

AMIGA

WORLD

December 1989

U.S.A. \$3.95

Canada \$4.50

UK £2.50

An IDGC/I

Publication

SOFTWARE BONANZA!

Over 950 Amiga
Applications Programs

PLUS!

- ▶ Quality Slideshows
Made Easy
- ▶ Maximize Your
Amiga Memory
- ▶ Best Software of 1989
- ▶ Reviews, Games & More



Just The Facts:

What Makes Digi-Paint 3 the Ultimate Paint Program?



"Finding the best paint program for your Amiga can be confusing, but once you have the facts it's simple."

Laura Longfellow
Sales Manager
NewTek Inc.

"Why is Digi-Paint 3 better than DeluxePaint III™?"

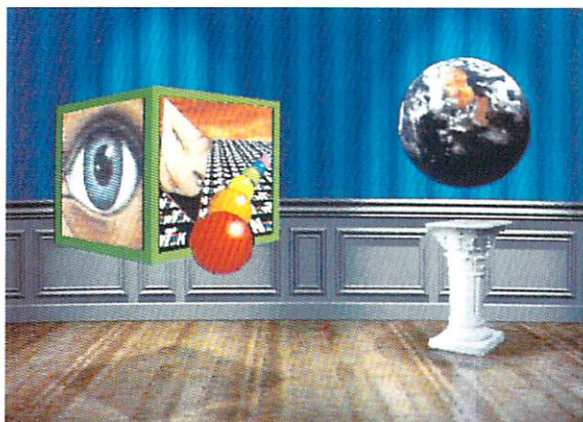
Digi-Paint 3 works in the Amiga's powerful Hold And Modify (HAM) mode, which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 64 colors. Advanced features available in Digi-Paint 3—including Colorizing, Variable Transparency, Shading, Lighten, Darken and Range Painting—are simply not possible in Deluxe Paint III due to its 64 color limitation. AMIGAWORLD warns, "Competitors may want to head back to the drawing board, because Digi-Paint 3 is hard to beat!"



"What makes Digi-Paint 3 better than other HAM paint programs?"

Digi-Paint 3 is the only Amiga paint program written in 100% assembly language. Although challenging to program (taking up to 10 times longer than other computer languages), it's the only way to achieve the incredible speed found in Digi-Paint 3. AMIGAWORLD calls it "the fastest HAM paint program yet" and AMIGA SENTRY estimates it's, "6-10 times faster" than the nearest contender.

Other advanced features found *only* in Digi-Paint 3 include: anti-aliased texture mapping, anti-aliased fonts, ARexx support, 1024 x 1024 super bitmaps with auto-scrolling and dithering to 30 bits per pixel (over a billion colors internally, giving you tens of thousands of apparent colors). COMPUTER SHOPPER magazine reports "Digi-Paint 3 is without a doubt the most advanced HAM paint program to date!"



Digi-Paint 3, Digi-View, and Transfer 24 are trademarks of NewTek Inc. DeluxePaint III is a trademark of Electronic Arts. All brand and product names are trademarks of their respective holders.



"But is Digi-Paint 3 easy to use?"

I've learned that no matter how powerful a program is, if it's not friendly it's not worth my time. We designed Digi-Paint 3 with all users in mind—from the beginner just starting out with computers, to the "power user" who demands the most advanced features possible. The spiral-bound manual contains a step-by-step Guided Tour, 11 hands-on tutorials, a color coded reference card, and almost one hundred example photos.

Digi-Paint 3's intuitive user interface was created by Digi-View designer (and NewTek Founder) Tim Jenison and renowned Amiga artist Jim Sachs. It features innovative "Dashboard" controls which AMIGAWORLD regards as "a joy to use" and "very easy to learn and understand". INFO MAGAZINE says the new interface "looks great and works logically".



"What is the Transfer 24 program included with Digi-Paint 3?"

Transfer 24 is a separate program disk included in the Digi-Paint 3 package, allowing you to alter any picture's brightness, color saturation, contrast, hue and sharpness, almost as easily as adjusting the controls on your television set. Transfer 24 also lets you modify the size, palette, and resolution of any picture. These powerful features, known as "Image Processing", give you incredible control over your final artwork. You can also save your image in any of the Amiga's 24 resolution modes (up to 768x480) making it compatible with all Amiga graphics software. AX MAGAZINE notes that "Transfer 24 gives you even more options as to the final appearance of your work". AMIGAWORLD declares, "Transfer 24 is great for making overall changes."

"What technical support does NewTek offer?"

Digi-Paint 3 has one other thing you won't find in any ordinary paint program: a toll-free help line. If you should have any questions while using Digi-Paint 3, you're not on your own. Call NewTek's technical support team at 1-800-736-7617 Monday through Friday, 8 am - 7 pm Central Time.

Digi-Paint 3 is available now at your local Amiga dealer or call
1-800-843-8934 or 1-913-354-1146.

Circle 102 on Reader Service card.

NewTek
INCORPORATED

Before you buy an A2500 READ THIS FIRST!

(or before you even add a hard drive to your A2000)

**Christmas
Special**

Free copy of Turbo
Silver 3.0 with purchase
of A3001 upgrade
kit

Upgrade your A2000 to an "A3000 (PLUS 1)" TODAY! With the 25Mhz 68030, A3001 Upgrade Kit from GVP

Q What is the A3001 Upgrade Kit from GVP?

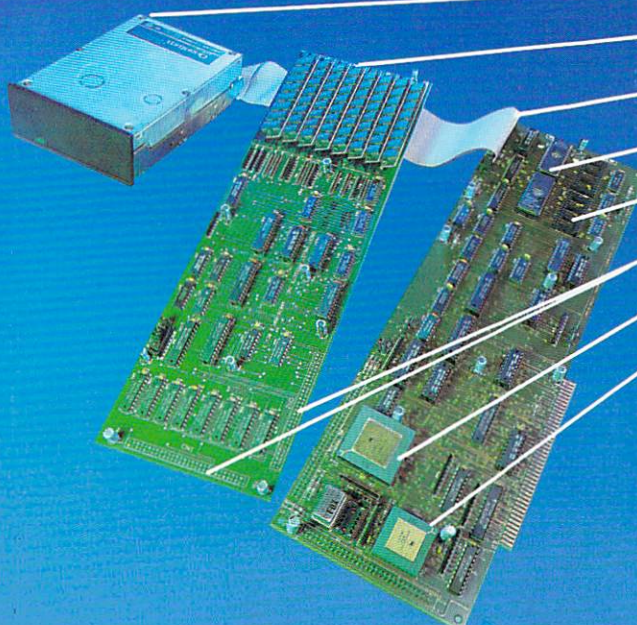
A The A3001 Upgrade Kit includes the following:

- 25Mhz 68030 accelerator board for the A2000.
- Factory installed 25Mhz 68882 Floating Point Processor.
- 4 or 8MB of 32-bit wide high performance 80ns NIBBLE MODE DRAM.
- Built-in AUTOBOOTING HIGH PERFORMANCE hard disk controller.
- Quantum 40MB or 80MB hard disk drive with an average read access time of 11ms (19ms on write) and 64KB read-ahead cache. If you already own a hard disk, this item can be optional.

Q What does the A3001 really do for my A2000?

A The A3001 provides the following, UNBEATABLE and UNMATCHED features:

- The world's fastest (and shipping in volume!) accelerator board for the Amiga.® The 68030 CPU includes an on-chip MMU and separate data and instruction caches. According to a recent review in the German "Amiga Magazin," performance is between TWO AND THREE TIMES FASTER THAN THE A2500.
- One of (we are being modest!) the world's fastest hard disk controllers. Measured with "diskperf2," data transfer rates of well over 700KB/sec are achieved. Of course this is not surprising as the hard disk controller is built-in directly on the 32-bit bus of the 68030 accelerator board!
- The up to 8MB of 32-bit wide DRAM is fully DMA-able (can be directly accessed by any DMA device) and is automatically AUTOCONFIGURED. The A2500 is limited to only 4MB of (slower) 32-bit wide DRAM.
- GVP's unique DRAM design uses state-of-the-art 80ns NIBBLE MODE DRAMs, which allows full support and advantage to be taken of the 68030's BURST mode. In fact during burst mode, this amazing design manages to achieve an average of ZERO WAITSTATES even at 25Mhz! This DRAM design is similar to that used in Steve Jobs' NeXT® machine, although that design (according to



40MB or 80MB Hard
Disk Drive
Up to 8MB of 32-Bit
Wide DRAM
Hard Disk Drive
Interface
Autoboot EPROMs
for Hard Disk
Optional 68030 Boot
EPROMs (UNIX, etc.)
32-Bit 68030 Bus
Interface
25 Mhz 68030 CPU
with oscillator
25 Mhz 68882 FPU

the BYTE magazine review) uses more CPU waitstates at 25Mhz!

- 68000 fallback mode allows the 68030 CPU to be disabled, to ensure full compatibility with timing sensitive applications (e.g.: some game programs).
- Sockets are included for 68030 BOOT EPROMs, allowing future flexibility for running other operating systems.
- GVP's unique ASYNCHRONOUS design means that the 68030 has its own dedicated oscillator and runs completely ASYNCHRONOUS to the rest of the A2000. This means better GENLOCK compatibility (not as sensitive to motherboard clock source) as well as providing the ability to run at any clock speed completely independently of the A2000 motherboard, limited only by the access speed of the DRAMs being used.
- For the REAL, math intensive, number-crunching fanatics there is an optional oscillator socket, allowing the 68882 FPU to be independently clocked at even higher speeds (e.g.: 33Mhz).
- ZERO SLOT SOLUTION! With the full-blown configuration installed (25Mhz 68030 & 68882, 8MB of 32-bit wide RAM and one or two AUTOBOOTING 40MB or 80MB hard disks), the A3001 STILL LEAVES ALL THE A2000 EXPANSION SLOTS FREE FOR FUTURE EXPANSION! The only slot in the A2000 which is used is the Co-processor/CPU slot. An equivalently configured A2500 would use an additional TWO valuable expansion slots!

Q This sounds great, but what if I can't afford to buy the full A3001 kit now and all I need urgently is a hard disk drive for my A2000?

A GVP also offers an "a la carte" approach to purchasing the A3001 kit. For example if you are about to purchase a hard disk drive and controller for your A2000, for only a little more you could instead buy the GVP 25Mhz 68030 accelerator board with its built-in AUTOBOOTING hard disk controller and the 40MB hard disk (suggested list price for both is only \$1495). You would obviously not get the full performance increase mentioned above, until you added our 32-bit wide RAM daughterboard and the 68882 FPU. However, in this case your initial hard disk outlay is not lost and it can be regarded as a "down payment" on your full-blown 32-bit workstation! If you are working on a REALLY tight budget, call us and ask about our "A2501" upgrade kit for the A2000, which outperforms the A2500 with its 16Mhz 68030! This is also available in "a la carte" form!

Q Why did GVP call this the A3001 upgrade kit?

A The A3001, stands for "A3000 PLUS 1"! Yes, we believe that this solution offers everything the "A3000" may offer PLUS...

Why wait, upgrade your A2000 to an A3001 today!

GVP

GREAT VALLEY PRODUCTS INC.
225 Plank Ave., Paoli, PA 19301

For more information, or for your nearest GVP dealer, call today. Dealer inquiries welcome.

Tel. (215) 889-9411 • FAX (215) 889-9416 • BBS (215) 889-4994

Amiga is a registered trademark of Commodore-Amiga Inc.
IMPACT and GVP are trademarks of Great Valley Products, Inc.
NeXT is a registered trademark of NeXT Inc.

DON BLUTH'S

SPACE ACE®



Ace is being attacked by the evil commander Borf who plans to take over the Earth by using his dreaded weapon... the Infanto Ray. Only you can guide Ace through treacherous battles to destroy the Infanto Ray, save Earth and rescue the beautiful Kimberly.

Space Ace, the arcade follow-up to Don Bluth's Dragon's Lair® is now available for your Amiga® with the breathtaking full-screen animation and digitized sound of the original laser-disk game. Improved compression techniques allow Space Ace® to run in 512K with more than three times the number of scenes found in Amiga Dragon's Lair®.

Available from your local dealer or ReadySoft. Only \$59.95.

Actual Amiga® screens

Also available or coming soon for Atari ST, IBM, Macintosh, Apple IIGS, and Commodore 64.



ReadySoft Inc.

30 Wertheim Ct#2
Richmond Hill, Ont.
Canada L4B 1B9
Tel (416) 731-4175
Fax (416) 764-8867

Dragon's Lair, Space Ace and Bluth Group, Ltd. are registered trademarks owned by and used under license from Bluth Group Ltd.; © 1989 Bluth Group Ltd.; Character Designs © 1983 Bluth Group. All rights reserved. Space Ace programming © 1989 ReadySoft Incorporated.

Circle 87 on Reader Service

• C • O • N • T • E • N • T • S •



Our Amiga shopper (above) is having enough trouble with one bag of Amiga software. . . what would he do with the dozens needed to cart away the nearly 1000 applications programs in our 3rd Annual Amiga Software Buyer's Guide? Fortunately for our readers, we've taken a lot of the hassle out of getting a handle on the ever-growing Amiga software market. We hope the Guide saves you some time and money in your own shopping—for the Holidays and right on through next year. Bon appetit!

FEATURES

THE AMIGAWORLD APPLICATIONS SOFTWARE BUYER'S GUIDE

Compiled by Jan Jackson 21

Last month we brought you over 500 games and this month we're back with nearly 1000 Amiga applications programs. All the vital statistics on *everything* you can run on your Amiga—a must reference!

ARTICLES

"PROJECTING" YOUR BEST IMAGE

By Geoffrey Williams 74

Use your Amiga to create top-quality slide graphics and develop sophisticated multi-projector slide-show presentations.

MEMORY TO THE MAX

By Sheldon Leemon 84

Learn all about your Amiga's different kinds of memory so you can both maximize what you have and plan your upgrades more efficiently.

THE 1989 EXPERTS' CHOICE AWARDS

. 91

Twenty-two of our top writers, reviewers, editors, and professional users sifted through the best Amiga software to bring you their top pick and first runner-up in 20 different applications categories.

COLUMNS

CHIEF CONCERNS *By Doug Barney* 6

The editor has been out kicking butt among PC and Mac users at some recent computer shows. Let's hope Big Blue hasn't put out a contract on him. . .

ACCENT ON GRAPHICS

By Joel Hagen 94

Joel shows you some quick-and-easy tips for cleaning up your images.

INFO.PHILE *By Mark L. Van Name and Bill Catchings* 96

Learn how to work with parameters that will make your scripts (batch files) more powerful, useful tools.

DEPARTMENTS

REPARTEE 8

Beat the Holiday postal rush and let us know what's on your mind.

NOTEPAD 10

Find out what's been happening at Amiga shows around the country. . . and beyond!

WHAT'S NEW? 132

Check out the New Products shelf just in time for the Holidays.

HORS D'OEUVRES 138

Your fellow readers are in a giving mood this month with more helpful hints.

HELP KEY 142

St. NichoLou steers his sleigh through the breakdown lane this month to aid Amiga users in distress.

REVIEWS

CALIGARI (*Octree*) and PAGERENDER 3D (*Mindware Int'l.*) 12

Two new 3-D modeling programs.

SCRIBBLE! PLATINUM (*Micro-Systems Software*) and PROTEXT (*MichTron*) . . . 16

A timely update of a popular Amiga original and a new MS-DOS port-over square off in the word-processing market.

MINIGEN (*Progressive Peripherals*) . . . 114

An economy model genlock.

MYPAINT (*Prism*) and DINOSAURS ARE FOREVER (*Polarware*) 117

Two preschool paint programs offering computerized coloring fun.

OVERDRIVE (*Pacific Peripherals*) 120

An autobooting internal SCSI hard-drive controller for A2000-series Amigas.

CITY DESK 2.0 (*Micro-Search*) 121

A long-awaited update of one of the original Amiga desktop-publishing programs.

BACK TALK 124

A new *AmigaWorld* department debuts this month designed to let readers sound off about product reviews published in previous issues of the magazine.

GAMES

THE GAME PRESERVE

By B.G. Hunter 104

B.G. plays Santa Claus to Holiday shoppers searching for good game ideas. Game reviews follow his column:

TIMES OF LORE (*Origin Systems*) 108

Your quest is to restore the High King to his throne in this graphics-adventure.

KINGDOMS OF ENGLAND

(*Incognito*) 108

Because the action is set some five centuries ago, the IRA probably won't be interested—but it might be fun to conquer England anyway.

DÉJÀ VU II (*Mindscape*) 110

No. 2 in the Déjà Vu series of graphics-adventures, *Lost in Las Vegas* could as easily have been called "The Big Sleazy."

QIX (*Taito*) 111

You literally have to be quick on the "draw" to box up this heinous helix.

OMNI-PLAY BASKETBALL (*SportTime*) 112

Involved strategy, front-office hijinks, and fast-paced court action.

BATMAN, THE CAPED CRUSADER (*Data East*) 113

Holy holograms, is this *really* the definitive Batman computer game?

Quality Clips for Your Quality Art!



Acft Pics™
Suggested Retail
\$49.95



Map Pics - World™
Suggested Retail \$59.95



Heraldic Pics™
Suggested Retail \$34.95



China Pics™
Suggested Retail
\$34.95



Christmas Pics™
Suggested Retail \$34.95



Bird Pics™
Suggested Retail
\$29.95

These image-packed screens are in 16- and 32-color IFF format for use with paint packages such as Deluxe Paint II on an Amiga 500, 1000 or 2000.

All packages require AmigaDos V1.2 or V1.3, a minimum of 512K of memory and a paint package.

To order, see your
dealer or contact :

Tangent 270
PO Box 38587-A12
Denver, CO 80238
(303) 322-1262



Deluxe Paint II is a trademark of Electronic Arts; Amiga and AmigaDos are trademarks of Commodore Amiga.

STEPHEN ROBBINS, *Publisher*

DOUGLAS BARNEY, *Editor-In-Chief*

DAN SULLIVAN, *Executive Editor*

SHAWN LAFLAMME, *Managing Editor*

LOUIS R. WALLACE, *Senior Editor, Technology*

LINDA J. BARRETT, *Acquisitions Editor*

BARBARA GEVERT TYSON, *Review Editor*

JAN JACKSON, *New Products Editor*

TIM WALSH, *Technical Editor*

GENE BRAWN, BILL CATCHINGS, DAVID T. MCCLELLAN,

MARK L. VAN NAME, *Contributing Editors*

HOWARD G. HAPP, *Art Director*

ANNE DILLON, *Designer*

LAURA JOHNSON, *Designer*

ALANA KORDA, *Production Supervisor*

KENNETH BLAKEMAN, *National Advertising Sales Manager*

MICHAEL MCGOLDRICK, *Sales Representative*

BARBARA HOY, *Sales Representative*

HEATHER PAQUETTE, *Associate Sales Representative,*
InfoMarket Sales, 1-800-441-4403, 603-924-9471

LINDA M. BUSSIERE, *Advertising Coordinator*

GIORGIO SALUTI, *Associate Publisher, West Coast Sales 1-415-328-3470*

3350 W. Bayshore Road, Suite 201 Palo Alto, CA 94303

SHELLEY HARMON, *Associate Sales Representative,*
InfoMarket Sales, 415-328-3470

WENDIE HAINES-MARRO, *Marketing Manager*

LAURA LIVINGSTON, *Marketing Coordinator*

MARGOT L. SWANSON, *Advertising Assistant*

LISA LAFLEUR, *Executive Assistant to the President*

SUSAN KANIWEC, *Customer Service Representative*
Publishers Assistant

PAUL RUESS, *Circulation Director*

PAM WILDER, *Assistant Circulation Manager*

800-365-1364



ROGER J. MURPHY, *President*

STEPHEN D. TWOMBLY, *Executive Vice President/Publishing Director*

DENNIS S. CHRISTENSEN, *Vice President of Manufacturing/Operations*

LINDA PALMISANO, *Typesetting Manager*

DEBRA A. DAVIES, *Typographer*

SUSAN GROSS, *Corporate Production Manager*

LYNN LAGASSE, *Manufacturing Manager*

LINDA RUTH, *Single Copy Sales Director*

JOHN T. CHILDS, *Single Copy Sales Manager 800-343-0728*

DEBBIE WALSH, *Newsstand Promotion Manager*

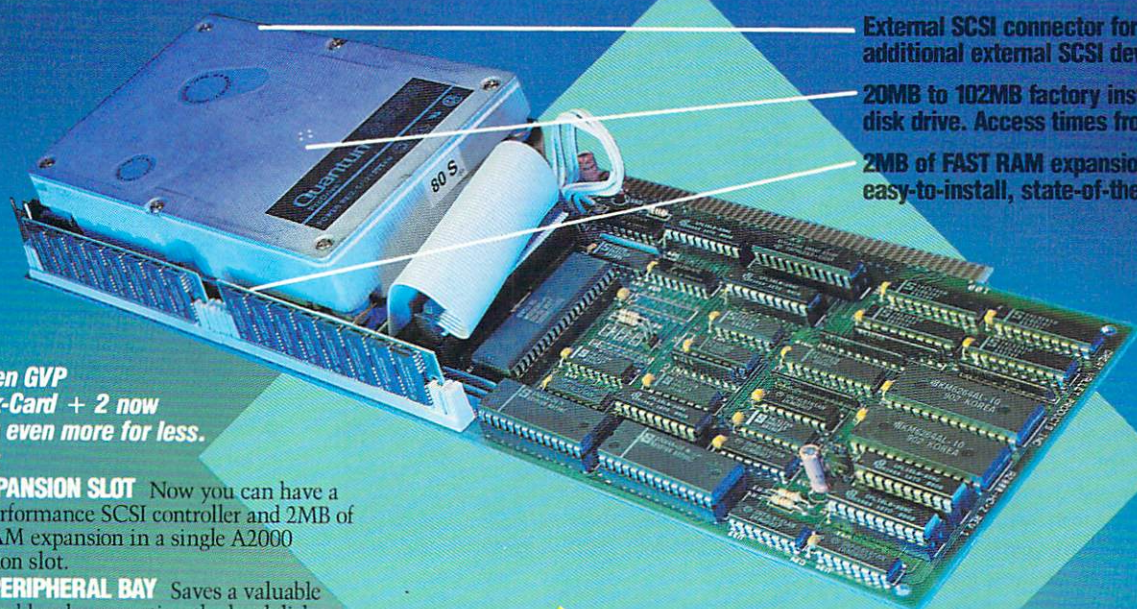
WILLIAM M. BOYER, *Director of Credit Sales & Collections*

AmigaWorld (ISSN 0883-2390) is an independent journal not connected with Commodore Business Machines, Inc. *AmigaWorld* is published monthly by IDG Communications/Peterborough, Inc., 80 Elm St., Peterborough, NH 03458. U.S. subscription rate is \$29.97, one year; \$46.00, two years; \$64.00, three years. Canada \$38.97 (U.S. funds), one year only. Mexico \$38.97, Foreign Surface \$49.97, Foreign Airmail \$84.97 (prepayment is required on Foreign Surface and Airmail subscriptions in U.S. funds drawn on U.S. bank). All rates are one-year only. Second class postage paid at Peterborough, NH, and at additional mailing offices. Phone: 603-924-9471. Entire contents copyright 1989 by IDG Communications/Peterborough, Inc. No part of this publication may be printed or otherwise reproduced without written permission from the publisher. **Postmaster:** Send address changes to *AmigaWorld*, Subscription Services, PO Box 58804, Boulder, CO 80322-8804. Nationally distributed by Kable News Co. *AmigaWorld* makes every effort to assure the accuracy of articles, listings and circuits published in the magazine. *AmigaWorld* assumes no responsibility for damages due to errors or omissions.

