet comment on the latter features.

### **Documentation**

As might be expected, the Portfolio documentation is extensive, centering around a 237-page general manual of instructions that covers basic system setup, DIP DOS, and the internal applications. The manual is clearly—even elegantly—written and can easily be followed by the novice. Numerous

"convenience" lists—a list of Lotus functions *not* supported by the Portfolio worksheet, for example—have been included to make learning easier.

Though lacking a full index, the manual does sport a multi-page analytical table of contents, which may be even more helpful.

Unfortunately, the stuff I really want to read—memory maps, lists of DOS and BIOS calls, hardware details, development tool specs, and so on—are nowhere to be found. Hopefully (nudge, nudge, hint, hint) Atari will release this information with the machine or make it available at reasonable cost.

### **Conclusion**

At the time of this writing, Atari is in receipt of final revisions for the internal software for Portfolio, and the machine is heading toward the tooling jig. By the time you read this, Portfolios will be heading out the door. For now, certain questions remain: Will expansion devices and connectors be available when the Portfolio is released, and how will they be priced? Will RAMcards be affordable enough to use for archival storage or will we have to alter our accustomed methods of handling mass storage to accommodate the advanced technology of the Portfolio? When, and what kind of third-party software will be available?

This last question, at least, is in the process of being answered: Atari is actively promoting the machine among MS-DOS developers and expects to release a full list of software available in RAMcard format.

In the meantime, there is the question of how to get MS-DOS software over to the Portfolio. A lot will depend on how soon an error-free file-transfer utility suitable for communication of executable files becomes available. The Portfolio Setup application file-transfer utility is designed to move text files back and forth and is not appropriate for transferring executable code. The alternative, of course, is to create a RAMcard drive that hooks to a PC . . . no word as to whether this is in the works.

The answers to these questions will define Atari's attitude towards their marvelous new product, and perhaps ultimately determine its success or failure. For now, I've seen enough to be convinced that the basic design of the Portfolio is both sound and extremely marketable. Not to put too fine a point on it, but I think they're going to sell a million of 'em. ■





# Portable Color Game System

*Atari wows Summer CES audience with an entertainment first*

Have you seen anything interesting?" is the trade show equivalent of "Have a nice day." Vacuous and prosaic, it rolls off showgoers' tongues like an initiate's greeting at the clubhouse door and often signals the end, rather than the beginning, of a conversation, because the only really cool answer is a blasé "No, nothing really."

But this year at the Summer Consumer Electronics Show there really was something interesting, and people were talking about it and begging for a chance to play with it.

Without a doubt, the most exciting product introduced in the computer games area of the show was Atari's Portable Color Entertainment System, the world's first color hand-held video game system.

The one-pound unit, which is slightly larger than a videocassette, has 3 1/2"

built-in color LCD monitor with a resolution of 160x102 pixels. Up to 16 colors, displayed from a palette of 4096 colors, and four-channel sound enhance game play.

The system runs on six AA batteries. It can also be powered by an AC adapter or a cigarette lighter adapter.

Developed by Epyx, the Portable Color Game System runs at 16 MHz and has sophisticated graphics capabilities built in to the hardware. If, for example, you find yourself heading toward a mountain in a flying simulation, the mountain will automatically grow larger as you approach; the system scales the terrain automatically.

For multi-player contests, gamers can connect up to eight units with a cable and compete using a single piece of software.

A unique feature of the system is the ability to provide each player with a first-person view of the action. For example, one of the racing titles that will be introduced later this year, allows two or more players to compete. If you are in second place, the lead car becomes larger on your screen as you approach and attempt to overtake it. If you succeed in passing, your opponent is treated to a view of the rear of your car as you take the lead.

## Game Controls

Game control is accomplished via an eight-direction joystick and two fire buttons. Two option buttons and a pause button are located alongside the screen, where they can be used in combination to flip the screen display 180°, providing comfortable play for both right- and left-handed gamers.

Contrast and volume can be adjusted, and a headset jack is provided for those times when even low volume is inappropriate.

## Software

Games for the Portable Color Entertainment System are available on credit card-sized game cards that slip inside the unit. One game, *California Games* is included in the purchase price, and five additional packages are available separately for \$34.99 each.

*California Games* offers four different California-style sports—skateboarding, surfing, foot bagging, and a BMX bike race—in four different locations within the Golden State. The game can be played by from one to four players.

*Blue Lightning* puts you in the cockpit of the fastest aircraft ever designed and challenges you to fight off enemy



By BETSY STAPLES

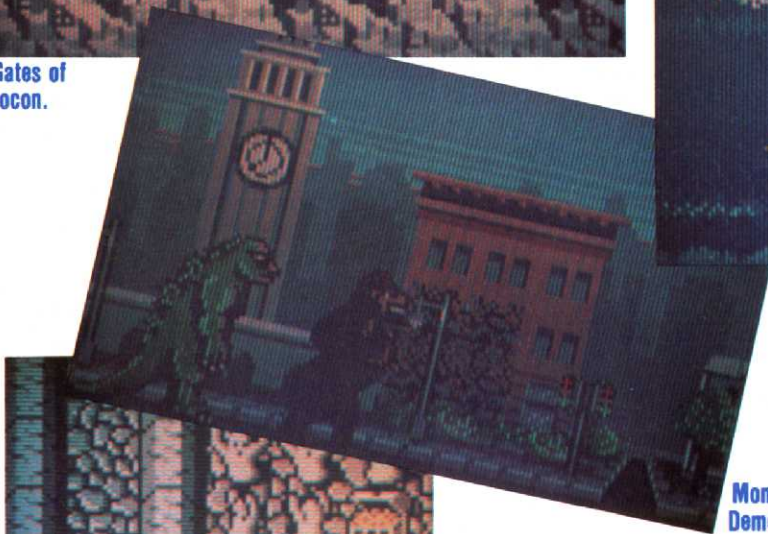




The Gates of Zendocon.



California Games.



Monster Demolition.



Time Quests & Treasure Chests.

aircraft and avoid bursts of rocket fire from the ground. The program includes variable speed control, eight-directional maneuverability, five types of terrain, jet-equipped air-to-air and air-to-surface missiles, and ten different missions of increasing difficulty.

*Time Quests & Treasure Chests* is a single- or multi-player game that sends you on a search for the Star Gem, a mythical stone that bestows eternal life. You choose one of eight characters, each of whom has different abilities, and in a multi-player game, characters can search individually or as a team. Among other things, your character meets 20 kinds of enemies on 20 levels.

*The Gates of Zendocon* is an arcade

game that challenges you to defeat 50 varieties of hostile aliens as you journey through 50 different universes. Armed with a neutrino laser, photon bombs, and a destructor shield, you must land on hostile bases to refuel or replace a damaged fighter craft.

In *Impossible Mission* your goal is to rescue the President's daughter, who has been taken hostage by the Criminal Brain. Among the obstacles you face are mazes, exploding traps, electrified floors, and criminal droids. Information screens display time remaining, body damage, and weapon charge.

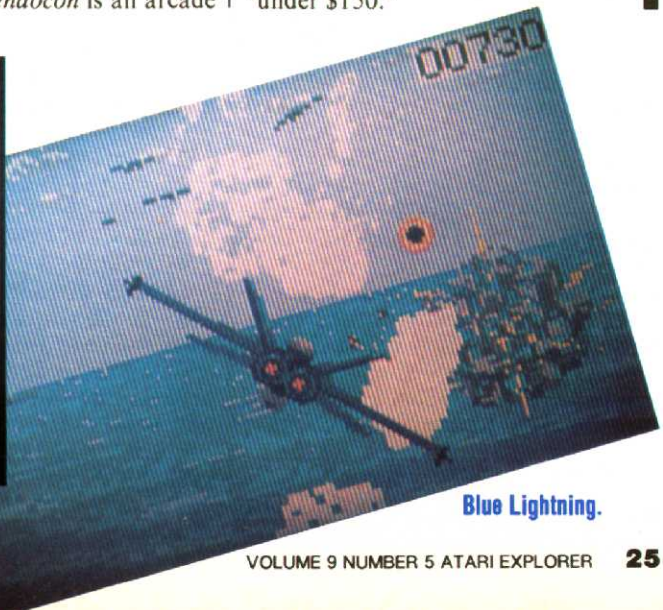
*Monster Demolition* casts you in the role of a mutant monster bent on destroying buildings, cars, trucks, planes, tanks, and anything else that gets in your way. The multi-player game features 15 levels of difficulty and an assortment of talented monsters.

Atari and Epyx are aggressively pursuing licensing and third-party software agreements.

The Atari Portable Color Video Entertainment System is slated to sell for "under \$150." ■



Impossible Mission.



Blue Lightning.





# Atari Stacy

*Finally . . . a portable ST!*

**T**he Atari ST is a great computer. In fact, it's my favorite. But there is no denying that setting up an ST (or any other full size computer) involves, as Sig Hartmann might say, "a lotta lotta cables." That's fine for home and office installations—a few garbage-bag ties and a couple pieces of ergonomic furniture will set you right. Unfortunately, it's not so great if you want to take your system on the road.

Thus it is that for some time now, the world (or at least the Atari-owning part of it) has eagerly awaited the announcement of a portable ST computer. Some of us waited patiently; others—particularly those who use the ST for music and for whom touring is a way of life—have waited with bated breath.

Now the waiting is over. Stacy is here. First, let's deal with the name. Surmise has recently run rampant about just what Stacy might stand for. Is it an acronym? Nope. The name of someone's illegitimate daughter? 'fraid not.

No, in the end, Stacy turns out to be the project name for one of the VLSI

chips used in the new portable . . . ho-hum.

Having dealt with the name, we move on to the machine itself. I had an opportunity to sit down and commune with the prototype Stacy while she was on exhibit at the June NAMM show in Chicago. Herewith, a first in-depth look at Atari's flagship portable computer.

## *It's . . . It's . . .*

. . . basically a 1040ST in a box—and a fairly small one, at that. Closed, the new Stacy measures only 13.3" deep by 15" wide and is about 4" thick at its thickest point. Open, the top edge of the pop-up screen rides 13.3" above the desktop.

The housing is made of molded, dark grey ABS plastic, and seems sturdy. The handle, although it appears somewhat fragile at first glance, is actually quite sturdy, as well. In its basic configuration with one floppy drive, Stacy weighs in at 15 pounds with batteries

## Atari Stacy

**Processor:** 68c000 (CMOS MC68000), 8 MHz

**Memory:** 1Mb standard; 2 and 4Mb units also available

**Dimensions:** 13.3"×15"×4"

**Display:** Reflective supertwist black-on-grey LCD emulating ST monochrome display. 640×400 pixel resolution

**Keyboard:** 94-key Atari ST compatible; built-in trackball

**Mass storage:** 1 720K 3½" floppy drive standard; chassis ported to accept second floppy drive or 20Mb hard disk

**Ports:** Cartridge, external power, joystick, mouse, MIDI IN, MIDI OUT/THRU, DMA, external floppy, video (ST-compatible RGB color/monochrome combined video output), RS-232 serial, Centronics parallel

**Operating System:** GEM; TOS 1.4

**Power requirements:** 8 C cells in battery pack; external power adapter

**Price:** \$1495;  
\$1995 with 20Mb hard disk

**Manufacturer:**  
Atari Corp.  
P.O. Box 61657  
Sunnyvale, CA 94088

installed. Though no lightweight, she compares favorably with similar, high-end laptop portables from manufacturers such as Toshiba and Mitsubishi.

The keyboard of the Stacy has 94 keys, just like that of an ST. However the layout differs somewhat from the desktop standard. The Stacy function keys are not recessed and lie in two rows above the main keyboard. Above the center of the keyboard are found the Help and Undo keys, while Insert, Clr/Home, and the cursor keys are above and almost flush with the right-hand side of the keyboard. The cursor keys are somewhat less accessible in this position than on a standard ST, but not grievously so.

**By JOHN JAINSCHIGG**



To the right of the main keyboard lie a miniature numeric keypad and an integrated two-button trackball, designed to substitute for the mouse when on the go. In general, I find the Stacy keyboard a bit more comfortable and professional-feeling than that of a standard ST. The key-return mechanisms seem to have more "bounce," and physical key-click is more audible.

The trackball is another matter. Though the mechanism in the trackball is clearly of highest quality, the ball itself is simply too small to manipulate with the palm—you must use your fingertips. This suffices for moving the mouse pointer around on the screen and for selecting from menus—you work the ball until the item you want to select is highlighted, then move your hand forward to tap the left button. Unfortunately, it doesn't work so well for click-and-drag operations and other fine manipulations that require a button to be held down while the mouse pointer is in motion.

I hasten to add that this is just my own impression; quite a few Atari employees, who have had more time to get used to it, told me that they now actually prefer the trackball to the mouse in both principle and practice. For my own part, I'm glad that Stacy will accept a conventional mouse—at least while in port, so to speak—and would be tempted to employ a Unix-style command-line interface in preference to the trackball while en route.

### The Display

The built-in screen emulates the 640x400 monochrome display of the ST and covers about the same area as the display of an SM124, if not a little more. It thus offers excellent legibility. Though original product descriptions and literature specified a backlit display, the current specification is for a reflective SuperTwist LCD—don't count on using Stacy in the dark.

The only slightly strange thing about the LCD, as compared to the SM124, is that its pixels activate marginally too slowly to quite keep up with the speed at which things happen on an ST screen. Fast-moving objects—such as the mouse cursor—tend to fade out as they traverse the screen, reappearing when they come to a stop. This is more distracting than annoying and is offset by the fact that the cursor tends to move more slowly under trackball control than under control of a conventional mouse.

The slow speed at which pixels dark-

en on the LCD might also explain the absence of a blitter chip in Stacy—the built-in screen doesn't work fast enough to take advantage of the extra speed offered by the blitter.

To the right of the LCD display is mounted a protective cover that fits atop the trackball, holding it steady when the machine is in transit. South of this cover are two knurled dials for controlling speaker volume and display contrast, a bank of busy lights for the built-in floppy and optional built-in hard disk, a low battery indicator, and the speaker grille.

The battery pack, containing eight rechargeable or alkaline C cells, fits into the left rear corner of the housing. Rechargeable cells are said to supply power for between 5 and 10 hours of use; alkaline cells for between 18 and 35 hours. This is considerably more economical than the performance you can expect from most other portables.

Continuing around the rear, we see, in a slightly more packed-together arrangement, all the ports we would expect to find on the backplane of an ST: printer port, DMA port, video port, RS-232 port, external floppy drive port, MIDI ports, and a power input jack (in this case, low-power DC, permitting Stacy to be run off AC or DC power—from a car battery, for example—depending on the adapter used).

Conventional mouse and joystick ports are also present on the right-hand side of the enclosure. On the left are a standard cartridge port and Mega ST-style bus connector.

### At Home or On the Road

The wonderful thing about Stacy, then, is that it can be your loyal traveling companion and double for your desktop ST, when you're at home. Just plug in a conventional monitor—color or monochrome—a regular mouse (unless you're a trackball fetishist) and an external hard disk, and you're ready to continue computing in couch potato mode.

Stacy is expected to be available in one-, two-, and four-megabyte configurations, though at the time of this writing, no prices had as yet been set for the 2Mb and 4Mb versions. A one-megabyte Stacy with built-in 720K, double-sided 3½" disk drive standard is expected to list in the neighborhood of \$1495. Adding an internally-mounted 20Mb hard drive will boost the price to a very reasonable \$1995. A two-floppy option may also be available. ■



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# Vidi-ST Video Digitizer

*Now you can capture moving video images with your Atari ST*

## Vidi-ST

**System:** Atari ST

**Version reviewed:** Color, 1.25;  
monochrome, 1.2

**Required equipment:** Composite video  
signal source (TV, VCR, video  
camera)

**Copy protection:** None

**Summary:** Captures moving video  
images on the fly. Samples at 4-bit  
resolution at approximately 6 MHz,  
producing 16-color images in low  
resolution and dithered images in  
monochrome.

**Price:** \$199.95

**Distributor:**

Computer Game Distributors  
P.O. Box 6144  
Orange, CA 92667  
(800) 443-8189

Imagine turning your Atari ST into an electronic video cassette recorder, sans videotape. The Vidi-ST interface allows the ST to capture moving video images and replay them as animations. It can also grab still frames that can be converted to *Degas* or *Neo-Chrome* picture files and saved on disk. The number of frames that can be captured is limited only by the memory available in your ST.

Unlike most video peripherals, which require several seconds to digitize an image and thus can't handle full-motion video in realtime, Vidi-ST can capture a frame in under 20 milliseconds. Up to 15 images per second can be processed, permitting the creation of animated clips several seconds long.

**The Hardware**

The Vidi-ST cartridge is about the size of a stack of nine 3½" floppy disks. The small plastic case contains three integrated circuits and sports three user-adjustable controls and a video-in jack. On the side of the unit is the cartridge port connector (see Figure 1). The fingers on this board appear to be of tin, which is more vulnerable to tarnish than the usual gold-colored alloy. A video cable and control software are also included.

The three controls permit contrast, brightness, and scanning frequency adjustment (see Figure 2). Only the contrast control has a knob—the others must be adjusted with a small screwdriver. Brightness, however, can also be controlled through the software, and frequency requires only occasional adjustments due to thermal drift.

**Setting It Up**

The Vidi-ST cartridge inserts easily and, once installed, lies flat on the tabletop next to the ST, eliminating stress on

the cartridge connector. Unfortunately for Mega ST owners, the Vidi-ST cartridge is just large enough to interfere slightly with the keyboard cable—a common annoyance with large cartridges.

Power for the cartridge is drawn directly from the port, eliminating the need for batteries or an external power supply. The cartridge may be left in place when not in use and does not appear to affect the functioning of the ST in any adverse way.

Vidi-ST requires a composite video source such as a VCR, laser disk player, cable TV decoder, or motion or still video camera. I tested the unit with VCR, cable, and a standard video camera. The best results were obtained using the camera—probably because it provides a very clean signal.

**The Software**

The software that comes with Vidi-ST is not copy-protected and can be installed easily on hard disk. Two programs are provided—one for color monitors and one for monochrome. The color version works in low resolution and is optimized to present what are essentially monochrome images in 16 shades of one color. The monochrome software seeks to obtain the same effect by using dithered black and white halftone patterns.

All images captured by Vidi-ST are in low res but are converted automatically to high res before being displayed on a monochrome monitor. This extra processing takes about one second per frame, making incoming video appear jerky on-screen when the monochrome software is used. Direct capture and display to the low-res color screen is much smoother, however, producing something of the effect of an 8mm movie.

The main screen for the software displays a standard GEM menu bar across the top and a Parameter bar across the bottom, both of which are overlaid on the current video image. Commands can be activated via the menus or by pressing key combinations. The controls are easy to master; I was able to capture video images without difficulty before even opening the manual.

The short, 16-page manual is clearly written and easy to follow. Though it lacks illustrations that might be helpful to the total ST/video novice, the average user will have no problem under-

By **BARON SEKIYA**





Figure 1. Closeup view of the Vidi-ST cartridge, showing the edge connector. The Vidi-ST main menu is overlaid on the image.



Figure 2. Front view of the Vidi-ST cartridge, showing the contrast, brightness, and scanning frequency controls.



Figure 3. Frame from a video taken outdoors in daylight. Note high contrast.

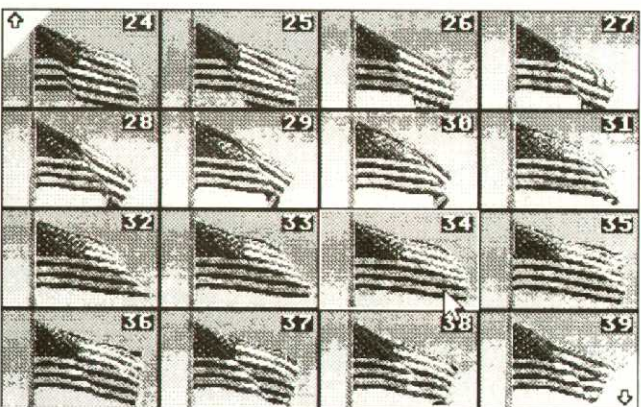


Figure 4. The Vidi-ST Screen mode, a function that lets you view 16 frames at once.

standing it. Advanced users and programmers will appreciate the technical documentation and tips on how to use Vidi-ST from within their programs (a machine language file called VIDICODE.BIN is included on the program disk to be loaded and called by any programs you care to write).

#### Capturing Images

Vidi-ST can capture incoming video images one by one, as stills, or in series at an adjustable rate of up to 15 frames

**Unlike most video peripherals, which require several seconds to digitize an image, Vidi-ST can capture a frame in under 20 milliseconds.**

per second. A 520ST holds about nine screens in memory, while an ST with a meg of memory can hold up to 25 frames. More memory equals more images; my 2.5Mb ST holds about 75 frames—roughly six seconds of video footage.

To maximize the number of images that can be captured, Vidi-ST should be run with as few desk accessories and as little memory-resident software as possible.

Software controls permit manipulation of the brightness and contrast of incoming frames. I found myself leaving the contrast control on its lowest setting most of the time to retain full tonal ranges, while varying the brightness control as required by the incoming picture. Achieving a good contrast/brightness ratio can be tricky. Live outdoor video footage, for example, seems to be too high in contrast for Vidi-ST to render properly—bright areas lose all detail, while darker areas fade to black (see Figure 3). Footage taken indoors or under less-bright conditions tends to fare better.

The only other variable you have to contend with—and this only when running the low-res version of the software—is color. Vidi-ST doesn't digitize pictures in color; rather, it translates them to a 16-shade grey scale, each shade corresponding to one of the 16 colors available in low-res. These colors



## PRODUCT REVIEW

can be set manually using the Control Panel desk accessory or all at once using one of the ten preset palettes included on the Vidi-ST disk. The Vidi-ST software also lets you save color palettes to disk for future use.

Captured frames can be viewed individually by clicking on the arrow icons next to the frame indicator on the Parameter bar. Clicking on the Screen command above the arrows allows you to view up to 16 frames at once in low-res (see Figure 4), with each little image that has been saved to disk labeled with its own frame number and filename.

In this mode, individual frames can be selected for viewing at full size. Unfortunately, due to the post-processing required to translate the 16-shade low-res images to halftones for monochrome display, users of the monochrome software cannot view multiple frames in this manner. Instead, they are obliged to page through multiple, full-sized images, one at a time.

The Vidi-ST software also includes functions that permit rudimentary image-editing. The Window command

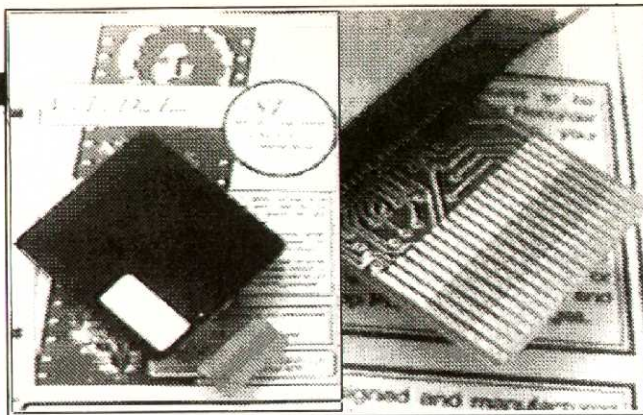


Figure 5. Vidi-ST editing functions at work. Here, a box containing a still frame (left of screen) is overlaid upon incoming video captured in realtime, visible at right.

lets you capture new video directly into a portion of an existing frame. Basic cut-and-paste functions are also provided, making it simple to overlay text and/or new images over animated sequences (see Figure 5).

### Conclusion

As a photographer, I felt right at home using Vidi-ST. Capturing a whole sequence of video frames was like using the motor drive on my 35mm camera. Looking at a screenful of image frames reminded me of scanning a contact sheet of photographic images.

Vidi-ST is unique in its ability to capture and save moving video clips in real

time. I was able to exploit this capability to advantage even when taking still video shots by holding a video camera in my hand and moving it back and forth as Vidi-ST sampled away, until I was sure that at least one frame was in perfect focus. Afterwards, I was able to pull the still frames I wanted out of the sequence of frames that had been saved.

About the only thing that I would wish to see added to Vidi-ST is, of course, true color digitizing capability. I am certain that that capability will be available sometime in the future, but until then, you can have a lot of fun and achieve some very exciting effects with the current version. ■

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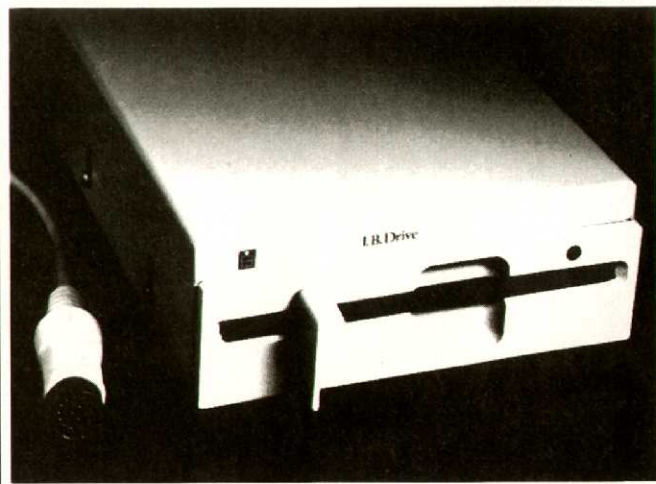
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*"Without a doubt, Calamus is the most daring entry into the desktop publishing market in years. It's a powerful program that incorporates all the best features of existing publishing products into a fast, easy to use product."*

*Start Magazine May 1989*

Calamus is a powerful, professional desktop publishing solution at an affordable price.

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- A built-in Text Editor
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**Linotype Interface**

The Calamus Linotype interface connects directly between the LI2 port on the Linotype Imagesetter and the DMA port of the Mega ST, bypassing the Raster Image Processor. Up to 2540 DPI generated entirely within Calamus.

**The Calamus Vector Font Editor**

For the creation and manipulation of Calamus "Designer" fonts and graphical objects.

*A partial list of features include:*

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Note: This page has been created entirely within Calamus and Calamus Outline and output at 1270 DPI on a Linotype L300 Imagesetter. Compugraphic® is the registered trademark of the Compugraphic Corporation. Calamus® is the registered trademark and tradename of DMC/Ditek International, represented exclusively in North America by ISD Marketing.

**A partial list of Compugraphic fonts for use with Calamus**

- Antique Olive
- ITC Avant Garde Gothic Book
- Bauer Bodoni
- Brush*
- CG Century Schoolbook
- Coronet*
- Dom Casual
- English Times Extra Bold**
- Futura II Book
- Garamond
- Isabella
- ITC Korinna Regular
- Lucia Script*
- Modern Blackletter
- Old English

- CG Palacio
- Park Avenue*
- Raphael
- Revue Regular**
- Schneidler Black**
- Signet Roundhand*
- ITC Souvenir Medium
- CG Triumvirate
- Typewriter Large Elite
- Uncial
- Univers Medium
- Univers Extra Bold**
- Wedding Text
- ITC Zapf Chancery Medium
- Zapf Dingbats ☞ ☞ ☞ ☞ ☞ ☞ ☞ ☞ ☞ ☞



# Calamus in Wonderland

*Step through the looking screen into a desktop publishing world  
of bewildering variety and magically powerful features*

*Alice said, "Would you tell me, please, which way I ought to go from here?"  
"That depends a good deal on where you want to go to," said the Cat.  
"I don't much care where—" said Alice.  
"Then it doesn't matter which way you go," said the Cat.  
"—so long as I get somewhere," Alice added as an explanation.  
"Oh, you're sure to do that," said the Cat, "if you only walk long enough."  
—Lewis Carroll, Alice's Adventures in Wonderland*

Like Alice plummeting down the rabbit hole, users of desktop publishing software often find themselves in a strange, wonderful, and sometimes confusing environment.

For anyone who has taken pen and ruler to paper in an attempt to draw a straight line, there is a real thrill in watching a laser printer spew out pages of crisp lines, professional quality type, and clean, sharp graphics.

Yet the real magic of desktop publishing is in its interactive nature. Even if you are the least artistic among us, you can eventually achieve a design you can be proud of, because the computer allows you to see and change each element of the layout before printing it out. Whether you are putting together a report, advertisement, pamphlet, business card, or poster, you can rearrange the words and images until they look good and communicate exactly what you want to say.

Just like Alice, however, the DTP user may experience dislocations of logic and unexpected reactions in this world of "try it and see what happens." Unusual creatures in the form of mysterious menu selections may respond unexpectedly, the path through a maze of software details can become unclear,

and poor documentation can seem deliberately belligerent.

*Calamus* represents both the best and the worst in this DTP wonderland. The desktop publishing package from Ditek International in Germany comes to North America via ISD Marketing in Ontario. Its powerful strengths derive from some innovative program fundamentals which, unfortunately, also unavoidably account for some of its weaknesses. Still, it is a worthy contender in the growing ST/Mega software competition for the Atari DTP market.

## What You See Is?

One compromise most DTP software makes is in the quality of screen presentation. Type is typically represented on the screen with bit-mapped screen fonts, which can vary considerably from the vector graphic fonts used to produce the high-quality printed output. This defect becomes particularly glaring in the larger type sizes needed for headlines and ads.