Hard-Disk-On-A-Card

THE BEST JUST GOT BETTER

Now we have added 2MB of Zero-Waitstate FAST RAM Expansion to our best-selling Hard-Disk-On-A-Card!



External SCSI connector for attaching additional external SCSI devices

20MB to 102MB factory installed hard disk drive. Access times from 11ms to 40ms

2MB of FAST RAM expansion using easy-to-install, state-of-the-art SIMMs

The Proven GVP Hard-Disk-Card + 2 now gives you even more for less. Compare:

SAVES EXPANSION SLOT Now you can have a high performance SCSI controller and 2MB of Fast RAM expansion in a single A2000 expansion slot.

SAVES A PERIPHERAL BAY Saves a valuable peripheral bay by mounting the hard disk directly (flush) on the SCSI/RAM controller board.

PERFORMANCE With close to 10,000 Amiga hard disk controllers installed, our performance and reliability needs no further explanation. Our unique DMA direct to onboard 16KB buffer has received rave reviews around the world. Don't ask us, just ask one of our many satisfied customers! Very FAST AUTOBOOTing directly off a hard disk FAST FILE SYSTEM partition, is a standard feature.

EXPANDABILITY By saving both a valuable expansion slot as well as a scarce peripheral bay, your Amiga retains maximum expandability.

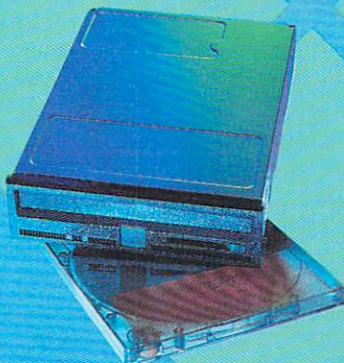
FLEXIBILITY With our optional Advanced AUTOBOOT EPROMs, we fully support removable media devices (e.g.: Syquest and Bernoulli drives) with our unique "AUTO-DISKCHANGE" feature.

PRICE Priced less than most single function controllers. No matter how you look at it you get unbeatable value. Look at the 2MB FAST RAM expansion capability as an (almost) free bonus.

QUALITY All GVP products are backed by our full one year warranty.

NEW!

**Removable Hard Drive
44MB Removable Storage**



**IMPACT WT-150
Streaming
Tape Backup**

Experienced computer users know the importance of making regular backups. A typical 40MB hard disk

will take over FORTY-

FIVE 880K floppy disks to back-up.

The job can easily take over an hour of repetitive disk swapping. There is a better way!

The NEW GVP IMPACT WT-150 Streaming Tape Backup product offers a high capacity (150MB), high speed, streaming tape drive bundled with probably the best and most flexible backup tape software utility in the industry. This incredible piece of software, which we have called **TapeStore™**, makes backups simple, interesting and exciting.

TapeStore can back-up and restore everything from individual files (File-by-File mode) to entire disk partitions (Disk Image mode). Support for the portable, industry standard, Unix tape format (tar) is planned for the near future.

TapeStore is designed for novices and experts alike: it can be run from the workbench or the CLI. It can be operated using a few simple mouse clicks for daily back-ups, or used to create archive tapes for transferring large amounts of information between machines. Anyone can supply a piece of hardware but ONLY GVP provides the TOTAL SOLUTION. Once again GVP has come up with a winner!

Amiga is a registered trademark of Commodore-Amiga Inc. IMPACT and GVP are trademarks of Great Valley Products, Inc. TapeStore is a trademark of Great Valley Products, Inc.

GVP

GREAT VALLEY PRODUCTS INC.
225 Plank Ave., Paoli, PA 19301

For more information, or for your nearest GVP dealer, call today. Dealer inquiries welcome.

Tel. (215) 889-9411 • FAX (215) 889-9416 • BBS (215) 889-4994

CHIEF CONCERNS

Keep your distance from the Big Blue crowd.

TALKIN' 'BOUT YOU! If you can at all help it, never go to a computer show that focuses on the IBM PC. Don't even go near areas where IBM-PC users gather. And, while we're on the subject, watch out for new users of Apple's Macintosh. Both of these types wear bland suits, red ties, and throw around terms like data processing and information management. Listening to them talk about their machines will put you to sleep faster than the Pat Sajak Show.

They're the dull people in what is billed as the most exciting business in America. IBM owners are the worst. Their brains think in terms of rows and columns, and their greatest fear is departing from corporate standards.

Macintosh users are pretty much the same, except they feel superior because their machines have the advantage of sluggish black-and-white graphics, and cost big bucks. Many are also self-satisfied yuppies who drone on about vintage wine, Brie, and spreadsheets.

Amiga owners are different. They are cool. They are smart. They have class.

It's simple, really. Macintosh and IBM PC users buy the machines to crunch numbers, store data, or produce documents. You can do all this, and still not have a creative bone in your body, or much of a brain. Amiga owners tend to have fully formed brains that include both logic and creativity. That is why they bought a machine that Apple and IBM dolts still consider to be obscure.

Before joining *AmigaWorld*, I talked to plenty of the PC types. They get all excited about simple little things like new spread-



sheet macros and pull-down menus. I also talked to plenty of Macintosh types. They are even more excited about things like task switching and new programs that support color. Whoopdy-doo.

I managed to survive, and with my health intact, entered the Amiga market. Now I talk to Amiga types who deserve to be excited. Their machines are not only fun to use, but are a perfect tool for creative expression. Words can pour out, and blend with graphics, which can be animated and mixed with captured video images. And if you just feel nasty, boot up a game and blow away some punks or blast away aliens in the outer reaches of space.

Either way is alright by us.

Amiga types also seem to lead more interesting lives. Many are musicians, and we know how wild a life that can be. Others are artists pushing images, lines and color around a screen while PC types push their drab numbers through mazes of rows and columns. And there are video professionals doing a job the

majority of Americans would die for; working with stars and creating products seen by millions.

Amiga professionals have an entirely different notion of computing. Rather than seeing the limits of their systems, they think in terms of potential. And when they show others what they've done, the common response is, "I didn't think that was possible." It is, on the Amiga.

I've also met people who bought Amigas for the home. These are also special people. They realized that the machine can entertain, educate, process words, crunch numbers, all at the same time. Instead of writing letters and playing appallingly slow and ugly MS-DOS games, Amiga home users spice up videos, do low-level animation, compose music, produce wondrous graphic images, and play the most sophisticated computer games ever made. Yes, computers can indeed be fun.

All these Amiga owners share one thing: They love their machines. They should, because the Amiga is a nearly pure extension of their creative thought. And it's cheap.

Apple and IBM are trying to make their systems appropriate for creative applications. But they are only paying lip service to graphics, multimedia, and animation. Let's face it. Some things can't change, and the boredom factor of the Apple and IBM markets is one of them. ■

Doug Barry

Attention:
AMIGA 500 USERS
*The Ultimate Expansion Tool
Now More Expandable Than Ever!*

NEW!

- ★ Double the Memory Expansion (up to 4MB!)
- ★ Autoboot Now Free



HARD DISK DRIVE

SCSI 3.5" Hard Disk Drive, available from 20MB to 102MB, capable of storing up to 116 floppy diskettes.

HARD DRIVE CONTROLLER

DMA direct to onboard 16KB buffer, provides A2000 performance with no DMA side effects.

86 PIN CARD EDGE CONNECTOR

This compact snap-on unit connects directly to the Amiga bus, ensuring the highest possible performance and reliability.

AUTOBOOT FEATURE

Allows the A500 to be booted directly off the hard disk, no floppies required! All hard disk partitions can be Fast File System partitions.

RAM EXPANSION

Up to 4MB of ZERO-WAITSTATE, FAST RAM can be added internally.

EXTERNAL SCSI CONNECTOR

Allows up to six additional SCSI devices to be attached.

DEDICATED POWER SUPPLY

Robust power supply is included so that your A500 is not over-loaded.



GVP
GREAT VALLEY PRODUCTS INC.
225 Plank Ave., Paoli, PA 19301

Amiga is a registered trademark of Commodore-Amiga Inc.
IMPACT and GVP are trademarks of Great Valley Products, Inc.

For more information, or for your nearest GVP dealer, call today. Dealer inquiries welcome.

Tel. (215) 889-9411 • FAX (215) 889-9416 • BBS (215) 889-4994

REPARTEE

Comments, complaints, and concerns

from AmigaWorld readers.

BOOTING FROM RAD:

IN "RAM Returns: Making Memory Pay Off" [info.phile, Oct. '89, p. 66], the authors state that you must remove your Workbench disk from the internal drive prior to rebooting, because the Amiga will always try to boot first from any disk there.

I have discovered that this is not true. By changing the MOUNTLIST entry for RAD: and assigning BootPri=127, the Amiga will boot from RAD: whether there is a disk in DF0: or not.

I proved this by replacing my Workbench disk with several other bootable disks (including games) and rebooting. Each time, the Amiga booted from RAD: and *not* the disk in DF0:. It did check the disk in DF0:, but it never booted from it.

Joseph M. Puffer
Great Lakes, IL

RUNNING XENIX

I USED TO have two computers in my home—one, of course, was the Amiga, and the other was a Compaq 286AT. The Amiga was for games and all the "neat stuff," and the Compaq was for work. When the A2286D Bridgeboard was announced, I hoped that it would allow me

to eliminate the Compaq and use the Amiga for work.

There was, however, one catch. For work, I had to be able to run Xenix (a port of Unix to the smaller machines). I was extremely pleased with the helpful people at Commodore; their customer-support line worked very well. The technical personnel were knowledgeable about Xenix, and assured me that it would run on the A2286D Bridgeboard. I was also pleased with the ease of installing, setting up, and using the Bridgeboard.

The Bridgeboard was a success. I have now totally eliminated the Compaq. I have the Amiga 2000 running music, graphics, games, etc., and the Bridgeboard running Xenix.

Although the rumors have been flying fast and furious about a Unix port to the Amiga, I was not able to wait for this to happen. With the A2286D Bridgeboard, I didn't have to.

Hubert E. Sann, Jr.
Belleville, IL

TAKING IT SERIOUSLY

PETER WESSON'S response ["Joy of Computing," Repartee, Oct. '89, p. 8] to a previous letter of mine ["Saturday Night Amiga," Repartee, June '89, p. 8] was well-taken; however, if Peter rereads my letter, he won't find any direct references to Amiga game users.

There is, indeed, no single use for a personal computer, but the highly touted Amiga was originally promoted for its ability to produce graphics and animation in a "serious" way. Clearly, you can buy games for the IBM PC, but few consider it to be a "game" machine.

My problem is with the general lack of respect that the public has for the Amiga. To many, it's just another game computer, and this is certainly not the image that people have of the IBM PC or the Macintosh.

Mr. Wesson can play Pac-Man on the Amiga to his heart's content, yet if the Amiga goes the way of the C-64 or Atari ST because of the growing dominance of the game market, then all who are interested in the Amiga for other reasons will suffer the loss.

We'll be saying: "There goes another great American idea. . ."

Mr. Grove
Chicago, IL

THE HIGH PRICE OF GREED

SOFTWARE COMPANIES always say that their prices are high because of piracy. I

know, as everyone does, that a lot of pirates are out there, but if by some miracle all piracy stopped, I do not believe that the software companies would bring down their prices. Look at Nintendo (I know this is a bad example): They have little if any piracy to deal with, but they still charge \$45-\$60 for a game.

I believe that if all piracy stopped, prices would stay the same for one simple reason: People are greedy! I am not a pirate and do not support piracy, but I wish that these software companies would stop trying to cover up their greed by blaming high prices on pirates.

Lee Christopher Wise
FPO, New York, NY

CORRECTION

GREAT VALLEY PRODUCTS' address was listed incorrectly in "Pick a Path" (Nov. '89, p. 70). The correct address is 225 Plank Ave., Paoli, PA 19301.

Send your letters to: Repartee, AmigaWorld Editorial, 80 Elm St., Peterborough, NH 03458. Letters may be edited for space and clarity. ■

RAMBO III

NOT MILITARY. NOT
MERCENARY. AND
YOU'RE DEFINITELY
NO TOURIST...

SOVIET COMMANDER:
"WHO ARE YOU?"

RAMBO: "I'M YOUR WORST
NIGHTMARE."

Remember that line?
Now YOU can deliver it
to the enemy—in per-
son. Thirty miles over
the Afghanistan border, Soviet forces are tortur-
ing your friend and mentor, Colonel Trautman.
You're the only man alive with enough guts,

brawn, and resource-
fulness to single-
handedly rescue the
man who taught
you how to fight. Every Soviet commando, tank,
and attack chopper in the sector is on your tail.
It's the ultimate contest for the ultimate fighter.

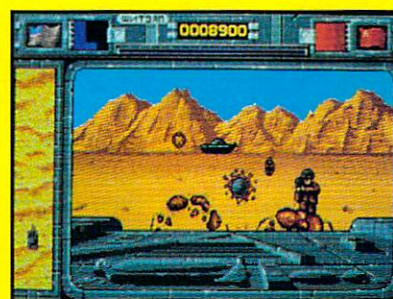
Amiga game screens.



*It takes more than muscle to de-activate
electronic gates, cross treacherous
mine fields, and find the keys to Traut-
man's cell.*



*Ever fly one of these things? With the
enemy breathing down your back, that
Hind chopper's the best way out of this
hell hole.*



*It's just you and your hijacked tank
against anti-tank missiles and chop-
pers. Sight in and rearrange that
balance of power!*

Taito

If you cannot find this product at your local retailer, Visa/Mastercard holders
can order direct anywhere in the United States by calling toll free 1-800-663-8067.

Game Design, ©1988 Ocean Software Ltd. RAMBO is a registered trademark of Carolco. ©1989 CAROLCO.

Ocean is a trademark of Ocean Software Limited. Taito is a registered trademark of Taito America Corporation. ©1989 Taito America Corporation.

All rights reserved. Amiga is a registered trademark of Commodore-Amiga, Inc.

Circle 112 on Reader Service card.

NOTE PAD

Compiled by Linda Barrett

Building Bridges to Classrooms

AS PRESIDENT BUSH and the 50 state governors geared up for the education summit in Charlottesville, VA, Commodore's new Director of Education, Howard Diamond, led a roundtable discussion with school superintendents and other education officials at the Radisson Hotel in Valley Forge, PA—site of the September World of Commodore show.

At issue was the so-called "training gap" left by computer companies that

sell high-tech equipment to schools and then neglect to adequately train teachers to use it. "Education is an integral component of our overall corporate strategy," said Diamond, who previously served as a Higher Education Sales Development Specialist for Apple. "One of our goals is to help reduce the training gap in American schools by working to develop educational software and curricula with educators, not just for them."

Commodore intends to restrict its education push to the Amiga, and to approach the market differently than its competitors have. Diamond said that the Amiga will be presented as a creative tool—one for developing critical thinking skills, not merely for programming and word processing.

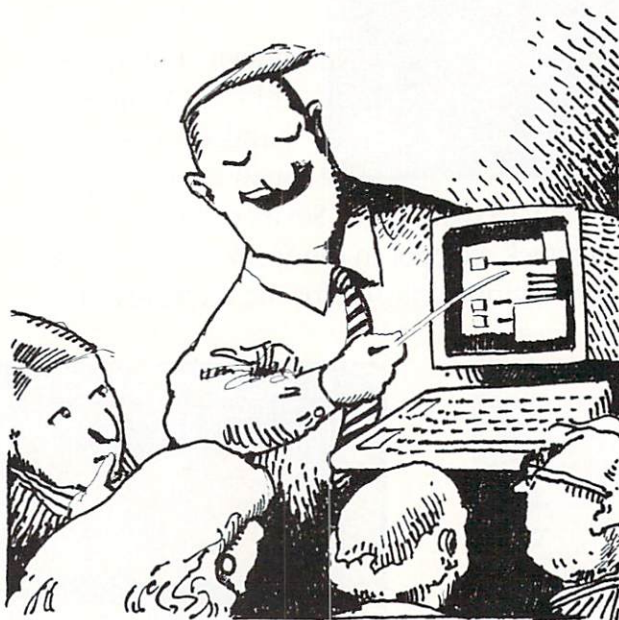
Just months ago, there were only two people in the Amiga education and marketing support department; the plan is to increase the staff to 35 by January. One project this expanded staff will tackle is a support program for third-party education-software developers. Diamond gave no details, however.

When the discussion was over and

the show floor opened up, developers and retailers displayed and sold their wares while show-goers oohed, ahed, and wrote out checks. Some attendees gave their feet a rest at classes and seminars, the majority of which centered around the Amiga. While a few class topics complemented the education theme, others focused on animation, desktop publishing, and so on. The show was a tad small this year, but well-attended nonetheless.

September's World of Commodore may not have received as much press coverage as Bush's education summit, but for Amiga watchers, it was just as exciting.

—BGT



FROM THE PLUSH V.I.P. headquarters to its specially designed viewing theater, Commodore made the September '89 Personal Computer Show in London a world-class event for the Amiga. As an additional attraction, Commodore's International Distributors Conference paralleled the show.

Meeting, greeting, and comparing markets were the order of

World-Class Show

the day. Commodore reps from all over were in attendance: Mohamed Weston from Kuwait, Barry Thurston from the UK, Pierre Mizzi from Malta, Gregory Koler and Paul Maloney from Switzerland, Mikal Nielsen from Finland, Abdalla S. Al-Zayani from Saudi Arabia, Mike Onay from South Africa, and the ubiquitous Gail Wellington from the home office in West Chester, PA.

Commodore's exhibition area was huge. Large color monitors and Amiga 2500s displayed high-tech imagery everywhere you looked. Graphics weren't the only attraction. Commodore's slick arcade clicked, snapped, and popped constantly with the sounds of joysticks, while in the music exhibit for MIDI applications, Music-X made its European premiere with full SMPTE implementation. Audio Visual Research showed a 16-bit audio sampler that will push Amiga audio to CD quality.

While the show held no surprise products for Americans, the opportunity to discuss the Amiga's future with the multitude of worldwide representatives was more than worth the trip.

—Joel Tessler



Terri and Rick Foster of Los Gatos, CA (with junior gumshoe Danny and trusty bloodhound Jake) finished first under the wire to win the Grand Prize in the 1989 *AW* Mystery Sweeps.

IT BEGAN WITH a fictional murder in Saratoga, NY, and it ended with a real earthquake in the Bay Area of California.

Rick and Terri Foster, Grand Prize winners of the 1989 *AmigaWorld* Mystery Sweepstakes, didn't think traveling to the October 21 Awards ceremony at AmiExpo in Santa Clara would be any big deal. After all, the Fosters live only 20 miles down the road in Los Gatos. But when the Great Quake struck less than three days before the start of the show, it turned out to be too long a journey to make.

Super Sleuths

The media was reporting heavy damage in Los Gatos, and *AmigaWorld* had not been able to contact the Fosters before the show.

Although a message from them arrived at our hotel before the presentation, we weren't able to get in touch with them because phone service was out. Come Saturday morning, we found ourselves with one Grand Prize (the Amiga 2000HD) and one Grand Prize presenter (Andy Drexler, President of GO AMIGO! in nearby Redwood City, who had donated it)—but no winners.

Fortunately, when we finally got through to the Fosters after the show, we discovered they were relatively okay, if a little shaken. With power and water out in their house, they had fled to the safer retreat of Rick's mother's home.

Although it will be a while before they can power up even their toaster or coffeemaker, much less think about a computer, Rick and Terri do have plans for their new system. With both being involved in Santa Clara computer jobs (he with CMX, a videotape-editing equipment maker, and she with Versatech, a maker of electrostatic plotters), the Fosters are looking forward to using the A2000HD for numerous applications, including software development, video, and music.

—Dan Sullivan



The Show Goes On

DESPITE AN EARTHQUAKE measuring 7.0 on the Richter Scale, last October's AmiExpo in Santa Clara went off as planned. Numerous aftershocks hit, though none were large enough to wreak havoc with the computers or worry the many native Californians in attendance.

Participation of vendors and the general public was down as expected, but at some points the show was surprisingly brisk. *AmigaWorld*, after some serious deliberations, decided to show. We're glad we did, because there were some impressive announcements.

We at *AmigaWorld* had our own announcement—we're forming the Amiga Developers Association, an organization

for those whose livelihoods depend on the Amiga. The Association will hold its kickoff meeting March 15 at the Sheraton-Washington, DC. This group will present a unified voice to Commodore concerning marketing and technical issues, and will also work to convince the non-Amiga masses to explore this fine machine.

ProVector, a structured-drawing program from the new firm Tallesin, was demonstrated, as was Scott Anthony Studios' structured-drawing package. Scott Anthony's package uses Adobe's Display PostScript, a fancy display language made famous by Steve Jobs' NEXT machine.

Spirit Technology debuted an unusual expansion system that allows boards originally designed for IBM PC XTs and ATs to run on A500s and A1000s. This system allows the Amiga to use IBM boards under AmigaDOS, unlike the

Amiga 2000 with a Bridgeboard, which can only use IBM boards in conjunction with MS-DOS.

The C mavens from Lattice Inc. updated Lattice C V. 5.04 and will ship the update free to registered owners. The system includes 50 enhancements, and some known bugs have reportedly been squashed.

Never to be outdone, NewTek demonstrated DigiView 4.0, an enhanced version of the popular video digitizer. Among its numerous new features are "Dynamic-Res," a high-resolution 4096-color display mode. With this, the Amiga can have all 4096 colors in Hi-Res mode, something that had always been thought impossible. By using advanced interrupt programming to change the palette on every scan line, this new mode is capable of outstanding imagery, but it does require almost the full power of the Amiga to maintain it.

IMTronics is showing their 1.8 MB RAM board for the A500. What makes this extra special is that it installs in the A501 slot, creating extra address lines in order to maximize RAM capacity.

One of the most fun parts of the show was a "Killer Demo" contest sponsored by the BADGE User Group, and supported by product donations from numerous vendors. The point of the annual contest is to create demo software that shows off the Amiga and entertains at the same time. Bradley Schenck won first prize with "The Sentinel," an impressive Celtic-style piece, assisted by an Amiga 2000 donated by Commodore. Roger Curran picked up second place with "The VAUX-Killer Demo," assisted by an A2620 donated by GO AMIGO. Sliding into third was "AmigaTrek" by Bill Koester, assisted by a flickerFixer donated by MicroWay.

—Doug Barney

REVIEWS

CALIGARI

PAGERENDER 3D

A glimpse into the future.

By Gene Brawn

CALIGARI AND PAGERENDER 3D each offer tantalizing previews of the future of 3-D modeling software.

The near legendary Caligari from Octree Software is now offered as a more affordable, slimmed-down, and debugged version of Octree's original \$2000 product, Caligari Professional. It is available in both NTSC and PAL formats. The innovative three-dimensional interface remains in this release, but animation and scripting are not included. Although the software now saves 2-D images as IFF ILBM (Interleave Bitmap) files, three-dimensional objects are still stored in Octree's proprietary format.

I found the non-copy-protected software easy to install on a hard drive and free of fatal bugs. The program did guru, however, when I tried to multitask with my word processor and the Shell.

FAST AND SMOOTH

Perhaps Caligari's most outstanding feature is its speed: Complicated objects are rendered rapidly on the first display and redrawn almost instantly for subsequent draw commands.

Another impressive feature is Caligari's scrolling, twisting, turning, mouse-controlled interface, which responds at almost real-time speeds and is simple and intuitive to use, even for beginners.

There are no pull-down menus; instead, functions and tools are accessed from stackable rows of buttons arrayed across the bottom of the hi-res screen. Although this system is unusual, it is extremely functional. Submenus appear above the current row and remain until you turn them off. Likewise, file requesters, color tools, and other items appear as windows in front of the button rows and remain open until you select or cancel them.

The work area is available as a true 3-D universe, and in the more conventional top side and front views. A display-only mode is also provided. It is the three-dimensional Perspective mode that sets Caligari apart from most other Amiga 3-D modelers. Here, by simply pointing and clicking, you can carry out almost any operation on the selected object. For example, if you want to rotate an object, click on its wireframe representation, select Rotate from the menu, then move the mouse in the direction you want it to rotate.

While 3-D modeling programs are typically not fast enough for use in commercial situations, Caligari is. Despite its lack of keyboard equivalents to menu selections, Caligari is almost as fast as that 2-D speedster, DeluxePaint III (Electronic Arts).

THE DESIGN DEPARTMENT

You accomplish most of your work in Caligari in just two environments, the Object Design and Scene Design modules. In the Object Design module you can create, edit, and view individual objects. More than 20 basic 3-D shapes (primitives) are available to get you started. From there you can use the editor's tools to pick up an object and move it anywhere in the coordinate system, rotate it on any axis, or scale it in any direction. You can also glue or unglue

objects at any time. The usual method for controlling these functions is with the mouse, but more precise numerical control is available through the ETC menu selections.

Caligari's well-designed interface allowed me to run the program almost entirely without using the manual—except when it came to creating objects from scratch. In the manual, I discovered that the editing tools are in the Extruder module, rather than the other way around as I had expected. To create an object, you must first draw the shape freehand. If it is a simple, enclosed polygon, you can extrude it (as with a cookie cutter) or spin it on an arbitrary axis (as with a lathe).

If your shape is more complex, so is your task. Because you have the tools to design only two-dimensional shapes, you have to create all your object's flat surfaces separately. Then you must go through a tedious process of loading each one into the Perspective view, orienting it properly and, finally gluing the piece in place on the object. I could discover no way to grab and move individual points in an object; if you notice a mistake in a completed object, you must use the extruder/editor to completely redraw the part. This is unacceptable.

I expected to be able to set lights from within the perspective environment, but was disappointed to learn that settings are strictly numerical, and must be entered through gadgets in a special menu—an incredibly inconvenient process.

WHY NOT?

Because of its poor object-design environment, Caligari would serve best as a tool for viewing and modifying objects created in other programs. Unfortu-

nately, this is impossible because of the program's proprietary file format. This limitation goes both ways: You cannot export Caligari objects to a ray-tracing program to take advantage of superior rendering capabilities, either.

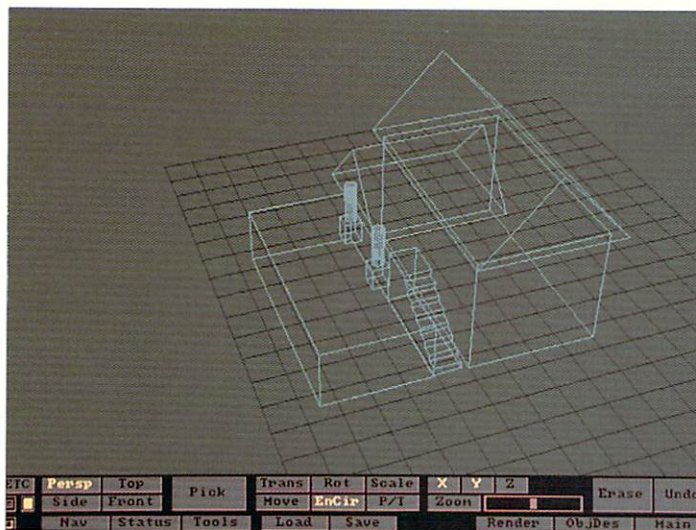
A great interface is only one element of a successful program, and, regrettably, Caligari is unable to provide the rest of the tools necessary to make it truly useful. I cannot recommend it for serious work, but I'll keep it around as an example of how I think 3-D interfaces should behave.

MORE THAN THAT

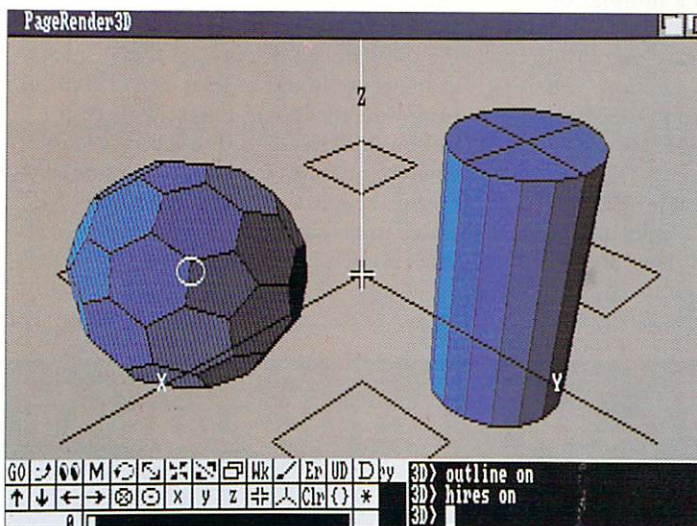
PageRender 3D from Mindware is much more comprehensive than Caligari in its range of tools and options. It is script based, and all program functions are accessed either via the mouse or from the CLI style window, which displays and records the text equivalent of each command. One incredibly useful tool lets you reload a saved script and play it step by step.

PageRender 3D's interface is not as slick as Caligari's, but it is similar. For example, the bottom quarter of the screen is devoted to the command buttons and the text window. Instead of employing the mouse to control the direction and degree of movement, however, PageRender 3D requires that you select a directional arrow from the control panel and then drag a bar (similar to scrolling in a text editor) to determine the amount or degree of movement. A full range of controls allows you to move your viewing position or to move the object itself.

My favorite feature is the animator. Unlike nearly every other 3-D modeler, this is not a separate mode, but part of



Enter Caligari's 3-D universe via its elegant interface.



With PageRender's controls, you can change the object's position, or your own.

PageRender's basic design. To animate an object, simply open an IFF ANIM file, and enter the commands to move, rotate, or size the object. The absence of a path command is a major drawback and should be remedied if this aspect of the program is to be fully exploited. Although PageRender 3D does not directly support the playback of ANIMS, the application can run programs through AmigaDOS. Sparta's ShowANIM player is included with the package for just this purpose.

BIG AND BROAD

The introduction to the comprehensive manual declares that PageRender 3D is a broad and general program. It is. Its environment is flexible and the size of your 3-D universe is limited only by your machine's memory. Full control of the viewing position and a scrolling function allow you to look at any part of your

creation. You can even print a larger-than-screen image in pieces and paste them together to create poster-size art.

Screen resolutions and sizes range from a lo-res $\frac{1}{8}$ page view to a fully over-scanned hi-res screen. The number of colors can range from two to 4096, although Extra-Halfbrite (64 colors) is not supported. A seven-level dithering control lets you produce up to 224 colors in lo-res mode with five bit planes.

PageRender 3D's palette control, on the other hand, is somewhat spartan, making it difficult to use the palette efficiently. Instead of a requester containing color choices, you get a single box and some RGB slider knobs. Another deficiency is the provision for but a single light source. Although the light's wattage and type (normal, strong, or weird) are variable, the allowance for only one

source severely limits the scenic variations possible.

MAKING IT EASY

As with Caligari, PageRender 3D provides a library of basic objects and an object creator for custom designs. The object-creation module is rather conventional: You draw the design freehand and either extrude or spin it to give it depth. The object editor is another animal, however, unique in its power and simplicity. It lets you move single points to any spot in your universe either visually or by direct entry of the coordinates. You can subdivide faces (polygons) or entire objects into smaller groups of rectangles or triangles, and a number of transformation operations allow you to array, twist, stretch, or wave any group of connected objects. In addition, you can make the group assume the shape of a funnel, dome, arch, cone, crevice or cylinder.

Unfortunately, PageRender 3D comes up short in its ability to render the beautiful, complex scenes you have so painstakingly created. Although there is a ray-

tracing mode, there is no provision for adding texture or reflectivity to your objects. Couple this with the single light source and you will find yourself limited to some pretty basic renditions. While this may be adequate for Computer Aided Design, I expected more.

I'm surprised that the programmers of this otherwise excellent software chose to limit file output to a proprietary format, especially considering the decision to limit its rendering capabilities. As with Caligari, it would be a boon to be able to export PageRender 3D's files to Sculpt-Animate 4D (Byte by Byte) or Turbo Silver (Impulse) for high-quality display.

WHITHER 3-D?

If manufacturers do not want to create the ultimate, all-in-one 3-D design program, they should at least offer a path to programs that complement their own. Although Syndesis is developing Inter-Change modules for both programs, I resent the extra cost I must assume in order to do something nearly every other Amiga application does routinely.

These two programs illustrate the cur-

rent trend to real-world perspective displays. Caligari, although not suited for heavy-duty work, incorporates speed and an admirable interface design. (The package includes an instructional videotape as well.) PageRender 3D, on the other hand, shows a high level of innovation and attention to detail. Even the program's shortcomings seem well considered and, in fact, are mentioned in the documentation as candidates for future upgrades.

Caligari

Octree Software

311 W. 43rd St., Suite 904
New York, NY 10036
212/262-3116
\$249.95

No special requirements.

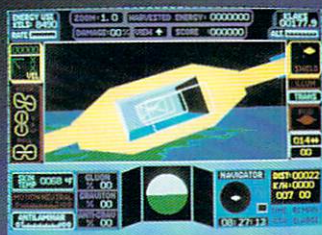
PageRender 3D

Mindware International Inc.

33 Alliance Blvd.
Barrie, Ontario
Canada L4M 5R3
\$159.95

No special requirements. ►

WHEN REALITY JUST ISN'T ENOUGH...



Take one giant step beyond reality! UFO puts you at the controls of an advanced spacecraft capable of aerodynamic and quantum flight. Your mission; scour planet Earth for the fuel needed to power your galactic ships, then return to the orbiting mother ship to trade raw fuel for supplies. You can also explore SubLOGIC Scenery Disks in an entirely new way with this easy-to-fly simulation. Available for IBM/compatibles, Amiga, and Atari ST computers for the suggested retail price of \$49.95. See your dealer, or call SubLOGIC for direct order information.

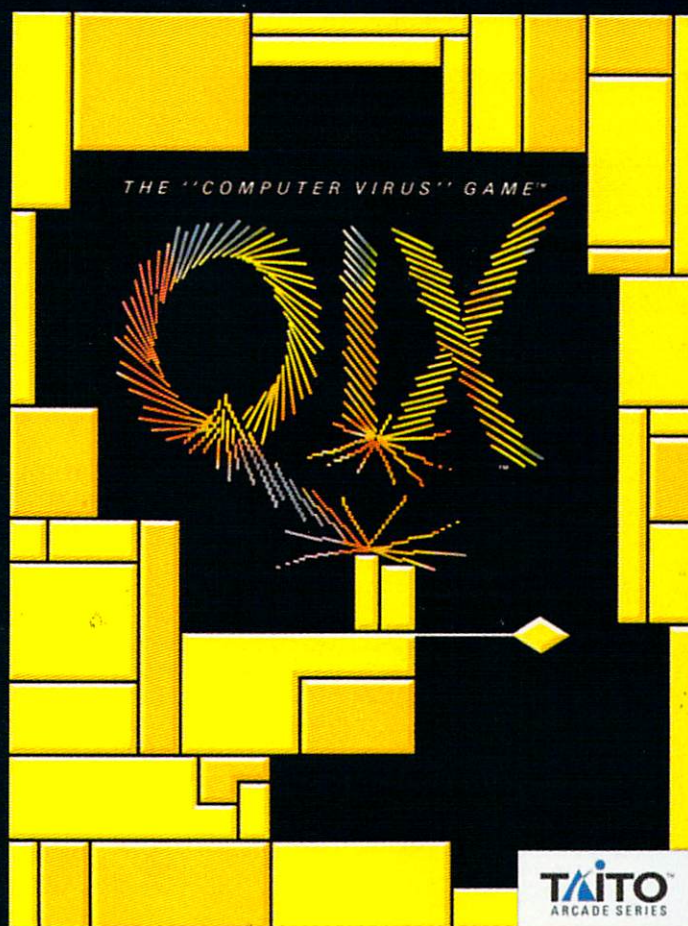
UFO is a trademark of SubLOGIC Corp.
IBM screen shown. Other computer versions may vary.

UFO

subLOGIC
Corporation
501 Kenyon Road
Champaign, IL 61820
TELEPHONE (217) 359-8482
ORDER LINE: (800) 637-4983

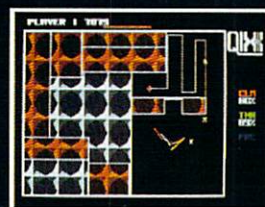
VIRUS!

CAN YOU KICK THE QIX® ADDICTION?

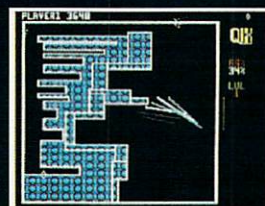


When QIX fever strikes, there is no cure! Like the mind-blowing arcade original, QIX is a computer virus that lives deep inside your computer, attacking without warning. Construct a trap in any one of the billions of configurations possible to immobilize QIX. But watch out for SPARX™ and SPRITZ™ and other deadly energy forms! In this electrical world of high-tech infections, mental dexterity and superior strategy are basic to survival. The practice mode turns beginners into addicts. No one is immune! Get your QIX before QIX gets you!

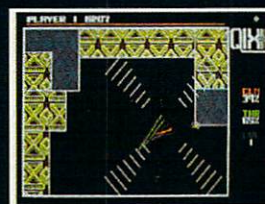
Taito™
ARCADE SERIES



Actual Atari screen.



Actual C/64 screen.



Actual Amiga screen.

If you cannot find this product at your local retailer, Visa/Mastercard holders can order direct anywhere in the United States by calling toll free 1-800-663-8067.

Taito®, QIX®, SPARX™ and SPRITZ™ are trademarks of Taito America Corporation. Copyright ©1989. All rights reserved. Atari, Commodore, and Amiga are registered trademarks respectively of Atari Corporation, Commodore Electronics, Inc., and Commodore-Amiga, Inc.

Circle 56 on Reader Service card.

SCRIBBLE! PLATINUM EDITION

PROTEXT

Channel your creative ramblings.

By Irene C. Kobelski

WHILE THEY ARE functionally similar, Scribble! Platinum and Protext are quite

different in appearance and operation. Both word processors are supplied on two non-copy-protected disks and run on any 512K single-drive Amiga (Protext supplies a 512K version but requires a meg to run the complete program).

An upgrade to the original Scribble!, the Platinum Edition is a menu-driven Amiga-specific program featuring two-, four-, or eight-color custom windows, pull-down menus, keyboard shortcuts, and plenty of graphic elements. Protext,

on the other hand, is a command-driven MS-DOS port that has been revamped to include pull-down menus and keyboard shortcuts for common commands. The Amiga Protext is compatible with versions available for other computers.

IN COMMON

The two programs share a number of features: the standard cutting, pasting, styles, headers, and footers, plus tutorials and help screens. To save time, both let you generate page and screen templates for business letters, memos, reports, and other applications. Templates can include various screen and ink color combinations, which is handy if you plan to edit multiple documents simultaneously.

Spell checking a single word, window, or entire document is easy in either program, plus Scribble!'s Continuous Spell option lets you check each word as it is typed. Scribble! Platinum uses the 103,792-word Proximity/Merriam Webster Linguibase with scientific and technical supplements (quite an improvement over the original Scribble!'s 40,000-word dictionary). The Protext dictionary is divided into three sections: Main (34,000 words), Supplemental (an additional 34,000+ words), and Quick (250 common words). Foreign-language supplements are also available for Protext. Both programs let you design your own dictionaries, a feature that is especially useful in Protext, which can scan up to five dictionaries.

Neither program gives you a true WYSIWYG (What You See Is What You Get) display, meaning that you do not see your document on screen exactly as it will print. For example, your display will always be single spaced even though you may have chosen double spacing. Both do provide a preview command, however, which allows you to view the completely formatted document before printing. Thus, you can see boldface, italics, and underlining on screen. Although superscript and subscript can also be used, they are not displayed as such: Scribble! uses inverse video to flag these styles, while in Protext the affected words are preceded by a parenthetic code.

Both Scribble! and Protext support Mail Merge, a function that relies on imbedded commands to generate per-

Continued on p. 114

Perfect Sound

NEW! Release 3.0

Using the Perfect Sound™ stereo sampler, you can record and edit any sound from a tape, radio, CD player, or microphone with your Amiga.

If you've ever used an Amiga before, you'll quickly master Perfect Sound's powerful editor. Just use your mouse to rearrange, mix, cut or paste sound. Create IFF instruments for use in music programs.

Perfect Sound comes with one of the most advanced eight bit digitizers available for any computer. Separate Left and Right line inputs allow you to record in stereo or mono. A mic input allows you to record from a microphone. Digital gain lets you adjust input volume levels with easy software controls. Sampling rates up to 40,000 samples per second.

Easily loop sections of a sound. You can even adjust the looping section while the sound plays.

The sound you are currently editing is graphed here. You can easily mark sections to edit by dragging your mouse over the graph.

Common tools such as delete, paste, and insert are available by clicking on buttons. Other tools are available via menus.

Zoom in on your sound. Individual samples are shown for precise editing.

Perfect Sound 3.0 Copyright 1986, 1989 Anthony J. Wood

Length: 12764 samples
Play speed: 9859 samp/sec
Start mark: 7770
End mark: 7855
Insert mark: none
Memory: 1431 K

New record speed set to 24000.

SunRize Industries P. O. BOX 1453, COLLEGE STATION, TX 77841

INTELLIGENCE IS A GIFT



Intelligence is for all people, on any holiday...and so is *excellence!* When a company stays around 11 years, it must be doing something right... right? It must develop great products... right? Right! Intelligent buyers (also known as *educated consumers*) recognize value. Thanks to their support, Micro-Systems Software developed *excellence!* for the consumer who demands the best. Take advantage of the holiday season to purchase an intelligent, useful, rock solid word processor. Designed for the professional power of the Amiga, *excellence!* means business and features: *up to 250 fonts; a Spell-As-You-Type 90,000+ dictionary;*

Grammatical/Style Checker; Thesaurus; Index and Table of Contents Generator; Headers, Footers and Footnotes; the power of PostScript printing; True WYSIWYG; automatic Hyphenation; complex Math calculations; beautiful resizable Color Graphics; flexible Mail Merge; Columns; and an easy to use Macro language making complex actions and boilerplate text accessible from a single keystroke. Someday, all top word processors may have all the features of excellence!; until then, you're ahead of the game!.... Intelligent, isn't it?



Micro-Systems Software

Committed to excellence since 1978

12798 Forest Hill Boulevard, Suite 202 • West Palm Beach, Florida 33414
407-790-0770 FAX: 407-790-1341

Amiga is a registered trademark of Commodore Business Machines • PostScript is a registered trademark of Adobe Systems, Inc.
excellence! is a trademark of Micro-Systems Software, Inc.

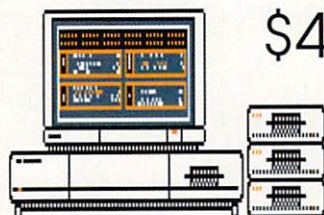
Centaur puts the

~~D.U.D.E.~~

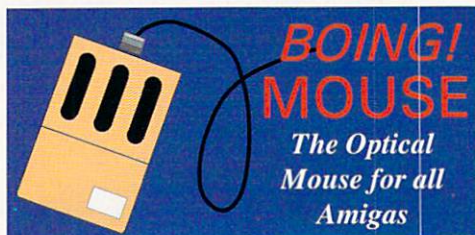
Take control of AmigaDOS with
D.U.D.E.
(Directory Utility / Dos Enhancer)!

**D.U.D.E. - THE MOST POWERFUL
DIRECTORY UTILITY TO DATE!**

- Convenience: Up to twelve directory windows at once!
- Flexibility: Every aspect of the program can be custom configured.
- Functionality: More features than any other DOS utility program!



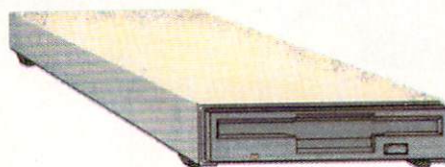
\$49.95



**BOING!
MOUSE**
*The Optical
Mouse for all
Amigas*

- Double the resolution of the standard mouse for better precision
- Supports X-Windows, Amiga UNIX and Workbench 1.4
- Only Optical Mouse for the Amiga
- No moving parts to wear out
- Smooth mouse movement

CSI 3200 Silent Drive with...



CSI 3200 SilentDrive

- Doesn't make the annoying click when disk drive is empty
- Small compact design in sturdy metal case
- Compatible with all Amiga models
- Low Power consumption
- ON/OFF switch for saving memory
- Includes B.A.D. Disk Optimizer Software

\$195.00

Also available, the CSI 2200 Internal drive for the Amiga 2000

\$169.00

~~B.A.D.~~

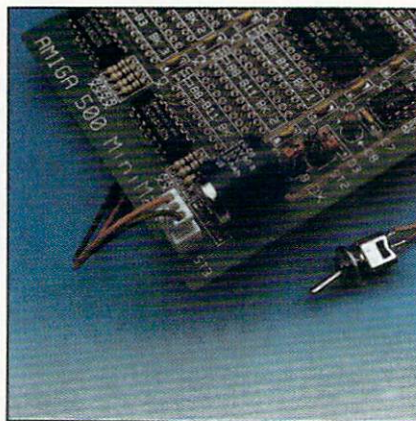
MAKE YOUR DISKS FLY WITH B.A.D.

- The Ultimate Disk Optimizer!
- Decrease Disk Access Time Up to 500%
- Works with Floppies AND Hard Drives
- Supports Multiple Partitions
- FAST CLI Directory Access
- Incredible Workbench Performance
- 100% AmigaDOS Compatible
- Works with the FAST FILING SYSTEM

B.A.D. analyzes, restructures, and processes ANY AmigaDOS disk such that permanent speed increases will be realized. This is NOT a RAM cache based system!

B.A.D. Separately \$49.95

MiniMax



Get more out of your Amiga 500 with more memory. MiniMax internal RAM expansion allows you to expand your Amiga 500 up to a total of 2.3 megabytes internally!

...more memory for your **AMIGA**

- Available in 0K, 512K, 1 Megabyte or 1.8MB
- INTERNAL in your Amiga 500
- Replaces A501 memory expansion
- Keeps your expansion slot on side free
- Expansion RAM disable switch, for older software programs incompatible with extra memory
- RAM- test software included
- Realtime clock on board with battery backup
- Amiga automatically recognizes extra memory
- Low Cost

The complete professional solution from schematic to PCB!

PRO-NET

- Menu Driven.
- Complete set of powerful schematic capture commands.
- Variable logic template size that follows MIL-STD-860
- Provides automatic device and section number assignment with zone control.
- Automatic page reference generation and insertion through post processing.
- Weight assignments which can be hidden.
- Dot Matrix, Laser Printer, Plotter and Gerber Plotter support.