What-You-See-Is-What-You-Get (WYSIWYG) may be the watchword of DTP, but it is usually achieved only in the approximate. Most programs allow you to subtly control the appearance, spacing, and placement of type, but you

must proof the page to the printer frequently to pick up refinements and corrections not obvious in the coarser screen fonts.

*Calamus*, however, is unusual in its use of vector fonts for screen display. Unlike the bit-mapped, raster displays used by other programs, these fonts look just like the printed results, because they are, in fact, the same fonts used for output. The vector graphic, or geometrical description, which is used to display each letter is the same one used to prepare the printed output. This mathematical description, known as an algorithm, can be magnified to any size without a loss of clarity. Figure 1 shows both printer output and screen display at actual size. WYSIWYG fans take note.

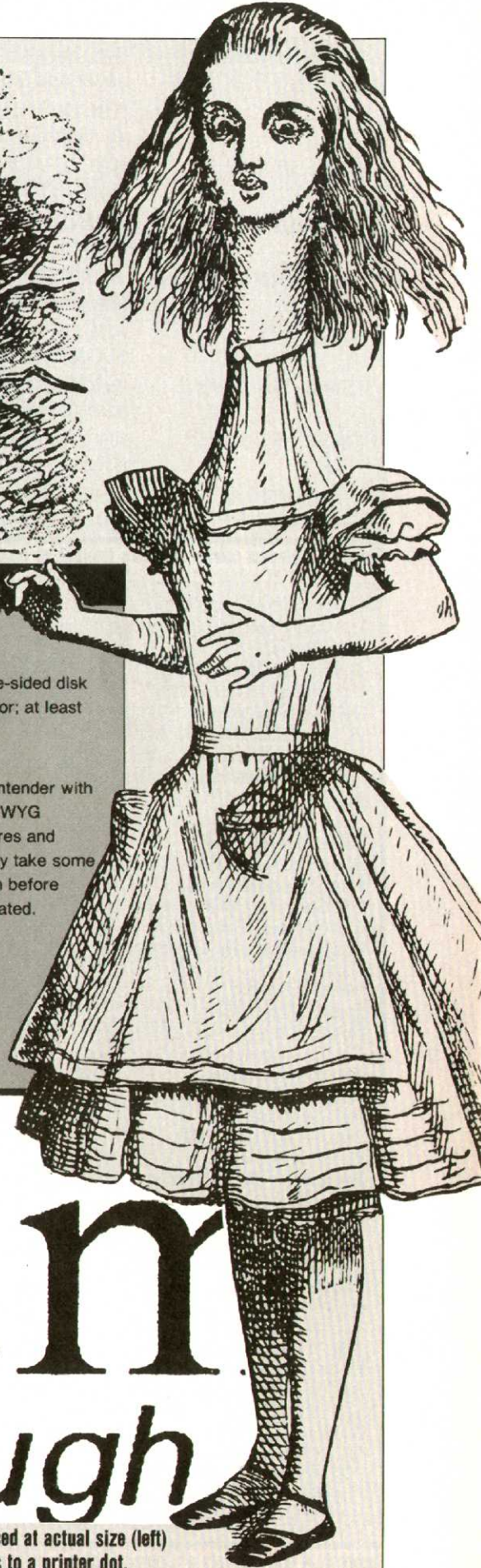
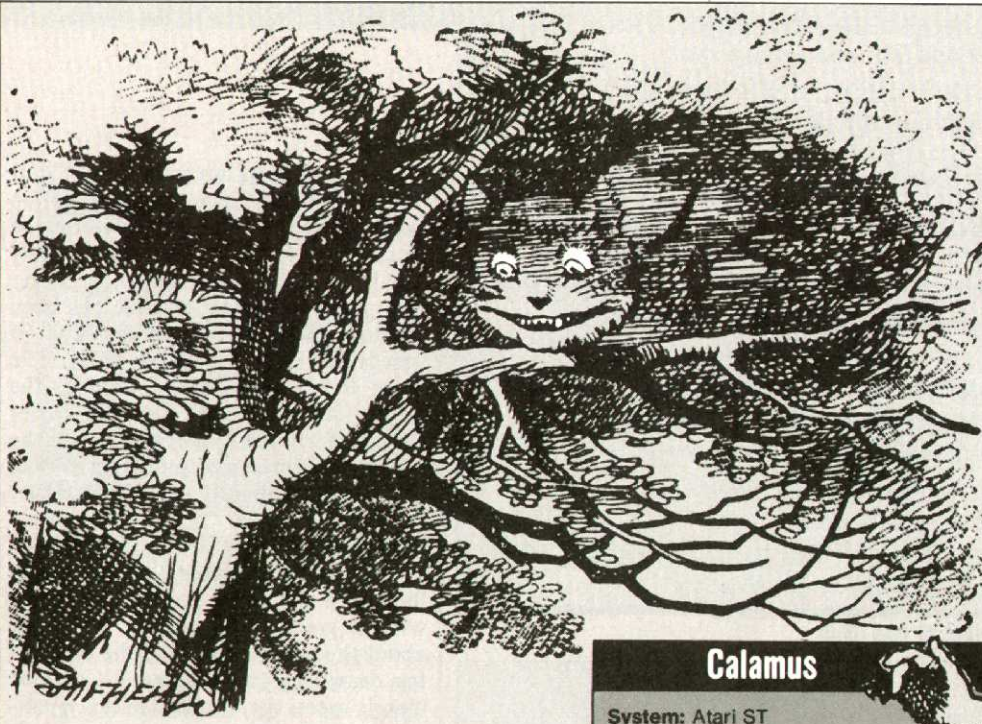
This control can extend to all areas of page design: rules, graphics, tint areas. The magnification of the viewing window can be adjusted so that the resolution of the screen corresponds to the resolution of whatever printer you are using. For example, when you view your page at 375%, each pixel of the Atari monochrome screen corresponds to a dot on the 300 dpi Atari SLM804 Laser printer.

Figure 2 shows a portion of the screen at actual size with the viewing magnification set at 375% compared to laser output mechanically blown up to the same percentage. WYSIWYG fans rejoice!

This powerful innovation in screen quality comes with an unavoidable price. An actual calculation is required to create the display of a vector graphic from

By PETER KELLEY





### Calamus

**System:** Atari ST

**Version reviewed:** 1.09

**Required equipment:** Double-sided disk drive; monochrome monitor; at least 1Mb of RAM

**Copy protection:** None

**Summary:** A worthy DTP contender with a uniquely powerful WYSIWYG display. A myriad of features and unusual icon interface may take some study and experimentation before their full power is appreciated.

**Price:** \$299.95

**Distributor:**

ISD Marketing  
2651 John St., Unit #3  
Markham, ON L3R 2W5  
(416) 479-1880

# Calamus in Wonderland

*Step through the looking glass  
world of bewildering variety*

Figure 1. A comparison of screen display (left) and printer output at actual size. What-You-See-Is-What-You-Get.

# Calamus

## Step through

Figure 2. A portion of the screen display with viewing magnification set at 375% reproduced at actual size (left) compared to laser printer output blown up to 375%. Each pixel on the screen corresponds to a printer dot.



Time 100:	ABCDEFGHIJKLMN <strong>OP</strong> QRSTUVWXYZ abcdefghijklmnopqrstu <strong>vw</strong> xyz
Time 100 italic:	<i>ABCDEFGHIJKLMN<strong>OP</strong>QRSTUVWXYZ abcdefghijklmnopqrstu<strong>vw</strong>xyz</i>
Time 50:	ABCDEFGHIJKLMN <strong>OP</strong> QRSTUVWXYZ abcdefghijklmnopqrstu <strong>vw</strong> xyz
Time 50 italic:	<i>ABCDEFGHIJKLMN<strong>OP</strong>QRSTUVWXYZ abcdefghijklmnopqrstu<strong>vw</strong>xyz</i>
<b>Swiss 100:</b>	<b>ABCDEFGHIJKLMN<strong>OP</strong>QRSTUVWXYZ abcdefghijklmnopqrstu<strong>vw</strong>xyz</b>
<b>Swiss 100 italic:</b>	<b><i>ABCDEFGHIJKLMN<strong>OP</strong>QRSTUVWXYZ abcdefghijklmnopqrstu<strong>vw</strong>xyz</i></b>
Swiss 50:	ABCDEFGHIJKLMN <strong>OP</strong> QRSTUVWXYZ abcdefghijklmnopqrstu <strong>vw</strong> xyz
Swiss 50 italic:	<i>ABCDEFGHIJKLMN<strong>OP</strong>QRSTUVWXYZ abcdefghijklmnopqrstu<strong>vw</strong>xyz</i>
Swiss 25:	ABCDEFGHIJKLMN <strong>OP</strong> QRSTUVWXYZ abcdefghijklmnopqrstu <strong>vw</strong> xyz
Swiss 25 italic:	<i>ABCDEFGHIJKLMN<strong>OP</strong>QRSTUVWXYZ abcdefghijklmnopqrstu<strong>vw</strong>xyz</i>

Figure 3. Calamus comes with two families of type fonts.

ITC American Typewriter Light	Modern Blackletter
ITC American Typewriter Medium	Old English
Antique Olive	CG Omega
<b>Antique Olive Bold</b>	CG Omega Medium
ITC Avant Garde Gothic Extra Light	<b>CG Omega Bold</b>
ITC Avant Garde Gothic Book	CG Palacio
ITC Avant Garde Gothic Medium	<i>CG Palacio Italic</i>
<b>ITC Avant Garde Gothic Demi</b>	<b>CG Palacio Bold</b>
<b>ITC Avant Garde Gothic Bold</b>	<i>CG Palacio Bold Italic</i>
Bauer Bodoni	<i>Park Avenue</i>
<i>Bauer Bodoni Italic</i>	Raphael
Bauer Bodoni Bold	<b>Revue Light</b>
<i>Bauer Bodoni Bold Italic</i>	<b>Revue Regular</b>
<b>Bauer Bodoni Black</b>	<i>Schneider Light Italic</i>
CG Century Schoolbook	<b>Schneider Black</b>
<i>CG Century Schoolbook Italic</i>	<i>Schneider Black Italic</i>
<b>CG Century Schoolbook Bold</b>	ITC Souvenir Light
<i>Caravel</i>	<i>ITC Souvenir Light Italic</i>
Futura II Light	<b>ITC Souvenir Medium</b>
<i>Futura II Light Italic</i>	<i>ITC Souvenir Medium Italic</i>
Futura II Book	<b>ITC Souvenir Bold</b>
<i>Futura II Book Italic</i>	<b>ITC Souvenir Bold Italic</b>
Futura II Medium	Souvenir Gothic
<i>Futura II Medium Italic</i>	Souvenir Gothic Medium
<b>Futura II Demi</b>	CG Triumvirate Ultra Light
<i>Futura II Demi Italic</i>	CG Triumvirate Light
<b>Futura II Bold</b>	CG Triumvirate
<i>Futura II Bold Italic</i>	<b>CG Triumvirate Bold</b>
Garamond Antiqua	<b>CG Triumvirate Heavy</b>
<i>Garamond Antiqua Kursiv</i>	Typewriter Large Elite
Garamond Antiqua Halbfett	Urcial
<i>Garamond Antiqua Halbfett Kursiv</i>	Univers Light
Garth Graphic	<i>Univers Light Italic</i>
<i>Garth Graphic Italic</i>	Univers Medium
<b>Garth Graphic Bold</b>	<i>Univers Medium Italic</i>
<i>Garth Graphic Bold Italic</i>	<b>Univers Bold</b>
<b>Helios Rounded Bold</b>	<i>Univers Bold Italic</i>
<i>Helios Rounded Bold Italic</i>	<b>Univers Extra Bold</b>
Isabella	<b>Univers Extra Bold Italic</b>
ITC Korinna Regular	<i>Wedding Text</i>
<i>ITC Korinna Regular Kursiv</i>	ITC Zapf Chancery Medium
<b>ITC Korinna Bold</b>	
<i>ITC Korinna Bold Kursiv</i>	
<i>Lucia Script</i>	

Figure 4. A wide variety of Compugraphic typefaces is available.

its corresponding algorithm. If *Calamus* had to perform this calculation each time a particular letter were to be displayed, it would work impossibly slowly. To speed things up, once a letter in a particular style and size has been created, it is saved in a memory cache of speedy rasters for possible reuse. The more RAM you have available, the larger this cache can be and the faster *Calamus* will run. Therefore, while the program operates acceptably on a 1040, it performs optimally on a Mega ST4.

### What You Get!

We have established that when you look at a *Calamus* screen, you know what is going to be printed. But what about the actual quality of the type being drawn by the program? *Calamus* clearly meets the standard of type quality being set not only by competing products for the ST but for the entire field of desktop publishing as well. The program ships with a sans serif font family called Swiss and a serif family called Time.

As Figure 3 shows, both font families come in different weights, specified as 25 for light, 50 for medium, and 100 for bold. Some desktop programs try to create these attributes artificially by manipulating a standard font for a lighter or heavier effect. *Calamus* gives you true light and bold for much better quality.

In addition to the workhorse fonts provided with the program, a wide range of Compugraphic typefaces is available for *Calamus*, as shown in Figure 4. These are high-quality versions of typefaces licensed by Compugraphic Corp. which have long been recognized as typesetting industry standards. Employing a typeface like Garamond, for example, links your computer directly to some of the earliest typesetting traditions and brings the aesthetics of its 16th century designer to the late 20th century.

### With Friends Like These

Most GEM-based applications use pulldown menus to select program functions. Dialog boxes are called out by particular selections for greater control of specific features or for input of program values. Many programs couple these menus with a toolbox of functions constantly available at one side of the window in which the active file is viewed.

*Calamus* describes its interface as "extremely user-friendly." An abun-



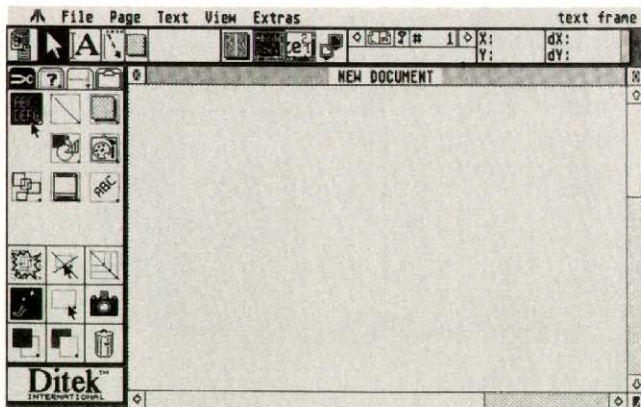


Figure 5. The start-up screen.

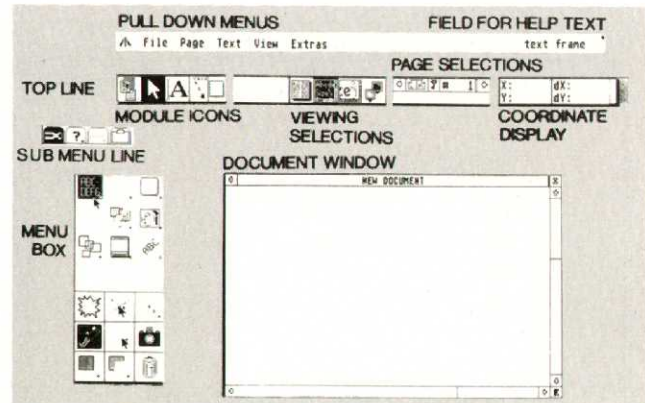


Figure 6. An exploded view of the Calamus screen, labeling the different icon fields.

dance of icons justifies the usual conception of this overworked term, and at first glance the startup screen seems to present the familiar combination of pull-down menus and toolbox icons (Figure 5). There the resemblance ends, however, because *Calamus* actually relies on a complex hierarchic layering of icon menu with icon submenu, which can be confusing and cumbersome. Figure 6 shows an exploded view of the screen components.

On the top left are indeed the familiar pull-down menu selections. Below them across the width of the screen is the Top Line. Four small icons immediately below that on the left are the Submenu Bar; the Menu Box is the larger box, containing a grid of icons, that fills the remaining space on the left.

Let's begin with the five icons on the left side of the Top Line. These are referred to as module icons and correspond to different modules or modes available within *Calamus*. Clicking on different modules changes the submenu line to make different options available. Each of the five different submenus offers between one and eight selections. Each of these submenu selections corresponds to a different menu box and will display it when clicked, making available the actual program operations.

Thus, to access all the different program functions, you ultimately need to access 20 different menu boxes through a hierarchy of modules, submenus, and menus. (See Figure 7 for a family tree of this hierarchy.) You will eventually become accustomed to the logic behind this organization, but like Alice, you will find your initial encounter with this wonderland of features bewildering.

Fortunately, the program provides an on-screen translator for its myriad of icons, many of which are somewhat ob-

MODULE	SUBMENU SELECTION	MENU BOX CONTENTS	
LAYOUT	Layout Assembly	9 functions	
	FRAMES	Frame General Functions	17 functions
		Frame Special Functions	
	Text Special Functions	15 functions	
	Vector Graphic Sp. Fncts.	1 function	
Raster Graphic Sp. Fncts.	7 functions		
	Rotated Text Sp. Fncts.	3 functions	
	Help Lines	20 functions	
	Clipboard	5 clipboard slots and 5 functions	
TEXT	General Text Functions	13 functions plus 2 yet to be implemented	
	Character Set Overview	window to scroll through the entire font	
	Dictionary	4 dictionary functions and 2 functions for character and word spacing	
	Text Rulers	17 functions	
	Font Menu	menu of loaded fonts	
	Font Size & Style	15 size choices, input field for user defined size, 5 text style selections, 2 functions and dialog box for miscellaneous additional style selections	
	Macro Handling	22 fields for macros and 6 functions	
	Text Clipboard	5 clipboards for text blocks and 5 functions	
LINES	Line Types	18 selections	
	Line shadow	standard Calamus dialog box to select fill pattern, orientation and offset for shadows	
	Line Raster & Style	standard Calamus dialog box to select line fill pattern, intensity, thickness, and style	
RASTER AREA	Area Type	15 selections	
	Shadow	standard Calamus dialog box to select fill pattern, orientation and offset for shadows	
	Raster	standard Calamus dialog box to select fill pattern and intensity for areas	
	Frame	standard Calamus dialog box to select fill pattern, intensity, thickness, and style for the lines which border areas	

Figure 7. A complex hierarchy of modules, submenus, and menu is used to access the different program functions.



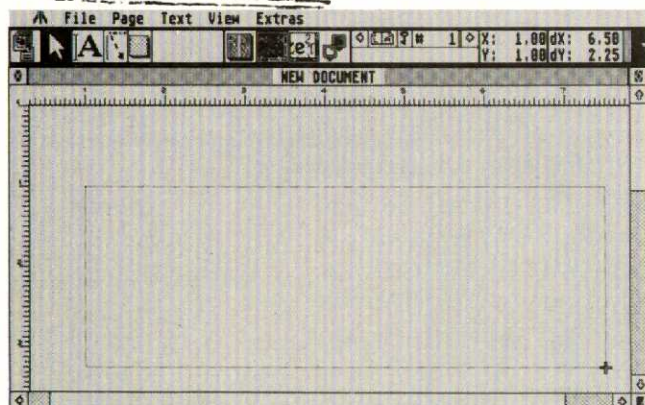
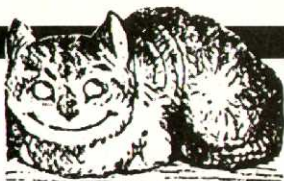


Figure 8. The coordinate field on the top right displays both the top left position of a frame and its size as it is being drawn. Note that the document window can be sized to overlap the menu boxes.

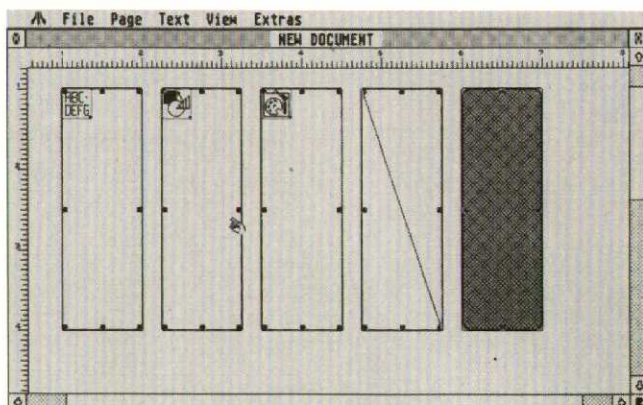


Figure 9. Empty frames are labeled by their type.

secure. The area to the right of the pull-down menus above the Top Line is a text field for this help feature. When the cursor is positioned over an icon, a description of its function is displayed in this field.

### The Bottom Line on the Top Line

Before turning to the specifics of the different modules and their various submenus and features, let's finish the description of the Top Line. It really isn't a toolbox in the sense that you do not select from it the operations you want to perform. It is like a toolbox, however, in that it is a continuously available field of icons.

It is, therefore, in some ways a more convenient way to access program functions than menus. For example, other desktop publishing software might require a selection from a pull-down menu to change viewing size, while *Calamus* makes this choice constantly available on the Top Line.

The module icons mentioned above clearly indicate which mode of operation you are currently using. The viewing option icons are immediately to their right. These allow easy shifting of viewing magnification: first, a reduced size to accommodate the full page within the window (page icon), second, actual size (1/1 icon), and third, user-defined magnification (symbolized by the 2/1 icon, because it is initialized at 200%).

The next icon to the right makes provision for an eventual second screen driver. According to the manual, *Calamus* will be able to drive a large-screen monitor, on which you will be able to view an entire 8 1/2" x 11" page. Imagine viewing your entire page, actual size,

without scrolling—DTP heaven!

The next five icons, bordered with arrow icons, control page selection. The arrows allow you to leaf forward and backward through a multi-page document, while the L and R icons indicate which side of a page spread the current page occupies. You use the key symbol to lock in the current page as right or left, or in conjunction with the left or

**WYSIWYG** may be the watchword of DTP, but it is usually achieved only in the approximate.

right icon, to switch it.

The page number box displays the number of the current page. This is the "physical" or actual number of the page, starting with 1 from the beginning of the document. However, you can arrange your own printed page numbers, or folios, any way you like. For instance, if you have a cover as part of your document, you probably don't want to start numbering your pages until the second or third one in the document, or you may use different numbers for an introduction or even start numbering over with each chapter. (A contrivance that the *Calamus* manual uses.)

Below the page selection icons is another help field similar to the icon translator at the top right. The keyboard equivalent for an icon, if it has one, is displayed here in a small key

symbol whenever the cursor touches the menu icon. *Calamus* even allows you to define your own keyboard equivalents for icons that lack them.

The remaining parts of the Top Line are the coordinate displays. The first is for current position (X and Y coordinates measured from the origin at the top left corner of the page). The second is the size field (dX and dY), which displays the size of the rubber band you stretch out as you are drawing a frame. Figure 8 shows these displays while a frame is being drawn. You can also change the size of a selected frame by entering figures here. This is a powerful *Calamus* feature, which gives you exact control of cursor position and frame size without resorting to another pull-down menu.

Let's now return to the first five icons on the Top Line, the modules, to explore their submenus and the features they contain.

### Pages

The first module is Page Setup. It has the simplest organization of the five modules, because its submenu contains only one icon and, therefore, only one menu box. The menu box offers nine functions which, with the help of dialog boxes, are used for saving, loading, deleting, and copying pages into or out of a document.

*Calamus* makes the distinction between entire pages (words and design) and layouts alone (the skeletal design structure of frames without their contents). By saving layouts, you can save and reuse your formats. This menu also allows you to insert blank pages into a document or change the order of existing pages.



### You've Been Framed

The arrow icon represents perhaps the most important module, Frames. Every element in a *Calamus* document must be created within a frame. In addition to being the shape that encloses any graphic element, whether text, rule, tinted shape, raster graphic, vector graphic, or rotated text, the frame also provides the means to control this element.

While in the Frame module, you can operate in either of two modes—Draw Frame or Change Frame—and switch between them by clicking the right mouse button. The familiar rubber band appears during the process of drawing frames, showing the size and position of the frame that will be created with a second mouse click.

When you change frames, eight small boxes appear on the perimeter of a frame selected. As in other page programs, the selected frame can be moved by clicking the pointing finger within the frame or resized by dragging on one of the eight boxes. Empty frames are labeled in the upper left corner to show their type (Figure 9).

When the Frame module is selected, the submenu reveals four icons. Three of these yield complete menu boxes of their own when selected. You will initially find yourself with the left icon (the pliers) selected, giving you the Basic Frame Functions menu (Figure 10). The third icon (dotted lines) accesses the Guidelines menu, and the fourth icon is the clipboard, which can hold five different frames in intermediate storage files.

The question mark icon (the second in the Frame submenu) is used to access four more menu boxes, giving a total of seven menus within the Frame module. These additional menus are for the special functions associated with four of the frame types—text, raster graphics, vector graphics, and rotated text frames. You must select one of these frame type icons from the Basic Frame Functions menu and then click the question mark icon to access the special function menu boxes.

This additional level of hierarchy for menu selection seems rather arbitrary—why should this one submenu icon need to branch into four menu boxes when every other menu box is accessed by a unique submenu icon? (And there are eight icons in the Text submenu, so it can't be that the submenu box would be too crowded.)

And to add to the confusion, you must

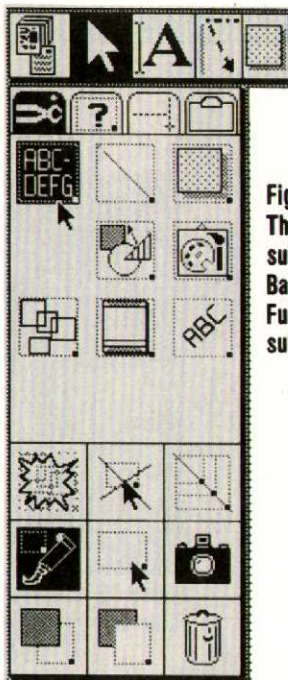


Figure 10. The Frame submenu and Basic Frame Function submenu.

remember not to click on the question mark if you have the icon for either lines or raster planes selected. Because these have no particular special frame functions associated with them, the program designers decided that this action would blast you into the Line or Raster Plane module through the back door as it were. Lewis Carroll had nothing on this!

Returning to the Basic Frame Functions menu shown in Figure 10: the top icons correspond to the different frame types available—text, lines, and raster planes on the first row; vector graphics and raster graphics on the second row; headline/footer frames and rotated text on the right of the third row after the frame grouping icon.

If you want to draw a particular type of frame, you must select its type first; conversely, if you select a particular frame in the document window, its type will automatically be highlighted (selected) in this menu. The Group Frame icon makes provision for grouping frames together so that they can be acted upon as a unit.

The lower part of the menu has additional functions. You can ungroup frames earlier combined. You can constrain any changes in the size of a frame to ones that maintain its proportions, or you can protect frames from any alteration at all. Other icons allow you to copy frames (camera), delete frames (garbage can), and select which overlapping frame appears on top (two lower left icons).

Finally, the current mode (Draw Frame or Change Frame) is displayed using the icons in the second row from the bottom on the left. Would it be nitpicking to ask why the Draw Frame mode icon is a tube of paint, while its

corresponding cursor is an arrow, and the Change Frame mode icon shows an arrow pointing to a frame, while its cursor is the pointing finger? Go ask Alice.

### Special Orders Don't Upset Us

Despite the circuitous route I complained about above, the Special Frame Functions menus accessed through the question mark icon are well worth the trip. In the Text Frame Special Function submenu, *Calamus* allows for the creation of footnotes and an indexing function. I must admit that, while time did not allow a full trial of these features, I am a bit suspicious of the indexing function: if it is fully functional, why doesn't the manual, which was produced on *Calamus*, have one?

The rest of this submenu gives you total control over the flow of text between frames in your layout (piping) and the later reconfiguring of that flow. Text can also be made to run around other frames, which are placed within or overlapping the text frame. This can create interesting layouts of a sort that is particularly difficult to do with conventional typesetting.

There are two special function submenus for graphics: one for vector graphics and one for raster graphics. These allow you to restore selected images to the size at which they were originally drawn—their "ideal" size. In the raster submenu there are also options for cropping and sizing to optimize reproduction of scanned or half-tone raster images.

The fourth special function frame submenu is for rotated text. It allows you to specify the angle to which a selected frame will be rotated or to restore an angled frame to a horizontal orientation.

### On the Dotted Line

The third selection in the submenu of the Frame module is for guidelines. As is typical of desktop publishing software, *Calamus*, allows you to display a grid of non-printing background lines on your screen. The measure (scale) of this grid can be defined in your choice of measuring units: inches, picas, or centimeters.

A set of horizontal and vertical rulers can also be displayed along the top and left side of the document window. In addition, individual auxiliary guidelines, either horizontal or vertical, can be added or deleted with the garbage can icon.

Page elements, or more accurately



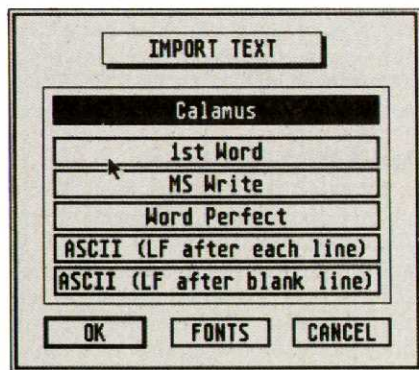


Figure 11. The Import Text dialog box supports a number of text formats.

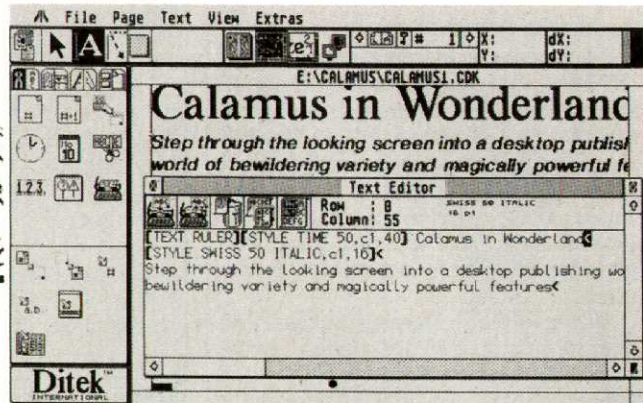


Figure 12. The Text Editor allows faster creation and editing of text. Ruler lines preceding text contain type specifications.

the frames containing the elements, can be "snapped" to the grid or guidelines when they are drawn or moved, allowing precise alignment. Grids and guidelines can be made invisible or shown on the display.

The borders of the frames can also be made to disappear, making the screen look more like the printed page. Generation of the screen display can be speeded up by turning off the display of specific types of frames. For example, you can turn off the graphics displays when you are working on the text and vice versa.

It is easy to create standardized column layouts with the Multi-column Guideline feature. This allows you to define the margins, the gutters (space between columns), and the number of columns in a set of guidelines. Then, with the snap feature on, you just create frames that automatically fit themselves to your guideline layout.

A final option in the Guidelines menu allows you to select an expanded cursor style, crosshairs, which stretches intersecting lines over the entire screen and allows you to determine positions with great accuracy.

### The Last Frame

The last frame submenu option is the Clipboard. Unlike other DTP software, *Calamus*, sports five separate clipboard slots. You can cut and move or simply copy any kind of frame between pages or even between documents. The top left corner of the frame is displayed in the clipboard along with the frame type icon.

We have now covered the frame management and creation features of *Calamus*. Before we move on to the Text module, however, we should mention some special word processing features.

### I'd Like to Have a Word . . .

When you want to place text in a *Calamus* layout, you can open a text frame and import text files generated by a word processor. The program supports several import formats, and more are planned (Figure 11). If you are familiar with other DTP software, you might think you could also create text by simply opening up a text frame, positioning the cursor, and letting rip with that deathless prose . . . well, not quite.

**Unlike other DTP software, *Calamus* sports five separate clipboard slots.**

Even if your typing is two-finger hunt-and-peck, you will easily outstrip the program's ability to generate the screen display (remember those calculations needed to create vector graphics). You will find yourself looking at an empty screen until you stop typing and allow the program significant time to create the screen display. On a program such as *PageStream*, which uses raster display fonts, the integrated word processor may not match the speed of a *WordPerfect*, but it is usable. The makers of *Calamus* dealt with this structural drawback with a neat scheme to piggy-back an essentially independent word processor onto the program and link it to the DTP software through a separate window.

The word processor can interact with any selected, active text frame in the

open document, allowing changes on the text to be made rapidly in the text editor and flowed into the frame. Type specifications entered in the frame can flow back to the processor and appear as parameters in what are called "text rulers" that precede the text. Icons in the text editor control this flow back and forth and display or hide the text rulers as well. Figure 12 shows the text editor.

While this is an extremely ingenious structure, it becomes quite cumbersome in actual use. For large blocks of text, you will probably find it much easier to import text from an outside word processor than to use the one that comes with *Calamus*.

For an explanation of the type specification functions and control of text formatting, we now return to the the third Top Line module, the text mode.

### The Big A

The submenu of the Text module contains eight icons, providing access to eight different menu boxes. We can summarize these menus quickly. The first, General Text Functions, allows you to insert date, time, page, or chapter number references into the text. Most commonly, you will use this menu to open the text editor discussed above.

The second menu displays the characters of the currently active font selection in a series of "pages" the size of the menu box. In addition to previewing the entire character set of the font, you can use this menu to insert characters that are not called directly by the keyboard (like the British £ or accented vowels). With the insertion point marked in an active text frame or in the text editor, you simply click the desired character in this menu, and it appears in your text.

The third Text module menu accesses the automatic hyphenation option,



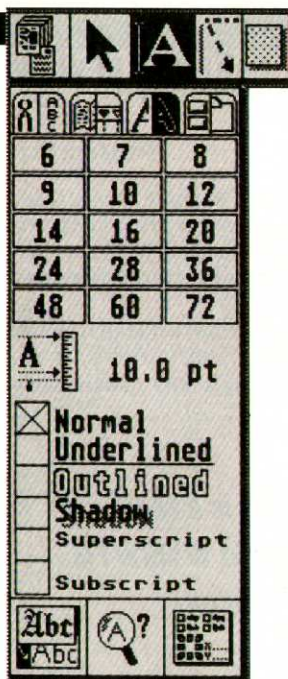


Figure 13. Type size and style are chosen from this menu box.

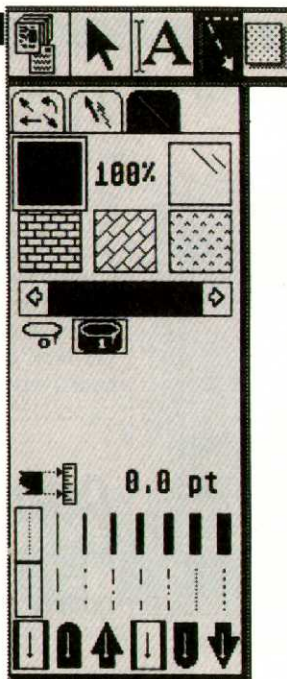


Figure 14. There are many options for line thickness, fill pattern, and end style.

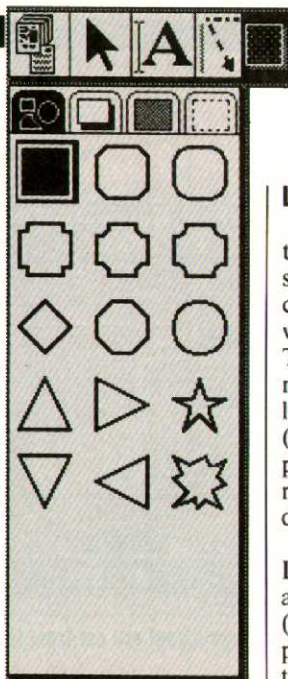


Figure 15. The Raster Plane Shape menu should satisfy most geometers.

which adds hyphens when text is imported. A dictionary of hyphenation exceptions is opened and controlled through this menu. Hyphenation can also be performed manually within a document. Two other functions, Word Spacing and Letter Spacing, are also found in this menu, although the manual admits that they would be more appropriate in the next menu and are placed here (where you can easily forget them) for reasons of space.

Ruler Line Operations, the fourth menu, controls line spacing, or leading, and the commands for flush left, flush right, centered, and justified text settings. It also accesses the ruler lines, which contain format information about blocks of text. When the rulers are displayed, they show any tab and indent settings for the text with actual pointers. Also embedded in the rulers are the settings for justification and line and paragraph spacing. While this information is only obvious from the menu box where it is displayed, it affects any block of text to which the ruler applies. The rulers and their format information can be copied to a clipboard and inserted in or deleted from the layout.

The fifth menu in the Text module is the Font Selector. The current selection from the available loaded fonts is shown in reverse video. The choice of text color (black or white) is also made here.

The next menu serves to specify the size and style of the type (Figure 13).

The font chosen in the previous menu will determine bold and italic attributes directly. Other choices or combinations of styles can be selected here. The icon on the lower left is used to effect changes in style and font once they have been selected.

You can change the attributes of a block of text selected with the mouse (leaving other text in the frame unaffected), or you can change an entire frame. The middle icon on the bottom checks and displays the attributes of any selected text. The last icon accesses a dialog box that controls the miscellaneous text settings for shadow, underline, and outline position and thickness.

The seventh menu is the Macro Manager. This allows you to save rulers, style formats, or text as a defined unit which can be assigned to one key and recalled by pressing that key along with the Control key. This is a powerful feature, which can save many keystrokes. Lists of up to 22 macros can be stored and even saved for reuse in other documents. You can systematize style commands that will be used for similar jobs or later issues of a formatted publication.

The last menu in the Text module is the Clipboard, which like the frame clipboard, can accommodate five separate blocks. The text clipboard, however, stores the text contents of selected blocks rather than the entire frame containing the text. It can be used from the layout window or with the text editor.

### Lines and Planes

The fourth module is for lines and has three menus. The first controls line shape (diagonal, horizontal, vertical, curved, or angled) and where the line will appear within its defining frame. The second menu controls the placement and intensity of a shadow of the line, if one is desired. The third menu (Figure 14) controls line thickness, fill pattern, end style (pointed, square, rounded), and line style (solid, dotted, dashed).

The fifth and last module on the Top Line is for raster planes or shapes. Just as with lines, there are menus for shape (Figure 15), shadow control, and fill pattern. There is an additional menu that defines the line that makes up the border of the plane. You can use the planes as frames for other elements by selecting the transparent fill pattern.

### Keep on Pulling

We have now completed our tour of the wonderland of icons, but don't forget our old friends the pulldown menus. In addition to the Atari symbol, there are five options. Under the File menu are the usual disk control operations, printer control, import and export options, and Quit.

The Page menu duplicates some of the functions available within the Page module. However, the initial settings for the page layout are set here (Figure 16). In addition to page size and orientation, this dialog box lets you set margins and choose global units of measure. You can even allow the program to set the smallest possible margins given what the selected printer driver knows about the capabilities of your printer.

One small criticism: the dimension input fields throughout *Calamus* allow only two decimal places, even though the program is capable of controlling smaller dimensions. You may not think you need such fine control, until you realize that such a common measure as 1/8" (0.125") is unavailable. You won't have this problem, however, if you start out using picas, which are already much smaller than inches.

The Text pulldown menu contains a number of word processing functions, which are used by the text editor. These include search and replace options for text and for style attributes, defining blocks in the text editor, and the toggle switch to display text rulers. There is also a Reformat Document option, which processes and compiles all the variable structures, such as page num-



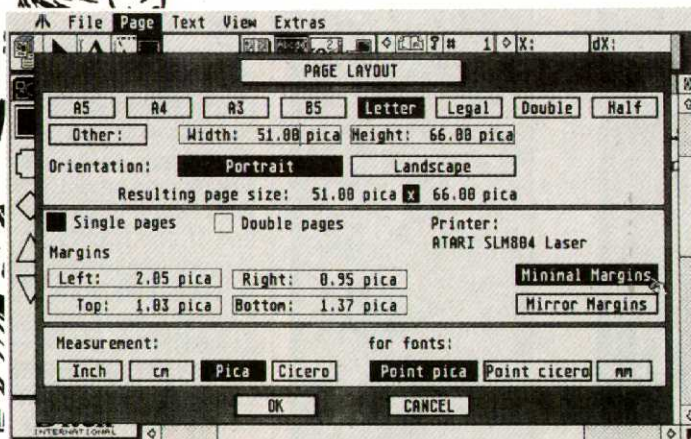


Figure 16. Initial settings for page layout are set from the Page menu.

bering, footnoting, and indexing, which you may have built into a document.

The Extras menu accesses a number of miscellaneous options. Most frequently you will use it to load fonts, but you can also check statistics on the current file and set the system file paths for documents, pages, text, fonts, and graphics. These settings can be saved and loaded as default parameters when the program boots.

Support for three scanners—Silver Reed SPAT, Hawk CP-14, and Panasonic FX-RS505—is available from the

Extras menu. Finally, there is a Select All option, which can be quite useful for highlighting entire frames of text without dragging the mouse or for selecting all the frames on a page for copy. This is another helpful feature which is hidden in an illogical location that you might have difficulty remembering.

#### Through the Looking Glass

*Calamus* is a unique and innovative DTP program with many powerful and useful features. It is a real breakthrough in WYSIWYG quality and control. It

allows on-screen kerning that takes place before your very eyes. The type is of a professional standard, and the variety and flexibility of features rivals any page program.

The documentation, while marred by the lack of index and tutorials, is exhaustively thorough and particularly

***Calamus*** is a real breakthrough in WYSIWYG quality and control.

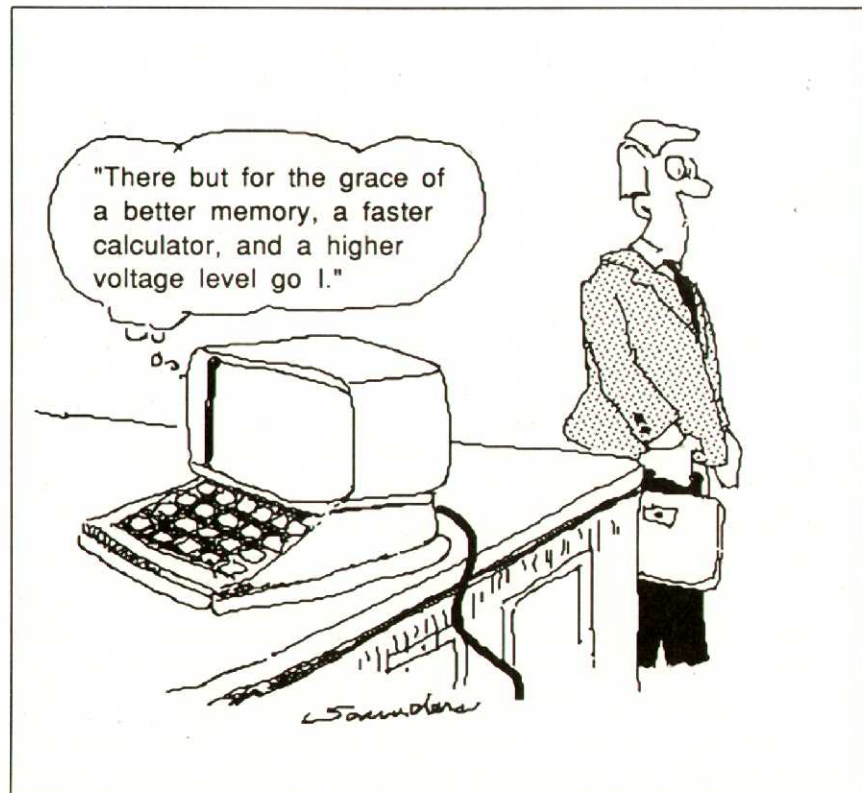
helpful in discussing the conceptual underpinnings of the program features. I even liked the spiral binding; while it is not as impressive as the hard cover binders considered standard for professional manuals, it lies conveniently flat, even when folded back on itself.

Because the program promises such power, its weaknesses are all the more frustrating. While the potentially confusing organization of the interface can be adjusted for with time, there are other, more significant, shortcomings.

The drawing capabilities for creating even simple graphics within the program are very limited. The text editor is also quite limited. And there is no provision for the compression or expansion of typefaces. Other DTP programs allow you to set short bits of type (like headlines) as if they were graphic rather than text elements and to manipulate them as such, *Calamus* does not.

Perhaps most important, there does not appear to be any provision to output files to PostScript printers. While *Calamus* laser output is second to none, the ability to access the typeset quality of a Linotron typesetter or its equivalent is rapidly becoming an industry standard for professional desktop publishing programs.

Program development is continuing, however, and at least some of these flaws are undoubtedly being addressed. The important thing to remember is that even now the power and features of *Calamus* far outweigh its problems. *Calamus* is an amazing program and will set a stiff standard of competition for future of desktop publishing software.





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Figure 1. To create a page in two- or three-column format, you must create two or three separate pages and paste them onto another.

# Signum 2

*Scan-Tech imports a feature-laden document processor that has already made its mark in Europe*

Falling somewhere between dedicated word processors and desktop publishing programs on the computerized word-handling spectrum, is *Signum 2* from Scan-Tech Business System. Called a "document processor" because of its immense positional control, the program has already taken Europe by storm.

The precision with which characters can be placed on a page—in increments of 1/90" horizontally and 1/54" vertically—makes *Signum 2* the ideal environment for creating scientific papers and foreign language documents in which the symbols, formulas, or text characters require accurate placement. Technical writers and college and university students, especially, will benefit from this versatility. Header, footer, page numbering, and footnote features add to the usefulness of the program.

Although the screen representation of the document in progress is WYSIWYG (What You See Is What You Get), *Signum 2* somehow offers

## Signum 2

**System:** Atari ST  
**Version reviewed:** 2.0  
**Required equipment:** 1Mb of RAM; 1 720K or 2 360K drives  
**Copy protection:** None  
**Summary:** A powerful, feature-laden, bug-free document processor  
**Price:** Canadian \$399.99  
**Manufacturer:**  
 Scan-Tech Business Systems  
 Box 9, P.O. Sub #11  
 Edmonton, AB T6E 2G0  
 (403) 446-1337

this benefit without bogging down as some desktop publishing programs have a tendency to do. Once I finally learned my way around the program, I was

**By PAMELA RICE HAHN**

amazed at how quickly I could zip through a document in progress.

While *Signum 2* does offer the option of switching the image display on and off, when working with clip art illustrations I found that the graphic displays didn't really hinder the speed at which I was able to scroll from place to place, so I chose to leave the display on. Scanned images do tend to appear somewhat muddy and dark on-screen, but for the most part, the accurate screen representation makes it unnecessary to print a document for proofing.

The creators of *Signum 2* chose to develop their own standard rather than utilize GDOS. Therefore, prior to booting the program, you must run an installation program. As mentioned, these routines do speed up screen redraws; printing speed, however, is somewhat slower than what I have come to expect from the GDOS-based Outprint Program supplied with Migraph's *Easy-Draw*.

Scan-Tech advises that a typical page will take 25 to 35 seconds to print out on an Atari laser printer and 5 to 10 minutes on a 9-pin dot-matrix printer. I did not have a chance to test those printers, but on a Hewlett-Packard DeskJet printer, printout times ranged from a minimum of 10 minutes to an I-could-grow-old-waiting-for-this 55 minutes for a page of three-column text.

Scan-Tech does offer an optional print spooler. I also tried using some public domain spoolers I had on hand, but for some reason the program didn't recognize them. The printer routines supplied with *Signum 2* can be used from within the program or, as with Outprint, booted directly from the desktop.

Probably the biggest plus that the *Signum 2* installation routines offer over GDOS is the way they handle memory. GDOS uses lots of it. I have a 520ST that has been upgraded to 1Mb memory. Since I started using my DeskJet and converted all my programs to include the 300 dpi fonts it is capable of printing, I have repeatedly run out of memory.

I have often had to rewrite my ASSIGN.SYS file so that only one or two font sizes are loaded with whatever program I am using at the time, and even then the program sometimes chokes before I have completed the first page, refusing to let me insert any graphics,





Figure 2. Editing of two- and three-column layouts must be done on the original separate pages. Multi-column pages cannot be edited.

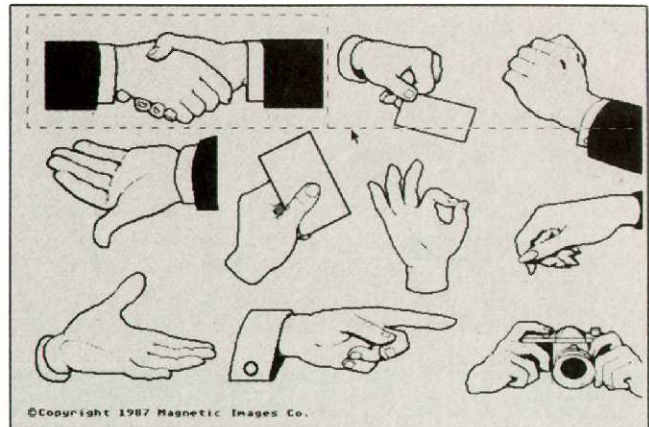


Figure 3. The cropping tool allows you to select a portion of an image to be pasted on a page.

because I simply don't have enough memory available.

I have never had that problem with *Signum 2*; a *Signum* document can be up to 100 pages long. So far, I haven't created anything that lengthy; I did, however, create a six-page document that included numerous illustrations, and the free memory indicator told me I still had 300K available. The compression routines do make a difference!

Because the program, the font editor, and all the files needed for the fonts fit easily on a single 720K disk, I chose to run the program from a floppy rather than a hard disk. Once the program is loaded, it accesses the disk only during the printer routines, so unlike to some similar programs *Signum* does not make you want to run out and buy a hard disk.

It is not, however, copy-protected, so you can easily run it from a hard disk if you want to.

### Multi-Column Text

*Signum 2* departs from expected page-creation procedure in the way in which it creates multi-column text. Although it took some getting used to, I now prefer the way the program handles multiple columns because of the versatility it provides.

*Signum* formats a single, multi-column page by pasting several pre-created pages onto the first page of a document. In other words, to create double columns as shown in Figure 1, pre-formatted source pages 2 and 3 are pasted onto page 1 in the width each column occupied on its original page.

A three-column page like the one shown in Figure 2 can be created in the same manner by formatting pages 2, 3, and 4 even wider margins prior to past-

ing them onto the first page. This method of page creation makes it easy to mix a variety of column sizes on a single page. The only drawback is that it requires you to return to each individual page to edit the document, because corrections cannot be made on the multi-column page. This isn't a serious draw-

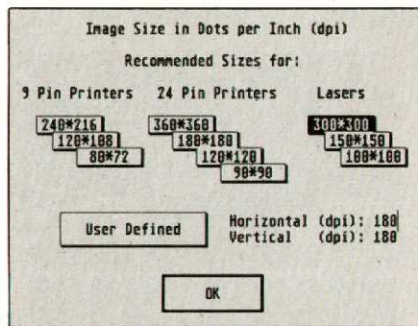


Figure 4. Images are sized by choosing the appropriate print resolution from this dialog box.

back, however, because it takes very little time for *Signum* to paste up the page after you have made your corrections.

The automatic hyphenation routines make resizing and formatting the text a snap. The program is especially intuitive when ASCII text is imported, recognizing and inserting the paragraph breaks.

### Graphics

As mentioned above, the unique *Signum* compression technique does a great job of handling screen redraws when graphics are present. The downside to this is that you can import only graphics that are in *Signum* format.

This is more an inconvenience than a problem, because Scan-Tech includes

with the program a screen capture accessory, which allows any image that can be shown on the screen to be saved in *Signum* format. I have slideshow-type programs for *Degas*, *NeoChrome*, and .IMG format pictures, so I had only to display on-screen the images that I wanted to use in my *Signum 2* documents and then capture them in the new format.

All the images you include in a *Signum 2* document are saved with the document, which can make for a lengthy file. In my opinion, however, this is a small price to pay for the convenience of not having to remember where you have stored the images used in a document when you need to reprint it several months down the road. Everything—text, fonts, format, and images—is saved with the document.

To illustrate the use of graphics, I chose to capture several pages of clip art I have from Magnetic Images. The screen capture program uses the file name assigned and then numbers the images according to the order in which they were saved—Magnetic.I01, Magnetic.I02, and so on.

Figure 3 shows the cropping tool used to select the portion of an image you want to paste on the page. The arrow points to the baseline of the image. Images are sized by choosing the appropriate print resolution for the picture (Figure 4). In addition to illustrating image size, Figure 5 also shows some sample dingbats from the Graphic1 font as well as a box created using that font.

Because text can be placed over or inside an image, it is actually more convenient to create text boxes using a program such as *Degas* or *Easy-Draw* and then use the *Signum* screen capture function to import them onto a *Signum*



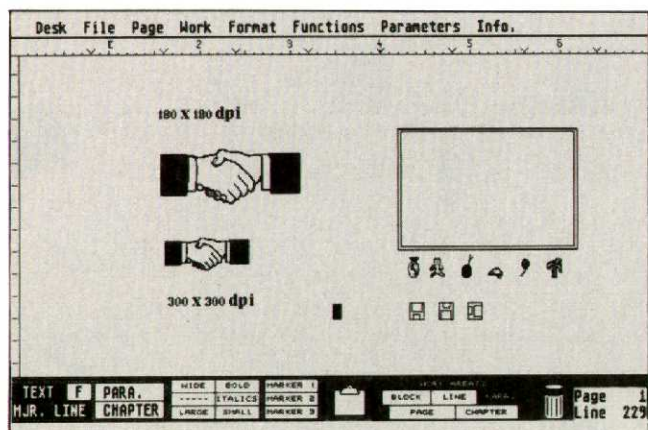


Figure 5. Examples of pasted clip art, ding bats from the Graphic1 font, and a box created with that font.

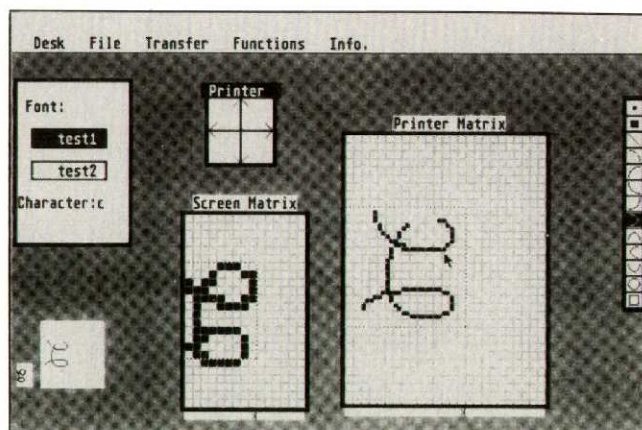


Figure 7. *Signum 2* provides a font editor for users of 9- and 24-pin printers.

page. Text placed inside the box shown in Figure 5 will move the right-hand edge of the box as each character is inserted, because an image created with a font is treated like text.

Figure 6 shows several *Degas* pictures from Current Notes Disk 161, which were captured in *Signum 2* format. They were originally low-resolution images. The bottom portion of this figure illustrates the text positioning capabilities of *Signum 2*. I chose to print the images at normal density at 300 dpi. You also have the option of making your pictures lighter or darker.

To illustrate this article, I also saved most of the screens in *Degas* format using a public domain snapshot accessory. Since desk accessories cannot be accessed from within *Signum 2*, I had to either exit to the desktop or go to the printer routines portion of the program to save each screen. I tried to avoid doing this by using a snapshot program that automatically saves the screen to disk in *Degas* format in a sequentially numbered manner.

Unfortunately this was the only situation in which the program ever froze up on me, scattering bombs across the screen. I experimented with loading the snapshot program prior to running the installation program and vice versa. In both cases, I was able to save the screen from the desktop but always bombed out of the program when I tried to do so from within *Signum 2*.

**Fonts**

*Signum 2* comes with ten different fonts—Antikroa (Antique Roman), Fraktura (like the old German Fraktur), Greek, Mathsa (math symbols), Grotmika and Grotfea (a micro and small sans serif Grotesque), Grotlta

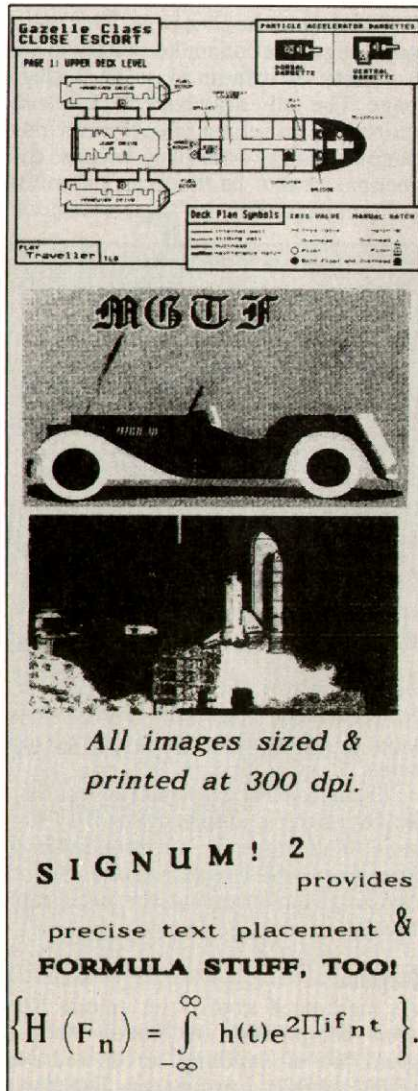


Figure 6. *Degas* images captured in *Signum 2* format. Below the images is an example of the text positioning capabilities of the program.

(Grotesque Light), Graphic1 (ding-bats), Normanda (Normandy Bold), and Pinsela (a calligraphy-style font).

A *Signum 2* page can contain up to seven different character sets. Each character can be represented in normal, bold, italic, small, large, wide, underlined, or any combination of these attributes. Thus, at this point, text size is limited to a choice of a small, normal, wide, or large representation of the actual font size. This means that you really cannot create large, eye-catching banners and headlines with the fonts provided. There are, however, two solutions to this problem.

*Signum 2* includes the font editor shown in Figure 7 for 9- and 24-pin printers. An additional laser font disk includes 300 dpi fonts, a 300 dpi font editor, and printer drivers for the Atari, Hewlett-Packard, and Canon laser printers. The font editor provides drawing tools, such as lines, curves, circles, ellipses, and boxes. Characters can be made to overlap one another or manipulated by mirroring, rotating, or stretching them.