COMING SOON: PRO-NET PERSONAL

PRO-BOARD

- PCB library part accuracy to 0.001 inch.
- 0.025 PCB grid.
- Supports 1, 2, or 4 layer PCB with silk screen.
- Single line auto route, 12 mil trace, 13 mil spacing.
- Provides wide traces.
- Component placement done by positioning DIP, SIP, 2-PADS and library parts.
- Complete set of powerful PCB layout features accessible through IFK's.

COMING SOON: PRO-BOARD PERSONAL

fun in functional!



With World Atlas, a fun and educational utility comes to the Amiga. More than an atlas, this program gives you direct access to information and details on more than 170 countries, as well as the 50 United States. For students, educators, travelers, business executives, or just armchair explorers, World Atlas will provide an incredible wealth of knowledge and entertainment.

- Discover each country's history, language, population, customs and more!
- Choose by country and state list or world maps.
- Time sectors and earth facts too!

\$59.95



Oswald is a fast paced and entertaining action strategy game. Oswald's a cold and hungry blue bear jumping across the ice floes. You help him avoid the hazards of the freezing north sea on route to his goal.

- A wide range of digitized sounds
- Interesting adversaries
- Humorous animation
- Fun for the whole family

\$39.95

LEONARDO



Leonardo is a thief who steals nearly everything he can get his hands on. Follow Leonardo's way through fifty different banks, museums and warehouses. Help Leonardo avoid the numerous alarm systems, guards and ghosts on his criminal trips.

\$44.95

QUASARSOUND

The ultimate stereo sampling/sound editing system! Save real-world sounds in IFF format for use in any music program that supports IFF 8SVX sounds.

- High and Low Pass filter operations
- Can play and record up to 4 tracks in memory
- Easy to use user interface with visual editing
- Powerful editing features, including cut and paste operations



•POWERFUL RECORD TO DISK FUNCTION: With DISC-RECORDING, you can record sampled sounds longer

than the capacity of your internal RAM on up to 4 disks at the same time to create auto-boot PlayDisks.

\$59.95

PROFESSIONAL TECHNIQUES

FOR DPAINT III

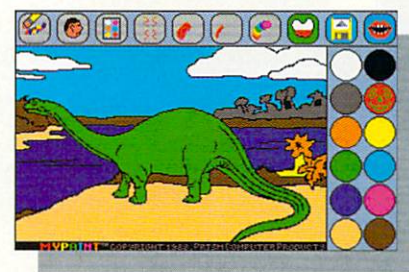
With this one hour video tape of tutorials, tips and techniques, the new user, as well as the seasoned professional, is easily shown how to best utilize Deluxe Paint III's tools to achieve spectacular effects with professional results. Amiga artist Jeff Bruette will guide you step by step through DPaint's features including:

- Cel Animation
- New Tools
- the "Move" requester
- Shortcuts
- Combining Effects
- 3-D Perspective and More

VHS Only

\$29.95

Also features Deluxe Paint creator Dan Silva.



Educational Paint Program with built-in Coloring Book Satisfied customers are writing in about My Paint:

"My kids love this program because it's so easy to use. The digitized sounds are great!" - Santee, CA

"The graphics are wonderful - The children love it and so do I." - Jamaica, NY

\$49.95

Now available: Even more fun for educator approved MyPaint! New alphabet coloring disk with all new characters, objects, animals and sounds.



Centaur Software, Inc.

P.O. Box 4400

Redondo Beach, CA 90278

(213) 542-2226

BATTLE SQUADRON

THE DESTRUCTION OF THE BARRAX EMPIRE!



Whirling Barrax ships dart out from the dark spiral caves and attack from the right. You bank hard left, launching "smart" bombs. Look out! One of those darn "chameleons" is dead ahead — they're tough to spot and even tougher to stop! Avenge the Barrax Empire's deadly attack on earth in **BATTLE SQUADRON**. You'll be fighting on their turf, but you carry the most devastating arsenal in the universe. And if you're the best combat pilot, you just might succeed!

- ◆ Spectacular digitized sound — hear every explosion and collision.
- ◆ Single or two-player action with vertical and horizontal scrolling.
- ◆ More than 30 continuous minutes of sparkling background graphics.
- ◆ The toughest arcade challenge in any galaxy!

INNERPRISE
Software, Inc.

128 Cockeysville Rd • Hunt Valley, MD 21030 • (301) 785-2266

Can't find Battle Squadron? Call for MC/VISA orders or send check money order (U.S. \$) for \$39.95 plus \$2.50 shipping and handling. Battle Squadron is a trademark of InnerPrise Software, Inc. Amiga is a trademark of Commodore-Amiga, Inc.

Circle 142 on Reader Service card.



Applications Software Buyer's Guide



IF YOU HAD PASSED by our offices of late, you would have seen lights ablaze day and night and us at our posts bleary-eyed but determined. Surrounded by heaps of product announcements, we unearthed new companies, tracked elusive distributors with address changes, and investigated rumors of new and innovative programs. We harrangued developers and publishers by phone and post until we assembled the list before you.

For a "kinder, gentler buyer's guide," we extricated the entertainment group and gave it a name of its own—the Games Buyer's Guide (see the November '89 issue). The remaining applications programs to-

taled nearly one-thousand on its own.

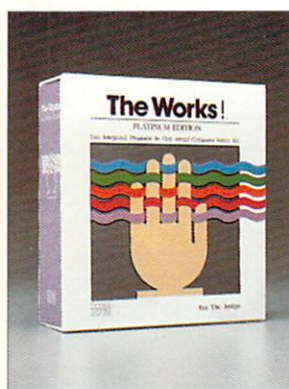
Price and availability discrepancies might appear between this list and your dealer's. Where prices were unavailable, we placed a TBA

(to be announced) in the price column. The "MEM" column was created to indicate programs requiring more than the standard 512K to run and was assembled from available information. Some programs may come with an extra memory *recommendation*, but may not *require* more. Questions about products should be directed to the corresponding company—a list of Manufacturers' Addresses is provided at the end of the Guide.

Business	22
Databases	22
Desktop Publishing	23
Education	23
Graphics/Video	30
Music/Sound	38
Personal/Home Finance	42

Programming	42
Spreadsheets	46
Telecommunications	46
Utilities	48
Word Processing	50
Company List	52

Compiled by Jan Jackson



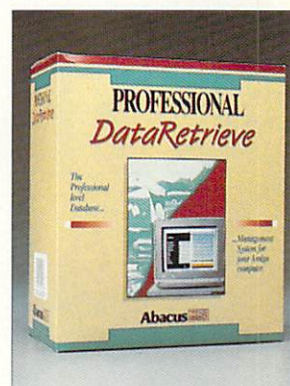
BUSINESS

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Accountant	KFS Software	\$299.50	1MB	Commercial accounting including payroll.
Accounting Modules	Computerware	\$ 99.00		Each sold separately—AR AP GL IC PR check.
AMT	The Other Guys	\$ 39.99		Amortization and cost evaluation.
Arima Techniques	Lionheart Press	\$125.00		Box-Jenkins analysis of time-series.
Basic Ledger	B.E.S.T. Inc.	\$ 79.95		General ledger package for business use.
Business Budgeting	B.E.S.T. Inc.	\$ 79.95		Budgeting program for business use.
Business Mngmnt. 2.0	B.E.S.T. Inc.	\$295.00		Accounting program for business use.
Business Statistics	Lionheart Press	\$145.00		Statistical tools for business.
Cluster Analysis	Lionheart Press	\$145.00		All major cluster analysis algorithms.
Decision Analysis	Lionheart Press	\$145.00		Decisions on incomplete or conflicting data.
Descriptive Stats.	Lionheart Press	\$145.00		General statistical analysis and graphics.
Easy Loan	PAR Software	\$ 79.95		Amortization tables for loans.
Econometrics	Lionheart Press	\$145.00		Full-scale econometric techniques.
Experimental Stats.	Lionheart Press	\$145.00		General purpose statistics.
Forecasting and Time	Lionheart Press	\$145.00		Analysis of time-series.
Inventory	Lionheart Press	\$125.00		Inventory management.
KEEP-Trak	The Other Guys	\$ 49.99		General ledger.
Linear Programming	Lionheart Press	\$145.00		Based upon SIMPLEX and Monte Carlo.
Marketing Stats.	Lionheart Press	\$145.00		Collecting and analyzing marketing statistics.
Matrix Operations	Lionheart Press	\$125.00		Includes transfer to and from spreadsheets.
Multivariate Analysis	Lionheart Press	\$145.00		For advanced users.
Nimbus	Oxxi Inc.	\$159.50		Cash accounting for small businesses.
Optimization	Lionheart Press	\$145.00		Different optimization programs.
PAR Real I	PAR Software	\$149.95		Real estate property analysis.
Project Master	TRS Labs	\$195.00		Professional project management.
Project Planner	Lionheart Press	\$145.00		PERT and Critical Path.
Quality Control	Lionheart Press	\$145.00		Experiments; statistical basis of quality control.
Regression	Lionheart Press	\$125.00		Based upon least squares techniques.
Sales and Market	Lionheart Press	\$145.00		How to forecast.
Service Industry	Sybiz Software	\$395.00		Integrated job estimating and costing.
Spectrum	Progressive	\$399.95		Transaction acct. company ledger, journal.
Works! Platinum	Micro-Systems	\$295.95		Integrates word processor, spreadsheet.

DATABASES

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Acquisition II	Taurus-Impex	\$299.95		Relational database.
Acquisition Pioneer	Taurus-Impex	\$139.95		Scaled-down Acquisition.
Bookkeeping System	Sax Man Systems	\$100.00		Modular programs for use with Superbase.
Business I	Software Vision	\$ 59.00		Templates and macros for Microfiche Filer.
Computer Black Book	Meggido	\$ 35.95		Name address and phone database.
DataRetrieve	Abacus	\$ 79.95		Accesses eight files simultaneously.
dBMan V5.2	VersaSoft	\$245.00		Relational database; dBase compatible.
Info +	Eastern Telecom	\$ 49.99		File manager.
Infominder	Byte by Byte	\$ 89.95		Hierarchical data retrieval system.
K-Data	Kuma	TBA		Database.
Mail-O-Dex	KarmaSoft	\$ 49.95		Address/record-keeping program.
Microfiche Filer	Software Visions	\$ 99.00		File manager graphic interface.
MicroFiche Filer Plus	Software Visions	\$179.00		Professional version of MicroFiche filer.
NAG Plus 3.0	Gramma Software	\$ 79.95		Personal database; verbally reminds.
Norgen	Norris Software	\$ 99.95		Genealogy database.
Omega File	The Other Guys	\$ 79.99		File manager.
Organize!	Micro-Systems	\$ 79.95		DBase compatible math functions.

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Pro DataRetrieve	Abacus	\$295.00		Professional relational data retrieval.
Record Manager	HC Software	\$ 99.00		Data management system for small business.
SoftWood File IIgs	SoftWood	\$ 99.95		File manager includes graphics and sound.
Superbase Personal 2	Precision	\$149.95		Relational database.
Superbase Personal	Precision	\$ 79.95		Scaled down version of Pro.
Superbase Pro. 3	Precision	\$299.95	1MB	Relational with integrated forms applications.
WWW	Blue Ribbon	\$ 99.95		Who! What! When! Where! scheduler.
Your Family Tree	Micromaster	\$ 49.95	1MB	Genealogy database: supports up to 16 million.

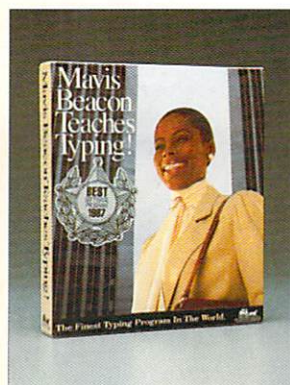


DESKTOP PUBLISHING

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Amiga Tex Driver	Radical Eye	\$100.00	1MB	Printer drivers for Amiga Tex.
AmigaMETAFONT	Radical Eye	\$ 75.00	1MB	Font generator for AmigaTex.
AmigaTEX	Radical Eye	\$200.00	1MB	Typesetting software.
City Desk 2.0	MicroSearch	\$199.95	1MB	Page layout program.
ComicSetter	Gold Disk	\$ 99.95	1MB	Layout tools for creating color comics.
Fonts Disk	Soft-Logik	\$ 39.95		For use with PageStream.
PageStream	Soft-Logik	\$199.95	1MB	Desktop-publishing program.
Pro ScanLab	ASDG	\$995.00	2MB	24-bit color scanning utility.
Professional Page	Gold Disk	\$395.00		High-end desktop publishing.
Publisher Plus	Northeast	\$ 99.95		PostScript-compatible WYSIWYG.
Saxon Publisher	Saxon	\$445.00	1MB	Includes four-color separations.
Structured Clip Art	Gold Disk	\$ 59.95		Professionally drawn.
Symbols Font Set	C Ltd.	\$ 49.95		Set of hi-res symbols.
Templates	Gold Disk	\$ 59.95		For Professional Page with design guide.

EDUCATIONAL

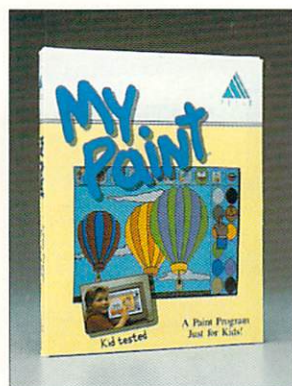
PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
8 Parts of Speech	Queue	\$ 44.95		Nouns, pronouns, verbs, adjectives, etc.
Abraham and God	Micro Ed	\$ 29.95		Describes Abraham's beliefs and actions.
ACLS Series	Mad Scientist	\$109.95		Cardiac Arrest-ACLC Protocols- EKG.
Across the Plains	Micro Ed	\$ 59.95		Depicts one of history's great migrations.
Adam and Eve	Micro Ed	\$ 29.95		Describes the demise of man/God relationship.
Adjectives	Queue	\$ 39.95		Adding New Ideas To Nouns And Pronouns.
Adventures of Sinbad	Unicorn	\$ 49.95		Classic literature.
Adverbial Clauses	Queue	\$ 34.95		Subordinate conjunctions, words, etc.
Aesop's Fable	Unicorn	\$ 49.95		Stories with morals.
Aesop's Fables	Hilton Android	\$ 29.95		Robot Reader: expand vocabulary.
Agreeable Verbs	Queue	\$ 39.95		Covers agreement with person and number.
Agreement	Queue	\$ 34.95		Of Pronoun With Antecedent.
Agreement	Queue	\$ 34.95		Of Subject And Verb: person, number, etc.
Aids Information	Micro Ed	\$ 39.95		High school to adults; provides basic info.
Algebra	True BASIC	\$ 49.95		Fundamentals of Algebra.
All About America	Unicorn Software	\$ 59.95		Social studies.
American English	Micro Ed	TBA		Language tutoring for Spanish speakers.
American History	Queue	\$ 59.95		Master historical relationships.
Analogies I	Queue	\$ 65.00		Improve aptitude test scores.
Analogies II	Queue	\$ 65.00		Prepares for college aptitude test.
Animal Kingdom	Unicorn Software	\$ 49.95		Six educational activities.
Antonyms	Micro Ed	\$ 29.95		For elementary students; interactive teaching. ►



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Antonyms	Queue	\$ 34.95		Identify and understand antonyms.
Arithmetic	True BASIC	\$ 49.95		Learn arithmetic concepts.
Balancing Act	Micro Ed	\$ 29.95		Review a checking statement and identify.
Bases	Queue	\$ 29.95		Other Than 10: expanded notation, etc.
Basic Grammar	Micro Ed	\$ 29.95		Identify nouns, verbs, adjectives, adverbs.
Beginning German	Micro Ed	\$ 69.95		Foreign language instruction.
Beginning Reading	Micro Ed	\$ 89.95		Beginning word "attack" skills.
Behavioral Sciences	Queue	\$ 34.95		Interactive tutorial of psychology.
Birds 'N Bees	IntraCorp	\$ 14.95		Facts-of-life instruction.
Blood Gases	Mad Scientist	\$ 49.95		Blood gas analysis instruction.
Branded	Micro Ed	\$ 29.95		Fractions: name relationships to the whole.
Calculus	True BASIC Inc.	\$ 49.95		Practice calculus concepts.
Capitalization	Micro Ed	\$ 29.95		Teaches how to correctly capitalize.
Cardiac Arrest	Mad Scientist	\$ 69.95		Advanced cardiac life support program.
Case And Gender	Queue	\$ 44.95		Of Nouns And Pronouns.
Case Of	Queue	\$ 34.95		Nouns, Pronouns: nominative, objective, etc.
Chicken Little	Hilton Android	\$ 29.95		Robot Reader: expand vocabulary.
Choromap	Bassett	\$ 51.00		Choropleth mapping package.
CLAS	Micro Ed	\$129.95		Computerized Lesson Authoring System.
Clauses And	Queue	\$ 44.95		Whole Sentences: helps to identify clauses.
Code Team	Mad Scientist	\$ 69.95		ACLC Protocols-EKG Teaching-Cardiac Quiz.
Comp. Series	Queue	\$229.95		Complete Practical Composition Series.
Comparing	Queue	\$ 44.95		Gerund Participle And Infinitive Phrases.
Complements of Verbs	Queue	\$ 34.95		Direct object transitive and intransitive.
Complete Adventure	Queue	\$130.00		Complete Adventure Series.
Complete Lessons	Queue	\$149.95		Reading and Reasoning series.
Complete Math	Queue	\$155.00		Complete Special Topics In Math Series.
Complete Math	Queue	\$165.00		Word problem series grades 3 through 8.
Complex Sentence	Queue	\$ 34.95		Adjective Clauses: subordinate clauses, etc.
Compound Sentence	Queue	\$ 34.95		Kinds of clauses, simple sentences, etc.
Comprehensive	Queue	\$ 64.95		Grammar Review I series.
Confusing Verbs	Queue	\$ 39.95		Covers six confusing verbs.
Crayons and Rainbows	The Trumor Co.	\$ 19.95		Teaches colors through positive reinforcement.
Crosslinks	Poco-Loco	\$ 34.95		Wordfind games: cryptograms.
CST Data Disk #1	AlohaFonts	\$ 24.95		Three sets of data for ConSOUNDtration.
Decimal Dungeon	Unicorn	\$ 49.95		Answer decimal problems correctly.
Descartes!	DTM Werburg	\$ 39.95		Mathematical 2-D graphing system.
Designasaurus	Britannica	\$ 49.95		Build, print, and learn about dinosaurs.
Developing Writing	Queue	\$135.00		Tutorial and drill on writing effectiveness.
Digital Landscape	Digiscape	\$124.95		View in 3-D the terrain of continental US.
Dinosaur Discovery K	First Byte	\$ 39.95		Teaches pre-historic creatures.
Dinosaurs Are Forever	Merit	\$ 39.95		Draw, color, and print dinosaurs.
Discovery	MicroIllusions	\$ 39.95		Math or spelling space adventure.
Discovery Data Disks	MicroIllusions	\$ 19.95		Science, math, geography, etc.
Discrete Math	True BASIC Inc.	\$ 49.95		Math for computer scientists.
Dream is Alive	Tech Soft	\$ 19.99		Space shuttle slide show.
Early Math	Micro Ed	\$ 49.95		Teaches rudimentary skills.
Electricity	Queue	\$ 34.95		Explains electricity, magnetism, etc.
Elementary Bio.	Queue	\$ 34.95		Interactive tutorial on biology botany.
Elementary Bio. I	Queue	\$ 34.95		Introduction to biology, botany, zoology.
Elementary Bio. II	Queue	\$ 34.95		Detailed explanation of body's systems.
Elementary Chemistry	Queue	\$ 34.95		Learn about elements, compounds, etc.
Elementary Physics	Queue	\$ 34.95		Covers the physical states of matter, etc.
English as 2nd Lang.	Micro Ed	\$189.00		Interactive set contains digitized pictures.
First Letters, Words	First Byte	\$ 39.95		Letter identification.
First Shapes	First Byte	\$ 39.95		Shape and form identification for preschooler.
Fraction Action	Unicorn Software	\$ 49.95		Use knowledge of fractions to escape.
Fraction Concepts	Micro Ed	\$ 79.95		Teaches primary concepts and skills to work.