Also, by the time you read this, Scan-Tech will have introduced an enhancement to *Signum 2*, which will provide scalable fonts to 99.9 points. A font editor that accepts scanned fonts will also be released soon.

Scan-Tech also has a wide assortment of additional character sets available for \$10.00 (Can) each. These include Times Roman, Old English, Rockwell, Souvenir, Latin, Russian, Celtic, and a Chemistry font. An optional Right-to-Left Cursor is also available, as is an assortment of other non-Roman fonts, such as Greek, Arabic, Bengali, Farsi, Hebrew, and Tibetan. In addition, because *Signum 2* has



**Unlike** some similar programs, *Signum* does not make you want to run out and buy a hard disk.

been popular in Europe for some time now, between 200 and 300 public domain fonts are currently available for it. Scan-Tech recently obtained copies of these and plans to release them soon.

#### The Bad News

So far I have confined myself to the good news—the splendid performance and unusual versatility of the program. Unfortunately, I suffered through quite a bit of bad news before I learned how to make the program perform at all; getting to know the program was a real chore.

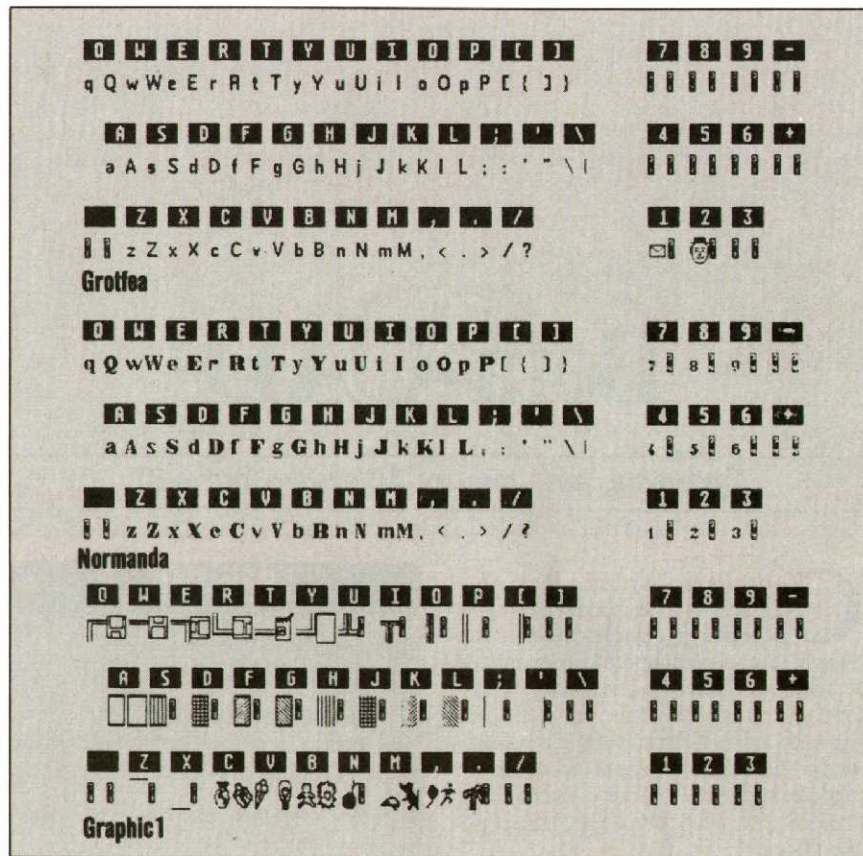
Perhaps it is because *Signum 2* was developed in Europe, and perhaps Europeans have different standards of intuition than we do, but I did not find *Signum 2* at all intuitive. My confusion and frustration were compounded by a non-intuitive, poorly-written 229-page manual.

The lack of any introductory tutorial instruction is the first flaw. The *Signum 2* disks don't even contain any example documents or graphics—a serious hindrance in a program whose format is incompatible with everything else you have ever dealt with.

The manual does have an index, but it offers no help initially, because the manual is so difficult to comprehend; knowing where to find the description of a feature or command does you very little good if you cannot understand the description when you get there.

Even after reading the manual through completely, I did not really feel confident of my understanding of the authors' explanations. Awkward/unfamiliar usage such as "whilst" and "it is not unwise" didn't help.

I spoke with Richard Telford at Scan-Tech who, since he uses the pro-



gram continuously and has obvious read the manual more than once, was able to provide help when I was completely baffled. I am almost embarrassed now that I think back on the simplicity of a few of my questions. Unfortunately, when the manual fails to provide the most rudimentary information, you are often reduced to asking "stupid questions."

Just as an example, many key program operations are invoked via combinations of keystrokes with the Control, Shift, and Alternate keys. The manual represents these as [C], [S], and [A]—a bit of abstraction that I missed completely [*Me, too.—Ed.*], because there is no explanation of terms or abbreviations. Without this one small bit of information, I was completely stymied when I first tried to use the program.

It is really a shame that such oversights have not yet been rooted out of a program that has established such a good reputation. A small amount of Beta testing would have allowed Scan-Tech to flatten the learning curve and lessen considerably the frustration the program metes out to beginners.

I survived the learning process because I am fascinated by page layout

programs; other ST users may be less tolerant. Right now, *Signum 2* simply takes too long to learn. Mr. Telford says he is working on a quick reference guide, which, if properly done, should be an enormous boon to new users.

#### Conclusion

Now that I have finally figured out how to use it, I like *Signum 2*. I would prefer speedier printouts, so I guess I'll have to add an Atari SLM804 Laser printer to my wish list along with the Mega 4 I've been craving.

The handling of graphics and scrolling within the program are both reassuringly fast, and I can import and export ASCII files, a feature that is especially useful to me, because much of the text I create is done on an IBM-compatible laptop. Speedy cut, copy, and paste are handled by a convenient clipboard.

You can do batch printing with the print queue, and GEM menus and mouse or keyboard control add to the versatility of the program. My only real complaint remains the lack of a tutorial and quick reference guide. Hopefully, Scan-Tech will correct that soon. ■



# Beta-CAD

*A powerful, easy-to-use CAD system for the ST*

Computer Aided Design—CAD—is the modern way to produce precise drawings that clearly convey technical information. While such drawings have been competently produced by hand for centuries, the need for high precision has recently made the use of computers commonplace in such fields as aerospace, genetics, digital electronics, physics, and chemistry.

But precision costs money, as Atarians who have shopped for CAD software will attest. Now, however, there is a competent CAD program for the Atari ST available for less than \$100.

In the following review of *Beta-CAD*, I do not compare the program with its competitors; nor do I attempt to list all its commands and features. Rather, my objective is to give you a feel for what the program can do and what it is like to use it. From that, I hope you will be able to decide whether it is the CAD program for you.

## The Interface

If you have never used a CAD program, you may find the *Beta-CAD* interface a bit strange at first. Rather than relying on eye-hand coordination to draw shapes with the mouse, you will find yourself calling on your right-brain to conceive the shapes you want to use and the relationships between them and on your left-brain to determine their technical specifications.

In *Beta-CAD*, shapes are generated from points. If for example, you want to draw a circle, you must either choose an existing point on the screen or place a new one to serve as the center of the circle. You then enter the diameter or

**Beta-CAD**

**System:** Atari ST

**Version reviewed:** 1.0

**Required equipment:** 520K RAM; monochrome monitor

**Copy protection:** None

**Summary:** A powerful, easy-to-use, yet inexpensive CAD program.

**Price:** \$89.95 til 9/30/89; \$139.95 thereafter

**Manufacturer:**  
Beta-CAD  
31 Millard Rd.  
North Attleboro, MA 02760  
(508) 695-9175

radius of the circle and watch as the computer generates the shape you have specified with up to three-digit precision in inches, feet, or millimeters.

The accuracy of your drawing, therefore, depends on your ability to place points correctly. Fortunately, *Beta-CAD* makes it easy to do just that.

The initial point in your drawing can be placed arbitrarily using the mouse. Each subsequent point can be placed in the same manner or, for greater precision, by keying in its position along set X (horizontal) and Y (vertical) axes.

Points can also be located in relationship to other shapes or *entities* on the screen. If, for example, you want to place a point exactly in the middle of an existing line, rather than place it man-

ually based on a visual estimate, you can place it precisely with the Point On a Line command.

Moreover, points that are likely to be used for reference in the drawing are placed automatically. You do not, for example, have to place points at the ends of lines and at the vertices of rectangles; they appear automatically.

In general, point-related commands provide a means of describing where the point should go, so the computer knows precisely where to put it. Most guesswork is eliminated.

Entity commands provide a means of generating and manipulating shapes with reference to points or other shapes. To draw an arc, for example, you indicate the point that is to be the center of the arc and then key in the starting and ending angles of the arc.

To generate a rectangle, you indicate a starting or corner point and then key in the X and Y dimensions. An angle can be added to a line by indicating the beginning and ending points of the line and then keying in the desired angle value.

You can duplicate shapes, moving them from one point to another, and rotate them a user-specified number of degrees about a point.

Obviously, you need a basic working knowledge of geometry to make the most effective use of *Beta-CAD*. You do not, however, have to be a mathematical genius; the interface is friendly and forgiving.

## Documentation

The manual was obviously designed with the non-CAD user in mind. It assumes nothing—not even that you know which side of the disk should face up in the disk drive. I wish more software developers would take this systematic approach to documentation; every beginner has to start somewhere, and the extra page of so of basic instruction that makes loading a program a rewarding rather than a frustrating experience is well worth the space it takes in the manual.

With the introduction accomplished, the manual proceeds to describe in alphabetical order the commands offered by the program. There are about 100 commands, many of which can be used in more than one mode.

Each command is described in detail, and an example, which is really a mini-

By LAWRENCE KILMER



tutorial, is provided to help you understand how to use it. As is appropriate to a graphics-oriented program, many of the examples include illustrations.

In addition to the hardcopy examples in the manual, Beta-CAD provides files on disk that you can use in conjunction with the tutorial to create a very effective learning environment. The last chapter carries the tutorial to its logical conclusion, leading you step-by-step through the process of creating a whole drawing.

The writing in the manual is direct and to the point—not exactly chatty and virtually devoid of style. But we are striving for technical precision here, not literary excellence, right? The only annoying error I found was the consistent misuse of “lets” for “let’s” (as in “let us”) throughout.

Literary style notwithstanding, the *Beta-CAD* documentation is well-designed and effective.

### The Project

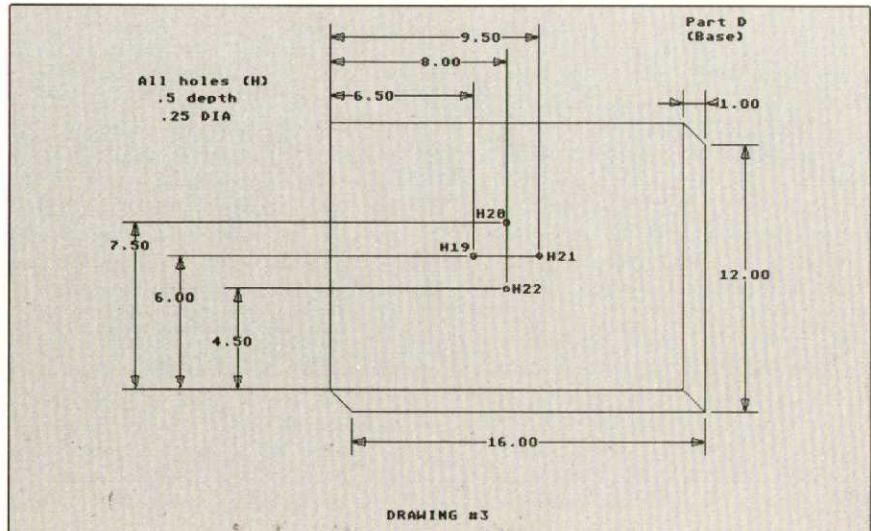
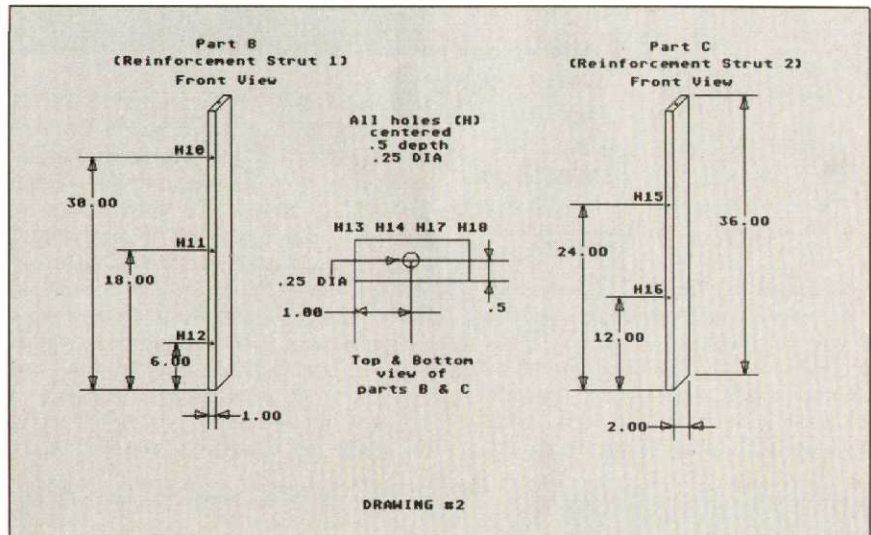
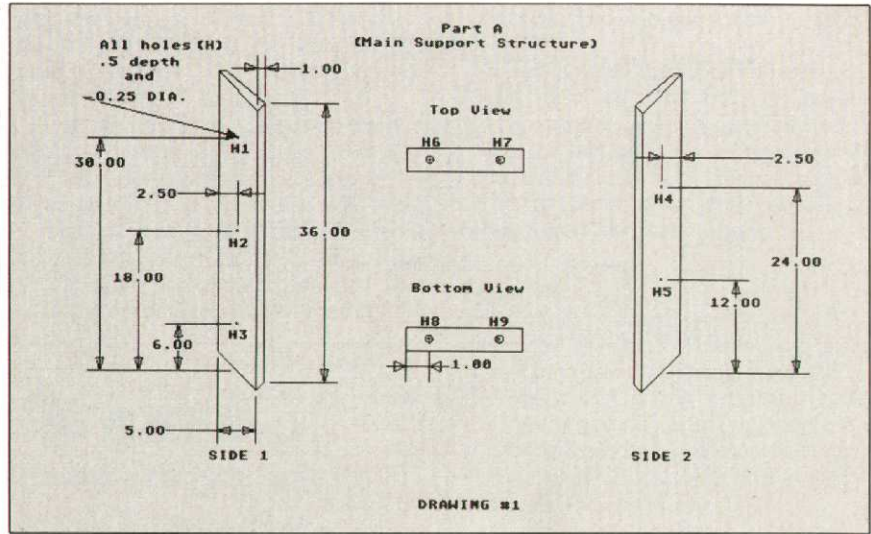
After studying the documentation and tutorial carefully, I decided to put *Beta-CAD* to the test by designing an all-wood speaker stand that could be glued together.

The project required six drawings of approximately the same difficulty. The first drawing took me two hours to complete. In that time, I began to understand the logic behind the program, however, and the second drawing took me only one hour to create. By the time I finished the second drawing, I had become familiar enough with the commands that I quickly completed the remaining four drawings in less than an hour.

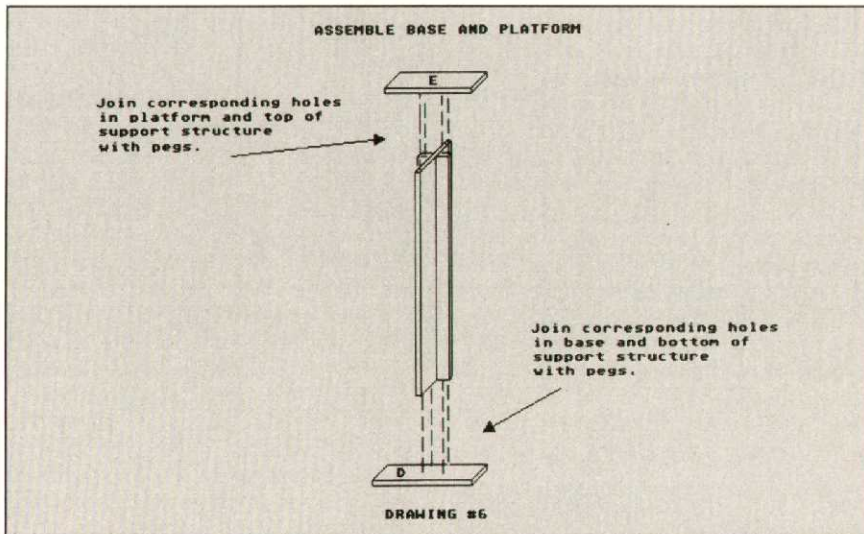
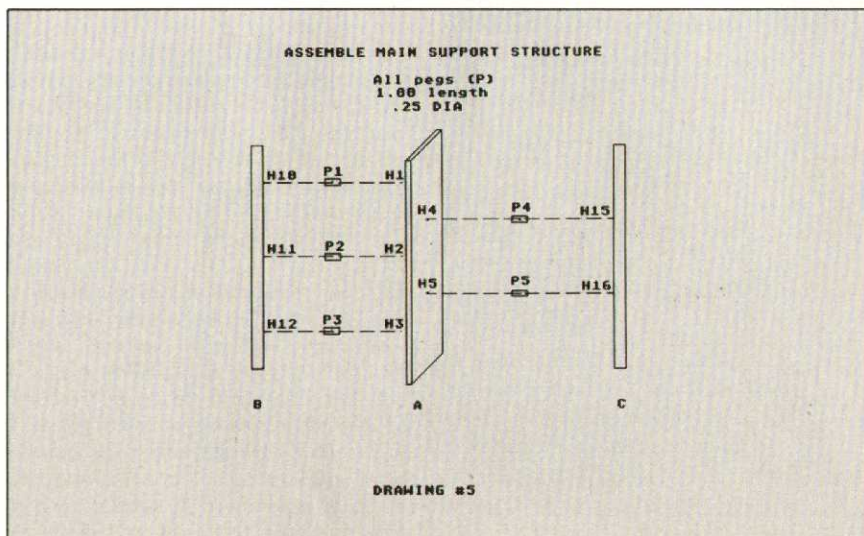
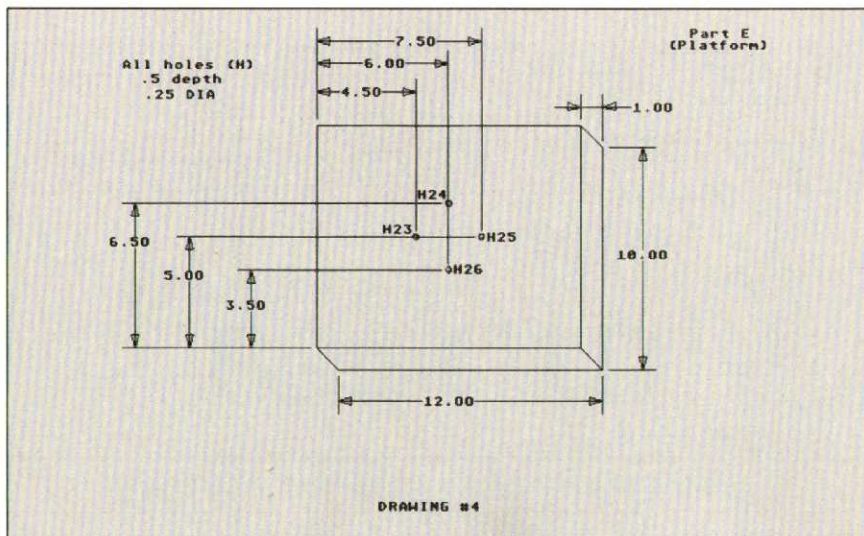
The main tools I used to draw Part A, the main support structure, were the Rectangle and Add Angle commands. To begin, I placed a point near the bottom of the screen. From this point I generated two rectangles. For the first, which was to represent the width of Part A, I keyed in dimensions of 5 for X (width) and 36 for Y (height).

For the second rectangle, which would represent the thickness, of Part A, I keyed in dimensions of 1 for X and 36 for Y. At this stage, the drawing looked like two rectangles of the same height sharing a common side. To transform these rectangles into a three-dimensional plank, all I had to do was add angles at the bottom and top.

With the Angle command, I indicated that the leading ends of the lines in both rectangles were to remain station-







ary and the trailing ends were to move. I keyed in angles of 45° and specified the direction in which they should open. Suddenly, in place of my two rectangles I had an object with height, width, and depth. I completed the top of the plank with two simple Line commands, and Side 1 of Part A was done.

But I also needed a view of the other side of the plank. Creating the view of Side 2 turned out to be the essence of simplicity. I drew a vertical line in the center of the screen and used the Mirror command to duplicate and reverse the image of Part A.

Next, I needed to indicate where I wanted holes to be drilled in the boards. I first used the Point on a Line command to find the center line of Side 2. To do this, I simply indicated the line on which I wanted to find a point and the distance from the end of the line the point was to be—in this case, half way. The program quickly located the center of the line and placed the point there.

That done, I generated a vertical line centered in the width of the plank, using the Extend Line command. When the command prompted me for the beginning point of the line, I indicated the center of the width. When it prompted for the X and Y locations, I entered 0 and 36 (the length of the line).

I then had a line on which I could place points that would be the centers of the holes. To place these points, I again used the Point On A Line command. Finally, I used the Circle command to place 1/4" circles on the points.

**Adding Dimensions**

To add the dimensions on the drawing, I used the X and Y Dimension commands. To indicate the height, I used Y Dimension, telling the program that I wanted to use the bottom of the board as my starting point and the top as my ending point. When *Beta-CAD* prompted for a place to put the dimension, I indicated a convenient spot just to the right of the drawing.

*Beta-CAD* keeps track of the dimensions of every object you draw, so once I identified the line, the program automatically drew in the number 36 and the leader lines and arrows. If you don't like the way the dimension notation looks, you can delete or relocate it.

The top and bottom views of Part A in Drawing 1 and Parts B and C in Drawing 2 are enlarged to show detail and so are not in scale relative to the rest of the drawing. I could not, therefore, use the automatic dimensioning technique just



described. I was, however, able to dimension these views manually.

First I used the Line and Angle commands to draw the leader lines and arrows. Then I used Word, a command that allows you to type up to one line of letters and numbers at a time and place them anywhere on the screen, to type in the number of inches.

To create Part B, I used the same technique I had used for Part A. I then invoked Duplicate, a command that allows you to designate all or a portion of a drawing and copy it to another point you choose on the screen. The point I chose was located with the Horizontal To Point command. First, I selected the point at the lower left corner of Part B. Then, when I moved the cross-hair to the right side of the screen and typed H, a point appeared directly in line with the point I had selected in Part B.

I selected the Duplicate command and was prompted for the start of the area I wanted to copy. I indicated a point just above and to the left of Part B. I was then prompted for the end of the region to copy and indicated a point just below and to the right of Part B.

A dashed, flashing box appeared around Part B, and I was asked whether I wanted to Copy or Move the drawing in that box. I chose Copy and was prompted to enter the point to copy from. I indicated the lower left corner of Part B. Finally, I was prompted for the point to copy to and indicated the point I had placed on the right side of the screen.

### The Powerful Point Command

For Drawings 3 and 4, I used the powerful Point command to find the centers of the rectangles. First, I found the centers of the bottom and right side lines of the rectangle, using Point On A Line. Then I chose Horizontal To First, Vertical To Second, which prompted for the first point—the one that would serve as the start of the horizontal line. I indicated the point in the middle of the side line and then followed the same procedure for the bottom line when prompted for the vertical point.

The computer then located the point at which the two lines intersected—the middle of the rectangle.

I wanted to locate the middle of the rectangle, because I knew that the holes would be  $1\frac{1}{2}$ " from the center at  $0^\circ$ ,  $90^\circ$ ,  $180^\circ$ , and  $270^\circ$ . Using the Key In Point command, I entered my starting point—the middle of rectangle. When asked for the X (horizontal) distance to

the new point, I entered 1.5. For the Y distance, I entered 0 and watched as a point appeared 1.5" and  $0^\circ$  from the center point.

For the remaining points around the center, I entered 0,1.5; -1.5,0; and 0,-1.5. I then used the circle command to place a  $\frac{1}{4}$ " circle around each point.

The dashed lines that appear in Drawing 5 were originally solid lines. While changing them to dashed lines with the Alter Graphic command, I dis-

**The manual was obviously designed with the non-CAD user in mind.**

covered that one of the options available from that command is Arrows, the use of which yields the attractive solid-headed arrows you see in Drawing 6.

In Drawing 6, the relationship between Parts C and A (not labelled in the drawing) presented a problem. I found no way to make the board in front appear opaque; the lower portion of Part A showed through Part C, making the whole thing look transparent.

I solved the problem in two steps. First I used the Erase command to remove the lower portion. Then, using the

Join command, I joined Part C to Side 2 of Part A.

When I typed the final instructions, I found the Word command a bit weak in that it requires you to type and place each line separately—no problem for dimensions and short labels, but a bit more trouble than necessary for longer descriptions and instructions.

### Conclusion

Well, there you have it—*Beta-CAD*, up close and personal. From this description, I hope you have concluded as I did that, like any CAD program, *Beta-CAD* requires an initial investment of time; you cannot sit down with this or any other CAD program and expect to be productive in minutes.

You can, however, probably expect to see results with *Beta-CAD* long before you could expect to see the same results with other, more complicated, programs. And the longer you work with the program, the less time it takes to complete each task.

The price for *Beta-CAD* is \$89.95 until September 30, 1989. As of October 1, it will cost you \$139.95, so if you think the program will meet your CAD needs, don't wait to try it.

*Beta-CAD* is easy to use, loaded with features, and probably the least expensive real CAD program you can buy. It is also probably the only real CAD program that will run on a 520ST—an advantage that 520-using designers and drafters cannot afford to overlook. ■

## Late News From Beta-CAD

I was impressed with the first version of *Beta-CAD* and now I find that the program has been made even better. An updated version now includes Splines.

A Spline was originally a small, pliable length of wood or metal that a draftsman would bend and use to assist him in drawing smooth curves. To achieve the same effect with *Beta-CAD*, you indicate the starting and ending points of the curve you want to draw and then add up to ten "bending" points. The program then automatically draws the curves through these points. The Spline command allows you to draw complicated curves for which the Circle, Arc, and Ellipse commands are not well suited.

The documentation has been im-

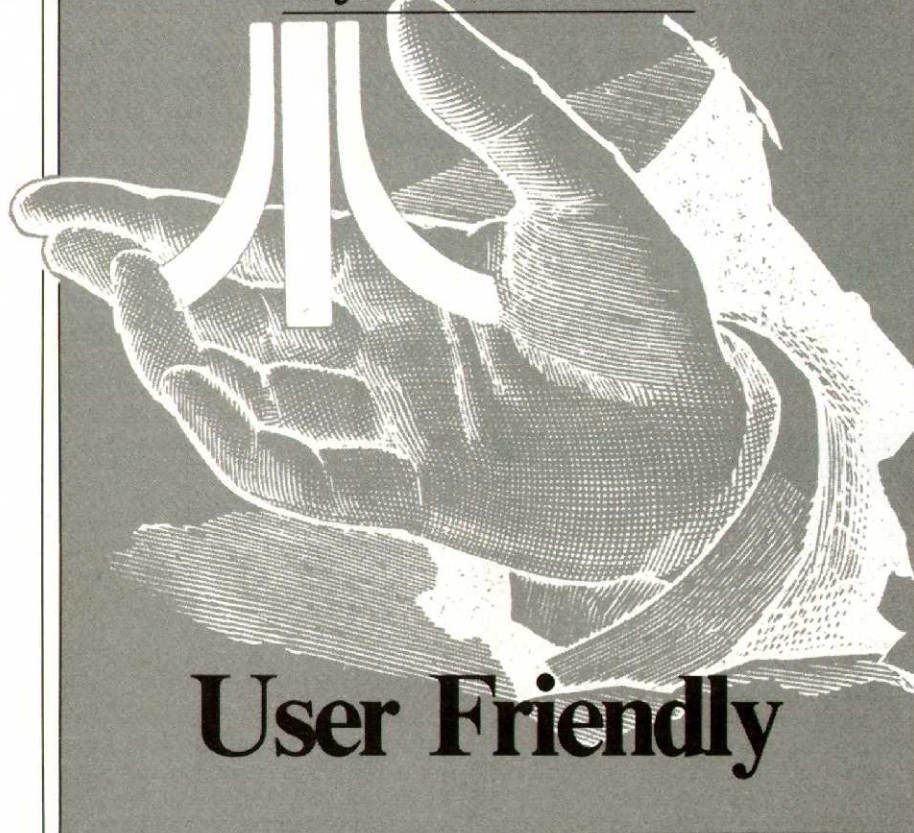
proved, too. In five easy-to-read pages, the introduction provides the Atari and CAD novice with the skills and terminology he needs to follow excellent tutorial.

Another improvement is the ability to save drawings as Graphics, or screen files, which preserve the screen image only and discard the memory-consuming, mathematical information associated with the entities. Graphics files can therefore be loaded more quickly.

As an aside, *Beta-CAD* has instilled in me a respect for GFA Basic. The program is written in GFA Basic 2.0 and is lightning-quick; the language is well suited for handling the heavy mathematical computations required by *Beta-CAD*. ■



**Speeding up your hard disk and  
using R-Time 8 with AtariWriter**



**By DAVID NOYES**

If you have an Atari ST hard disk system that doesn't seem to access files as fast as it once did, a public domain fix is as close as your modem. Browsing through my ever-growing pile of newsletters, I came across an article in the December, 1988, issue of the MVACE News (the newsletter of the Miami Valley Atari Computer Enthusiasts) written by their president, Douglas D. Hodson.

Entitled "Turbo Charge Your Hard Disk," the article outlines a procedure designed to effect considerable improvement in read/write operations with the hard disk by the simple addition of two programs to your AUTO folder. The programs, called Fatspeed and Turbosav, are available on MVACE's Blackbird ST BBS (FNET NODE 281)—(513)253-4898—and on numerous other ST BBS's.

Fatspeed is a program that increases

the searching speed of the File Allocation Table, or FAT, which holds a listing of all the files on your hard disk along with information on where the files are located. (It performs the same function for floppy disks.)

When you double-click on a program, the ST first searches the FAT for that file and all the information associated with it and then loads it. In the current TOS ROMs there is a bug in the searching process. The process is done correctly, but it is done very slowly. This slowness is imperceptible until your hard disk starts to fill up, at which time it becomes not only noticeable but frustrating—hard disks are supposed to be fast, no matter how full.

The second program, Turbosav, increases the write speed of your hard disk. Both files are to be copied into the AUTO folder on drive C of your hard disk. Simply copying them, however, is

not enough; to work properly, FAT-SPEED.PRGM must be the first file in the folder. Enabling your hard disk to operate at turbo speed can be accomplished by following these simple steps:

1. Create a temporary folder called TEMP.
  2. Copy all the files in your AUTO folder to the TEMP folder.
  3. Delete the folder called AUTO.
  4. Create a folder called AUTO. (Yes, the one you just deleted. Have faith!)
  5. Copy FATSPEED.PRGM into the new AUTO folder.
  6. Copy TURBOSAV.PRGM into the new AUTO folder.
  7. Copy all the files in the TEMP folder into the new AUTO folder.
  8. Delete the TEMP folder.
  9. Reboot your ST (a message on the screen will tell you that Fatspeed is loaded).
- Your drive is ready for turbo speed.

**SpartaDOS 3.2, R-Time 8, and AtariWriter**

For you 8-biters, I found an article in the March/April 1989 SBACE Gazette (the newsletter of the South Bay Atari Computer Enthusiasts) by Dick Reaser. The topic is using ICD's SpartaDOS 3.2 and R-Time 8 cartridge with Atari's AtariWriter cartridge.

Dick recently acquired the R-Time 8 cartridge, a hardware clock that plugs directly into the cartridge slot, providing the ability to time/date stamp your files. It interfaces either directly with SpartaDOS or through the Z: handler and allows you to piggyback another cartridge onto it.

The challenge was to get SpartaDOS 3.2, the AtariWriter cartridge, the R-Time 8 cartridge, and a printer driver to work together in double density, using Percom drives. Dick solved the problem with the help of Craig Thom of ICD's technical support department.

It is possible to run AtariWriter, load a printer driver, install a RAMdisk, work in multiple densities, and date/time stamp on a 130XE. To do so, you must first change the name of the printer driver created as an AUTORUN.SYS to PRINTER.COM. Next put PRINTER.COM and the SpartaDOS system files RD.COM and TDLINE.COM on a SpartaDOS formatted disk with X32D.DOS on it. This disk can be true double density if your drive supports it.

Finally, on the same disk, create a file named STARTUP.BAT that contains the following commands: KEY OFF, TDLINE, TD OFF, RD D8:, PRINTER, and CAR.

The batch file turns off the keyboard



buffer, installs the R-Time 8 handler, turns off the time/date display (because it crashes *AtariWriter*), creates an internal RAMdisk called D8:, installs the printer driver, and finally returns control to the *AtariWriter* cartridge.

The time/date stamp will not appear on the file index displayed by the *AtariWriter* cartridge, but it will appear if the disk was formatted in SpartaDOS format and viewed directly with SpartaDOS. This set-up will read both Atari DOS and SpartaDOS disks—single- or double-density.

Disks formatted from the *AtariWriter* menu will be in the same density and format (Atari DOS or SpartaDOS) as whatever was last read in the drive. You can even save and load files to and from pre-existing subdirectories. The only catch is that you can't read the subdirectory indexes from the *AtariWriter* cartridge menu, and full path names cannot exceed 15 characters. Nor is it possible to use the SpartaDOS Command Processor, but the added flexibility in terms of different density and DOS support is worth the sacrifice. ■

## Free Hardware For User Groups

Practical Solutions has announced the Atari Computer Enthusiasts Support Club for all Atari ST User Groups. The Club allows user groups to obtain one free copy of each Practical Solutions product for a one-time membership fee.

A group that wishes to join must submit a letter of application signed by an officer of the user group, a check or money order for \$25, and a request for the first product the group wants to receive (only one product at a time can be

requested).

The product becomes the property of the user group, which agrees to present it at a regular meeting and review it in an issue of its newsletter.

To receive a second product, the club must submit a copy of the newsletter in which the review appeared, and so on.

Letters of application and inquiries should be sent to Practical Solutions, Attn: ACE Support Club Coordinator, 1135 N. Jones Blvd., Tucson, AZ 85716, (602) 322-6100. ■

## Atari Faire In Southern California

This year's Southern California Atari Computer Faire will be held Saturday and Sunday, September 23 and 24, 1989, at the Glendale Civic Auditorium in Glendale, CA.

Hours are 10:00 a.m. to 6:00 p.m. on Saturday and 10:00 a.m. to 5:00 p.m. on Sunday. Admission is \$3.00 for Atari

user group members; \$5.00 for all others.

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# Software Survey

*A bundle of great games for 8-bit and ST gamers*

## Lombard Rally

**EASE OF LEARNING**

**CHALLENGE**

**GRAPHICS**

**DOCUMENTATION**

**OVERALL RATING**

**System:** Atari ST

**Required equipment:** Color monitor; joystick

**Copy protection:** Yes

**Summary:** A very nicely-designed driving simulation

**Price:** \$39.95

**Distributor:**

Top 10 Software  
40308 Greenwood Dr.  
Oakhurst, CA 93644  
(209) 683-7577



Driving games have been popular since the early days of coin-op arcades. The newest wrinkle in driving game design puts the player inside the car, rather than overhead as in *Spy Hunter* or behind the car as in *Pole Position*.

The first in-car game was *Test Drive* by Accolade, and now we have a European import that takes its theme from a famous British road rally.

Your goal is to compete in the Lombard Rally. To qualify you must run five courses and finish in the top three on at least one of them. Because it is a rally, you are not racing against other drivers

as much as against the course and the clock.

Because the game purports to be a realistic simulation, your car is not an indestructible super-vehicle. When you run into things along the road, you damage, at least to some extent, some part of the car—tires, engine, body, or suspension. If the damage reaches 100% on any of these, your car is finished.

Fortunately, you can take a trip to the workshop for repairs. Unfortunately, these repairs cost money. You start out with some money and can earn more by winning qualifying runs or by taking part in a TV interview.

Actually the interview is really just a five-question trivia contest concerning the actual Lombard Rally. Some of the answers can be found in the booklet that comes with the game.

The workshop also offers some useful add-ons, such as a bigger engine, fog lights, night lights, and four-wheel drive. But, of course, these too cost money.

Each course consists of three sections of road. Some sections pass through forested areas, some climb through mountains, some are fogbound, and some must be traversed at night. Each course

*Continued on next page*





has three set times for finishing in first, second, or third place. If you beat any of these times, you receive some prize money and an ovation.

The driving portion of the game is seen from the back seat of your Ford Cosworth. On the right side of the screen you see the driver—remember this is an English car. On the left side of the screen is the navigator, who is holding a map that shows the road on which you currently find yourself. Your dashboard contains the usual tachometer and speedometer along with some damage gauges.

This view is very nice, because when you do something, the onscreen driver mimics you. Steer by moving the joystick to the left, and the driver turns the wheel to the left. Shift up by pushing the button while the joystick is pushed up, and the driver reaches down and moves the stick shift.

The windshield, which occupies the top third of the screen, gives a great view of the smoothly moving road. You get a real sense of motion—especially when you are travelling on a hilly section of road. The view outside the car is also excellent and nicely detailed.

As you would expect, the game is equipped with a full complement of engine and crash sounds. At the start of a section of road, a starter flag is raised, and you hear a digitized (Scottish I believe) voice say, "1 . . . 2 . . . 3 . . . GO!"

The only thing missing from *Lombard Rally* is a Save Game feature. It is something of a pain to have to drive through all five qualifying courses every time you boot-up, so you can compete in the Rally.

If you have a double-sided drive, the game plays a very catchy digitized theme song that includes the sound of a race car zooming by. You actually feel as if a car has just passed you and is heading off into the distance.

*Lombard Rally* is a very realistic and challenging driving simulation. If *Pole Position* was your last favorite game, try this import and get ready for some exciting hours behind the wheel.

—Clinton Smith

## Hostage

Thank Heaven for European imports. *Hostage*, a recent import from France (developed by Infogrammes) is an audio-visual delight that offers outstanding play value.

The premise of the game is that a group of terrorists has seized an embassy where they are holding hostages. Your job is to lead an anti-terrorist squad on a raid into the embassy to rescue those hostages.

Before you begin your mission, you must choose one of the three difficulty levels offered. Each level has a different number of terrorists and hostages; on higher levels the terrorists are more aggressive.

Your first task is to position your marksmen around the embassy, so that one can cover each of the three sides of the building. You move them down the horizontally scrolling street, ducking into doorways and jumping through open windows and over walls. You must also avoid the embassy search lights, which the terrorists are using to keep their position secure. If the beam of a search light hits you, the enemy opens fire. While you are in a hiding spot, you

**EASE OF LEARNING**

**CHALLENGE**

**GRAPHICS**

**DOCUMENTATION**

**OVERALL RATING**

**System:** Atari ST

**Required equipment:** Color monitor; joystick

**Copy protection:** Keyword

**Summary:** An action-packed game that challenges you to outwit evil terrorists

**Price:** \$44.95

**Distributor:**

Mindscape

3444 Dundee Rd.

Northbrook, IL 60062

(312) 480-7667

can switch to a map to see how far you are from your sniping position. Once you have your men safely in position, you move on to the next phase.

A helicopter flies over the building

## Tetris

Last but not least . . . the Atari ST might be last on the long list of computers to get a translation of *Tetris*, but the job done by programmers John Jones-Steele, Gary Poon, Jody Sather, and Dan Guerra is absolutely outstanding. Compared with the Apple, Commodore, Mac, NES, and PC versions, the ST version really shines.

In case you somehow missed the vivid yellow Russian lettering on the bright red package or ad and don't know what *Tetris* is all about, let me fill you in. Dreamed up by a 30-year-old Soviet researcher, Alexey Pazhitnov, at the USSR Academy of Science, *Tetris* was programmed by 18-year-old Vadim Gerasimov, a student at Moscow University. *Tetris* became a commercial product through the joint efforts of Academy Soft (Moscow), Andromeda Software (London), and Spectrum HoloByte (USA).

In the game, you must deal with seven differently shaped pieces, each consisting of four squares, as they tumble from the top of the screen into an empty "pit." Each piece can be rotated and moved to the right and left as it drops.

**EASE OF LEARNING**

**CHALLENGE**

**GRAPHICS**

**DOCUMENTATION**

**OVERALL RATING**

**System:** Atari ST

**Required equipment:** Color monitor; joystick optional

**Copy protection:** Yes

**Summary:** Most addictive logic puzzle game since Shanghai

**Price:** \$34.95

**Manufacturer:**

Spectrum HoloByte

2061 Challenger Dr.

Alameda, CA 94501

(415) 522-3584

Your object is to fit all the pieces together to form a complete row with no gaps. When a row is completely filled, it vanishes and all the pieces above it drop down one level.

The quicker you position each piece and allow it to drop into place, the high-





and drops three of your men on the roof. You then must rappel down the side of the building and swing in through a window. Once inside, you must search the rooms and hallways of the three floors for hostages and terrorists.

When you find a hostage, he will follow you up to the top floor to a special, windowless safe room. If you run into a terrorist, you must shoot him with your

machine gun. Be careful, though, terrorists like to use hostages for protection, and if you are not careful, you might kill one with a stray bullet.

For added assistance you can use your marksmen to pick off any terrorists who are stupid enough to stand in front of windows. Once again, you must be careful, because hostages stand by windows, too.

If you manage to rescue all the hostages or kill all the terrorists in the time allotted, you get to read a newspaper report on the mission, which can have mixed effects on your ego—the press can be unforgiving of mistakes.

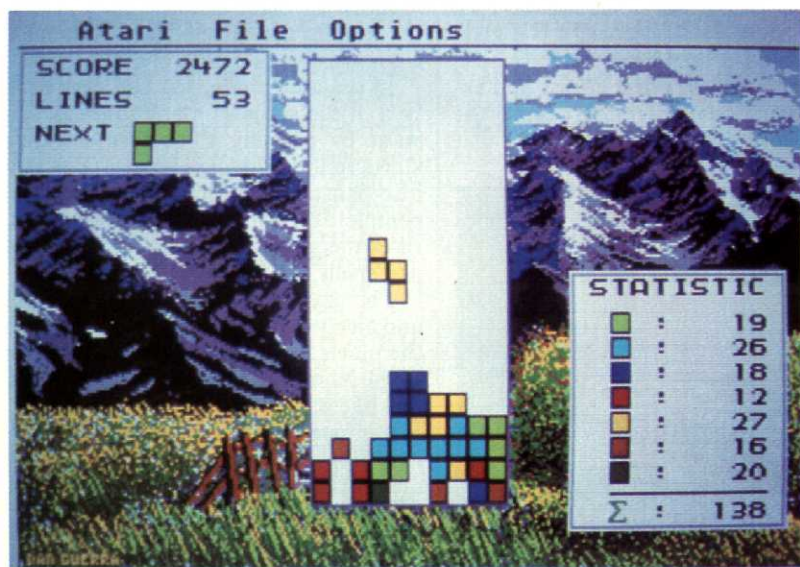
The play mechanics of *Hostage* are very good and very easy to master. Everything is joystick-controlled, except selecting which team member you want to control during the sniper positioning, assaulting the embassy, and sniping, all of which are handled with the function keys. In this game, controlling the characters, far from being the chore it is in many games, is actually part of the fun.

The graphics and animation are very smooth and are complemented by great digitized sounds. The opening sequence, in which the terrorists enter the embassy, has everything from screeching tires to police sirens. The digitized music during sniper placement and embassy assault is very ominous and full of bass.

Another thing I like about *Hostage* is that it doesn't take very long to play—about ten minutes . . . less if the terrorists are really effective.

I recommend *Hostage* highly. The play value is high and the game should keep you happily engrossed for many hours.

—Clinton Smith



er your score. Thus, when playing, you have two additional subgoals: to position each piece so that there is a place for the next one, regardless of shape and to do so as quickly as possible.

After a certain number of rows vanish, the pieces start to drop at a faster rate. There are ten drop rates, which correspond to the ten playing levels. If you are feeling particularly masochis-

tic, you can *start* playing at the ninth or tenth level, although this usually results in a very short game. On the other hand, as you gain proficiency, you might want to start at a higher level in the hope of achieving a higher score.

You normally start the game with an empty pit, but to increase the challenge, you can raise the height of the bottom of the pit to 4, 7, 10, or 13 rows. Personally,

I find any height much over seven more frustrating than challenging, but the option is there if you want it.

Another important option—especially when you are learning the game—is called Next Shape. When this is selected, the shape of the next piece to fall is shown at the upper left. Thus, if you see that a square block is coming, you know you should leave at least one two-block-wide flat space to accommodate it.

The Tournament Play option repeats the same sequence of pieces and levels as the previous game. You can also select a time limit for each game. The scores of up to six players are recorded, and the player with the highest score wins. Of course, if a tournament play score is high enough, it will also be entered on the Ten Top Comrades permanent scoreboard.

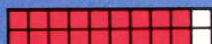
Other options toggle the music on and off, show game statistics, offer help, pause the game, and identify the magnificent background artwork, which changes as you advance from level to level.

The game has rightly been dubbed, "the Soviet Challenge," and if you are like me, you will find it not only challenging, but provocative, fun, and utterly addictive!

—David H. Ahl



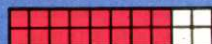
## Willow



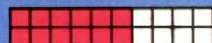
EASE OF LEARNING



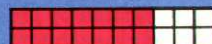
CHALLENGE



GRAPHICS



DOCUMENTATION



OVERALL RATING

**System:** Atari ST

**Required equipment:** Color monitor

**Copy protection:** Yes

**Summary:** A fair action/adventure that preserves the spirit of the movie

**Price:** \$39.95

**Manufacturer:**

Mindscape

3444 Dundee Rd.

Northbrook, IL 60062

(800) 221-9884



**W**illow is an action/adventure game based on the exploits of the characters that inhabit the movie of the same name. The evil sorceress Queen Bavmorda is trying to eliminate the infant Elora Danan, who is destined to dethrone her if she lives. A Nelwyn farmer named Willow finds the baby and tries to get her to safety.

*Willow* consists of eight mini-games, all of which you must master to complete the quest. The game can be played in either practice mode or quest mode. I suggest playing in practice mode until you become familiar with the various parts of the game.

Your first goal is to escape from the Dungeons of Nockmaar Castle, Bavmorda's stronghold, carrying the child Elora. Using the keyboard, mouse, or joystick, you can either pass through one of the visible exits that appear in the rooms displayed before you, or return the way you came. You must hurry, because Bavmorda's guards are after you. Getting out of the castle takes a lot of practice and a bit of map-making.

After escaping from the castle, you travel through the woods as Willow Ulfgood. With Nockmaar troops and Death Dogs hot on your trail, you must reach the Daikini Crossroads before they catch you. Fortunately, you have magic acorns, which turn your pursuers into stone, to throw at them. You start out with three of these lethal nuts, but you can find more in the woods.

At the Daikini Crossroads, the third part of the game begins. There your find two cages—one holds a warrior named Madmartigan who will help you; the other holds death.

One of the more interesting parts of the game is the spellcasting section. You must change the good sorceress Fin

Raziel, who currently resides in the body of a possum, back into human form. This is not easy, because you must use the right combination of "runic charms" to put her through three different changes. First you change her into raven, then a goat, and finally a human being.

At one point in the movie, Willow and Madmartigan escape Bavmorda's men by sliding down the icy slope of a mountain on a shield. In the game, you must navigate a labyrinth of ice tunnels on a shield. As in the dungeons, it is a good idea to draw a map here.

Despite Willow's best efforts and exemplary bravery, Bavmorda catches the child Elora and begins the ritual that



will banish her forever. You, this time as Madmartigan, must defeat Bavmorda's general, Kael, in a swordfight as the forces of good storm Nockmaar Castle to save the child. But first you must dodge a shower of arrows, spears, axes, and fireballs.

Playing this game is simple. You can slash high or low or thrust in the middle. The general is a great swordsman, however, so he is not easy to beat.

The grand finale of the game cannot

be played in practice mode. You must complete all the other games successfully and in order before you can embark upon the Final Battle with Queen Bavmorda herself. You fight her with magic, conjuring a spell of nine symbols before she gets to the altar where Elora lies.

As you make your way through the game, you have eight chances to succeed in each part. When you fail, you see a picture of Queen Bavmorda, surrounded by eight candles. As you fail, the candles are extinguished. When all eight are out, the game ends.

In practice mode, you can play each part of the game as many times as you want by pressing F1 before the disk starts to load the next screen. You can also pause or exit the game. Once you complete the quest successfully, you can reset the game, changing all the maps and spells, so you have new game.

The graphics in *Willow* are colorful and nicely done. Digitized pictures from the movie, which appear between parts of the game, are appealing and help you feel like a participant in the movie.

I enjoyed playing most of the games in *Willow*, though a couple were only mediocre. I especially liked the woods, the dungeons, the swordfighting, and the spellcasting sections. In general, the quest is quite simple for experienced adventurers to master.

Overall, I liked *Willow*—probably because I liked the movie so much. It is a good game that lets you re-live the story through a reasonably good mix of action games. My one criticism is that it takes a long time to load each part of the game. This is no problem in practice mode, but in quest mode it delays gameplay and detracts from your enjoyment.

—John S. Manor



## Firezone

  
**EASE OF LEARNING**

  
**CHALLENGE**

  
**GRAPHICS**

  
**DOCUMENTATION**

  
**OVERALL RATING**

**System:** Atari 8-bit or ST

**Required equipment:** None

**Copy protection:** None

**Summary:** A challenging strategy game with lots of action

**Price:** 8-bit, \$24.95; ST, \$34.95

**Manufacturer:**

Datasoft

19808 Nordhoff Pl.

Chatsworth, CA 91311

(818) 886-5912



**F**irezone is an entertaining strategy game that takes you into the middle of the next century to command a high-tech army. It offers enough strategic challenge and action to please both wargamers and arcade game fans.

Armies in the 21st Century are protected by energy shields, so conventional warfare has re-emerged as the means by which nations expand their influence. These armies are made up of a formidable array of military units, including Grav tanks, heavy tanks, Leviathans (huge armored vehicles), Nova Guns (artillery), striders (walking tanks like those in "The Empire Strikes Back"), and armored infantry. As commander of one of these armies your goal is simple: destroy, eliminate, crush utterly, or otherwise defeat the enemy. Since your opponent has access to the same advanced units you do, victory depends on your superior strategy and ruthlessness.

When the superpowers of the 20th Century faded away, the two main world powers were the Pacific Combine and the European League. You may command either side in any of the nine scenarios included on the *Firezone* disk. You can also make up your own scenarios or edit the existing ones with the game designer program. You can play against the computer or against another player.

*Firezone* lets you play with the units of both sides either hidden or displayed. The manual suggests, however, that beginners play with units displayed. I think hiding units makes for a more interesting game; you know where an enemy unit is only when it fires at you.

*Firezone* is played in a series of turns, each of which represents one minute of

actual time. Grav tanks and striders are fast, so battles develop and conclude quickly. An average game lasts for fewer than 20 turns, and all games end automatically after 50 turns. (The battle is so intense that I don't see how there could be anything left on the battlefield after that many turns.)

Each turn consists of a movement phase and a combat phase. Both sides can fire in the combat phase, if they are within range of a target. The computer controls which units fire, adding a random element to gameplay. After both sides have had a turn, a screen appears to let you know how the battle is going; you see the percentage of losses for both sides. When the game is over, each player is rated on his performance.

During a movement phase, you can enter a scan mode and scroll around the screen, searching out the enemy and observing the terrain. Part of your strategy must be to use the terrain to your advantage; it is more difficult to dislodge a heavy tank unit from a city, for example, than it would be if that same unit stood out in the open.

Movement and firing are accomplished via the ST keyboard. You place the cursor on the spot to which you want to move; the distance you can move depends on the number of movement points your unit has. Grav tanks and striders can move the farthest in one turn, because they are the fastest units. Leviathans are the slowest and most powerful.

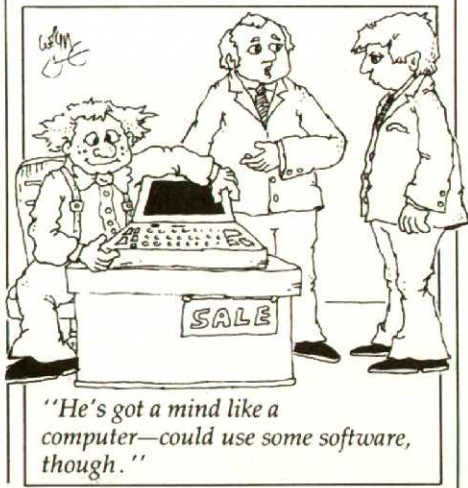
To fire on any enemy unit in the combat phase, you move the cursor onto the enemy unit and fire. If the enemy is in line of sight, your unit will fire a blazing barrage at it. The effect of the attack is determined by the composition of the units involved and the terrain.

The game scenarios vary from small skirmishes between a few Grav tank units to all-out battles involving dozens of units, from striders and infantry to heavy tanks and Nova Guns. The manual describes the first three scenarios and the goal of each. When you play the last six scenarios, however, you must figure out the goal as you play.

The *Firezone* manual is well-written and easy to read, though the pictures of game screens are blurred and not very helpful. I also found a couple of inconsistencies between the documentation and actual gameplay, but none was serious enough to diminish my enjoyment of the game.

*Firezone* offers plenty of strategy, a variety of powerful units to command, and a wide-open battlefield on which to move around. I enjoyed *Firezone* as much as any wargame I've played in the past year. It is a good strategy game for armchair generals and a game that arcade gamers will like too.

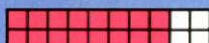
—John S. Manor



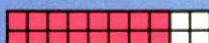


## Batman

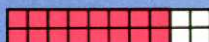
**EASE OF LEARNING**



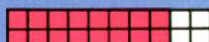
**CHALLENGE**



**GRAPHICS**



**DOCUMENTATION**



**OVERALL RATING**

**System:** Atari ST

**Required equipment:** Color monitor;  
joystick

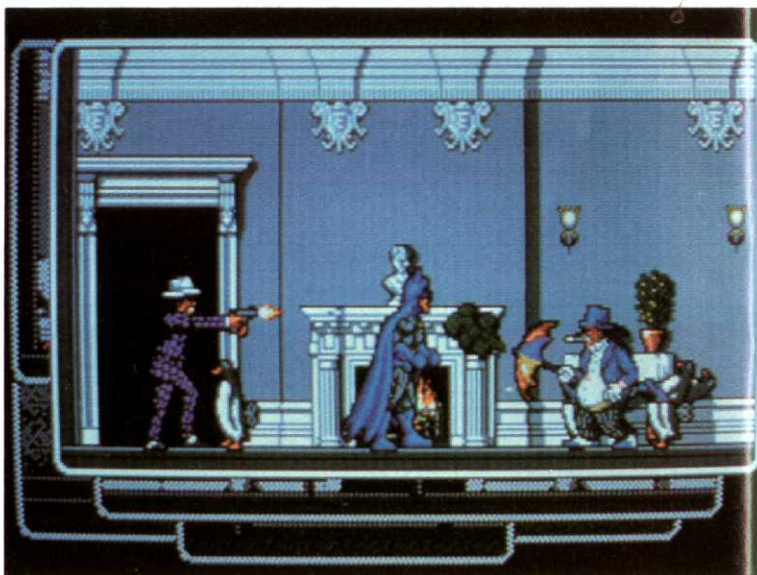
**Copy protection:** Yes

**Summary:** Two action/adventures  
revolving around the Caped Crusader

**Price:** \$39.95

**Distributor:**

Data East USA  
470 Needles Dr.  
San Jose, CA 95112  
(408) 286-7074



I've always been a big fan of Batman. I have seen every episode of the old TV series at least four times, and I'm looking forward to seeing the new Michael Keaton movie. So, when I heard that a game based on the exploits of the Caped Crusader had been released, I was eager to give it a try.

*Batman*, the game, consists of two separate action/adventures. In the first, you must foil the plans of your archenemy, the Penguin. The evil umbrella-

wielding villain has opened a factory and is turning out hordes of robotic penguins with machine guns in their tummies. Your job is to find the Penguin's secret computer and sabotage it.

In the second adventure, the Joker has kidnapped Robin, the Boy Wonder, and is holding him hostage at a nearby carnival. You must make your way through the Gotham sewer system, defuse an assortment of bombs that the Joker has planted, and rescue your side-

kick.

Each adventure comes on its own self-booting disk, so you can play them in whatever order you wish.

You control Batman as he goes from screen to screen looking for objects he can use to solve the puzzles that will eventually lead him to his goal. On many screens, Batman can fight roaming thugs. If he defeats them, they run off, leaving behind food, which Batman needs to keep his strength up.

*Gold of the Realm* is a bit difficult to fit into an entertainment software category. It is surely not an arcade game, but then, it isn't much of an adventure, either. Compounding the problem is the fact that *Gold of the Realm* doesn't really offer any truly outstanding features. The graphics are about average. And the

sound, unless you have a MIDI-equipped keyboard, is also unremarkable. What we have here seems to be the decent first effort of a talented amateur programmer.

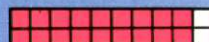
The game casts you as a young peasant in search of wealth—the gold of the realm. Before you start your quest, however, you must choose a difficulty level.

The easy level offers one castle and 79 screens. The medium level gives you two castles and 159 screens. The hard level boasts four castles and 320 screens.