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
French	Queue	\$ 34.95		Levels I through XV sold separately.
Geographic Database	George Bailey	\$ 15.00		Geography information base about Australia.
Gerunds	Queue	\$ 34.95		Nature of the gerund.
Ghostly Grammar	Unicorn Software	\$ 49.95		Instruction in the basic rules of grammar.
Good Samaritan	Micro Ed	\$ 29.95		Describes the Golden Rule and its inception.
Great Lakes Fur	Micro Ed	\$ 79.95		Early American history interaction.
How A Bill	Queue	\$ 49.95		Becomes A Law. Enter Congress.
How To Spell	Queue	\$ 39.95		Tutorial on principle of correct spelling.
How-To Addition	Micro Ed	\$ 29.95		Help students master up to 14 levels.
How-To Subtraction	Micro Ed	\$ 29.95		Master up to eight levels of subtraction.
Image Spinning	Micro Ed	\$ 49.95		Provides practice for creative writing.
In the Beginning	Micro Ed	\$ 29.95		Elementary: opening of the Old Testament.
In the Promised Land	Micro Ed	\$ 29.95		Conquest, settlement of Promised Land.
Infinitives	Queue	\$ 34.95		Nature and uses of infinitives.
IntelliType	Electronic Arts	\$ 49.95		Typing tutor for adults.
Intro. To Punct.	Queue	\$ 39.95		Covers proper use of punctuation.
Introducing Maps	Micro Ed	\$ 59.95		Teaches basic knowledge of geography.
Jet Instrument Train	Precision Appr.	\$ 89.95		Teaches complex instrument panel of jet.
Kid Talk	First Byte	\$ 39.95		Talking notebook teaches writing skills.
Kinderama	Unicorn	\$ 49.95		Five early learning games.
Land of the Unicorn	Unicorn	\$ 49.95		Educational program.
Learning More	Queue	\$ 59.95		About Words: covers vowels and consonants.
Learning the Alphabet	Micro Ed	\$ 29.95		Teaches children letters and develops skills.
Learning to Write	Queue	\$ 54.95		Basic components of a sentence.
Lesson In R & R I	Queue	\$ 39.95		Reading and Reasoning: fallacies in meaning.
Lessons In R & R II	Queue	\$ 39.95		Reading and Reasoning.
Lessons In R & R III	Queue	\$ 39.95		Reading and Reasoning: word meaning.
Lessons in R & R IV	Queue	\$ 59.95		Critical reading and reasoning.
Lewis and Clark	Micro Ed	\$ 89.95		50 digitized photos and drawings.
Life Skills	Queue	\$129.95		Reading I: grades 3 through 5.
Life Skills	Queue	\$129.95		Reading II: grades 5 through 8.
Linkword Languages	Artworx	\$ 29.95		Learn foreign languages: each sold separately.
Little Red Hen	Hilton Android	\$ 24.95		Robot Readers: expand vocabulary.
Logic Lab	VS Graphics	\$ 29.95		Teaches digital logic for circuit building.
Logic Master	Unicorn	\$ 49.95		Solve analogy and number-series problems.
LOGO	Commodore	\$ 99.95		Educational computer language.
Magical Myths	Unicorn	\$ 49.95		Mythology.
Making Our Constitution	Micro Ed	\$ 79.95		Digitized pictures track history.
Managing	Queue	\$ 44.95		The Sentence: covers kinds of sentences.
MasterType	Mindscape	\$ 14.95		Typing tutor.
Match-It	The Other Guys	\$ 39.99		Pattern recognition.
Math Odyssey	The Other Guys	\$ 49.95		Math function instructional program.
Math Talk	First Byte	\$ 39.95		Talking math tutor coaches basic math skills.
Math Talk Fractions	First Byte	\$ 39.95		Teaches fractions, decimals, and percents.
Math Wizard	Unicorn	\$ 49.95		Four games that teach math skills.
Math-A-Magician	The Other Guys	\$ 39.99		Learn math.
Mathematics	Queue	\$ 34.95		Word Problems for grade 7.
Mathematics	Queue	\$ 34.95		Word Problems for grade 3.
Mathematics	Queue	\$ 34.95		Word Problems for grade 5.
Mathematics	Queue	\$ 34.95		Word Problems for grade 8.
Mathematics	Queue	\$ 34.95		Word Problems for grade 6.
Mathematics	Queue	\$ 34.95		Word Problems for grade 4.
Mavis Beacon Teaches	Soft. Toolworks	\$ 49.95		Typing tutor.
Maxi Taxi	Micro Ed	\$ 29.95		Determine maximum earnings in simulation.
Medal Winner	Micro Ed	\$ 29.95		Teaches values to be used in mathematics.
Miniature Math	Learners Image	\$ 39.95		Miniature golf game teaches math.
Modifiers: Adjectives	Queue	\$ 34.95		Adverbs, interrogative adverbs, etc.
MyPaint	Centaur	\$ 49.95		Kids learn computer literacy by "coloring." ►





PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
MyPaint Data Disks	Centaur	\$ 29.95		Extra disks for MyPaint, each sold separately.
Needing Reading	Queue	\$129.00		Everyday reading high interest selections.
New Tech Coloring	Bo Software	\$ 19.95		Color IFF pictures.
Nimble Numbers	Robin Hoare	\$ 29.75		Preschool to age 8: digitized speech teaches.
Noah's Ark	Hilton Android	\$ 29.95		Robot Readers: Expand vocabulary.
Noun Clauses	Queue	\$ 34.95		Function of the noun clause.
Nouns	Queue	\$ 39.95		Words Used As Names: recognizing nouns.
Nouns	Queue	\$ 34.95		Different kinds of nouns, capitalization, etc.
On the Line	Micro Ed	\$ 29.95		Fractions: identifying mixed numbers.
Package	Queue	\$ 65.00		Remedial reading for grade 3.
Package B	Queue	\$ 65.00		Remedial reading for grade 4.
Package BB	Queue	\$ 65.00		Remedial reading for grade 2.
Package C	Queue	\$ 65.00		Remedial reading for grade 5.
Package D	Queue	\$ 65.00		Remedial reading for grade 6.
Package E	Queue	\$ 65.00		Remedial reading for grade 7.
Package F	Queue	\$ 65.00		Remedial reading for grade 8.
Pail Green	Micro Ed	\$ 29.95		Fraction instruction through identifying.
Parking Lot	Micro Ed	\$ 29.95		Teaches value concepts.
Participles	Queue	\$ 34.95		Nature of verbals, forms of participle, etc.
Parting Shots	Micro Ed	\$ 29.95		Practice in writing fractions.
Parts of Speech	Queue	\$224.95		Complete series
Parts of Speech I	Queue	\$ 34.95		Nouns, pronouns, verbs, and verb phrases.
Parts of Speech II	Queue	\$ 34.95		Adjectives, adverbs, prepositions, etc.
Patterns Of Sentence	Queue	\$ 44.95		Covers word order.
Pinball I.Q.	Micro Ed	\$ 29.95		Teaches identification of single-digit quotient.
Planet Probe	Micro Ed	\$ 29.95		Acquire information about our Solar System.
Powers and Roots	Queue	\$ 29.95		Mathematics topics.
Practical Comp. I	Queue	\$ 44.95		Teaches word choice.
Practical Comp II	Queue	\$ 74.95		Teaches logical, clear sentences.
Practical Comp. III	Queue	\$ 44.95		Teaches selection of approach.
Practical Comp. IV	Queue	\$ 44.95		Making Sentences Work.
Practical Comp. V	Queue	\$ 44.95		Using Words Correctly.
Practical Grammar I	Queue	\$375.00		Complete series.
Practical Grammar II	Queue	\$395.00		Complete series.
Practical Grammar III	Queue	\$224.95		Complete series.
Practical Spelling	Queue	\$ 29.95		Suggestions for improving spelling.
Practical Vocabulary	Queue	\$ 54.95		High-school level drill.
Practicing Writing	Queue	\$125.00		Provides interactive practice.
Pre-Calculus	True BASIC	\$ 49.95		Review pre-calculus topics.
Prepositional Phrases	Queue	\$ 34.95		Commonly used adjectival phrases.
Principal Parts	Queue	\$ 34.95		Of Verbs: basic forms, regular and irregular.
Problems	Queue	\$ 34.95		In the Use of Infinitives.
Pronoun Agreement	Queue	\$ 39.95		Agreement of pronouns and antecedents.
Pronouns	Queue	\$ 39.95		Substitutes For Nouns.
Pronouns	Queue	\$ 34.95		Simple, compound, personal, etc.
Punctuation	Micro Ed	\$ 29.95		Teaches correct punctuation.
Punctuation Review	Queue	\$ 34.95		All punctuation marks.
Puzzle Storybook	First Byte	\$ 39.95		Children can design pictures to make puzzles.
R & T I	Queue	\$ 54.95		Reading and Thinking: grades 2 and 3.
R & T II	Queue	\$ 54.95		Reading and Thinking: grades 4 and 6.
R & T III	Queue	\$ 54.95		Reading and Thinking: grades 6 and 8.
Ratios, Proportion	Queue	\$ 29.95		Definition of ratio, how to express ratios.
Read & Rhyme	Unicorn Software	\$ 49.95		Four language arts activities.
Read-a-Rama	Unicorn Software	\$ 49.95		Reading game.
Reading Adventure	Queue	\$ 39.95		Adventure 1: 3 Ponies; 4 Friends.
Reading Adventure	Queue	\$ 59.95		Adventure 2: Case of the Lost Music Box.
Reading Adventure	Queue	\$ 59.95		Adventure 3: Switching Siblings.
Reading Comp.	Queue	\$ 65.00		Second Grade Reading Comprehension.

The Essence of Platinum!

Scribble! Platinum Edition

- ☐ 104,000+ word **Spellchecker**
- ☐ Scientific and Technical Supplements
- ☐ **Spell As You Type**
- ☐ Full User Dictionary maintenance
- ☐ 470,000+ word **Thesaurus**
- ☐ Multiple windows
- ☐ Color, Interlace & Overscan support
- ☐ Cut and Paste among documents
- ☐ **Mail Merge**
- ☐ Print IFF **Graphics**
- ☐ Clipboard Compatible
- ☐ Cartridge Font support
- ☐ 512K Required
- ☐ Not copy protected
- ☐ Free Technical Support
- ☐ User Friendly Manual

The Works! Platinum Edition

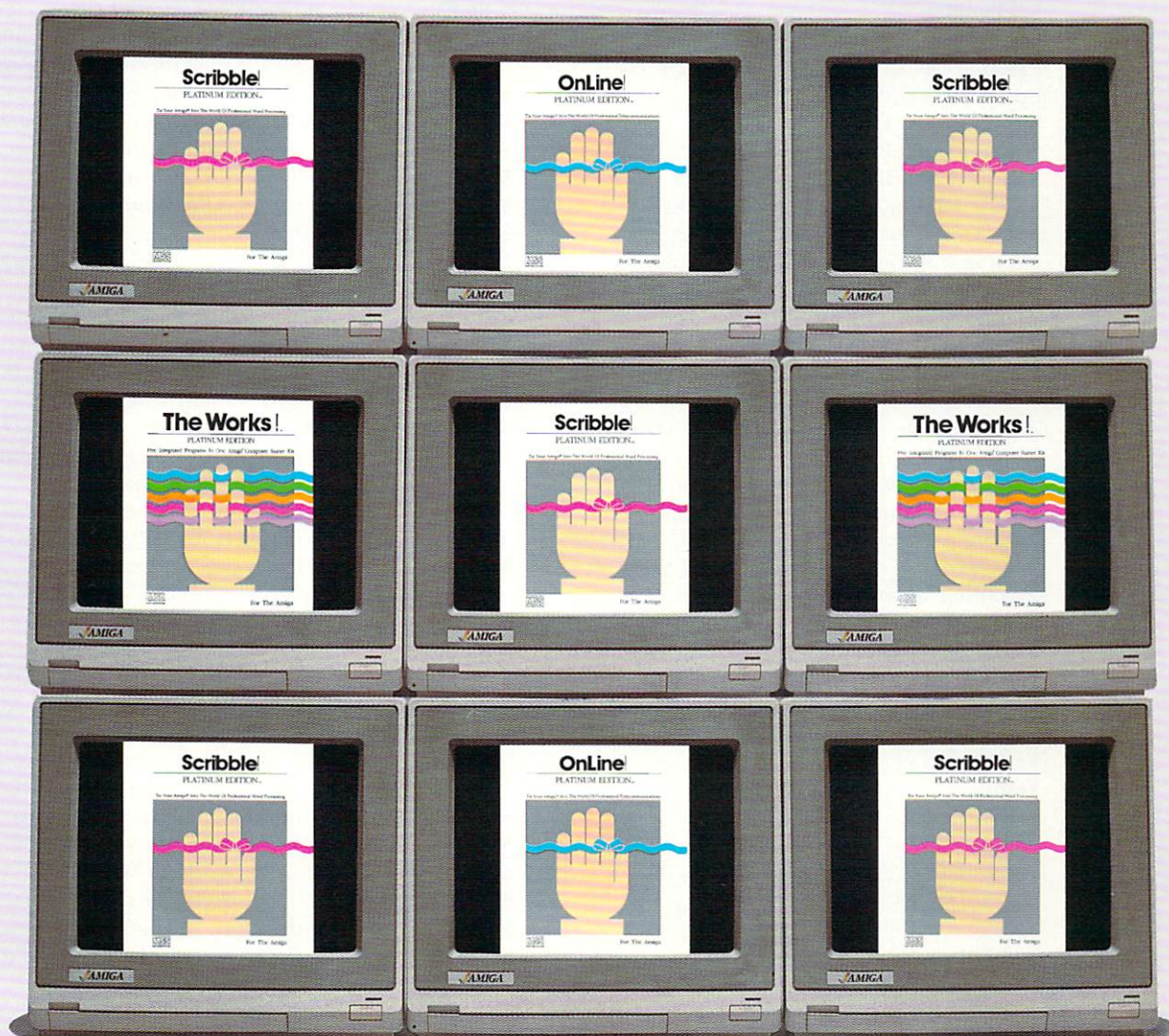
- ☐ Includes Scribble! Platinum module
- ☐ **Full featured spreadsheet module**
- ☐ Lotus 123 wks file compatible
- ☐ Macro-language
- ☐ 40+ built-in functions
- ☐ 68881 math co-processor support
- ☐ 8 graph types
- ☐ Sideways print utility
- ☐ **Flat file manager (database) module**
- ☐ Extensive math capability
- ☐ Includes OnLine! Platinum module
- ☐ Clipboard Compatible
- ☐ 512K Required
- ☐ Not copy protected
- ☐ Free Technical Support
- ☐ User Friendly Manual

OnLine! Platinum Edition

- ☐ **ARexx support**
- ☐ New Sadie Protocol (simultaneous chat and 2-way file transfers)
- ☐ Color, Interlace & Overscan support
- ☐ VT-100, -52, -102, TTY, ANSI-BBS, Tektronics 4010 emulations
- ☐ X-, Y-, Z-, WX-Modem, CIS-B, Quick-B, Kermit protocols
- ☐ 300 - 57600 bits per second
- ☐ **Multiple Serial Ports**
- ☐ **Internal Modem support**
- ☐ **Full Script Language**
- ☐ **User defined Macro keys**



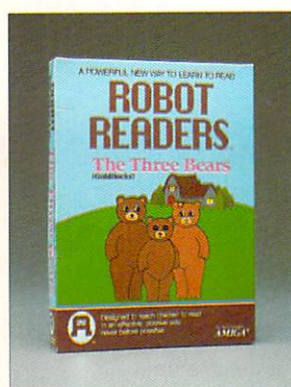
12798 Forest Hill Blvd., Suite 202
West Palm Beach, Florida 33414
407-790-0770 FAX: 407-790-1341
Micro-Systems Software
Committed to excellence since 1978



All brand and product names are trademarks or registered trademarks of their respective companies. ARexx support not in telecommunications module.

The Works! Platinum Edition, Scribble! Platinum Edition and OnLine! Platinum Edition are trademarks of Micro-Systems Software, Inc.

Circle 129 on Reader Service card.



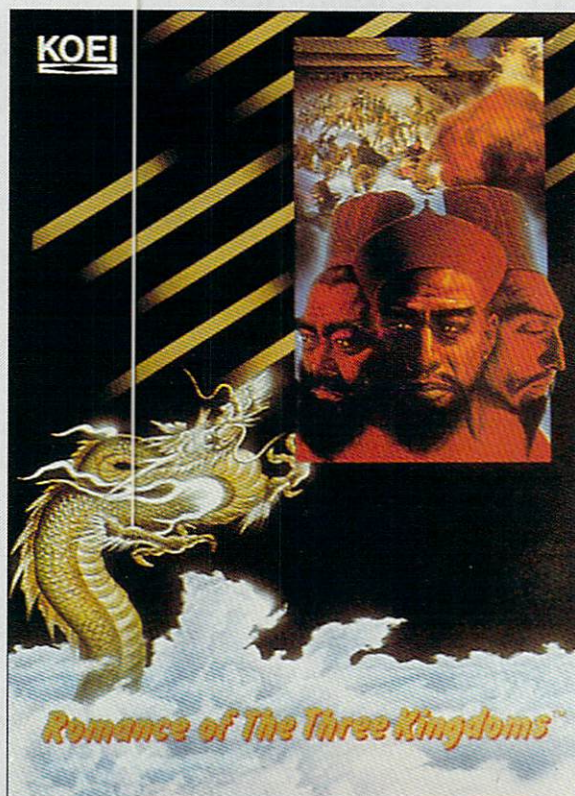
PRODUCT	COMPANY	PRICE	MEM DESCRIPTION
Reading Comp.	Queue	\$ 65.00	Third Grade Reading Comprehension.
Reading Comp.	Queue	\$ 65.00	Fourth Grade Reading Comprehension.
Reading Comp.	Queue	\$ 65.00	Fifth Grade Reading Comprehension.
Reading Comp.	Queue	\$ 65.00	Sixth Grade Reading Comprehension.
Reading Comp.	Queue	\$ 85.00	Seventh Grade Reading Comprehension.
Reading Comp.	Queue	\$ 85.00	Eighth Grade Reading Comprehension.
Relationship	Queue	\$ 39.95	Words That Show A Relationship.
Remedial Series	Queue	\$425.00	Remedial Reading Comprehension Series.
Rhyming Notebook	First Byte	\$ 39.95	Rhyming dictionary for writers and poets.
Rounding/Estimating	Queue	\$ 29.95	Mathematics topics covered.
Save the Whales	Micro Ed	\$ 39.95	Learn about whales and their habitats.
Scare City Motel	Micro Ed	\$ 29.95	Learn to equate supply with demand.
Scientific Notation	Queue	\$ 29.95	Definition of scientific notation, etc.
Sentence Patterns	Queue	\$ 34.95	Different kinds of sentences, inverted order.
Sentences	Queue	\$ 34.95	Subject and predicate, complete subject, etc.
Sleepy Hollow	Jumpdisk	\$ 4.00	Text screen display with talking slides.
Smooth Talker	First Byte	\$ 39.95	Speech synthesizer reads written text out loud.
Social Studies Vocab.	Micro Ed	\$ 29.95	Elementary level social studies vocabulary.
Space Math	IntraCorp	\$ 49.95	Math concepts game.
Space Photos II	Signs Etc.	\$ 19.95	Pictorial history of the US space program.
Spanish	Queue	\$ 34.95	Grammar I through XI sold separately.
Spell M-O-N-E-Y	Micro Ed	\$ 29.95	Learn the definitions of basic economic terms.
Spellbound	Learners Image	\$ 39.95	Spelling instruction.
Speller Bee	First Byte	\$ 39.95	Three word games teach spelling.
Spelling	Micro Ed	\$ 29.95	Each grade level sold separately.
Spelling Detective	Micro Ed	\$ 39.95	Learn to spell 100 frequently misspelled words.
Sports Probs.	Queue	\$ 95.00	Complete Package.
Sports Probs. I	Queue	\$ 39.95	Math skills involve addition and subtraction.
Sports Probs. II	Queue	\$ 39.95	Covers multiplication, division, addition.
Sports Probs. III	Queue	\$ 39.95	High-interest word problems based on sports.
Sum-It Mountain	Micro Ed	\$ 29.95	Learn to add multiple figures.
Tales of the Arabian	Unicorn Software	\$ 49.95	Classic literature.
Talking Coloring Book	JMH Software	\$ 29.95	Color recognition.
Tenses of Verbs	Queue	\$ 34.95	Covers the six tenses of verbs.
The Ad Game	Micro Ed	\$ 29.95	Learn to read a vertical bar graph.
The Bible On Disk	Micro Ed	\$ 99.00	6-disk set contains the King James Version.
The First Christmas	Micro Ed	\$ 29.95	Story of the nativity.
The Remarkable Puzzle	Signs Etc.	\$ 19.95	90 jigsaw-type puzzles based on behavior.
Three Bears	Hilton Android	\$ 29.95	Robot Reader: expand vocabulary.
Three Little Pigs	Hilton Android	\$ 29.95	Robot Readers: expand vocabulary.
Trackers Quest	CSS Inc.	TBA	Educational program.
Transcontinental Rail	Micro Ed	\$ 39.95	Digitized pictures of western rail expansion.
Trigonometry	True BASIC	\$ 49.95	Learn trigonometric concepts.
True STAT	True BASIC	\$ 49.95	Master statistical methods.
Tumbling Geometries	CSS Inc.	TBA	Math instruction.
Typing Tutor + Word	Academy	\$ 34.95	Typing instruction and practice.
Ugly Duckling	Hilton Android	\$ 29.95	Robot Readers: improve vocabulary.
Uncle D's ConSOUNDtr	AlohaFonts	\$ 29.95	Pictures and sounds for ConSOUND.
Usage	Queue	\$ 39.95	Tutorial on commonly misused words.
Usage Boners	Micro Ed	\$ 49.95	Teaches to identify common usage mistakes.
Verb Voice	Queue	\$ 44.95	Tense And Mood: transitive and intransitive.
Verbs	Queue	\$ 39.95	Action And Linking Words.
Verbs: Voice	Queue	\$ 34.95	And Mood: active and passive, etc.
Vocabulary	Queue	\$ 49.95	For the World of Work I.
Vocabulary	Queue	\$ 49.95	For the World of Work II.
Vocabulary I	Queue	\$ 49.95	Adventure I: The Castle of Treasures.
Vocabulary II	Queue	\$ 49.95	Adventure II: the Labyrinth grade 6.
Vocabulary III	Queue	\$ 49.95	Adventure III: Marauders of the Lost Ark. ►

KOEI

Computer
Gaming World's
1989 Strategy
Game of the Year



Romance Of The Three Kingdoms



A Quest of Conquest

Government has collapsed and China battles with itself as warlords struggle for supremacy.

Fight, barter, and trade your way to your ultimate goal: control of all China. But you can't do it alone. You'll have to recruit good subordinates and win their loyalty with bravery and gifts. Form alliances with other warlords, but know that they may not last long.

During peacetime build dams and bridges, clear fields, marry, train your troops, and give and receive loans of food and money.

On the battlefield, fight on realistic terrain. Try to crush the enemy, but know he will be strong. Your shot at victory comes by carefully preparing your men and then giving the battle everything you have.



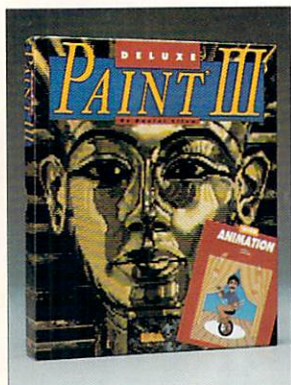
COMING
SOON!

Become
History's
Most Feared
Generalissimo,
Or One of
His Rivals

Features Includes: 255 characters, each with a distinct personality; military, economic and diplomatic simulation; five different scenarios; ten levels of difficulty per scenario; play by one to eight; demo mode; complete instruction manual and historical notes; Poster Included.

(Screen Shots Are IBM Screens. Amiga Version To Use Amiga Graphics)

KOEI...We Supply The Past, You Make The History



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Vocabulary Series I	Micro Ed	\$ 49.95		High-level vocabulary mastery learning.
Vocabulary Series II	Micro Ed	\$ 49.95		Work with words that have similar meanings.
Word Demons	Micro Ed	\$ 29.95		Deals with commonly confused sets of words.
Word Master Vocabulary	Unicorn Software	\$ 49.95		Learn new words.
Words That Sound Alike	Micro Ed	\$ 29.95		Elementary: learn to identify and spell.
Working with Sentence	Queue	\$184.95		Complete parts of speech series.
World Atlas	Centaur Software	\$ 59.95		Geographical information.
World Odyssey	The Other Guys	\$ 49.95		World geography instructional program.
Writing Skills	Queue	\$285.00		Complete series.

GRAPHICS/VIDEO

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
3-D Options	Rainbows Edge	\$ 89.95		Auto-tracing bitmapped pictures converts.
3-Demon	Mimetics	\$ 99.95	1MB	3-D object editor for Sculpt Animate, etc.
ACAD Translator	Access Tech.	\$179.95		Converts DXF files to Sculpt-Animate format.
Advanced Techniques	RGB Video	\$ 34.95		Deluxe Help's textures and backgrounds.
AlohaFonts V. 2	AlohaFonts	\$ 19.95		43 fonts from 16 to 84 points.
AlohaFonts V. 3	AlohaFonts	\$ 19.95		41 fonts from 16 to 99 points.
AlohaFonts V. I	AlohaFonts	\$ 19.95		Fonts and dingbats.
Analytic Art	Crystal Rose	\$ 59.95		Fractal art program.
ANIMagic	Sparta	\$279.00	1MB	Animation and editing; special effects.
Animate 3D	Byte by Byte	\$150.00		Animates ray-traced images.
Animation Station	Progressive	TBA	1MB	Opcode-5 standard ANIM editor.
Animation:Apprentice	Hash Enterprise	\$295.00	1MB	3-D shading, character animation.
Animation:Editor	Hash Enterprise	\$ 59.95		Format & Resolution Conversion.
Animation:Effects II	Hash Enterprise	\$ 69.95		ADO-like video effects.
Animation:Flipper	Hash Enterprise	\$ 59.95		Plays IFF pictures in ANIM standard.
Animation:Multiplane	Hash Enterprise	\$ 89.95	1MB	Digital compositor.
Animation:Rotoscope	Hash Enterprise	\$ 79.95	1MB	Traveling matte painting.
Animation:SoundTrack	Hash Enterprise	\$119.95	1MB	Sound/animation synchronizing & editing.
Animation:Stand	Hash Enterprise	\$ 69.95	1MB	Software version of a camera stand.
Animation:Titler	Hash Enterprise	\$ 79.95		Professional video titler.
Animator	Aegis	\$ 99.95		Polymorphic animation includes Images.
Apprentice Libraries	Hash Enterprise	\$ 19.95	1MB	Objects for Animator.
Architectural Library	Madrigal	\$ 89.95		Elevation parts and building modules in Aegis.
Architectural Library	Madrigal	\$ 89.95		Interior design furniture parts in Aegis CAD.
Architectural Library	Madrigal	\$ 89.95		Elevation parts and building modules.
Architectural Library	Madrigal	\$ 59.95		Interior design furniture parts in IFF paint.
Art Companion I	MicroSearch	\$ 29.95		People & Technology data disk.
Art Companion II	MicroSearch	\$ 29.95		Banners, Border & More data disk.
Art Companion III	MicroSearch	\$ 29.95		Brushes & Screens data disk.
Art Companion IV	MicroSearch	\$ 29.95		Holidays & Sports data disk.
Art Gallery I and II	Unison World	\$ 29.95		Clip art of divers subjects.
Art Gallery—Fantasy	Unison World	\$ 29.95		140 sword and sorcery graphics.
Art Parts	Electronic Arts	\$ 29.95		Volume I: 175+ color clip art.
Arts Parts #2	Electronic Arts	\$ 29.95		DeluxePaint data disk.
Award Maker Plus	Baudville	\$ 49.95		Creates awards and certificates.
BoardWalk Font Set	C Ltd.	\$ 49.95		BoardWalk font in various sizes and styles.
Borders	The Dragon Group	\$ 34.95		Over 50 borders: Amiga Coloring Book.
Borders Font Set	C Ltd.	\$ 49.95		Font set with borders and outlines.
Broadcast Titler	InnoVision	\$299.95	1MB	Antialiased character generator.
Brummbar's Backgrounds	Soft. Sensations	TBA		Series of IFF-painted backgrounds.
Bumper Sticker Maker	Intracorp	\$ 59.95		Design and print your own bumper stickers.
Business Card Maker	Intracorp	\$ 59.95		Design and print custom cards.

FOUR COMPUTER HACKERS ARE ABOUT TO RAID YOUR DISK DRIVE.



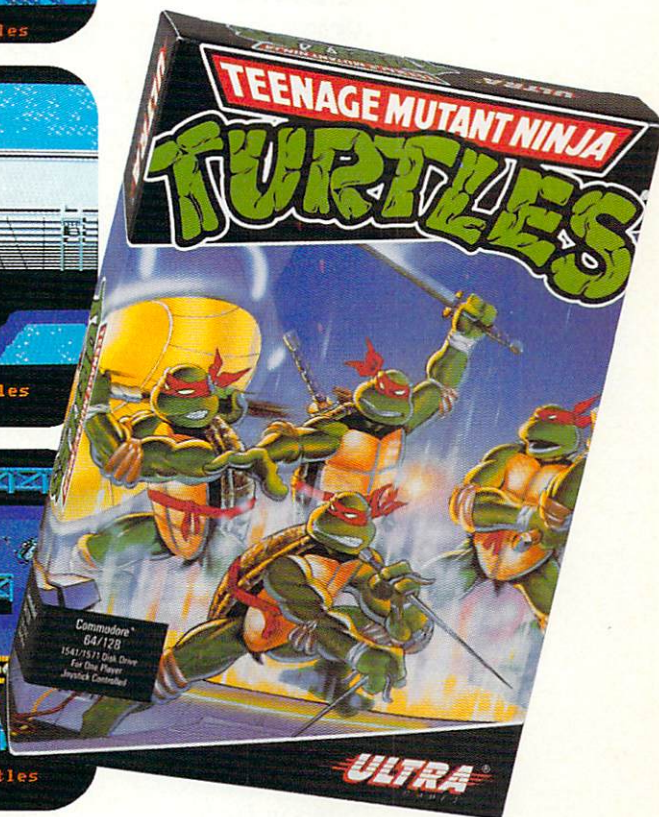
No computer will go unscathed, as Ultra's version of Teenage Mutant Ninja Turtles® storms into your disk drive to duke it out with Shredder™—a maniac more menacing than an army of mind-altered Bruce Lees.

But if they're to survive, you must command the role of each turtle, rumbling through a maze of Mouser™ infested sewers, criminally polluted rivers and alleys patrolled by the fanatical Foot Clan™.

Along the way, search for bonus weapons like the Triple Shuriken. You'll have to also think fast, switching turtle identities in order to match their karate skills with those of the enemy.

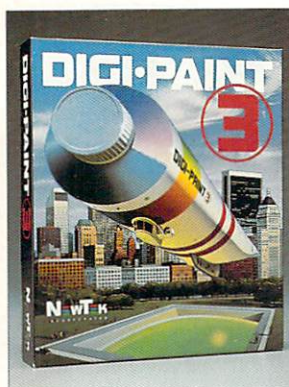
So grab your joystick and nunchukus, then control every leap, chop, slice and dice, until you splatter Shredder senseless or get yourself hacked into turtle soup.

Now featuring the ULTRA® "GAME SAVE" command.



ULTRA
GAMES

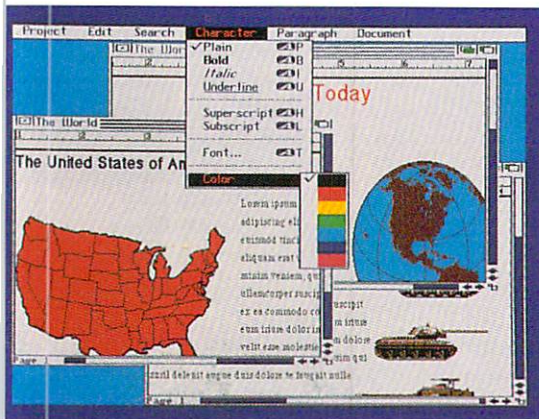
Teenage Mutant Ninja Turtles®, Shredder®, Foot Clan® and Mouser® are registered trademarks of Mirage Studios, USA. All Rights Reserved. Used with permission. Based on characters and comic books created by Kevin Eastman and Peter Laird. © 1989 Mirage Studios, USA. Exclusively licensed by Surge Licensing, Inc. IBM® is a registered trademark of International Business Machines, Inc. Commodore® is a registered trademark of Commodore Electronics Ltd. Amiga® is a registered trademark of Commodore-Amiga, Inc. ULTRAGAMES® is a registered trademark of Ultra Software Corporation. © 1989 Ultra Software Corporation. Teenage Mutant Ninja Turtles is available for IBM, Commodore and Amiga.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Business Font Set	C Ltd.	\$ 79.95		Two fonts in various styles.
Butcher	Eagle Tree	\$ 37.00		HAM to hi- to lo-res conversions.
Button and Badge Maker	Intracorp	\$ 59.95		Design and print buttons & badges.
CAD Parts	East-West Software	\$ 24.95		For use with IntroCAD or Aegis Draw 2000.
Calligari	Octree Software	TBA		Consumer version; video and design.
Calligari Professional	Octree Software	\$1995.00		Conceptual 3-D design and animation.
CalligraFonts/Asha's	InterActive Softworks	\$ 89.95	1MB	16-color and monochrome fonts.
CalligraFonts/Andre	InterActive Softworks	\$ 46.25	1MB	Newsletter fonts sized for dot-matrix printers.
CalligraFonts/Lion's	InterActive Softworks	\$ 89.95	1MB	Four disks of 150 fonts for presentations.
CalligraFonts/Novelty	InterActive Softworks	\$ 69.95	1MB	Ice, Pencil, Skyline, Swiss Cheese, Jade, Stars.
Calligrapher	InterActive Softworks	\$129.95	1MB	Professional font editor with 16 color fonts.
Cel Animator	MicroIllusions	\$149.95	1MB	Photon Video: professional cel animation.
Celtic Open Font Set	C Ltd.	\$ 49.95		Celtic Open font in various styles and sizes.
Classic Script Font	C Ltd.	\$ 49.95		Classic Script font in various styles and sizes.
Clip Art Disks 1-8	Magnetic Images	\$ 39.95		100+ hi-res images per disk, diverse subjects.
Clip Art Vol. I	Software Integ.	\$ 29.95		Oriental desktop art.
Clip Art Vol. II	Software Integ.	\$ 29.95		Marshall art disk.
Clip Art Vol. III	Software Integ.	\$ 29.95		Folk art data disk.
Clip Art Vol. IV	Software Integ.	\$ 29.95		Chinese fonts.
Comic Art Series	Gold Disk	\$ 34.95		Clip art for Comic Setter, sold separately.
Commercial Font Set	C Ltd.	\$ 99.95		TRP and HVP fonts in upright italic.
DataPlot	Bytes and Bullets	\$ 15.00		Plots curves of data from other programs.
Deluxe Maps Vol. I	Computer Arts	\$ 25.00		US regional and state maps in IFF format.
DeluxePaint II	Electronic Arts	\$ 99.95		Paint program.
DeluxePaint III	Electronic Arts	\$149.00		Paint with animation: multi-cel and 3-D.
Deluxe PhotoLab	Electronic Arts	\$149.95		Enhance digitized images, move elements.
DeluxePrint	Electronic Arts	\$ 99.95		Make cards, banners.
DeluxeProductions	Electronic Arts	\$199.95		Hi-res video creation and presentation.
DeluxeVideo	Electronic Arts	\$129.95		Desktop video package with 27 special effects.
DeluxeVideo 1.2	Electronic Arts	\$129.95		Video animation titling and music.
Design 3D	Gold Disk	\$ 99.95		Wire frame modeling and rendering.
Design Disk	Antic	\$ 34.95		Clip art.
Desktop Artist	SunRize Ind.	\$ 29.95		Black-and-white clip art.
Diamond	Impulse	\$ 79.95		HAM paint program and image processor.
Digi-Paint 3	New Tek	\$ 99.95		HAM paint package.
DigiWorks 3D	Access Tech.	\$129.95		Converts digitized images for 3-D rendering.
Director	Right Answers Group	\$ 69.95		Animation sequencing.
Director Toolkit	Right Answers Group	\$ 39.95		Enhancement for The Director.
DMA Stereo Pair Libr	Seven Seas	\$ 24.95		Programming assistance and examples.
Doug's Math Aquarium	Seven Seas	\$ 89.95		Graphics representation of math formulas.
DPaint Art & Utility	Electronic Arts	\$ 29.95		Includes slide show.
Draw	Aegis	\$ 99.95		Entry-level design drawing.
Draw 2000	Aegis	\$279.95		Supports 68020 coprocessor.
Draw Plus	Aegis	\$259.95		2-D CAD program.
Drawscreen	LaserUp!	\$ 99.95		Duplicates PostScript drawing.
eclipse	AlohaFonts	\$ 99.00		Structured clip art in ProDraw format.
Education Award Libr	Baudville	\$ 29.95		Hundreds of award styles for Award Maker.
Elan Performer	Elan Design	\$ 59.00		Access and display graphics.
Express Paint 3.0	PAR Software	\$139.95		Paint program that imports text.
Eye Play 2	Silver Software	\$ 19.95		Build computer art from 36 graphic routines.
Fancy 3D Fonts	Access Tech.	\$ 79.95		Fonts for Turbo Silver and Sculpt Animate.
Fancy 3D Fonts	Access Tech.	\$ 79.95		Turbo Silver Version: proportionally sized.
FinePrint	Designlab	\$ 49.95		Produces hi-res 16-gray-scale dumps.
FloorPlan Construction	Gramma Software	\$ 49.95		Interior design aid for home & office.
Focus Video	A-Squared	\$159.00		Image acquisition and processing software.
Font Enhancer	InnoVision	\$ 99.95	1MB	For Broadcast Titler, antialiased fonts.
Fonts & Borders	Unison World	\$ 34.95		20 type fonts of varied sized, 20 borders.
Forms in Flight	Micro Magic	\$ 79.00		3D drawing and animation.

ProWrite 2.5, The Best Amiga Word Processor. Guaranteed.

Feature	ProWrite	excellence	Pen Pal	Kind Words	Scribble
True Multiple Fonts	✓	✓	✓		
Color Pictures	✓	✓	✓	✓	
Wrap Text Around Pictures	✓		✓		
WYSIWYG Display	✓	✓	sometimes	✓	
Spelling Checker	✓	✓	✓	✓	✓
Mail Merge	✓	✓	✓	✓	✓
Typing Speed	fast	slow	medium	slow	medium
Spell Check as You Type	✓	✓			
Simultaneous Text and Graphics Printing	✓		✓		
Automatically Adjust to Printer's Capabilities	✓				
PostScript Support	optional	✓			
Paragraph Sorting	✓				
User Definable Defaults	✓				
Can Multi-Task with 1 Meg of Memory	✓			✓	✓
Suggested Retail Price	124.95	299.95	149.95	99.95	149.95
Guaranteed Bug Free*	✓				

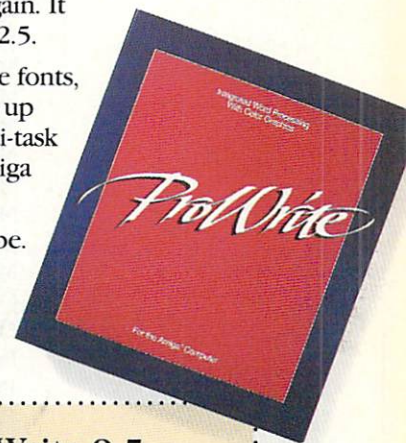


ProWrite is the most reliable full-featured Amiga word processor—and it's the only one that's guaranteed. Look at the chart again. It highlights just a few of the features you get with ProWrite 2.5.

Unlike other word processors, ProWrite *can* use multiple fonts, *can* place graphics next to multiple lines of text, *can* keep up with your typing, *can* check spelling as you type, *can* multi-task with just one meg of memory, and *does* have that solid Amiga feel. And we support our product better than anyone.

See how easy and powerful Amiga word processing can be. Trade in your current word processor and for only \$75 we'll send you ProWrite 2.5. Don't miss this exciting opportunity.

*Call or write to us for details on ProWrite's bug free guarantee.



First In Personal Productivity And Creativity.

206 Wild Basin Road, Suite 109 / Austin, Texas 78746
(512) 328-6650 / FAX (512) 328-1925

ProWrite is a trademark of New Horizons Software, Inc.

Circle 38 on Reader Service card.

☐ Yes, send me ProWrite 2.5
at a \$50 savings!

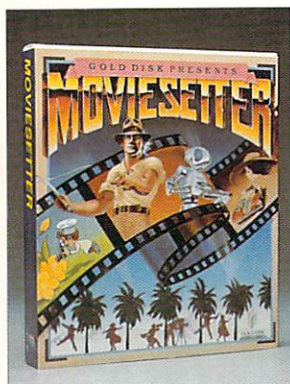
Here's my word processor program disk and a check or money
order for \$75 (Texas residents please add \$5.81 sales tax).

NAME

ADDRESS

CITY, STATE, ZIP

Offer valid in U.S.A. and Canada only.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Forms in Flight Conv	Syndesis	\$ 19.95		Share IFF files w other Interchange modules.
FractalPro	MegageM	\$ 89.95		AutoMag3.0 and HAMandel3.0 two-disk set.
Framegrabber Software	Progressive	TBA	1MB	New features for the popular Frame Grabber.
Grabbit	Discovery Software	\$ 29.95		Screen print and save.
Graphics Studio	Accolade	\$ 49.95		Paint program.
Graphics Tranformer	IMSI	\$ 89.00		Converts graphics file formats.
HAMandel 3.0	MegageM	\$ 49.95		Fractal art program w or w/out AutoMAG.
Headline Font Set	C Ltd.	\$ 99.95		Headline-sized HVP, Celtic, Open, Board, etc.
Headlines 2	Kara Computer	\$ 69.95	1MB	4 hi-res dimensional color fonts in 2-3 sizes.
Help For DeluxePaint	RGB Video	\$ 49.95		Deluxe Help's interactive tutorial.
HomeBuildersCAD	EaseWare	\$199.00	1MB	3-D design and estimating system.
HomeBuilders Choice	EaseWare	\$ 81.00	1MB	Add-on for HomeBuilders CAD.
HomeBuilders Library	EaseWare	\$ 45.00		Add-on parts: library, kitchen cabinets.
HomeBuilders Print	EaseWare	\$117.00	1MB	HomeBuildersCAD add-on plotter interface.
Hometown, U.S.A	Publishing Int.	\$ 39.95		Design, build 15 structures for 3-D models.
HUGEprint	Hugh's Software	\$ 48.00		Mural printer.
Icon Paint	Hitension Comp.	\$ 30.00		16-color workbench for creating color icons.
Images	Aegis	\$ 39.95		Paint program.
Impact	Aegis	\$ 39.95		Business presentation graphics.
Interactor	Vivid Produce	\$ 79.00		Interactive graphics presentation system.
InterChange	Syndesis	\$ 49.95		Shares objects for 3-D modeling.
InterFont	Syndesis	\$119.95		Create fonts for use with 3-D animation.
InterFont Add-on Mod	Syndesis	\$ 79.95		Font-creation add-on for InterChange.
IntroCAD	Progressive	\$ 79.95		Drawing program.
Invision Plus	Elan Design	\$299.00	1MB	Real-time video effects and animation.
Kara Fonts Headlines	Kara Computer	\$ 79.95	1MB	Ten hi-res dimensional fonts in two sizes each.
Lights! Camera! Action!	Sparta	\$ 79.95	1MB	Slide-show and special effects generator.
LogicWorks	Capilano	\$149.95		Electrical schematic capture.
Lons Fonts	Micro Momentum	\$ 29.95		Interfont compatible font sets.
Masterpiece 3-D Font	ARock	TBA		Set of 3-D fonts: InterFont format.
Materpiece Fonts	ARock	\$199.00		Professional 20-disk font set.
Media Line Animation	Free Spirit	\$ 39.95		Selection of animation backgrounds.
Media Line Clip Art	Free Spirit	\$ 34.95		Over 200 clip-art pieces for use in desktop.
Media Line Font Disk	Free Spirit	\$ 34.95		Collection of structured fonts.
MediaBase	Interactive Micro	\$149.00		A/V presentations from video, etc.
MediaProcessor	Interactive Micro	\$149.00		Video production program, controls genlocks.
MiniVol. 1: Backdrops	Charles Voner	\$ 16.95		Mini-volume compiled from VV4 & VV1.
MiniVol. 2: Borders	Charles Voner	\$ 16.95		Mini-volume compiled from VV4 & VV1.
Modeler 3-D	Aegis	\$ 99.95	1MB	3-D object creation and modeling program.
Mondo Stereo	A-Squared	TBA		Stereo image (3-D) construction kit.
Movie Clips	Gold Disk	\$ 34.95		Collection of animation sequences.
Movie 1 or 2	MegageM	\$ 10.00		Mandelbrot animation from AutoMag 1.0.
Movie3	MegageM	\$ 10.00		Julia Set animation from FractalPro.
MovieSetter	Gold Disk	\$ 99.95		WYSIWYG animation.
Olde English Font Set	C Ltd.	\$ 49.95		Olde English fonts in various sizes.
Outline Fonts	Gold Disk	\$199.95		AGFA Compugraphic fonts for Pro Page.
PageFlipper	Mindware Int.	\$ 29.95		Cel animation utility.
Pageflipper Plus F/X	Mindware Int.	\$159.00		Cel animation editor/compiler.
PageRender 3D	Mindware Int.	\$159.95		3D rendering with ANIM generation.
PageSync	Mindware Int.	\$ 99.95		Synchronization of animation with MIDI.
Photon Paint 2.0	MicroIllusions	\$149.95	1MB	HAM paint program.
Photon Paint Expansion	MicroIllusions	\$ 29.95		Wood and marble surfaces for Photon Paint.
Photon Video: EDLP	MicroIllusions	\$499.95		Edit Decision List Processor.
PhotoSynthesis	Escape Sequence	\$149.95		Image processing software.
PICK-MAGIC	Joe's First	\$ 85.00		Electronically imaged graphic art.
PIXmate	Progressive	\$ 49.95		Image enhancement.
Print Master Plus	Unison World	\$ 39.95		Print greeting cards and newsletters.
Pro Video CGI Font L	Shereff Systems	\$ 99.95		Pacific europa and computer fonts.

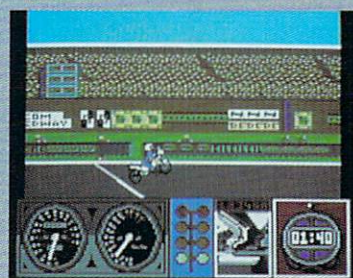
SANTA CLAUS IS COMING TO TOWN

Better watch out!

After a test ride on *Pocket Rockets*, the high-speed motorcycle simulation game, Santa picked up a new sleigh that will make this year's rounds faster than ever. And whether you've been naughty or nice, you could win this Suzuki 600 Katana during "Santa's Sleigh Giveaway" in January.

Meanwhile, experience all the thrills and spills of high-speed racing with machines that take you from zero to 60 in under four seconds. Already gaining critical acclaim, *Pocket Rockets* lets you choose from four of the quickest, most exotic bikes on the planet. The action's as real as the adrenaline you'll feel.

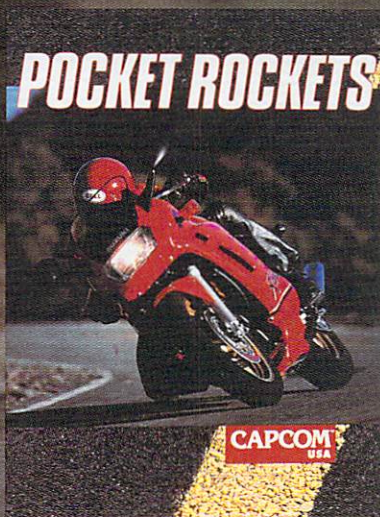
Then, enter "Santa's Sleigh Giveaway" from Capcom U.S.A. Besides the chance to win a new Suzuki motorcycle, you could get a Bell full coverage helmet, or Capcom computer game software. Look to enter in all Capcom computer game packages or visit your favorite computer game retailer for more information. Capcom's belated Christmas giveaway is just around the bend so don't miss out on your chance to win!



LEFT: Try your skill against the clock with a couple of laps around the test track. RIGHT: Drag racing demands a quick wrist and fast shifting. Just don't blow the engine!



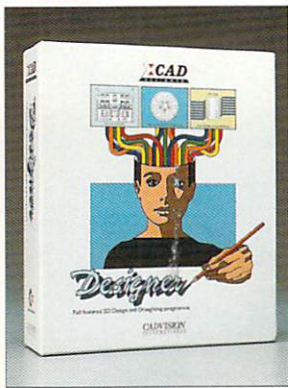
Circle 86 on Reader Service card.



SWEEPSTAKES RULES How to Enter:

1. NO PURCHASE NECESSARY. Fill out and mail official entry found in package or you can enter by hand printing your name, address and zip code on a 3" x 5" piece of paper and mailing it to CAPCOM Santa's Sleigh Giveaway, 3303 Scott Blvd., Santa Clara, CA 95054. Enter as often as you wish. Each entry must be mailed separately by JANUARY 15, 1990. No mechanical reproductions of entry will be accepted and all mail-in entries must be received at the above address by JANUARY 31, 1990. No responsibility is assumed for lost, late, misdirected, or damaged entries.
2. Prize winners will be determined by means of a random drawing to be conducted by an independent judging organization whose decision shall be final. All prizes listed will be awarded, but there can be only one prize winner per household, group or organization. Odds of winning depend on the number of entries received. Approximate grand prize retail value is as follows: Suzuki Katana \$4,495.00. Winners will be notified by mail by FEBRUARY 15, 1990 and may be required to execute affidavits and advertising release. Taxes on prize winnings are solely the responsibility of the winners.
3. Sweepstakes is open to U.S. residents except employees of CAPCOM U.S.A. and their immediate families, its subsidiaries and affiliates, its advertising and promotional agencies, and the judging firm. Prizes won by minors may be awarded to parent or legal guardian. Void where prohibited or restricted by law. All Federal, State and Local regulations apply. For a list of major prize winners send a stamped, self-addressed envelope to CAPCOM Santa's Sleigh Giveaway Winners List, 3303 Scott Blvd., Santa Clara, CA 95054 by MARCH 31, 1990.