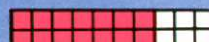
In addition, the more difficult levels present more foes and obstacles and more items to find. Also, the third level randomizes certain items and conditions, effectively making each new

## Gold of the Realm

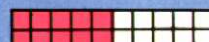
**EASE OF LEARNING**



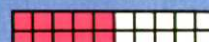
**CHALLENGE**



**GRAPHICS**



**DOCUMENTATION**



**OVERALL RATING**

**System:** Atari ST

**Required equipment:** Color monitor;  
joystick

**Copy protection:** Yes

**Summary:** An unremarkable animated  
adventure with a few special features

**Price:** \$39.95

**Distributor:**

Magnetic Images  
P.O. Box 17422  
Phoenix, AZ 85011  
(602) 265-7849

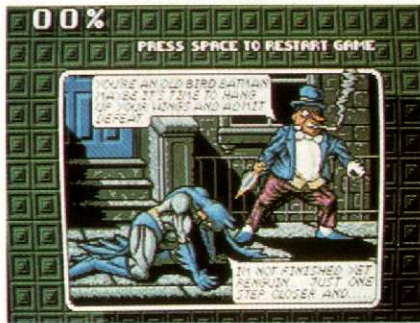




Your main opponent in the game is your health. As you fight, and even when you are just walking around, your health is deteriorating. Your health is represented by a picture of Batman's face, and as your health worsens, the flesh sort of melts from the face, leaving just the skull visible. When the skull is completely uncovered, the game ends.

To maintain your health, you must eat. Food items that you find—a banana, for example—give you a big boost, while the food that the thugs drop gives you a smaller lift.

By pulling down on the joystick and pressing the button, you can pick up items or switch to your inventory screen. On the inventory screen, using a pointer shaped like the image on Batman's chest, you can click on icons to turn off the background music, restart



the game, return to the action, drop an item, or use an item. The items that you are carrying are represented by icons on this screen, which allows easy manipulation.

I found it rather difficult to get into *Batman* at first, because I was expecting a fighting game. Batman's fighting abilities are limited to a small number of moves, so the game doesn't stack up well alongside some of the currently popular martial arts games.

As I got deeper into the game, however, the adventuring aspects became more and more involving, and I began to really enjoy playing.

*Batman* is rather limited in the audio department, but has some very nice comic book style graphics. The characters who populate the adventures (Batman, Penguin, Penguin's thugs, Joker, Joker's clowns, and Robin) are all very detailed and nicely animated. As you move from screen to screen the scenes are depicted as overlapping comic-style panels.

My only real complaint about the game is that it doesn't have a Save Game feature.

*Batman*, the action/adventure, although a bit short on the action, is an excellent adventure that should be particularly appealing to fans of the famous Caped Crusader. —Clinton Smith

game slightly different from the others.

The three levels of difficulty and the numerous screens combine to offer quite a large amount of potential adventuring, which is definitely one of the strong points of the game.

Using the mouse along with the joystick to make your way through the game gives you access to a number of special extra functions. Pressing the left mouse button, for example, pauses the game and places a customized cursor in the option bar at the right side of the action screen. From there, you can reset or save your game. You can also quit and return to the desktop or select an item from your inventory.

If you elect to save the game, you will need a blank formatted disk; unfortunately, you can save only one game per disk.

You use the joystick to guide your character along the well-defined paths that wind through the game. When he comes to the edge of the screen, a new screen appears almost instantly. There is not much action in the game, so this technique does not interfere with the gameplay.

The animation in *Gold of the Realm* is very nice, but not extraordinary. The skeletons are especially well done. You see the castle from above and the characters in profile to allow for more animation.

Useful items must be collected during play. Especially essential are the numerous keys, which are identified by color. Some rooms contain food, which, when eaten, increases your strength.

Another feature that distinguishes this otherwise rather ordinary game is the use of stairways, which allow you to move up and down within each castle. They are nicely rendered on the screen and provide for much more complex adventuring.

Magnetic Images offers one of the more satisfying disk replacement policies in the industry. If your disk should fail after the initial warranty period, \$3 will get you a replacement.

In conclusion, *Gold of the Realm* is a nice first effort, but lacks the action most ST owners have come to expect from the new arcade/adventures. It is about average in its class. Ask for a demo before you buy. —Frank Eva

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## Hole-In-One Miniature Golf

Translating a traditional sports contest into a computer game is never easy and frequently requires compromises that can either enhance or destroy the playability of the final game.

In the case of *Hole-In-One Miniature Golf*, the programmers at Magic Bytes have done an admirable job of turning a rather simple outdoor sport into an enjoyable computer simulation.

The game, which is provided on two single-sided disks, contains only two full 18-hole courses. It seems that the original version of the game was designed for another 16-bit computer and came with four complete course. Unfortunately, because single-sided drives still dominate in the ST world, ST owners will have to wait for and then purchase additional course disks. (A complete course occupies 2/3 of a disk!)

Golf's little cousin is played on well-defined miniature putting greens, each of which presents obstacles to sinking the putt. Your objective is to sink that putt in as few strokes as possible.

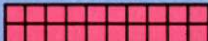
*Miniature Golf* can be played by as many as four players, who alternate turns. Control is accomplished entirely

with the mouse. The documentation calls the method of aiming and shooting the ball "the easiest interface ever conceived" for a game of this sort. And easy it is—child's play, in fact.

The problem is that the method is almost foolproof. There is no way to strike the ball off-center. So, if your aim is right, you will hit a perfect shot every time.

Here is how it works: After placing the ball on a starting pad, you click the left mouse button. This reveals a line that can be stretched from the ball toward the cursor. Move the cursor, and the line stretches and follows it. This line determines the aim. It also defines the strength of the stroke; the longer the line, the harder the ball is hit. Once you have chosen the proper position and length of this aiming line, another click of the left mouse button propels the ball toward the hole.

Affirming that the method of hitting the ball is easy does not, however, mean that the game is easy. The obstacles are what make each green a new challenge. For example, some of the courses are contoured, meaning that they have higher and lower levels, which are rep-

  
**EASE OF LEARNING**

  
**CHALLENGE**

  
**GRAPHICS**

  
**DOCUMENTATION**

  
**OVERALL RATING**

**System:** Atari ST  
**Required equipment:** Color monitor

**Copy protection:** Yes

**Summary:** Enjoyable miniature golf simulation

**Price:** \$29.95

**Manufacturer:**  
DigiTek Software  
8910 N. Dale Mabry  
Executive Center, Ste. 31  
Tampa, FL 33614  
(813) 933-8023

resented by variations in color—darker for lower and lighter for higher levels. Some of the greens have contour patterns that can be really confusing, offering greater challenge. Then, there is the usual assortment of pipes and chutes through which your ball must pass.

Generous options are provided via the

## Annals of Rome

In *Annals of Rome*, which is both a wargame and a historical simulation of the expansion of the Roman Empire, you control the fortunes of the Roman Empire from its beginning to its ultimate fall. You fight wars, collect taxes, and play power politics with generals and senators.

Your primary task is to move legions around the map in an effort to make tax-paying Romans out of conquered people. But you must keep an eye on conditions in the capital, or you could find yourself in the middle of a violent rebellion that will leave the Empire weakened and vulnerable to attack.

At the start of the game, a map of Europe, the Mediterranean, and the Middle East appears on the screen. Also displayed is information on the status of the Empire and the other nations of the ancient world. You begin with just the nation of Italia, the familiar boot of Italy, and expand into other lands, adding their people and their treasures to your stock of resources.

*Annals of Rome* is played in turns, each of which has several phases. Nevertheless, the game plays quickly and is

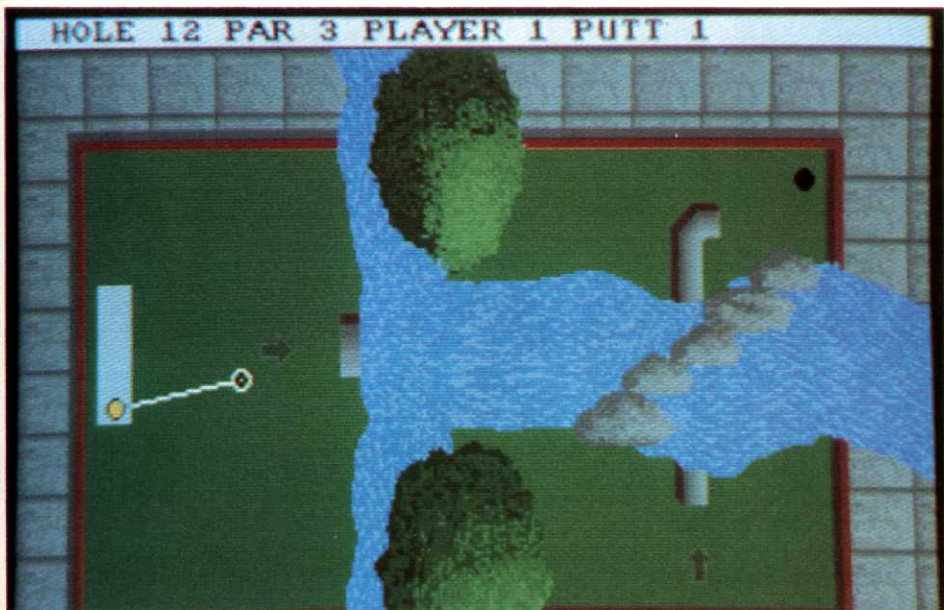


surprisingly addictive . . . "I think I'll play for just one more century."

The first phase of play is the Economics Phase. You see a status screen that

tells you the size of the treasuries, populations, and armies of all the nations in existence at the time. The same information is displayed for Rome. The com-





menu bar. You can check the current leader board at any time, and by the way, while the action screens are in low resolution, the leader board is in medium resolution for the sake of clarity. If you want to see an instant replay or replay the last shot, you can.

The Quit option actually serves as a restart, and the sound can be toggled on

and off. Another option, Contours, option opens up to four windows, each of which displays the contours of a green from a different direction. (I found this option fairly useless—especially since it isn't available on all holes.)

The graphics are top-notch. The ball is animated so that it actually seems to roll, and each green is an artistic puzzle

that may have its own animation. For example, some holes have water coursing through them.

The second disk has some really unusual "fantasy greens." One is a pinball machine, and others depict three-dimensional scenes, including a desert, a city, and a cave. These are surely the most challenging of the lot!

The only negative aspect of *Hole-In-One Miniature Golf* is the fact that you must play through all 18 holes of the course on disk A, achieving a score of par or better, before you are allowed to proceed to the course on disk B. Once you finish the second course, play starts all over again from the first course. So, all the work that has gone into conquering course number one is for naught. You don't even have a chance to practice on the second course; replaying a shot adds to the point total and if the total goes three shots over par, you are fined a point for being "over stroke limit" and automatically moved to the next green.

If you can tolerate the rigid sequence of play imposed by the game, you should enjoy *Hole-In-One Miniature Golf*. It is a very pleasant pastime for one to four players who are weary of shooting up the galaxy. —*Frank Eva*

**EASE OF LEARNING**

**CHALLENGE**

**GRAPHICS**

**DOCUMENTATION**

**OVERALL RATING**

**System:** Atari 8-bit or ST  
**Required equipment:** None  
**Copy protection:** None  
**Summary:** A fascinating recreation of the Roman Empire in a challenging wargame  
**Price:** 8-bit, \$24.95; ST, \$34.95  
**Distributor:** Datasoft  
 19808 Nordhoff Pl.  
 Chatsworth, CA 91311  
 (818) 886-5912

puter keeps track of tax revenues, population growth, and military recruitment for all the nations.

In the Personnel Display phase, you are briefed on all the officers who are potential commanders for your armies. You see the name, location, ability, loyalty, age, rank, and army size of each candidate.

Using this information, you can choose the best commanders for your

armies in the Personnel Assignment Phase, which is played only if the government in Rome is popular—that is, if there is no civil war brewing and the Emperor maintains control. You can assign any officer to any country under Roman control.

The Loyalty phase, which comes next, tells you which of your officers you should watch out for. If somehow an officer in command of one of your armies revolts and turns to march on Rome, you have a real problem.

When peace rules within the Empire, you will still find plenty of enemies beyond your borders, so the Foreign Wars Phase allows you to attack neighboring countries. Throughout this phase, messages tell who is invading what country. If reports tell you that the Persians or Dacians are invading other nations with an army of two million screaming barbarians, for example, you might be wise to pull back and regroup your forces, retaking what you have lost after you have worn the barbarians down from behind well-garrisoned walls.

*Annals of Rome* portrays the history of Rome accurately as far as when waves of Huns, Goths, and other invaders wreaked their havoc on the civilized

Romans. The ultimate goal in the game is to get to the borders of the Byzantine Empire, take a stand against the Arabs, and maybe even regain some lost ground.

The manual for *Annals of Rome* is a pleasure to read. In it you will find a section on the history of Rome, background on Rome's enemies through the centuries, and even playing hints for armchair emperors who want to try to change history. The actual game instructions are slow reading, but overall the manual added a lot to my enjoyment of the game.

*Annals of Rome* had me engrossed for hours, pushing the boundaries of the Empire outward and watching my armies grow as country after country fell under my dominion. Ultimately, Rome was sacked, as I overextended my legions, spreading them too thin. Ah, but I saved the game before the sack. So, maybe if I go slower next time and build up my defenses . . . hmmm.

If you love history and wargames that let you relive and recreate history, you will really enjoy *Annals of Rome*.

—*John S. Manor*



## Manhunter: New York

**EASE OF LEARNING**

**CHALLENGE**

**GRAPHICS**

**DOCUMENTATION**

**OVERALL RATING**

**System:** Atari ST

**Required equipment:** None

**Copy protection:** Keyword

**Summary:** A fascinating, well-animated role-playing game with a unique detective theme

**Price:** \$49.95

**Manufacturer:**

Sierra On-Line

P.O. Box 485

Coarsegold, CA 93614

(209) 683-6858



It's the year 2002, and the alien Orbs have invaded and conquered New York. Mankind struggles to survive under the oppressive alien occupation. An underground is formed, but the Orbs have placed tracking devices in the necks of all human beings to keep track of their movements.

To the dismay of the Orbs, the trackers neither work underground nor reveal the identity of the person under scrutiny. To solve this problem, they have selected a few humans, Manhunters, to follow humans suspected of committing crimes against the Orb Alliance. Like it or not, you have been selected: you are a Manhunter.

As the game begins, the Orbs, which look like giant disembodied eyeballs, give you your first assignment: investigate the bombing of Bellevue hospital. They also give you a laptop computer called MAD (Manhunter Assignment Device). MAD has two functions; it can give you information from human and Orb databases on any human in the city, or it can track humans around the scene of the crime, starting just a few minutes before it was committed.

You can play *Manhunter: New York* with the keyboard, a mouse, or a joystick. Pull-down menus give you access to all necessary functions, many of which are also available via function-key commands.

As you begin to play, selecting tracker mode, provides a map of the scene of the crime. You see a human, marked with a yellow square, walking near the hospital. A wall of the hospital explodes, and you watch as the suspect goes inside briefly, then exits.

As you follow around the city, you must note carefully where he goes, what objects he passes, and whom he meets. Once you have recorded his trail, you can replay it, and investigate the places

he has been.

When you travel to a given location, you see an exterior view of it. As you investigate, you can move your marker over objects you encounter to learn more about them. If a hand appears in place of your marker, you can pick the object up or use it. Occasionally, a magnifying glass appears, inviting you to take a closer look, which will often reveal another object or an important clue.

As you progress through the game, you learn more about the Orbs' activities, so you can choose either to help the aliens or to join the resistance. The game is divided into days, and at the end of each day the Orbs demand that you tell them the identity of the person who committed the crime. You then return home and rest for the next day's mission.

The New York created by Sierra's game designers is a tough place. You face muggers, visit a spooky Coney Island, and take a nerve-wracking stroll through Central Park. Variety is provided by the amusing and challenging arcade games you must play in some locations. I especially like the knife-throwing contest in the bar in Flatbush. If you miss, your opponent really blows his (and your) top. Coney Island is a fun place to relax and forget about the dangers of the big city.

In addition to quick reflexes, *Manhunter: New York* tests your puzzle-solving skills. You must assume that everything has some significance apart from the obvious.

The game designers have devised an astonishing number and variety of ways to do you in. They compensate, however, by resurrecting you, in the Sierra tradition, and returning you to the game at some point shortly before your demise. So, you don't have to start over

from the beginning every time you make a mistake, which is a feature I really like. Nevertheless, the game is so dangerous, that I recommend frequent

## Double Dragon

Streetfighting games have become very popular in the arcades, and one of the most successful is *Double Dragon*, a two-player game from Sega that allows you join forces with a friend to fight off gangs of street thugs. Now Arcadia brings this brutal arcade action into your home with *Double Dragon* for the Atari ST.

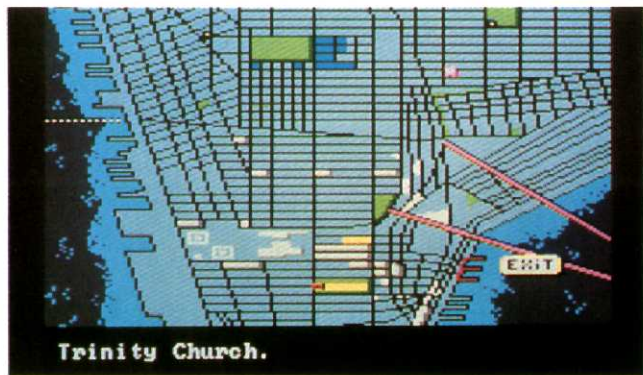
In *Double Dragon*, you play the part of Billy Lee (if a second player is involved, he controls Billy's brother, Jimmy). A ruthless gang has kidnapped Billy's girlfriend, Marian, and taken her to the hideout of the Shadow Boss. Your mission is to fight your way through a variety of urban and suburban environments to the enemy stronghold, where you attempt to rescue Marian.

As you walk along, the screen scrolls horizontally through the different areas. You must fight the members of Shadow Boss's gang in a city slum, an industrial area, a forest, and both outside and inside their own base.

Each of the characters you meet has a preferred mode of combat. Lopar enjoys throwing oil drums. Abobo, a big nasty dude, likes to slug you and stomp on your face. Williams is a guy who uses knives and baseball bats to ply his trade. Linda takes you on with a whip. Chintai challenges you to a karate match. And Willy, the big boss, totes a mean machine gun.

As in most of these martial arts simulations, you have several dangerous





Trinity Church.

use of the Save Game feature.

*Manhunter: New York* has some appealing graphics and sound effects. The animated scenes—especially the bar scene in Brooklyn—are quite entertaining.

*Manhunter: New York* comes with a manual, a map of New York City, a command card, and five disks. Disk-

swapping is minimal, however. The manual includes a walkthrough for the beginning of the game. I found this useful, because I didn't quite understand how to play the game, even after reading the manual.

*Manhunter: New York* is an unusual animated role-playing game interspersed with challenging arcade se-

quences. The scenario, which requires the human detective to work with the evil aliens, makes gameplay quite compelling, and the puzzles you run into will keep you scratching your head. All in all, *Manhunter: New York* offers a good balance of all the things that keep adventure addicts coming back for more.

—John S. Manor



moves at your command. My favorites are the knee to the face and the over the shoulder body-throw. One of the best features of *Double Dragon* is the addition of weapons. When you hit an enemy who is carrying a weapon, he drops it and you have a chance to pick it up and use it.

A baseball bat is swung at opponents and can take out quite a few enemies at once, even those standing directly behind you. A whip, which is cracked at the enemy, is effective only against enemies standing directly in front of you. A knife is thrown and can do major damage to anyone in its path. Boxes, oil drums, and boulders are picked up and

thrown at your opponents.

The play mechanics are very well executed, and if you have had any experience with the joystick controls of *World Championship Karate* or *Death Sword*, *Double Dragon* will give you no problem.

Graphically, the game is very close to the arcade version, and the sound effects—mostly thuds and “Ugghhs”—enhance gameplay.

One nice feature that should be added to all arcade translations is the Limited Continue. If you lose all three of your lives, you can continue playing from your current location by pressing the fire button. You can do this five

times. I like it, because it gives you a chance to complete the game without having to invest in hours and hours of play.

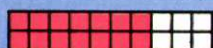
When you continue a game, you lose all your points, but that is a small price for most gamers to pay. The high score feature saves your high scores and lets you enter some good long names—not just your initials.

*Double Dragon* is an extremely entertaining arcade translation, especially in two-player mode. It is sure to please fans of the arcade version as well as novices who have yet to perfect their street-fighting skills. —Clinton Smith

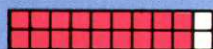
	<b>System:</b> Atari ST
<b>EASE OF LEARNING</b>	<b>Required equipment:</b> Color monitor; joystick
	<b>Copy protection:</b> Yes
<b>CHALLENGE</b>	<b>Summary:</b> A very good home version of the popular coin-op game
	<b>Price:</b> \$39.99
<b>GRAPHICS</b>	<b>Manufacturer:</b>
	Arcadia
<b>DOCUMENTATION</b>	711 West 17th St., #G9
	Costa Mesa, CA 92627
<b>OVERALL RATING</b>	<b>Distributor:</b>
	Electronic Arts
	P.O. Box 7530
	San Mateo, CA 94403
	(800) 245-4525
	(800) 562-1112 in CA
	(415) 571-7171



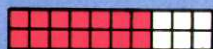
## Sorcerer Lord



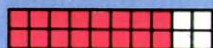
EASE OF LEARNING



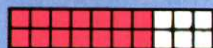
CHALLENGE



GRAPHICS



DOCUMENTATION



OVERALL RATING

**System:** Atari ST  
**Required equipment:** None  
**Copy protection:** None  
**Summary:** A fantasy wargame for serious strategy gamers  
**Price:** \$34.95  
**Manufacturer:** Datasoft  
 19808 Nordhoff Pl.  
 Chatsworth, CA 91311  
 (818) 886-5912



The evil Shadowlord has risen to strike at the land of men and elves, leading hordes of savage wolf-warriors and enslaved humans. Only the Sorcerer Lord can save the land and defeat the Shadow Legions. You play the part of the Sorcerer Lord

in this wargame set in the mythical land of Galanor, where magic is a potent weapon.

*Sorcerer Lord* is played on a large map, two screens wide by three high. The map is divided into a grid of hexes, filled with mountains, forests and de-

serts. There is also a strategic map that gives a wider view of the conflict.

At the start of the game, the Shadow legions invade your demesne, moving down from the top left of the screen. Their goal is to take your fortresses, which are scattered all over the map.

One of my all-time favorite ST games is *Death Sword* by Epyx (known as *Barbarian* in Europe). It has great fighting action, a terrific two-player mode, and great digitized sound effects. The only complaints I have about it are that the graphics are only OK and the one-player version isn't much fun.

Given the popularity the game enjoyed in Europe, a sequel was inevitable.

That sequel is now available here, and Palace Software has done an excellent job of preserving the strong points of the original.

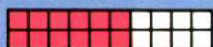
The premise of the game is very simple. The evil wizard Drax has retreated to his secret stronghold and is getting ready to attack the kingdom. The Barbarian and Princess Mariana, the young lady you rescued at the end of the first game, have been sent to put an end to

Drax's nefarious plan.

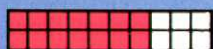
*Barbarian II* is more of an adventure than its predecessor. There are three levels—the wastelands, the caverns, and the dungeon pit—each of which has 28 screens, which are connected in a maze. To help you with mapping, there is a sword compass at the bottom of the screen.

Populating these many screens is a collection of vile and hideous beasts,

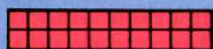
## Barbarian II



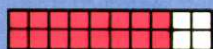
EASE OF LEARNING



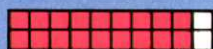
CHALLENGE



GRAPHICS



DOCUMENTATION



OVERALL RATING

**System:** Atari ST  
**Required equipment:** Color monitor; joystick  
**Copy protection:** Yes  
**Summary:** A superb, but bloody, action/adventure  
**Price:** \$39.95  
**Distributor:** Computer Games+  
 Box 6144  
 Orange, CA 92667  
 (800) 443-8189  
 (714) 639-8189





You lead the Galanor Alliance of men and elves. After the initial invasion, some of your fortresses and their troops are mobilized. You must gather these forces and stave off the invasion. You must also mobilize all the other fortresses in Galanor in order to build your armies. Fortresses are mobilized by moving onto them.

Moving over the different types of terrain consumes different numbers of movement points. You can choose to march your army at a normal pace or in a forced march. The forced march takes you further but causes fatigue in the troops. The more fatigued they are, the poorer they will be at fighting.

When you reach a fortress, you can transfer troops to or from the fortress garrison, which is how you build your armies. You must gather your strength quickly, stop the advance of the Shadow Legions, and then recapture what has been lost.

*Sorcerer Lord* is played in turns. Each turn consists of several phases: Shadowlord movement, Shadowlord combat, Galanor alliance, Galanor movement, and Galanor combat. The

game ends after 40 turns. If you lose all your leaders or lose Yarthros Citadel before 40 turns, the game ends.

After each turn a menu appears on the screen. You can choose to save or load a game, start over from the beginning, or continue the current game. A war report screen shows what fortresses are occupied by each side and the number of losses each has sustained.

Magic is an important tool of battle. Magic Rune Rings are scattered around the map, and the leaders of your armies possess different levels of sorcerer ability. If an army led by a powerful sorcerer is close to a Rune Ring while in battle, that leader can invoke magic to further the victory. The Shadow legions can do the same, so taking and holding the Rune Rings is important for both sides.

When you engage in battle with a Shadow legion army, you simply move onto the spot it occupies. You must be careful, however, because both sides can stack armies; what seems like a lone army of 10,000 enslaved humans could, in fact, be four or five armies with a combined force of 70,000.

*Sorcerer Lord* lets you keep close

watch on the condition of your armies. You can move your cursor over your units and see their status—the screen display shows the leader's name, his sorcery strength, the unit's status, the number of warriors and riders in the unit, and the fatigue level of the unit.

The manual for *Sorcerer Lord* covers all the details of gameplay and provides hints on how to win. There is also a section on each of the nationalities in the Galanor Alliance, which should help you in plotting your strategy. A map of Galanor and a reference card round out the package.

While *Sorcerer Lord* boasts an interesting fantasy theme, I found that moving armies about the map became a bit tedious after a while. There is not much action or animation in the game; it is 99% pure strategy. The excitement does build as your skill increases, however, and the game is not easy to beat.

As a strategy game, *Sorcerer Lord* offers a serious challenge; it will take you hours and hours to devise a strategy that will hold back the evil hordes. Avid wargamers will want to add it to their libraries.

—John S. Manor

which you must fight. In the tradition of *Death Sword*, *Barbarian II* offers many opportunities to decapitate your enemies. But you must be careful to avoid their attacks as well.

Further adding to the adventure is the inclusion of magic objects. On each level, you can find two magic objects—but not always in the same places. You need these objects to get past certain obstacles on the fourth level, where you face a living statue, a powerful demon, and Drax himself.

The biggest change from the original game comes in the form of a new joystick control scheme. Many of the sword-fighting moves available in the earlier game are superfluous to fighting with monsters, and some joystick positions were needed for new activities, such as running leaps and passing through doorways. The control scheme is a bit difficult to master and can be frustrating when you are starting out. I recommend that you persevere, however, because once you do get the hang of it, the control scheme works very well.

*Barbarian II* makes excellent use of the graphics and sound capabilities of the ST. The graphics are much more detailed than those of the original, and the animation of the various creatures is excellent. Speaking of the creatures, they are a delight; you get to fight head-

biting dragons, deranged mutant chickens, Neanderthals, crabs, giant worms, pit creatures, and 12 other evil beings.

The high quality audio accompaniment further enhances the graphics. You know you are in for something special at the screen where you choose the Barbarian or Mariana as your character. You hear a very evil, but crystal clear voice saying, "Welcome to the Dungeon of Drax. Choose your warrior."

The game comes on three disks but requires very little disk swapping. It loads in each level completely (even on the 520ST), so there is no need to access

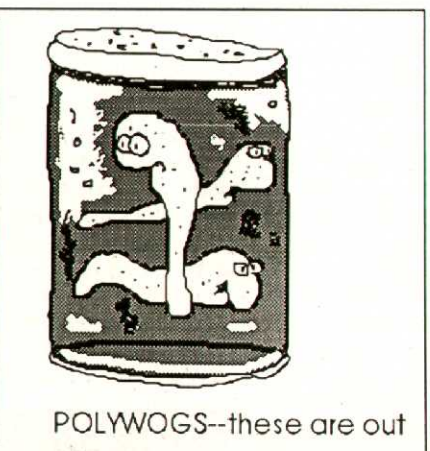
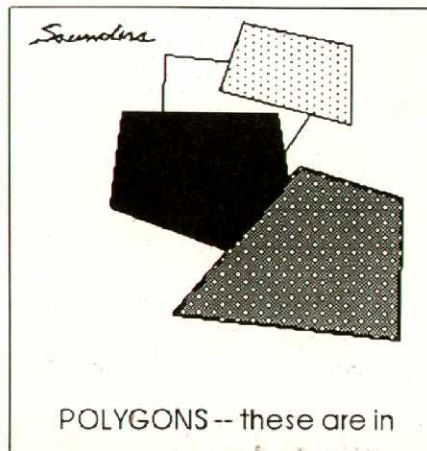
the disk when you go from screen to screen.

One of the nicest features of the game is the ability to start over on the current level if you are killed; you do not have to return to a lower level once you have mastered it.

The end sequence isn't very long, but it works very well thanks to some digitized speech. It also suggests that we'll be seeing *Barbarian III*, I can't wait.

A word of warning: If you are offended by violent games or object to your children playing them, you will not want *Barbarian II* on your shelf.

—Clinton Smith





# AtariWriter 80

*The 8-biters' favorite word processor is now available  
in a version that takes full advantage of the XEP-80*

**A**tariWriter has long been considered the standard for Atari 8-bit word processing—a versatile and well-supported program that can handle routine ATASCII text editing and heavily formatted prose with equal aplomb. It is not surprising, therefore, that since the introduction of the XEP-80 80-column adapter in 1987, the 8-bit world has eagerly awaited a revision of its favorite word processor that can exploit the added power of this device.

The wait has ended. *AtariWriter 80*, a joint product of Atari Corp. and Micro Fantasy, is finally here. Distributed in a package that also contains Atari Proofreader, a versatile spelling checker and dictionary utility, and Atari Mail Merge, a mass-mailing program, *AtariWriter 80* provides all the text-handling power the average 8-bit user will ever need. Its appearance underscores Atari's commitment to provide continued support both for the 8-bit line in general and for advanced peripherals such as the XEP-80.

*AtariWriter 80* is distributed on two disks, neither of which is copy-protected (Atari considers the XEP-80 peripheral, without which the program is useless, to be an effective "dongle"). The main program disk, a floppy, contains Proofreader, Mail Merge, a printer driver editor, and two versions of the word processor.

The first version is designed to run on any Atari computer with 48K or more of RAM and provides one 15,872-character text buffer. The second version makes use of the extra, bank-switched memory available in the 130XE to provide three such buffers, comprising a total of 47,616 characters of text memory. Though the buffers must be edited separately, they are treated as sections of a continuous document for load, save, and print operations. The second distribution disk contains the 36,000-word basic dictionary for Proofreader.

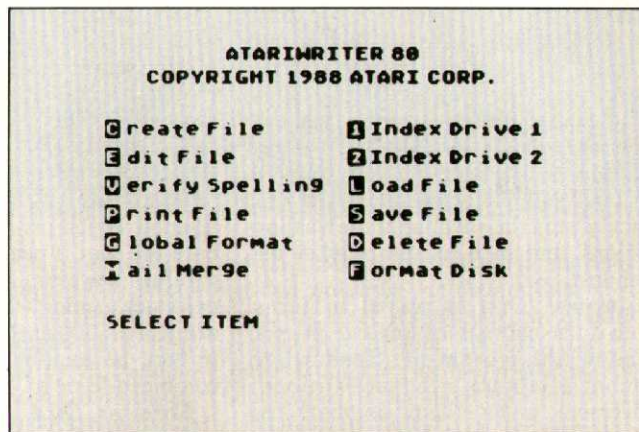


Figure 1. The main menu offers 12 options, each of which can be selected with a single mnemonic keystroke.

## Using the Program

*AtariWriter 80* is designed as a fully-integrated package, offering word processing, proofreading, and certain DOS functions from a single main menu. The main program disk thus contains both the XEP-80 driver—needed to run the 80-column card, which is connected to the joystick port—and DOS 2.5 and is designed to auto-boot. The vast majority of users will find this setup quite efficient.

Unfortunately for XF551 owners, however, there is no way to use *AtariWriter 80* with Atari's newest disk operating system, DOS XE. According to Atari's John Skruch, this is because portions of DOS 2.5 have been incorporated in the programs themselves to reduce disk space requirements and promote integration.

The *AtariWriter 80* main menu is shown in Figure 1. (Note: For the sake of clarity, certain figures have been drawn from illustrations in the *AtariWriter* manual, rather than photographed directly from the screen. Though highly readable, these illustrations do not correctly represent the proportions of the 80-column monochrome

By JOHN JAINSHIGG



display.) Notice that it offers 12 options, each of which can be selected by a single, mnemonic keystroke.

From the main menu, you can configure the program; create and edit files; proofread, print, load, save, delete, and otherwise process documents; and even format disks. The main word processing section of the program (minus spelling checker and mail merge) is completely loaded into memory, so that once the system boots, you can remove the program disk from your drive, if you so desire.

To start a new document, you merely press C for Create File. As you will note in Figure 2, the *AtariWriter 80* editing screen is set up very simply and contains a minimum of extraneous and distracting information. A status line rides up top to keep you apprised of the current mode (Insert is the default); the current shift-state (upper- or lowercase), and the amount of text memory you have remaining (on the 130XE version, this refers to how much memory remains within the current bank).

Below the status line is a message window, which is used to display error messages and communicate with the program in various ways. Underneath that, a ruler line shows the current tab stops, and beneath that, your text is arrayed.

Basic text-entry is extremely straightforward. You simply type, and your text automatically arranges itself in 80-character-long lines. *AtariWriter* considers text formatting to be a part of the process of printing rather than of entering text, so the on-screen margins never change. Word wrap is automatic at the ends of lines, and text swiftly reformats itself when you insert and re-

**System:** Atari 8-bit Computer  
**Required equipment:** XEP-80 80-column card  
**Copy protection:** None  
**Summary:** A powerful, flexible word processor that takes full advantage of the XEP-80  
**Price:** \$49.95  
**Manufacturer:**  
Atari Corp.  
P.O. Box 61657  
Sunnyvale, CA 94086

move material—at least under normal circumstances.

Occasionally, particularly when extensive changes leave a page of text looking very tattered, this automatic reformatting does not occur. Unfortunately, *AtariWriter* does not provide a command to force reformatting under these circumstances, although the problem can be surmounted simply by moving elsewhere in your document and then returning to redisplay the affected page.

Basic cursor-movement, text-entry, deletion, and editing functions are activated by pressing a special key (Control, Option, Start, or Select) along with a letter or symbol key. The combinations are reasonably mnemonic, and most users will be able to memorize them quickly (a concise, four-page quick reference card, printed on durable coated stock, is provided to speed the learning process).

The cursor can be moved around in your document by single lines or character positions, by words, and by pages. It can also be jumped to the next tab

position, to the beginning or end of the current line, or to the top or bottom of the current document. Text can be deleted from the position of the cursor to the end of the current document or bank, as well as by character, line, or block.

*AtariWriter 80* is particularly good at performing block operations. Blocks of text can be moved, duplicated, cut and pasted, saved to and loaded from disk as independent files, alphabetized, and subjected to word count (naturally, you can also count the words in an entire file, using a simpler command sequence).

Most block functions are activated by moving the cursor to the beginning of the block and pressing Option-B, then moving the cursor to the end and activating the desired function by pressing a second key combination. In such cases, the block to be operated upon is defined as the region of text between the start marker and the current position of the cursor—an efficient arrangement that helps save keystrokes. Only in two cases (block duplication and block movement) is it necessary to define both ends of a block before moving the cursor elsewhere and pressing a third combination to complete the function.

Another nice touch: all block functions are insensitive to the direction in which a block is defined, so the “end” of a block can lie ahead of its “beginning” in your text. Many ostensibly more powerful word processors lack this feature.

When blocks of text are moved, deleted, or duplicated, they are stored in a “failsafe buffer,” the contents of which can be recovered until another block operation is performed (or the buffer is deliberately cleared). This provides a measure of security against accidental text deletion.

Except on the 130XE version, where the failsafe buffer has a fixed size of about 13K, the size of the failsafe buffer is the number of bytes free, as noted on the status line. This limits the amount of text that can be operated on using the block commands and may cause trouble as you approach the limits of in-memory text storage space.

The 130XE version will not let you define a block across the boundary between two memory banks, though text can be move, duplicated, and cut and pasted freely between banks. A special 130XE command also redistributes text evenly among the three memory banks available—useful if, for example, you

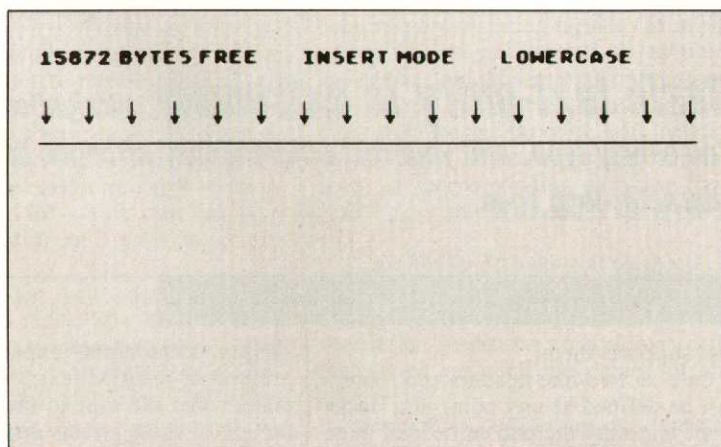


Figure 2. The editing screen displays a status line and message window.



B	>	BOTTOM MARGIN	=	12
D	>	PARAGRAPH SPACING	=	2
G	>	TYPE FONT	=	1
I	>	PARAGRAPH INDENTATION	=	5
J	>	JUSTIFICATION	=	0
L	>	LEFT MARGIN	=	10
M	>	2nd LEFT MARGIN	=	0
N	>	2nd RIGHT MARGIN	=	70
Q	>	PAGE NUMBER	=	1
R	>	RIGHT MARGIN	=	70
S	>	LINE SPACING	=	2
T	>	TOP MARGIN	=	12
W	>	PAGE WAIT	=	0
Y	>	PAGE LENGTH	=	132
PRESS TAB FOR DEFAULT SETTINGS				
PRESS RETURN TO ACCEPT DATA				
PRESS <b>ESC</b> FOR MAIN MENU				
SELECT LETTER				

**Figure 3.** Default print formatting values are set from the Global Format screen.

have almost filled a bank and decide to add some text in the middle.

Full search-and-replace functions—both prompted and global—are implemented. Search and replace strings up to 37 characters long can be defined, and search strings may include the DOS single-character wildcard symbol, `?`, which will match any character in the indicated relative position.

Search-and-replace functions are not case-sensitive and can search for and replace control characters—useful features in a program of this kind, in which control characters are used to mark areas of text for print formatting.

### Formatting and Printing

Default print formatting values are set through the *AtariWriter 80* Global Format screen (Figure 3), which is accessed from the main menu. Note that, among other amenities, *AtariWriter 80* handles both paragraph indentation and paragraph spacing automatically—provided you have marked the beginnings of your paragraphs with Control-P.

Two sets of left and right margins are available, allowing for double-column printing. *AtariWriter 80* can handle double-column printing in either of two ways, depending on your printer. If your printer supports reverse linefeeds, it will print one full column before reverse-feeding and printing the other. If not, it can pre-format each page ahead of time and output lines to right and left in alternating fashion, though this requires up to 4K of free memory for use as a format buffer.) Global print formatting values are saved with a document, except when the ASCII SAVE function is employed.

In addition to providing a full range of global defaults, *AtariWriter 80* lets you vary aspects of print formatting by inserting control characters and decimal arguments in a document. Local formatting details, such as underlining, centered text, and the contents of headers and footers, are also managed by embedded control characters.

While users of more “sophisticated” programs may balk at the idea of format-control via embedded character codes, the system actually has substantial merit. Among other advantages, embedded control characters can be manipulated with functions such as global search-and-replace, making format modifications easy and straightforward. Among the local functions that *AtariWriter* explicitly supports are subscripts; superscripts; underlining; centered, right-justified, and fully justified text; and boldface, condensed, and expanded text—if, of course, your printer

mal ESCape sequences in your documents, using the command Control-O.

*AtariWriter 80* comes with printer drivers for most popular printers. If your printer is not one of those supported, the included printer driver editor makes it fairly easy to create a new driver that will allow you to exploit its features

### And Speaking of Features

*AtariWriter* also supports numerous impressive convenience features. For example, the program can automatically create multi-level section numbering schemes (section 1.1.1, 1.1.2, 1.2, 1.2.1, and so on) for multi-part documents.

It can also handle one-shot form letters and other boilerplate jobs too small to be worth doing with Mail Merge, using a feature called Form Printing. Pressing Option/Insert wherever you wish to leave a blank in a document will cause *AtariWriter 80* to prompt you to fill in the blanks as it goes about printing the job. Print files can be chained for batch output, and printing can be revectorized to either the RS-232 port or to a disk file for later processing.

Perhaps the most important special feature of *AtariWriter 80*, however, is its Print Preview mode. By selecting Print Preview, you can view your document more or less exactly as it will appear when printed, letting you catch subtle formatting errors before wasting printer paper and valuable time. Print preview mode can accurately represent normal line-spacing and the majority of formatting special effects, including double-column printing. Due to display limitations, however, it cannot accurately represent half-line spacings or special visual effects such as super-

**Basic text-entry is extremely straightforward. You simply type, and your text automatically arranges itself in 80-character-long lines.**

also supports them.

One- or two-line headers and footers can be defined at any point in a document and may include embedded page numbers. Additional printer features not explicitly supported by *AtariWriter 80* may be accessed by embedding deci-

scripts, subscripts, expanded, compressed, or justified text, though it does make some attempt to indicate where certain of these effects appear in copy. Print Preview may require up to 3000 bytes of free memory for page formatting prior to display.



### Atari Proofreader

Atari Proofreader is a versatile spelling checker that works as an integral part of *AtariWriter 80*. To use it, you simply select Verify Spelling from the *AtariWriter* main menu, insert the program disk, and press Return. Proofreader loads in place of *AtariWriter*, leaving your current file in memory for checking.

Atari Proofreader offers several options for error checking and correction. The first, Correct Errors, displays each spelling "mistake" as it is found and gives you the option of correcting the error immediately, looking up similarly-spelled words in the dictionary as a guide to correction, or filing the unfamiliar word in a Personal Dictionary.

The second option, Highlight Errors, simply scrolls through your file, highlighting spelling errors as they are found. This kind of quick check can be useful for catching systematic mistakes that might more efficiently be corrected using the search-and-replace functions of *AtariWriter* than through the Correct Errors option. The third main option, Print Errors, works like Highlight Errors except that it also prints out each misspelled word that it identifies.

Like other spelling checkers, Atari Proofreader determines the correctness of a spelling by whether or not that word appears in its dictionary. The 36,000-word dictionary supplied with the program includes most of the words (and inflections) commonly used in American prose. However, though the dictionary seems fairly capacious, it is by no means authoritative or complete. (For example, on my first test of Proofreader, the system flagged the word "proofreading" as being misspelled.)

To solve this problem, Proofreader supports two ways of creating what are called "personal dictionaries"—word lists that contain terminology specific to particular types of writing. Each time you tell Atari Proofreader to accept an unfamiliar word as correctly spelled, it automatically makes an entry in its in-memory word list—a list that can later be saved to disk as a personal dictionary.

Alternatively, you can use *AtariWriter 80* to make lists of new words according to a succinct set of rules given in the manual, saving these files as additional personal dictionaries. The former method permits the compilation of lists of up to 256 words per file; the latter up to about 1200 words per file. Multiple personal dictionary files can be loaded

at one time, up to a total of 8400 bytes on the 800, XL, and 65XE. Oddly, the 130XE has less space for personal dictionary entries—only about 4400 bytes.

disk as new databases. The logic used to build subsets is limited to simple, alphabetic pattern-matching; no logical operators or other, more sophisticated,

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***By selecting Print Preview, you can view your document more or less exactly as it will appear when printed, letting you catch subtle formatting errors before wasting printer paper and valuable time.***

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Clearly, these files must be kept as short as possible to promote maximum flexibility.

### Atari Mail Merge

Atari Mail Merge is an easy-to-use, fairly flexible mailing list manager that works with *AtariWriter 80* to simplify the production of form letters and similar documents. Like Proofreader, Mail Merge is integrated into the *AtariWriter 80* main menu.

The first step in using Mail Merge is to create a database of records (names and addresses or other information) for use in merging with your documents. The default record format is set up as a simple address book, appropriate for most mailing lists, though other types of record can conveniently be designed. Once a record is established, a database file can be set up and saved on disk. Each file may contain a maximum of 255 15-field records.

Merging a database with a document is quite easy. Pressing Option/M in the editor inserts an inverse @ symbol, called the "database merge character," in your text. By placing a field number after the merge character, you instruct *AtariWriter 80* to insert information from the corresponding database field into the document when the file is printed.

*AtariWriter 80* asks you to specify a Mail Merge database filename the first time it encounters the merge character; thereafter, insertions are automatically performed on multiple copies of the document.

Subset files containing only certain records in a database can also be built, allowing for more specific merge operations. These subset files can be saved to

search specification tools are afforded by Atari Mail Merge. Still, the program was not designed for use as a full-featured database, and it performs its functions well within its limited purview.

### Documentation

*AtariWriter 80* and its integrated companion programs are documented in a clearly-written, fully-indexed 98-page manual. The manual has obviously been conceived with the novice user in mind, and is, as a result, wholly un intimidating. Differences between the two versions of *AtariWriter 80* are noted and emphasized where necessary. A quick reference booklet is included.

Working with *AtariWriter 80* is an exceptionally pleasant experience. The program compares well in basic functionality, speed, and features to far more expensive and ostensibly sophisticated word processing packages running on more costly "professional" systems. This is particularly impressive when you consider the technical hurdles that must have been surmounted in creating the program.

As anyone who has read through the XEP-80 technical manual can tell you, programming Atari's 80-column display adapter is quite a bit more cumbersome than managing conventional on-board memory-mapped video. Yet *AtariWriter 80* functions with all the briskness of its 40-column predecessors.

The program is friendly and well-designed, leading the user through more complex operations with a clear system of prompts and error messages. In sum, the package offers more than enough flexibility and power for most personal, educational, and small business word processing needs. ■



# 1st Word Plus, Version 3.14

*Prospero's new program is too good to be an "upgrade"*

The most expensive part of any word processing system is the time it takes to train people to use it. That is why I don't hesitate to assert that *1st Word Plus* version 3.14 is the best word processing value currently available for Atari ST computers.

To prepare legal papers and operate my business (I publish building inspection reports for lawyers' clients), I initially used the copy of *1st Word* that was bundled with my Atari 520ST. Subsequently, I bought a 1040ST, faster printers, and *1st Word* version 1.06—primarily because I needed the ability to create footnotes and hyphenate words automatically.

I am also familiar with the IBM version of *WordPerfect* and *Word Writer PC* and bought the former when it was released for the Atari ST, because I knew that it had every feature I would ever need. In writing this evaluation, therefore, I have compared *1st Word Plus* v.3.14 with both earlier versions of itself and other popular word processors for the ST.

*WordPerfect*, for example, is both excellent for professional writers and probably the program most widely used by businesses. I believe, however, that it is too expensive for most home office PC users and for most ST owners. Furthermore, too much time and effort are required to become proficient at using its many advanced features.

One of the problems with the earlier versions of *1st Word* and *1st Word Plus* was that most functions had to be accessed, using the mouse, from the pull-down menus. Version 3.14 of *1st Word Plus* adds a keyboard command for virtually every function, which I find much faster and more convenient than the mouse/menu combination. Tables 1 through 3 list the commands and the key combinations that invoke them. Table 4 lists the functions available only

via mouse/menu. And Table 5 shows the new commands associated with the function keys.

The manual for version 3.14 is sparse and poorly indexed, but usable. Like the manuals for *1st Word* and versions 1.00 and 2.02 of *Word Plus*, it tells you what you must do to utilize the features of the software, but never really hunkers down to the business of making you feel comfortable with the program.

Many of the words in the manual are rendered in their British spellings, but the spelling checker has been suitably Americanized.

## Formatting

One of the nicest additions to version 3.14 is one that has been only partially implemented. You can now set your vertical spacing for space-and-a-half. Unfortunately, this handy feature is available only from the Page Layout menu, not from the Add Ruler menu, so you cannot switch from single or double spacing to space-and-a-half within a given document—it's all or nothing.

Other spacing options include single, double, or up to nine spaces between

## 1st Word Plus

**System:** Atari ST

**Version reviewed:** 3.14

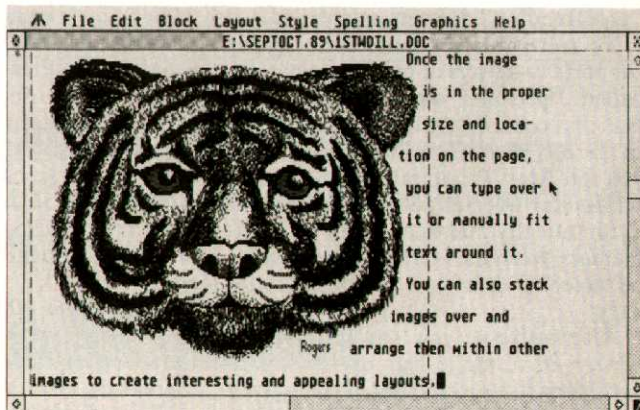
**Copy protection:** None

**Summary:** An excellent full-featured word processor; definitely a Best Buy

**Price:** \$99.95

**Distributor:**

Prospero Software  
100 Commerical St.,  
Ste. 306  
Portland, ME 04101  
(207) 874-0382



Graphics can be imported from other programs and incorporated into Word Plus documents.

By EDMUND D. MANN



Alt +	Invokes
A	Repeat Find
B	Find End of Block
C	Copy Block
D	Cut Block
E	End Block
F	Find
G	Go to Page
H	Unmark (hide) Block
I	Find Statistics
J	Go to Marker
K	Set Marker
L	Show Ruler
M	Move Block
N	Add to Scrap
O	Add word to Sup. Dictionary
P	Paste Scrap
Q	Delete Block
R	Find & Replace
S	Start Block
T	Find Start of Block
U	Paste Block
V	Save System Defaults
W	Copy to Scrap
X	Show Position
Y	Page Layout
Z	Browse Dictionary

Table 1. Functions invoked with Alternate key combinations.

Control +	Invokes
A	Quit this Window
C	Save and Close this Window
D	Delete from Disk
H	Wildcard for Search
M	Save as (filename)
O	Open
P	Print the On-screen Document
Q	Quit all Windows
R	Read into this Document
U	Print from Disk

Table 2. Functions invoked with Control key combinations.

Shift +	Invokes
F	Graphics Mode
I	Read Picture
X	Delete this Picture
F2	Add Footnote
F3	Center
F4	Align Right
F5	Change Block to Uppercase
F6	Change Block to Lowercase
F10	Reformat
	Paragraph
	Between Rulers
	Whole Document
	Cancel

Table 3. Functions invoked with Shift key combinations.

lines—but only when the spacing selected from the Page Layout menu is set at 1. Thus a document can be entirely in space-and-a-half or any of nine multiples of six whole lines per inch.

*1st Word Plus* v.3.14 is the easiest of all word processing programs to use when it comes to changing line spacing and, if your printer permits, selecting fonts to print with pica, elite, condensed, expanded, or proportional spacing. To change font size, line spacing, tab settings, and ruler constraints, you

### System Features

The newest version of *1st Word Plus* also offers some useful new system features. If you want to create a document that is larger than the memory of your ST, you can enable the new Spill File from the Edit menu. The program will then store the previously-created portion of the document directly on your hard disk, allowing you to continue typing without having to create a new file.

For those who are never content with the program designer's choice of desk-

***I found it less expensive to retire my copy of WordPerfect than to face the prospect of investing in 60 hours of training for each new employee I hire.***

have only to make the appropriate selections from the Add Ruler dialog box.

To change the default margins, you can either click on the left or right arrow icon in the Add Ruler box to increase or decrease the length of the line or drag the left or right margin marker to the desired position.

To change tab stops, you merely point at the ruler above the document and click to add a tab marker or double-click to add a decimal tab marker. To delete a marker, you click on the existing marker, and it disappears.

You can also create tabulated indentations using spaces or leaders (a line of dots or periods) by clicking on the desired choice from within the Add Ruler dialog box.

Users of earlier versions of the program will be pleased to note that you can now reformat not just a paragraph at a time, but your entire document or just the text between rulers. This is a substantial improvement and a significant time saver.

Version 3.14 of *1st Word Plus* supports proportional spacing. You cannot, however, make use of proportional spacing and right justification at the same time. *WordPerfect* for the ST has the same limitation.

The last formatting change I will mention is the ability to omit your footer (the identification line that appears at the bottom of the page) on the first page, where you might want to place the information at the top of the page.

top, version 3.14 offers the ability to rearrange the icons on the *Word Plus* startup screen. The font table, which displays the characters available from the printer; the function key icons; and the spacing icon can all be moved around in the window and assigned new default positions.

If you use two floppy disk drives or one or two floppy disk drives and a hard disk, you can change the default drive to B, C, or any partition of a hard disk and then save all defaults.

Another big improvement is the addition of a "scrap memory," which allows you to create a cumulative clipboard. When you save a block of text to scrap memory, it is added to whatever was previously saved. "Buffer memory" is the name now given to the area in which only one block of text can be saved at that time.

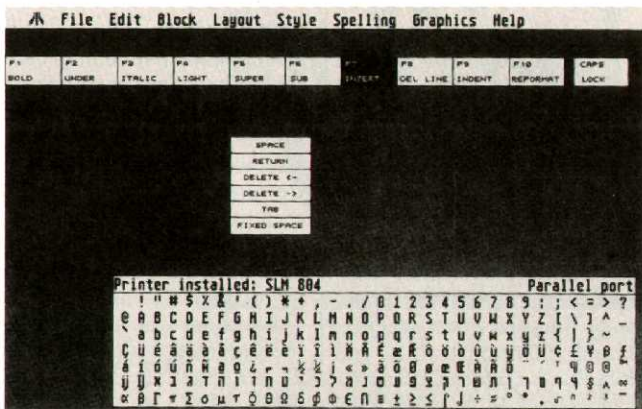
The addition of scrap memory gives you almost total flexibility in rearranging text within and between documents.

The spelling checker in version 3.14 is considerably faster than that included with version 2.02, and you can browse and add words via Alternate key combinations. To keep you from inadvertently losing newly-added words by forgetting to save the supplemental dictionary, the software now displays a dialog box that reminds you to save them before quitting.

To check the speed of the improved spelling checker, I saved a 103-page building inspection report to each of two



# PRODUCT REVIEW



The start-up screen—font table, function key icons, and the spacing icon—can be rearranged and assigned new default positions.

disks, then spell checked one copy with the dictionary supplied with *1st Word Plus* v.3.14 and the other with *Thunder*. The *1st Word Plus* check took 17 seconds less than the *Thunder* check.

*1st Word Plus* supports virtually every dot-matrix and impact printer you can name, but just in case you find yourself using one the programmers have overlooked, they have included a well-written chapter to help you customize the printer configuration. You don't have to be a software superstar to accomplish this, but I wouldn't recommend it as first programming project.

If you have an SLM804 Laser printer or other laser or inkjet printer, you will, unfortunately, have to purchase a supplemental driver disk for about \$10, unless you have a driver from an earlier version of the program.

## Graphics

*1st Word Plus* can do on an ST almost everything *Word Perfect 5.0* can do on an MS/PC-DOS computer and something *Word Perfect ST* cannot do at all: *1st Word Plus* allows you to import pictures into documents. You do not need a desktop publishing program to incorporate graphics into your text. That said, I must add, however, that neither *WordPerfect* nor *1st Word Plus* is a substitute for a desktop publishing program.

As useful as it is, the *1st Word Plus* graphics feature has what may be considered a fatal flaw by many ST users: it will not display graphics on a color monitor. Instead, to show you where the image will appear in your document, *1st Word Plus* places a dotted red line around the border of the box into which the clip art will fit when printed.

The good news is that, while the artwork cannot be displayed on the col-

or monitor, it does print out on a properly configured dot matrix or laser printer.

I had no trouble displaying clip art from Timeworks and Magnetic Images on a monochrome monitor.

Again, because it is not a desktop publishing program, *1st Word Plus* lacks the ability to crop, edit, and scale images; you must do all your artwork in another program and have it "camera-ready" before importing or taking a snapshot of it.

Once the image is in the proper size and location on the page, you can type over it or manually fit text around it. You can also stack images over and arrange them within other images to create interesting and appealing layouts.

Another flaw that hinders the effective use of graphics in *1st Word Plus* documents is in the printer driver. When an image is printed on a 24-pin dot matrix printer, the imported picture is enlarged by approximately 30%. Thus, the picture must be reduced by about 50% before it is imported into the *1st Word Plus* document, if the picture is to be printed using an Epson or compatible 24-pin LQ printer.

Versions 2.02 and 3.14 of *1st Word Plus* both offer a snapshot accessory, which allows you to select all or a portion of an image previously created with *NeoChrome*, *Degas*, *Easy Draw*, or a scanner.

That snapshot is then saved with an .IMG file extender and is available to be installed in your document using Graphics Mode.