CAPCOM
USA



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Pro Video Fonts	Shereff Systems	\$ 49.95		11 fonts in 3 sizes.
Pro-Board	Prolific	\$475.00	1MB	Professional PCB CAD program.
Pro-Board Jr.	Prolific	\$149.00	1MB	PCB layout CAD program.
Pro-Drill	Prolific	\$ 99.00		Drill information for PCB layout.
Pro-Net	Prolific	\$495.00		Professional schematic capture CAD program.
Pro-Net Jr.	Prolific	\$149.00	1MB	Schematic capture CAD program.
Professional Draw	Gold Disk	\$199.95	1MB	High-powered graphic arts tool.
Professional Font	Classic Concept	\$ 74.95	1MB	Six disks Mono/Color fonts.
ProFonts I	New Horizons	\$ 29.95		Fonts package.
ProFonts II	New Horizons	\$ 29.95		Fonts package.
Programmer's ToolKit	Interactive Micro	\$149.00		Control infrared devices.
Pyre Script Font Set	C Ltd.	\$ 49.95		Pyre Script font in various sizes.
Quick-Art Borders	Classic Concept	\$ 44.95		Over 100 brush illustrations.
Sampler	The Dragon Group	\$ 34.95		Assorted IFF clip art: Amiga Coloring Book.
Sculpt 3DXL	Byte by Byte	\$ 99.95		Creates ray-traced graphics.
Sculpt-Animate 4D Jr	Byte by Byte	\$150.00		Consumer version of Sculpt-Animate 3D.
Seasons & Holidays	Electronic Arts	\$ 29.95		DeluxePaint data.
Secrets of an Artist	Seven Seas	\$ 24.95		Assistance and examples of programming.
Simple Script Font S	C Ltd.	\$ 49.95		Simple Script in normal bold.
SlideShow1	MegageM	\$ 10.00		HAMandel Mandelbrot Juliet Set images.
SlideShow2	MegageM	\$ 10.00		More HAMandel images.
Spheres1	MegageM	\$ 10.00		Slideshow of HAMandel images "wrapped."
Sports Award Library	Baudville	\$ 29.95		For use with Award Maker Plus.
Spritz	PAR Software	\$ 79.95		Low-end paint program.
Starships 2050	Polar Arts	\$ 39.95		Library of 3-D models includes digitized NASA.
Storybook Capitals	Classic Concept	\$ 24.95		Three disks of large brush fonts.
Subheads	Kara Computer	\$ 69.95	1MB	Hi-res uppercase 8-color fonts as headlines.
SuperFont Sampler 2.	Classic Concept	\$ 34.95		Two-disk set of small/medium fonts.
Talking Animator	JMH Software	\$ 49.95		Cel animator with overscan.
Terrain	Impulse	\$ 49.95		Fractal topography generator.
Titler	Charles Voner	\$ 24.95		Art borders and backdrops for use with titling.
Transport Controller	MicroIllusions	\$299.95		Photon Video: drives single-frame.
Turbo Silver	Impulse	\$199.00		Ray-trace animation.
T.S. Module Pack	Syndesis	\$ 29.95		Add-on modules.
TV Graphics	Slide City	\$ 49.95		Video Graphics clip-art disk.
UltraCAD	Progressive	\$299.95	1MB	Full-scale high-end CAD.
Unity Roman Font Set	C Ltd.	\$ 49.95		Unity Roman in sizes of upright italic.
VedGen	Microft Software	\$149.95		Produces embossed background graphics.
Video & Headline Fonts	Classic Concept	\$ 44.95	1MB	Three-disk set of large mono/color fonts.
Video Effects 3D	InnoVision	\$199.95	1MB	3-D effects and animation.
Video Titler	Spartan	\$149.00		Video character and effects generator.
Video Visions: Animation	Charles Voner	\$ 59.95		3-volume package: VV2, VV3, VV6.
Video Visions: Program	Charles Voner	\$ 34.95	1MB	Animations edit and display program.
Video Visions: Titler	Charles Voner	\$ 79.95		Package of 4 volumes: VV1, VV4, VV5, VV7.
Video Wizard	Intracorp	\$ 29.95		Identifies blank spaces on video tapes.
Videoscape 3D	Aegis	\$199.95	1MB	3D video animation.
VIVA	MichTron	\$199.95		Visual Interactive Video Authoring.
VV2: 3-D Animator	Charles Voner	\$ 24.95		3-D objects for animation.
VV3: 2-D Animator	Charles Voner	\$ 24.95		Images for 2-D page flipping program.
VV5: Broadcaster	Charles Voner	\$ 24.95		Images and parts for business-broadcast.
VV6: The Educator	Charles Voner	\$ 24.95		History/geography, images and maps.
VV6: Videographer	Charles Voner	\$ 24.95		Images for wedding-occasions subjects.
VV7: The Advertiser	Charles Voner	\$ 24.95		Products/symbols images disk, clip art.
VV8: Videomaker	Charles Voner	\$ 16.95	1.5MB	DPaint III compatible animated hi-res screens.
Weave-It	Joyce I. Peck	\$ 74.95		Create weaving patterns.
Weave-It Plus	Joyce I Peck	\$ 89.95		Weave-It with added utilities.
WindowPrint II	T & L Products	\$ 34.95		Screen capture and dump save and print.
World	The Dragon Group	\$ 34.95		Maps from around the globe.

BAD TO THE BONE

These are the streets. And there are no rules when you do battle here.

STREETFIGHTER is strictly survival of the fittest against 8 of the baddest dudes from around the world. Watch out for flying scissor kicks, lethal Ninja weapons, and other evil tricks. Block their attacks while you counter with jabs and roundhouse kicks. Don't drop your guard cause these guys aren't just b-b-b-bad. They're "Bad to the Bone."

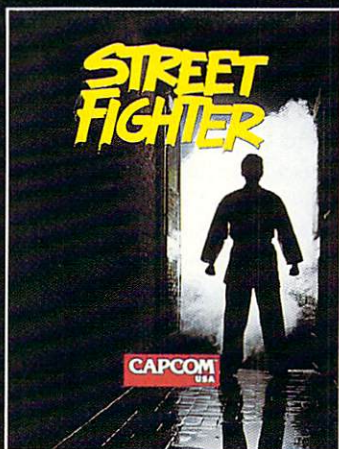
So see your favorite software retailer or call Capcom U.S.A. 408-727-1665. You don't want to keep these guys waiting!



Try a roundhouse kick against an English street tough.

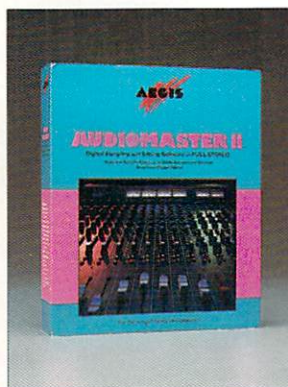


Dodge the lethal Ninja weapons of Geki.



Circle 12 on Reader Service card.

CAPCOM®
USA



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
X-CAD	Taurus-Impex	\$599.95	1MB	Professional 2-D CAD system.
X-CAD Designer	Cadvision Inter.	\$149.00	1MB	X-CAD improved upon.
X-Port	GrafX Computing	\$ 89.00		DFX to XCAD translator.
Zoetrope	Antic	\$139.95	1MB	Animation system.
Zuma Fonts Vol 1-3	Zuma Group	\$ 34.95		A different set of fonts in each volume.

MUSIC/SOUND

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Animation	WaveTable Tech.	\$ 18.50		Non-looping sounds.
AudioMaster II	Aegis	\$ 99.95		Digitized sample editor.
Bach Songbook	Dr. T's	\$ 29.00		Bach fugues and inventions.
Bars & Pipes	Blue Ribbon Bakery	\$250.00		Musical composition system.
Big Dollar Synth	WaveTable Tech.	\$ 18.50		Samples from studio-quality synthesizer.
C-Zar	Diemer Development	\$195.00		Casio CZ-1 101/1000 editor/librarian.
Caged Artist	Dr. T's	\$149.00		Patch editor/librarian series.
Christmas Classics	Free Spirit	\$ 14.95		Holiday music with scenes.
Composer Disks	WaveTable Tech.	\$ 18.50		30 samples/volume for Sonix.
Copyist Professional	Dr. T's	\$275.00	1MB	Music scoring and transcription software.
CZ	Sound Quest	\$145.00		Editor librarian.
CZ Master	Sound Quest	\$125.00		Editor/librarian, supports Casio CZ series.
CZ-Pat	CRB Productions	\$ 35.00		Editor/librarian for the Casio 101/1000.
D-10/20/110	Sound Quest	\$145.00		Editor librarian.
D50/TX802	Sound Quest	\$150.00		Edit D50 data.
D50 Voices	Dr. T's	\$ 49.00		300+ sounds for the D50 editor.
Deluxe Music	R. Shannon Dynamics	\$ 29.95		Tutorial and tools.
Deluxe Music Const. Set	Electronic Arts	\$ 99.95		Music editor and score printer.
DNA Music	Silver Software	\$ 19.95		Music based upon DNA molecule.
Dr. Drums	Dr. T's	\$ 29.00		MIDI drum patterns in KCS format.
Dr. Keys	Dr. T's	\$ 29.00		Keyboard patterns for KCS.
Drum Studio	DigiTek	\$ 29.95		Percussive composition program.
DWEL	Synthetic Reality	\$ 79.00		DW-8000 or EX-8000 editor librarians.
DX II	Sound Quest	\$175.00		DX Master plus 13 types of DX II Sys Ex data.
DX11-TX812	Sound Quest	\$145.00		Editor/librarian.
DX Master Editor, The	Sound Quest	\$145.00		Edits DX-7 DX-9 and TX data files.
DX Voices	Dr. T's	\$ 49.00		Sounds for the DX-7 in Dr. T's format.
Dynamic Drums	New Wave	\$ 79.95		Drum machine.
Dynamic Drums II	New Wave	\$ 79.95		Incorporate drum sounds and graphics.
Dynamic Studio	New Wave	\$199.95	1MB	Sequencer drum machine and event editor.
Editor Librarian	Dr. T's	\$149.00		Supports Roland D-10/110 synthesizers.
Editor Librarian Series	Music Soft	\$199.95		For use with MT32 synthesizer.
Editor/Librarian	Dr. T's	\$149.00		For use with Ensoniq ESQ-1 sequencer.
Editor/Librarian	Dr. T's	\$149.00		For use with Roland D-50 sequencer.
Editor/Librarian	Dr. T's	\$149.00		For use with Roland MT-52 sequencer.
Editor/Librarian	Dr. T's	\$149.00		For use with Yamaha DX7 sequencer.
Editor/Librarian	Dr. T's	\$149.00		Yamaha TX-81Z, FB01, DX100, DX27.
Editor/Librarian	MIDITalk	\$ 79.00		Editor/librarian for the Yamaha TX81Z.
Express Patch FB-01	Digitools	\$ 44.95		Voice editor for Yamaha FB-01.
EZ-CZ	New Wave	\$ 69.95		Patch editor for Casio CZ-series.
FB01	Sound Quest	\$125.00		Editor/librarian.
FB-01 DataFiler	Triangle Audio	\$ 60.00		Allows access to Yamaha FB-01.
Fractal Music	Silver Software	\$ 19.95		Music and graphics based upon fractals.
Grab Bag	E.C.T. Sampleware	\$ 18.00		Miscellaneous samples.
Guitar Chord Tutor	Synthetic Reality	\$ 39.00		Graphical interface, teaches guitar.
HMSL	Frog Peak Music	\$150.00	1MB	Programming language for music.

FROM THE CREATORS OF SUPERGENTM, THE INDUSTRY STANDARD AMIGA GENLOCK & OVERLAY DEVICE

SuperGen2000TM

THE FIRST TRUE Y/C GENLOCK & OVERLAY CARD FOR THE AMIGA 2000 SERIES COMPUTERS

- ▲ S-VHS, ED-BETA, Hi8 compatible
 - ▲ broadcast quality NTSC RS-170A output
 - ▲ built in SC/H phase adjustability
 - ▲ built in sync generator ▲ dissolves
- \$1595



DIGITAL

C R E A T I O N S

Digital Creations 2865 Sunrise Boulevard Suite 103, Rancho Cordova CA 95742 Telephone 916/344-4825 FAX 916/635-0475

Coming Attractions in 89:

**Living ColorTM System: Frame Buffer, Digitizer, Time Base Corrector, Digital Video Effects (DVE);
V MachineTM desk top video workstation**

Circle reader response card, see your dealer, or call for more information © 1989 Digital Creations. Amiga is a registered trademark of Commodore Business Machines.

Circle 28 on Reader Service card.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Hot & Cool Jazz	Electronic Arts	\$ 29.95		Music data disk.
Hyperchord	Hologramophone	\$129.00		Music Exploration Kit: music environment.
Instant Music	Electronic Arts	\$ 49.95		Play music with mouse.
It's Only Rock 'N Roll	Electronic Arts	\$ 29.95		Instant Music songs.
K1 Quest	Sound Quest	\$145.00		Editor/librarian.
KCS V1.7	Dr. T's	\$249.00	1MB	Keyboard Controlled Sequencer.
Level II	Dr. T's	\$349.00	1MB	Advanced and enhanced version of KCS.
Lucy Scale	Lucy Scale Dev.	\$ 48.00		Music understanding package.
M1	Sound Quest	\$175.00		Editor/librarian.
M for the Amiga	Intelligent Music	\$199.00	1MB	Interactive composition and performance.
Master Librarian, The	Sound Quest	\$125.00		Edit Sys Ex data from MIDI equipment.
Matrix 6/1000	Sound Quest	\$145.00		Editor/librarian.
Mellotron	WaveTable Tech.	\$ 18.50		Original Mellotron voices.
MIDI Delay	Triangle Audio	\$ 50.00		Delays MIDI data with real-time control.
MIDI Magic	Circum Design	\$149.95		MIDI sequencer.
MIDI Recording Studio	Dr. T's	\$ 69.00	1MB	8-track version of KCS.
MIDI Sample Wrench	dissidents	\$279.00		Works with 16-bit CD-quality sounds.
MIDI-Mice	Tensor Productions	\$ 85.00		Control programs from MIDI instruments.
MidiVU	Diemer Development	\$ 39.95		MIDI monitor, one-track recorder.
MT-32 Quest	Sound Quest	\$145.00		Editor/librarian.
Multi Quest	Sound Quest	\$175.00		Bank editor/librarian.
Music Mouse	Aesthetic Engineering	\$ 79.95		Turns your system into an instrument.
Music Studio	Activision	\$ 79.95		Music editor: supports MIDI devices.
Music-X	MicroIllusions	\$299.95		Manipulate scores; control MIDI devices.
OPUS-1 MCL	Ariadne	\$ 99.95		Music composition language.
Orchestral Disk	E.C.T. Sampleware	\$ 18.00		Orchestral IFF and Mimetics samples.
Pattern Splatter	Mimetics	\$ 49.95		Arpeggiation and composition module.
Peggy	Triangle Audio	\$ 50.00		MIDI arpeggiator.
Performance	Pregnant Badger	\$179.95		Database for performing musicians.
Pixound	Hologramophone	\$ 49.00		Musical screen interpreter.
ProSound Designer	Precision	\$159.95		Sound sampler.
Protein Music	Silver Software	\$ 19.95		Music based upon 20 amino acids.
QRS Music Rolls	Micro W	\$ 19.95		Demo disk of sample songs.
Quasar Sound	Centaur	\$ 59.95		stereo sampling/sound editing.
Quest Sequencer	Sound Quest	\$150.00		Texture version.
Real Brass	WaveTable Tech.	\$ 18.50		Brass instruments digitally recorded.
Rock Disk	E.C.T. Sampleware	\$ 18.00		Rock samples.
SAM series	A.M.S.	\$239.00		Data acquisition system.
Sonix	Aegis	\$ 79.95		Synthesizer and note editor.
Sonix Data Disks	True Light Software	\$ 34.95		Collection of digitized sounds.
Sonix SoundTrax I & II	Aegis	\$ 19.95		Interactive songs for use with Sonix.
Sound Lab Amiga	Blank Software	\$295.00		Edit sampled sound from Ensoniq Mirage.
Sound Oasis	New Wave	\$ 99.95		Reads Mirage sample disks.
SoundScape Pro	Mimetics	\$179.00	1MB	MIDI Studio 1.4: sequencer.
SoundScape System	Mimetics	\$375.00	1MB	Utilities I, sampler, MIDI interface.
Soundshop	Revolution Software	\$ 49.95		Create and edit waveforms.
Soundshop 2.0	West Chester Software	TBA		Sound sample and SMUS music editor.
SpeakerSim	dissidents	\$112.00		CAD package for designing loudspeakers.
SQ-80/ESQ	Sound Quest	\$145.00		Editor/librarian.
SQ-80 Quest	Sound Quest	\$150.00		Ed./lib. for Ensoniq SQ-80/ESQ-1/ESQ-M.
Symphony Library	Speech Systems	\$ 39.95		Eight disks \$39.95 ea., 100+ SMUS songs.
Symphony Songs	Speech Systems	\$ 24.95		Sampled music in IFF format.
Synthia	The Other Guys	\$ 99.00		High-performance digital synthesizer.
Synthia Pro.	The Other Guys	\$395.00		Professional 16-bit synthesizer.
Texture	Magnetic Music	\$299.00		MIDI sequencer.
Tiger	Dr. T's	\$149.00		Interactive graphic editor.
TX81Z Quest	Sound Quest	\$125.00		For Yamaha TX81Z, DX100, DX21.
Utilities I	Mimetics	\$ 49.95		Utilities module for SoundScape.

"Pen Pal is clearly the first of the next generation of graphic wordprocessors...Save your money folks (and it won't take as much as you might think), **Pen Pal** is going to be required software for your Amiga."

Tom Malcom; INFO Magazine

"Only had Pen Pal 3 hours and it's super!"

"Best I've ever seen for any machine."

"Meets all my needs in one package."

"More fun than most games."

"Switched from Excellence!"

"The one we've been waiting for."

"Wheee!"

Direct quotes from Pen Pal
registration cards

Just another word processor?

THINK AGAIN. Pen Pal is unlike any other. The printing and graphics are extraordinary. The value, exceptional.

Just look at these samples from various printers. The text and graphics are blended beautifully — words wrapped around pictures — pictures printed in original colors and resolutions — lines, boxes, shadows and borders added for emphasis — graphics mixed with letter quality fonts.



Requires Amiga 500, 1000, 2000 or 2500 with 1 Meg RAM and 1 disk drive.

WANT MORE FOR YOUR MONEY? Pen Pal manages all kinds of lists with names, addresses, dates and amounts. Printing reports, form letters or mailing labels couldn't be easier. Different size forms for invoices and phone messages can be designed and filled in, field by field.

The reviews and registration cards sum it up. Word processing, simple page-layout, database management, and forms fill-in have been combined into one easy-to-use, yet powerful program.

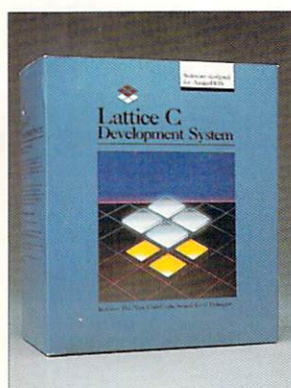
This is a steal. Grab it fast.

Pen Pal - Only \$149.⁹⁵

Developed by Softwood Company

*Brown
Wagh*

**(408) 395-3838 (in CA)
(800) 451-0900**



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Utilities II	Mimetics	\$ 49.95		More utilities: module for SoundScape.
VIDI-Mice	Tensor Productions	\$ 85.00		Transform video into mouse events.
WAVE	MIDImouse Music	TBA	1MB	Professional sample generation system.
X-or	Dr. T's	\$299.00		Universal system-exclusive editor/librarian.
Xpress Patch 1.1	Digitools	\$ 44.95		Interface to Yamaha synthesizers.
ZOUNDS! Sounds	AlohaFonts	\$ 19.95		Digitized sounds.

PERSONAL/HOME

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Ami-X-10	Digital Dynamics	\$ 59.50		Control electrical switches.
Bible On Disk	Don Keiffer	\$ 59.95		Complete bible on disk.
BowlMaster	Software Ingenuity	\$ 34.95		Personalized bowling score keeper.
Cal CalenderMaker	Gramma Software	\$ 49.95		Nag module or stand-alone.
Common LISP Interpreter	McCauley	\$ 99.95		Includes 335-micro special forms.
Desktop Budget	Gold Disk	\$ 69.95		Icon-based personal finance program.
Desserts Cookbook	Meggido Enterprises	\$ 14.95		Over 150 nutritionally-analyzed recipes.
FreD	Gramma Software	\$ 49.95		Index and automatic telephone dialer.
GENP	GENP	\$150.00		Genealogy database.
Home I	Software Visions	\$ 39.00		Templates for Microfiche Filer.
Home Inventory Manager	SunSmile Software	\$ 29.95		Personal inventory.
Home Management	ArborSoft	\$ 99.00		Home financial management.
Investment	HiResolution	\$ 49.95	1.5MB	Stock investment; track interests.
Investor's Advantage 2.0	Software Advantage	\$ 99.95		Analysis tool for stock selection, etc.
Lotto Program	Soft-Byte	TBA		Analyzes past winners, plots probability.
MicroLawyer	Progressive	\$ 59.95		Standard legal templates and forms.
Momentum Check	Micro Momentum	\$ 29.95		Check book management program.
Momentum Mail	Micro Momentum	\$ 29.95		Mailing list management program.
NAG Plus	Gramma Software	\$ 79.95		Schedule assistant that verbally reminds.
Nutri-FAX	Meggido Enterprises	\$ 59.95		Analyzes recipes for common nutrients.
Phasar	Antic	\$ 89.95		Finance package.
PowerMaster	Complications	\$ 22.00		Interface A2000 fixtures, appliances.
Recipe-FAX	Meggido Enterprises	\$ 39.95		Adjust recipe yields.
Securities Analyst	Free Spirit	\$ 79.95		Stock charting and analysis program.
Take-Stock	East-West Software	\$ 49.95		Portfolio management system.
Tax Break	Oxxi Inc.	\$ 79.95		Personal tax preparation.
The Advantage	Gold Disk	\$ 79.95		Integrated spreadsheet, database, graphics
Total Control Diet	Lee Software	\$ 99.00		Nutritional analysis.
Variety Cookbook	Meggido Enterprises	\$ 14.95		Recipes for entrees and more.
Video Cataloger	SunSmile Software	\$ 29.95		Keeps track of your video collection.

PROGRAMMING

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
3-D Graphics Toolkit	True BASIC	\$ 69.95		Graphic design routines.
A/C Basic	Absoft	\$195.00		BASIC compiler.
A/C Fortran	Absoft	\$295.00		Fortran 77 compiler.
Advanced String Library	True BASIC	\$ 69.95		String handling routines.
Adventure Workshop	SunRize Industries	TBA		Game development language.
AiRT Programming Lang.	PDJ Software	\$ 64.95		Icon-based programming language.
Amiga FFT C Package	ACDA	\$152.00		Fast Fournier Transform routines.
AmigaDOS C Dev. System	Lattice	\$300.00		C compiler and utilities.
AmigaView	ACDA	\$ 79.95		Intuition and graphics object libraries.
APL 68000	Spencer Organization	\$149.00		APL for the Amiga.