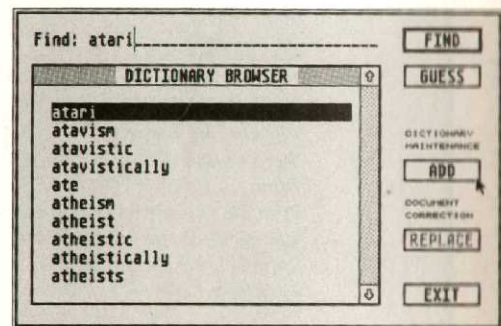
The *1st Word Plus* graphics importing and snapshot utilities have another serious flaw when printing a picture imported from any paint program or from any scanned image: the computer interprets the bit-mapped drawing using sev-

- Edit menu
  - WP Mode On/Off
  - Hyphenation On/Off
  - Word Wrap On/Off
  - Set Spill File (hard disk only)
- Layout menu
  - Add Ruler
  - Delete Ruler
  - Read Ruler
  - Footnote Format
- Spelling menu
  - Load Dictionary
  - Continuous Check
  - End Spell Check

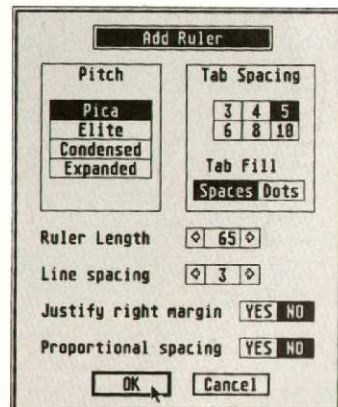
Table 4. Functions available only from menus.

- F1 = Bold
- F2 = Underline
- F3 = Italic
- F4 = Light
- F5 = Superscript
- F6 = Subscript
- F7 = Insert Mode On/Off
- F8 = Delete Line
- F9 = Indent
- F10 = Reformat

Table 5. Function key assignments.

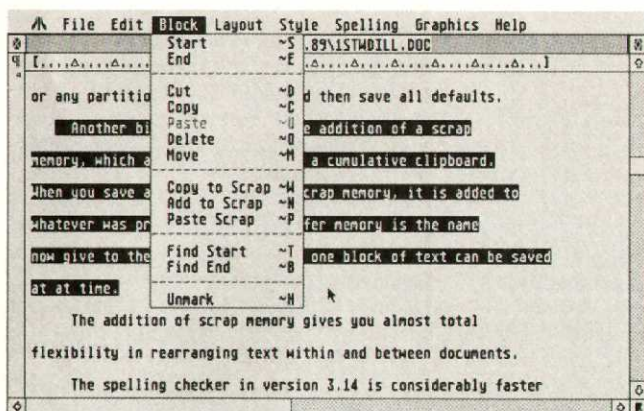


The spelling checker in version 3.14 is considerably faster than the checkers in earlier versions.

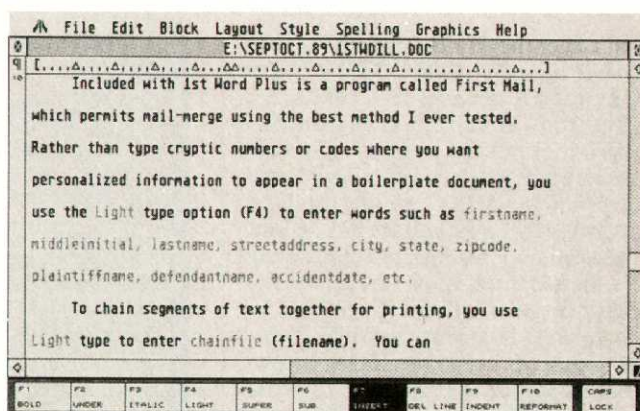


The Add Ruler dialog box allows you to set line spacing, font size, ruler length, tab spacing, and justification.





The Scrap and Buffer memories provide a great deal of flexibility in manipulating blocks of text within and between documents.



1st Mail uses Light type to indicate variable information within form letters.

eral levels of gray. The resulting image is printed with less aesthetically pleasing results than can be realized from a desktop publishing program.

To evaluate the graphics capability of *1st Word Plus*, I used clip art that was bundled with Timeworks *Desktop Publisher ST* and several other clip art libraries. I was not satisfied with the quality of the *1st Word Plus* printout using my Panasonic KX-P1524 (24-pin) printer set for Epson LQ configuration. The same images were reproduced magnificently when printed using *Desktop Publisher ST* and the same printer.

### Editing

Readers who have used other GEM-based word processing software on the ST will be pleasantly surprised at how easy it is to copy, delete, move, and save blocks of text with *1st Word Plus*. The mouse and pulldown menus can, of course, be used by those who find them convenient. I, however, find it much faster to use the keyboard commands. In fact, I found that manipulating blocks of text was much easier with *Word Plus* than with *WordPerfect*, *Word Writer ST*, or *Haba Writer II*.

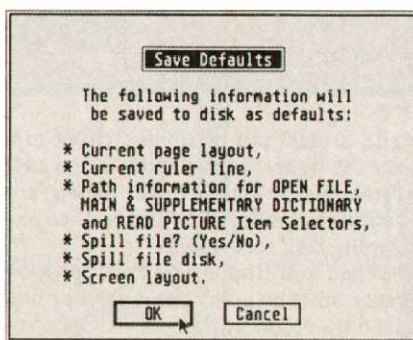
If you type documents that require foreign language fonts or use several printers as I do, you will be pleased to learn that with *1st Word Plus*, you can select foreign characters and change from one printer to another with a click of the mouse button. To select a specific character from the font table, you simply click on it and it appears under the cursor in your document.

On a line above the font table, the name of the printer for which the system is currently configured and the name of the port that is feeding information to it are displayed. Click on the

name of the printer and a dialog box appears, double click on the name of the printer you want to install and the new name and character set appear on the screen. To toggle between parallel and serial port, you have only to click on the name of the port currently in use.

### 1st Mail

Included with *1st Word Plus* is a program called *First Mail*, which permits mail-merge using the best method I



The Save Defaults dialog box allows you to assign default settings to a variety of parameters.

have ever tested. Rather than type cryptic numbers or codes where you want personalized information to appear in a boilerplate document, you use the Light type option (F4) to enter words such as first name, middleinitial, lastname, streetaddress, city, state, zipcode, plaintiffname, defendantname, accidentdate, etc.

To chain segments of text together for printing, you use Light type to enter "chainfile (filename)." You can use the same technique to include a file within a document. This feature is particularly useful for creating very long documents.

It allows you, for example, to save a book manuscript a chapter at a time, then to print out the entire book as a single document, which can be many times larger than any document you could hold in the memory of your ST.

### The Bottom Line

As stated in the opening paragraph, the most expensive part of any word processing system is the time it takes the operator to master the hardware and software. On that basis, I found it less expensive to retire my copy of *WordPerfect* than to face the prospect of investing in 60 hours of training for each new employee I hire.

Based on a month of office use and more than 3000 pages of reports, I feel quite safe in saying that anyone can be trained to use version 3.14 of *1st Word Plus* in about two hours and be fully productive by the end of the first week of use. People who were experienced with version 2.02 were fully productive by the end of one day of use. In fact, version 3.14 permits my staff and me to type 20% more work each day than we did with version 2.02.

If you do not already have version 1.06 of *1st Word* or *1st Word Plus*, version 3.14 can be yours for less than \$100. Buy it; everyone who uses a computer needs a word processor, and this one will not disappoint you.

If you own an early version of the program, you can upgrade version 1.06 and above by sending the original disks, the pages of the manual (not the binder), and a check for \$25 directly to Prospero Software. Don't waste another moment; do it now.

*1st Word Plus* v.3.14 is probably the best-kept secret in the ST world and the best word processing value you will find on your dealer's shelves. ■



## FORMATTR



## ATARI KEY

- Any Atari 8-bit Computer
- Any Atari DOS

Listing 1.

# Formattr

A program to salvage

5<sup>1</sup>/<sub>4</sub>" disks

Stop throwing away those only-slightly-defective 5<sup>1</sup>/<sub>4</sub>" floppy disks. Here is a handy program that locks out bad sectors, rendering old disks usable once more.

Floppy disks go bad—unfortunately more often than I'd like. Saving the data from a flaky disk can be tricky—a matter for sector editors, track formatters, and similar utilities—but what about the disk itself? Normally, once you have recovered (or abandoned hope of recovering) your data, you throw the disk away; no big deal at about 39 cents apiece. Still, the idea of tossing out a disk that is still 99% usable was odious to me—so odious that I spent a month writing *Formattr*, a program that hides bad sectors and lets you continue to use a disk after it has gone bad.

## How to Use Formattr

Carefully type the program in Listing 1 and save it on disk. Check your work carefully! *Formattr* contains (among other things) a certain amount of implicit machine code that must be reproduced *exactly* if the program is to work as advertised and not lock up your machine. It is also a good idea to clearly label and write-protect the disk on which you save *Formattr* (by placing a

write-protect tab or small strip of tape over the write-protect notch in the edge of the disk), since it will be in and around your machine while you are performing disk recoveries.

When you find a disk that produces errors, start by going through your normal data-recovery procedure. Once you have transferred your data to a safe location (or held a brief service in its memory), go to DOS 2.0, 2.5, or any compatible DOS and format the bad disk.

If the format procedure runs correctly, it is more likely that your data was somehow corrupted (by static electricity, a rogue program, etc.) than that actual sectors have been damaged—the disk may thus be (cautiously) re-used. It is also possible that either your disk drive or the drive originally used to format the disk is out of alignment, has dirty heads, or is suffering from some other type of minor, systematic failure. If you get read errors too often and find that disks consistently re-format with-

out problems, have your drive checked.

If, on the other hand, the format procedure terminates with an error 173 or if DOS 2.5 tries to format your disk more than four times, go to Basic, and run *Formattr*. Remove the *Formattr* disk from the drive and replace it with the defective disk. Specify the drive and density (S=Single, E=Enhanced (1050), or D=Double) and then wait.

The screen will go black (Antic is turned off to speed up processing) for five or six minutes, depending on the number of bad sectors encountered. When you see the READY prompt, return to DOS and look at the directory of the recovered disk.

A few sectors will be missing from the sector count (i.e., instead of saying 707 FREE SECTORS the count may specify 705), but everything else will work normally. The disk can be re-used in any way you like, though prudence dictates that it should probably be retired to occasional or archival use.

On occasion, *Formattr* will print DISK NOT SALVAGEABLE!! This means that the bad sector(s) occur in integral parts of the disk without which the disk

```

3 REM FORMATTR -- A FLOPPY DISK SAVER
5 REM BY GREGG HESLING
10 ? "FORMATTR BY GREGG HESLING":? :DIM DEN$(1):FOR X=1536 TO 1540
:READ Y:POKE X,Y:NEXT X:DATA 104,32,83,228,96
20 TRAP 20:? "DRIVE #":INPUT X:IF X<1 OR X>4 THEN 20
30 ? "DENSITY (S,E,D) ":INPUT DEN$:DENSITY=(DEN$="D")+1:IF DEN$<>
"S" AND DEN$<>"E" AND DEN$<>"D" THEN 30
40 POKE 559,0:POKE 769,X:POKE 725,(DENSITY=1)*128:POKE 726,(DENSIT
Y=2):DIM SECTOR$(DENSITY*128),VTOC$(128)
50 VTOC$(X)=CHR$(0):VTOC$(128)=CHR$(0):VTOC$(2)=VTOC$:SECTOR$(DENSITY
*128)=CHR$(0):ADDRESS=ADR(SECTOR$):IO=82:Z=8
60 FOR SECTOR=4 TO 719:GOSUB 160:IF X THEN X=INT(SECTOR/8)+11:VTOC
$(X,X)=CHR$(ASC(VTOC$(X))+Z):VTOC=VTOC+1
70 Z=Z/2+127.5*(Z=1):NEXT SECTOR:IF DEN$<>"E" THEN 110
80 DIM VTOC2$(128):VTOC2$(X)=CHR$(0):VTOC2$(128)=CHR$(0):VTOC2$(2)=VT
OC2$:VTOC2$(1,84)=VTOC$(17,100):Z=64
90 FOR SECTOR=721 TO 1023:GOSUB 160:IF X THEN X=INT(SECTOR/8-5):VT
OC2$(X,X)=CHR$(ASC(VTOC2$(X))+Z):VTOC2=VTOC2+1
100 Z=Z/2+127.5*(Z=1):NEXT SECTOR
110 VTOC$(1,1)=CHR$(2):X=707+303*(DEN$="E"):Y=INT(X/256):VTOC$(2,2
)=CHR$(X-Y*256):VTOC$(3,3)=CHR$(Y)
120 X=VTOC-9+VTOC2:Y=INT(X/256):VTOC$(4,4)=CHR$(X-Y*256):VTOC$(5,5
)=CHR$(Y):VTOC$(56,56)=CHR$(0):X=ASC(VTOC$(57))
130 VTOC$(57,57)=CHR$(X-128*(X>=128)):X=INT(VTOC2/256):ADDRESS=ADR
(VTOC$):SECTOR=360:IO=87:IF DEN$<>"E" THEN 150
140 GOSUB 160:VTOC2$(123,123)=CHR$(VTOC2-X*256):VTOC2$(124,124)=CH
R$(X):ADDRESS=ADR(VTOC2$):SECTOR=1024:IO=87
150 GOSUB 160:POKE 559,34:? CHR$(253);ERROR;" BAD SECTORS":? :? "I
'M":END
160 X=INT(ADDRESS/256):POKE 772,ADDRESS-X*256:POKE 773,X:X=INT(SEC
TOR/256):POKE 778,SECTOR-X*256:POKE 779,X
170 POKE 770,IO:X=USR(1536):X=1-SGN(PEEK(771)-1):IF X THEN RETURN
180 ERROR=ERROR+1:? "SECTOR ";SECTOR;" BAD":IF SECTOR>3 AND SECTOR
<360 OR SECTOR>368 AND SECTOR<1024 THEN RETURN
190 POKE 559,34:? CHR$(253);"DISK NOT SALVAGEABLE!!":STOP

```

By GREG HESLING



can't be used. However, I have found that if you re-format the disk yet again, the bad part of the media may end up lying beneath another, less important sector, and the disk can be saved after all.

Be careful! If you use Formatttr on a good disk by accident (as I have) immediately copy all of your data to another disk. Formatttr won't destroy your data, but it marks all of it for deletion the next time you save a file.

### How Formatttr Works

When you format a disk under DOS 2.0, the drive makes two passes across the disk. The first pass partitions the disk and zeroes all of its sectors, while the second pass ensures that each sector can be written to and read from. Then, DOS 2.0 sets up the VTOC or Volume Table of Contents, a single sector (sector 360) that is employed to record which sectors are used and which are unused. When the disk is in use, VTOC bits set to 1 indicate unused sectors, while 0 bits represent used sectors.

Most disk operating systems initial-

ize the bits of the VTOC as part of the formatting process, creating a map of the disk that can be used to guide later disk operations. DOS 2.5 does not; if a sector fails during format, DOS 2.5 simply quits, leaving the VTOC empty. When you try to use the disk, DOS generates a Disk Full error.

As you might expect, Formatttr works by manipulating the VTOC. It reads all of the sectors, setting the bits related to good sectors to 1 and the remaining bits to 0. When the disk is subsequently used, the bad sectors are interpreted as full and are just skipped over.

Formatttr reads sectors by POKEing a few values into the system disk Input/Output Control Block (IOCB) and then making a machine language jump to CIO. The nine memory locations involved are:

769: The disk drive number. POKE 1 to 4 here to access that drive (sorry, no RAMdisks allowed).

770: The disk command. To read a sector, POKE 82; to write, POKE 87.

778,779: The sector number. POKE the low byte (SECTOR-INT(SEC-

TOR/256)\*256) in 778 and the high byte (INT(SECTOR/256)) in 779.

772,773: The location (in low/high byte format) of the disk sector transfer buffer. In Formatttr, this buffer is represented by a string variable large enough to hold a sector (128 bytes for single density; 256 for double). The address of this string, determined by the ADR() function, is POKED to this location.

725,726: Officially labeled "spare bytes." Through trial and error, I discovered that they control the size of the sector to read in. For single density, POKE 128 in 725 and 0 in 129. For double density, POKE 0 in 725 and 1 in 726.

771: The status location. After a call is made to CIO, PEEK(771) returns a 1 if all went well. Otherwise, this location stores the number of the error that occurred.

The actual call to CIO is made by issuing the following machine language commands: PLA, JSR SE453, RTS. The commands are themselves stored as DATA values, POKED into locations 1536-1540, and called with the USR() command. ■

## How much is YOUR time worth?

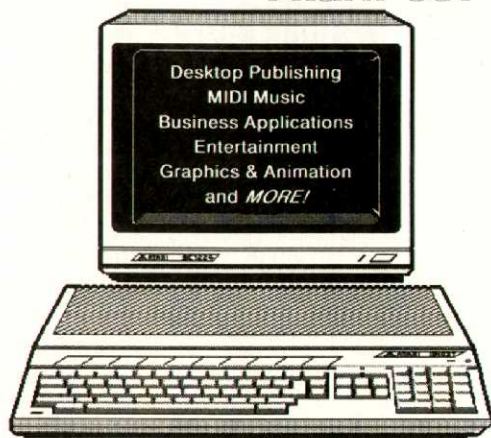


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# Print Shop Utilities

*The Print Shop User's Utility Disk brings order to the chaotic world of icons, fonts, and borders*

## Print Shop User's Utility Disk

**System:** Atari 8-bit Computer  
**Required equipment:** Dot-matrix printer  
**Copy protection:** None  
**Summary:** A Must Buy utility for users of The Print Shop  
**Price:** \$29.95  
**Manufacturer:**  
 No Frills Software  
 800 East 23rd St.  
 Kearney, NE 68847  
 (308) 234-6250

It is all too obvious that software developers have not been rushing to market with a plethora of new products for Atari 8-bit systems of late. I find it exciting, therefore, to welcome a genuine *new product* to the 8-bit software library.

The *Print Shop User's Utility Disk* supports one of the most popular programs ever developed for Atari computers—or, in fact, for any computer: *The Print Shop* by Broderbund.

### Features

Designed to be used in conjunction with *The Print Shop*, the *Utility Disk* offers nine useful features.

The Picture Viewer, as the name implies, allows you to view any *Print Shop* icon. You can view all the icons on a disk, four at a time, in either the order in which they are stored on the disk or alphabetical order. You can also use the Pick command to choose an individual icon or the Start At command to view

part of a sequence.

Using the Graphic Cataloger, you can print out your *Print Shop* images—ten rows of seven per page. You can choose single sheet or continuous form paper.

The Border Cataloger prints out your *Print Shop* borders—again, 70 to a page. The Font Cataloger prints out your fonts, each one occupying two lines across the page.

All three catalogers offer the same options for printing that Picture Viewer offers for the screen display.

The Transfer option allows you to transfer *Print Shop* icons from one disk to another. This is an ideal way to create theme disks of related images—holiday/seasonal, food, sports, and so on—a great help in organizing your *Print Shop* icon library.

The Delete/Undelete/Rename option allows you to do those things to any *Print Shop* file. Renaming is useful when you find different images with the same name, and Delete comes in handy for removing duplicate images. Undelete lets you change your mind, and just in case you get to the end of a session and decide the whole thing has been a mistake, you get a chance to confirm that you really do want to make the changes before quitting.

The Bookmark/Coupon/Cachet Maker lets you create rectangles in 16 different sizes within which a font, a border, two icons, and any Atari nine-sector font can be printed. Here you can be creative even if you don't have *Print Shop*. One caution: if you want to save a creation, you must save it prior to printing.

The Label Maker allows you to include *Print Shop* icons in labels. Four label sizes are provided, and the standard internal character set or any nine-sector Atari font can be used. Justification, centering, and auto-numbering are all offered.

Setup provides for the selection of Epson- or Prowriter-compatible printers and for the inclusion of codes to bring your "almost compatible" printer up to *Utility Disk* standards. A one- or two-drive system can also be specified.

Another caveat: if your fonts, borders, and icons are on a commercial *Print Shop* disk along with other things, you must transfer them to a separate disk of icons, fonts, or borders, or results cannot be guaranteed.

By DAVID NOYES

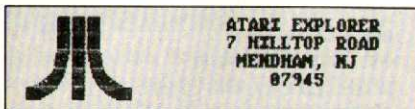
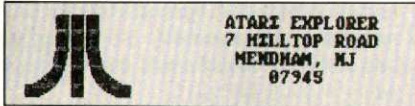


Graphic Cataloger

The *Utility Disk* has its own wildcard symbol, @, which, when used with a letter or group of letters, allows you to narrow your search criteria. I found this feature extremely useful.

Using the Program

To boot the *Print Shop Utility Disk*, you simply place it in your disk drive



Sample labels.

and turn on your 800/XL/XE. Although the program is not written in Basic, there is no need to hold down the Option key, because Basic is disabled automatically. Once booted, the program displays a green, white, and black screen listing nine menu selections.

I suggest that you get Setup out of the way first. Then, having told the software all about your hardware, you will be ready to give your collection of *Print Shop* icons, fonts, and borders a workout.

Using the *Utility Disk*, you can create a nice, neat binder or file folder full of tidy, alphabetized miniature graphics, ready for future selection at your next creative whim. Or, you can be creative and design your own labels, bookmarks, cachets, and coupons.

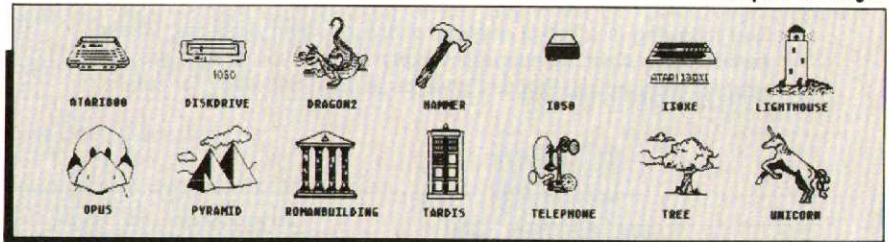
Documentation

The nine pages of documentation provided by No Frills Software are more than adequate to teach anyone how to use the program. I say this with utmost confidence, because, as is my habit, I booted and used the *Print Shop User's Utility Disk* before reading the documentation. Foolish? Maybe, but a good way to get a reading on the user-friendliness of the software.

Menu navigation is extremely easy using the Spacebar and the Return key, and cursor control is of the traditional Control-arrow variety.

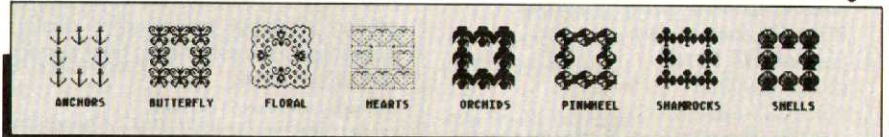
Of course, you can use the *Utility Disk* on its own in conjunction with *Print Shop* icons, fonts, and borders, and with nine-sector Atari fonts, but you will not really appreciate its usefulness unless you have *The Print Shop*.

And the more commercial, public domain, and shareware disks of *Print*

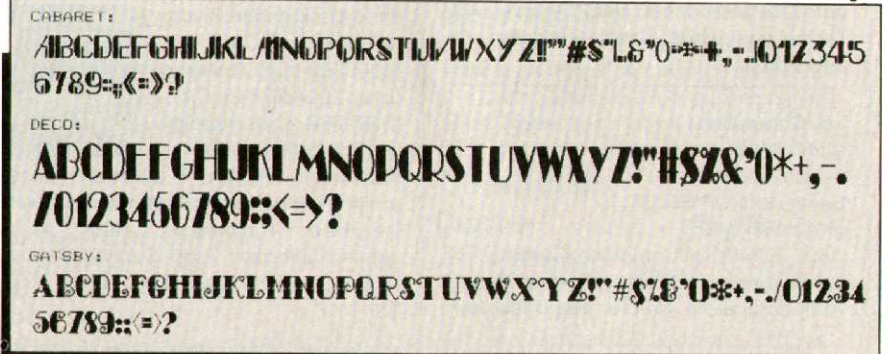


*The more commercial, public domain, and shareware disks of icons, fonts, and borders you have, the more you will appreciate the Utility Disk.*

Border Cataloger



Font Cataloger



*Shop* icons, fonts, and borders you have, the more you will appreciate the *Utility Disk*. If you don't already have a good collection, you can find such disks at Atari retailers, by mail order, and in hundreds of user group libraries.

The *Print Shop User's Utility Disk* is

more than a Best Buy; it is a Must Buy for all users of the 8-bit Atari version of *The Print Shop*. Without it, you cannot possibly make the best use of Broderbund's fantastic program and the hundreds of thousands of icons, fonts, and borders that have been created for it. ■



"Say, I really like this newsletter's format--all pictures and no words."



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Continued on page 80.



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## NEW ENGLAND

Continued from page 79.

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## Copying Text

### 8-BIT HELP KEY

Use the COPY function as a quick way to get a screen full of data or text into a disk file from DOS without a word processor. Select C from the DOS menu, and when the FROM, TO prompt appears, type E:D:filename.ext. After you hit Return, you will be in the editor (E:).

Now type the desired information. You can use all of the normal editing functions (including screen clear) and insert carriage returns where required. When finished, press Control-3. This inserts an end of file (EOF) marker and causes the screen to be saved under the filename you specified. Only what is on the screen will be saved to disk; any lines that have scrolled off are lost.

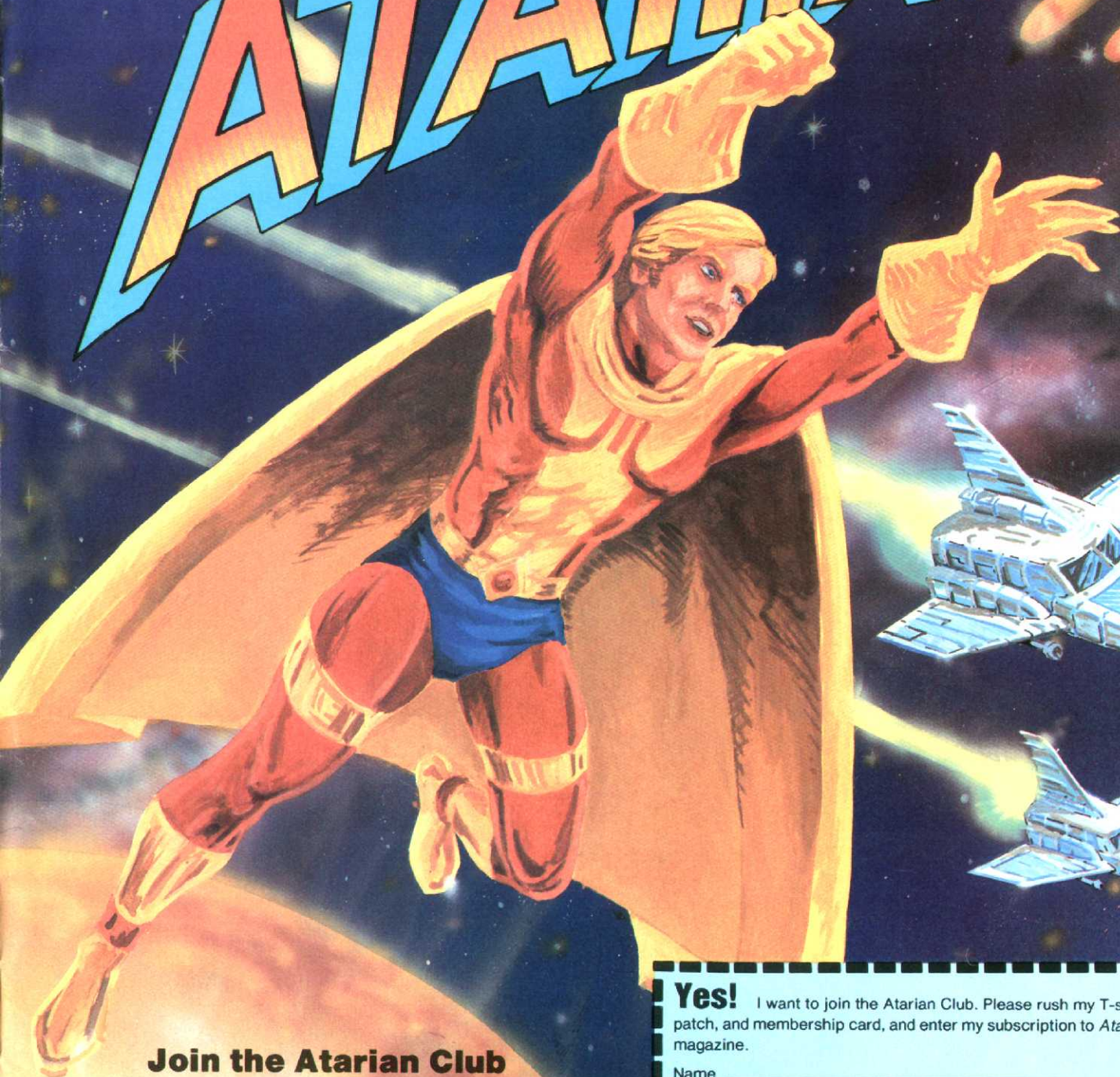
This same technique can be used to copy a screen to a printer (P:) or a modem (R:), provided the proper handlers have been previously installed.

By John Nagy; reprinted from *Mid Michigan Atari Magazine*. ■



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an

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My game system is (circle one): 2600 7800 XE



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2. \_\_\_\_\_ 3. \_\_\_\_\_

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## Easy to Use

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These features and others are explained thoroughly in the comprehensive *SupraModem 2400 Operator's Manual*. Once you understand the basics, the modem's quick-reference card makes finding command descriptions and other modem information quick and simple.

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