SIDESHOW™

8 GREAT ACTION GAMES IN ONE.
AND
EXCLUSIVE INTERACTOR™ DIGITIZING FEATURE

Step Right This Way

Step right up . . . step right up . . . to the world's most amazing SideShow. Purchase a child or adult ticket and spend the day at lots of great action arcade events. All guarantee laughs, fun, and excitement.

Test your aim at Balloon Alley, your reflexes at the Dunk Tank, and then your accuracy at throwing Knives. Try hitting the bell at the top of the high-striker pole to test your strength, and then try getting out alive from Haunted Hill, and there's more. So step right up, step right up, grab your popcorn and spend the day at the SideShow.

- 8 Super Arcade games in One.
- Fast Action Smooth Animation.
- Exclusive Interactor™ lets you digitize or paint anyone to put them in the dunk tank. (Imports IFF file).
- 60 Digitized sound effects.
- Mouse or Phaser Gun (Optional).*
- 3 Disk set. (Not copy protected. Make backup or transfer to hard disk).

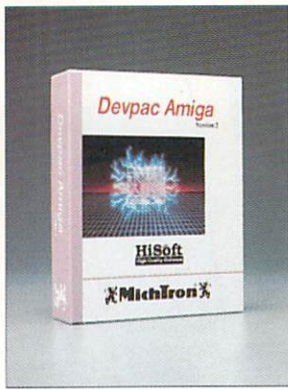
ALSO

Includes child and adult ticket and Real Caramel Popcorn (sorry, cotton candy wouldn't fit).

Interactor™ lets
you put yourself in
the game

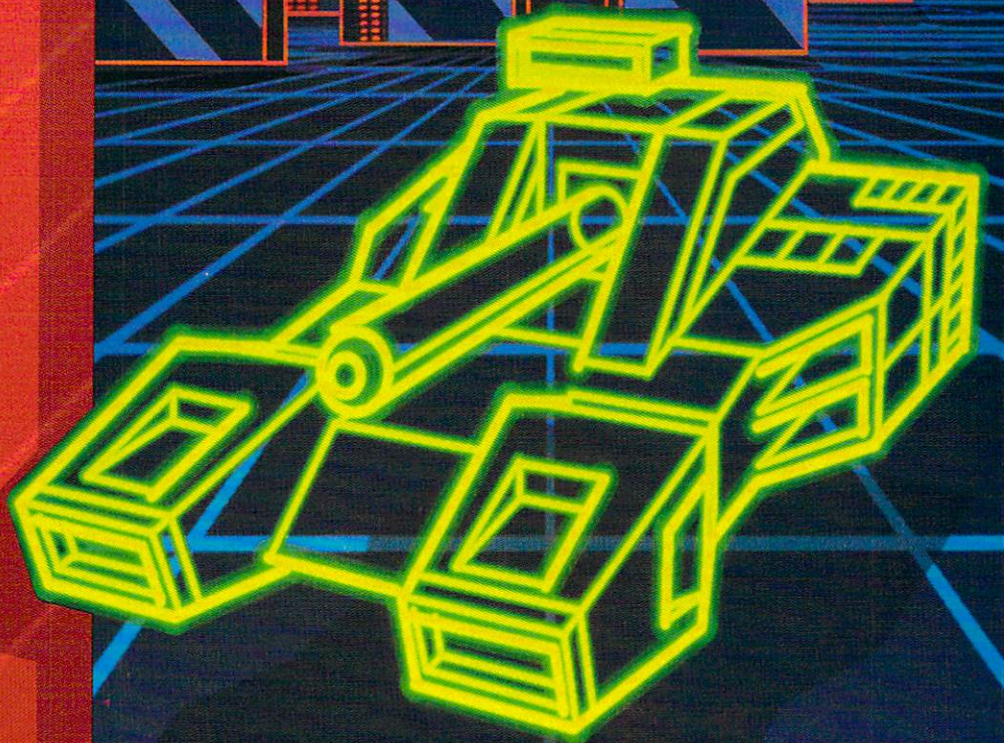
ACTIONWARE™
ACTIONWARE, INC.
38 W 255 Deerpath Road
Batavia, Illinois USA 60510
(708) 879-8998 FAX (708) 879-6880

*Commodore AMIGA version only. Others may vary.
Circle 7 on Reader Service card.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
ARexx	William S. Hawes	\$ 49.95		Implementation of ARexx.
AssemPro	Abacus	\$ 99.95		Language development system.
Aztec C68k/Am-d	Manx Software	\$299.00		C development system.
Benchmark Modula-2	Avante-Garde	\$199.95		Modula-2 development system.
C Toolkit	Software Ingenuity	\$ 39.95		Source for 200+ functions.
C Utility Library	Essential Software	\$185.00		400+ functions, source-code librarian.
C.A.P.E.	INOVAtronic	\$ 89.95		Complete Assembler Programming Environ.
CADS	Future Computer	\$149.95	1MB	Simplifies construction of C statements.
Cambridge LISP	Metacomco	\$199.95		AI language.
CanDo	INOVAtronic	\$149.95	1MB	Audio/visual authoring system.
CB Tree 3.01	Peacock Systems	\$195.00		Record indexing system.
Communications Library	Essential Software	\$185.00		Functions for X-modem timer and keyboard.
Communications Library	Lattice	\$250.00		Set of C functions.
Compiler Companion	Lattice	\$100.00		Ten utilities for programming.
Conversation	Jenday Software	\$ 34.50		Amiga Basic demos and source code.
Cross Compiler	Lattice	\$750.00		Includes C compiler and debugger.
dBC III Library	Lattice	\$150.00		Program stand-alone dBase applications.
Developer System	Manx Software	\$399.00		Includes SDB Aztec Shell C Compiler.
Developer System	Manx Software	\$724.00		With SDB and Library Source.
Developer's Toolkit	True BASIC	\$ 69.95		Amiga-specific True BASIC libraries.
Devpac AMIGA	MichTron	\$ 99.95		Assembly language.
DSM 1.0D	OTG Software	\$ 67.50	1MB	MC68000 disassembler.
Essential Graphics	Essential Software	\$250.00		Graphics routines.
Extend	SunSmile Software	\$ 39.95		Amiga Basic command extension.
F-BASIC 2.0	Delphi Noetic	\$ 89.95		An enhanced, compiled BASIC language.
FASM68 6809	RockLogic	\$ 49.95		Cross assembler.
File Tools	Sistemas Delta	\$ 29.95		True BASIC libraries includes source code.
Fortran 020	Absoft	\$495.00		Fortran 77 for the 68020.
GFA-BASIC 3.0	Antic	\$139.95		Programming language.
HiSoft BASIC Pro	MichTron	\$159.95		BASIC language and compiler.
InovaTools	INOVAtronic	\$ 79.95		Routines in C.
InovaTools 2	INOVAtronic	\$ 79.95		Assembler routines for the novice.
ISO Pascal	Metacomco	\$ 99.95		Pascal compiler.
J-Forth Professional	Delta Research	\$179.95	1MB	Target compiler; commercial development.
Key to C V. 2.02	Data Research	\$ 34.95		Linkable C extensions.
Lattice C++ Compiler	Lattice	\$300.00	1.5MB	Superset of the C language.
LDebug.V.1	LogiComp Software	\$ 49.95		For Lattice C, Benchmark Modula-2.
Library Plus	Essential Software	\$250.00		Communications Library w/on-line data.
Library Source	Manx Software	\$300.00		Source for libraries (Aztec Run Time).
Lint for the Amiga	Gimpel Software	\$ 98.00		Binary license for C single CPU.
M2Amiga	Interface Tech.	\$249.00		Modula-2 compiler.
M2Sprint	M2S	\$385.00		Modula-2 compiler.
Macro Assembler	Metacomco	\$ 99.95		Amiga 68000 macro assembler.
Metascope The Debugger	Metadigm	\$ 95.00		Examine and change executable code.
MIN	Pecan Software	\$199.95		Miniac Program Generator.
Modula-2 Toolbox	Pecan Software	\$299.95		Modula-2 tools library sources toolkit.
Multi-Forth	Creative Solutions	\$ 99.00		Forth compiler.
Out of the Blue	Paragon Software	TBA		Program development system.
PaAel	Lattice	\$195.00		Create custom screens.
Power System	Pecan Software	\$249.95		Development package.
PowerWindows	INOVAtronic	\$ 89.95		Interactive software; source code.
PQ4	Pecan Software	\$ 79.95		PDQ PASCAL for the Amiga.
Pro-ASM	Prolific	\$ 85.00		Macro cross-assembler for the Z80 family.
PROFASM65	RockLogic	\$ 39.95		6502 cross assembler.
QEDit	Subliminal Software	\$ 30.00		Programming editor.
Quelo Cross Assembler	Avocet Systems	\$750.00		Transfer code: supports 68000-010.
Quelo Cross Assembler	Avocet Systems	\$5500.00		Full Source code: 14 disk set.
Quelo Cross Assembler	Avocet Systems	\$3500.00		Source Code (minimal).

OMEGA™



Neural Cybertank Design and Simulation

Cybertank engineers control the destiny of the Organization for Strategic Intelligence. They're the heart of the OMEGA Project, a classified military contract that's shaping combat's future. Employing tomorrow's technology, OSI cybertank engineers design the chassis and artificial intelligence (AI) for the next generation of neural armored warriors—and they gauge their success on a simulated field of battle. Join these elite ranks, and pit your designs against the world's best.



IBM COMPATIBLE VERSION



IBM/COMPATIBLE VERSION

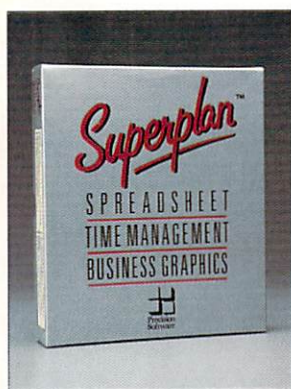


APPLE VERSION

ORIGIN™
We create worlds.™

Available for: IBM/Tandy compatibles, C-64/128, Apple II series, Atari ST and Amiga, coming soon for: Macintosh and Apple IIs; actual screens may vary.

Can't find OMEGA at your local retailer? Call 1-800-999-4939 (8am to 5pm EST) for Visa/MC orders; or mail check or money order (U.S.\$) to ORIGIN. All versions \$49.95, shipping is FREE via UPS. Allow 1-2 weeks for delivery. ORIGIN, P.O. Box 161750, Austin, Texas 78716.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
RDB	Pecan Software	\$ 59.95		Swan's Relational Database.
ReSource	Puzzle Factory	\$ 75.00		Interactive disassembler.
Run-time Module	Precision	TBA		Developer's run-time modules.
SDB	Manx Software	\$125.00		Aztec source-level debugger.
SFT	Pecan Software	\$ 49.95		SoftTeach Tutorial.
SmartFields	Software Ingenuity	\$ 39.95		Replacement for Intuition string gadgets.
Sorting & Searching	True BASIC	\$ 69.95		Optimized routines.
Source Builder	Software Integration	\$ 99.95		Automates source code development.
Source Level Debugger	Delphi Noetic	\$ 60.00		DeBugs F-BASIC programs at source level.
Source Level Debugger	Avante-Garde	\$149.95		For use with Benchmark Modula-2.
ToolBox	Mirage Studio	TBA		Configurable integrated environment.
ToolBox 1	Pecan Software	\$449.95		Debugger, applications services, etc.
ToolBox 2	Pecan Software	\$549.95		Performance Monitoring Toolkit, etc.
ToolCaddy	ToolCaddy Works	\$ 29.95		Assembly language programming support.
ToolCaddy Docs	ToolCaddy Works	\$ 19.95		On-line help: Amiga function calls.
ToolCaddy Docs	ToolCaddy Works	\$ 19.95		On-line help: MC68XXX instructions.
ToolCaddy Docs	ToolCaddy Works	\$ 19.95		On-line help: include files.
Toolkit	Metacomco	\$ 49.95		Disassembler, MAKE, AUX, CLI.
Tshell	Metran Technology	\$ 49.95		Development shell and language.
UBZ Forth	UBZ Software	\$ 85.00		FORTH-83 compatible.
UltraCard	Intuitive Tech.	\$ 50.00		Application construction kit.
UNH Prolog	Univ. of NH	\$ 75.00	1MB	Standard Prolog interpreter.
User Interface Library	Sistemas Delta	\$ 29.95		True BASIC libraries includes source code.
Waveform Easel	Silver Software	\$ 19.95		Draw waveform tables with a mouse.
WShell	William S. Hawes	\$ 49.95		Command shell supports ARExx.

SPREADSHEETS

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Analyze!	Micro-Systems	\$ 99.95		5 spreadsheets, graphs, dictionary, more.
Haicalc	Haitex	\$ 59.95		Spreadsheet.
Logistix	Progressive	\$149.95		Spreadsheet and project planner.
MaxiPlan 3.0	Intuitive Tech.	\$249.95	1MB	With graphics capabilities and database.
Q-2-Q	Banana Software	\$ 49.95		Idea spreadsheet.
Superplan	Precision	\$149.95		Time management and presentation graphic.
Templicity	Sterling Connection	\$ 29.95		60 ready-made templates for spreadsheets.
Unicalc 1.1	Lattice	\$ 49.95		Intuition based, 256 columns x 8192 rows.
VIP Professional	ISD Marketing	\$ 99.95		Lotus 1-2-3 Version 1A clone.

TELECOMMUNICATIONS

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
AmigaTerm	Commodore	\$ 49.95		Simple telecommunications.
A-Talk III	Oxxi Inc.	\$ 99.00		Includes protocols, emulations.
Baud Bandit	Progressive	\$ 49.95		On-line interface for telecommunications.
BBS-PC!	Micro-Systems	\$149.95		Bulletin board system.
Custom-BBS! 2.7	Celestial Data	\$100.00	1MB	Customizable bulletin-board system.
Dr. Term Professional	Progressive	\$ 99.95		Professional terminal program.
Middleman	Benaiah Computer	\$ 59.95		VT100 emulation supports graphics.
Middleman II	Benaiah Computers	\$149.95		Tekronix 4105 color terminal emulator.
Online! Platinum	Micro-Systems	\$ 99.95		Telecommunications program.
Plato Access Disk	Subliminal Software	\$ 30.00		Terminal emulator.

SupraDrive™

**Simply The Best
Amiga Hard Drive.**

Before you buy a hard drive, look around. Look closely. Compare speeds, but also look at Interfaces...Software...Value. We think you'll agree that SupraDrives are Simply The Best Amiga Hard Drives. Here's why ...



**SUPRADRIVE
HARD CARD
FOR AMIGA 2000**
with revolutionary new
WORDSYNC™ INTERFACE

Each SupraDrive for the A500/A2000:

- Autoboos directly from FFS partition
- Interface allows super smooth video, sound, etc., with no rude interruptions for hard drive access
- Compatible with Bridgeboard™, RAM, digitizers, other boards
- Supports MS-DOS disk partitions with Bridgeboards
- Installs easily
- Pre-formatted & ready to use
- Includes 2 floppy disks of software & clear, thorough manual
- Fine tuned assembly language driver software
- Blind data transfers improve speed 3x
- Knowledgeable tech support
- Interfaces also available separately

SUPRADRIVE FOR AMIGA 500

with **AMIGA BUS PASS-THROUGH**
for unlimited expansion •
OPTIONAL 2MB RAM



**All Supra Products
Are Made in the U.S.A.**

Breakthrough Speed.

SupraDrives give you access times as low as 11 ms. and data transfer speeds of over 500K/sec. (Amiga® 2000) or 326K/sec. (Amiga 500). Features like full support of Workbench™ 1.3, the Fast File System (FFS), and multitasking make these drives **FLY**.

State-of-the-Art Interfaces.

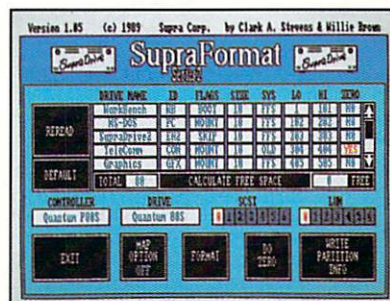
Supra's interfaces (included with every SupraDrive) give you innovative features no one else can match. The revolutionary WordSync™ Interface transfers 16 bits at once, which gives A2000 SupraDrives DMA speed without DMA hassle. The A500 interface passes the Amiga bus signal through to your other peripherals; without Amiga bus pass-through, your system is severely limited. And all Supra interfaces feature SCSI ports for easy daisy-chaining.

The Best Software.

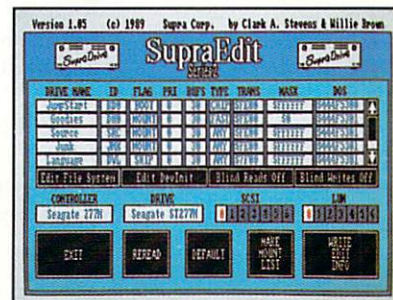
After installing the drive, you'll be glad you have Supra's full array of powerful, easy-to-use software. SupraFormat makes formatting a breeze and lets you use up to 30 partitions and various file systems — FFS, MS-DOS®, Unix, Macintosh™, and more! SupraEdit lets you access low-level Amiga system information, and other included programs make using a hard disk fun and easy.

Irresistible Value.

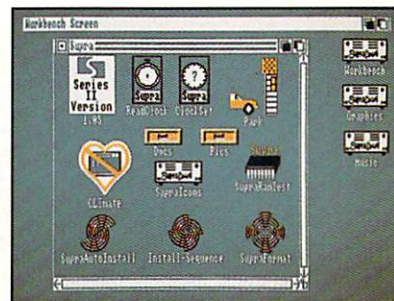
All this is available at a price you'll love. Look into it! Only Supra Corporation — an experienced company with a proven commitment to the Amiga and its potential — gives you such an attractive alternative: The SupraDrive. It's Simply The Best Amiga Hard Drive.



SupraFormat™



SupraEdit™



Included Software

Ask your dealer for details, or call:

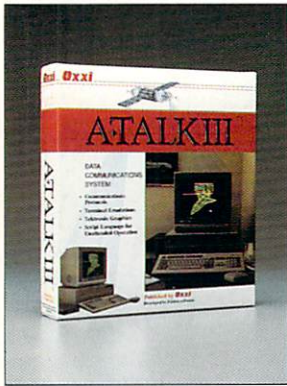


1133 Commercial Way Albany, OR 97321 503-967-9075

ORDERS: 1-800-727-8772

Circle 208 on Reader Service card.

SupraDrive, WordSync, SupraFormat, and SupraEdit are trademarks of Supra Corp. Amiga is a registered trademark and Workbench is a trademark of Commodore-Amiga, Inc. MS-DOS is a registered trademark of Microsoft Corp. Macintosh is a trademark of Apple Computer.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
TeleTutor	Micro Momentum	\$ 29.95		Interactive telecommunications tutorial.
VTXON-Line	MichTron	\$ 79.95		Telecommunications product with Protex.
X11	GfxBase	\$395.00		X11 runtime package.

UTILITIES

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
64 Emulator	Ready Soft	\$ 39.95		Emulates C-64.
A-Max	Ready Soft	\$199.95		Macintosh emulator.
AMI	Free Spirit	\$ 49.95		Drive evaluation and head alignment.
Amiga PostCode	FBN Software	\$ 49.00		Pop-up index to Australian postal codes.
Amiga SmartKey	FBN Software	\$ 59.95		Keyboard macro program.
AmigaDOS Express	Bantam Software	\$ 29.95		Disk-based AmigaDOS manual.
AmigaDOS Toolbox	Abacus	\$ 59.95		Collection of utilities.
AutoKick 1.3	DigiSoft	\$ 29.95		Upgrade kit.
B.A.D.	Centaur	\$119.00		Disk optimizer.
BOBshop	Revolution Software	\$ 49.95		Create and edit GELs.
Calligrapher	Inter/Active Softworks	\$100.00		Colorfont design package.
CLimate	Progressive	\$ 39.95		Access AmigaDOS from Workbench.
CygnusEd Pro	ASDG	\$ 99.95		Editing utility.
DigiScope	ACDA	\$139.95		Digital oscilloscope emulation.
Dimmer!	PAR Software	\$ 19.95		Turns off your screen when not in use.
Disk Aide	Oxxi Inc.	TBA		Optimizes and recovers data.
Disk Mechanic	Lake Forest Logic	\$ 89.95		Hard disk backup, file recoverer.
DiskMaster	Progressive	\$ 49.95		File management utility.
DisKwik 2.0	Tigress	\$ 49.95		Disk editor and repair utility.
DOS LAB	Jumpdisk	\$ 25.00		Tutorial covering AmigaDOS 1.3.
DOS-2-DOS	Central Coast	\$ 55.00		Read/write MS-DOS or Atari ST files.
Doug's Color Commander	Seven Seas	\$ 29.95		Clone Doug's interface to other programs.
Dump Utility	Progressive	TBA		Interface with interactive programs.
Encore	Elipsys	\$ 69.95		Record keystrokes and mouse movement.
Enhanced Stimulus	AZ/Tech	TBA		Computer-to-mind interface.
EQPlot	Scientific Software	\$ 35.00		Equation plotter.
ES-5C Calculator	Emusoft Corp.	\$ 19.95		Programmable calculator.
ExpressCopy	Express-Way	\$ 44.95		Hard disk backup.
EZ-Backup	EZ-Soft	\$ 49.95		File backup program.
FACC II	ASDG	\$ 34.95		Disk performance enhancer.
Fat Tracks	Micro Systems	TBA		Backup utility.
FINDEX V	E. Arthur Brown	\$ 49.95		Data/text storage and retrieval system.
Flow	New Horizons	\$ 99.95		Outline processor.
Fonts 1	LaserUp!	\$ 39.95		Fonts for LaserWriter.
Fruit 2 Friend	Top Disk Software	\$ 49.95		Read/write Apple IIe ProDOS and DOS.
Golden Music	Silver Software	\$ 19.95		Music based on the golden mean.
Help for Calligrapher	RGB Video Creations	\$ 44.95		Deluxe Help's on-line interactive tutorial.
Help for DeluxePaint II	RGB Video Creations	\$ 34.95		Deluxe Help's on-line interactive tutorial.
Help for Digi-Paint	RGB Video Creations	\$ 34.95		Deluxe Help's on-line interactive tutorial.
Help for PageSetter	RGB Video Creations	\$ 34.95		Deluxe Help's on-line interactive tutorial.
Help for Photon Paint	RGB Video Creations	\$ 34.95		Deluxe Help's on-line interactive tutorial.
ICONizer	Royal Software	\$ 29.95		Create custom icons.
ImageLink	Active Ciruits	\$299.95	1MB	Multi-format imaging conversion.
Interchange	Syndesis	\$ 49.95		Share 3-D objects among programs.
Interface Toolkit	Emerald Intellegence	\$249.00	1MB	Development tool.
Jet Set	C Ltd.	\$ 39.95		Driver and utilities for HP LaserJet Plus.
Jet Set Font Sets	C Ltd.	\$ 99.95		Fonts for Jet Set.
JMH Easy Titler	JMH Software	\$ 49.95	1MB	Character generator: add your own fonts.
Laser Up! Utilities 1	S. Anthony Studios	\$ 39.95		IFF to Postscript.

THE BEST FOR YOUR AMIGA® 2000

SupraDrive™ with WORDSYNC™



- Easy-to-Install, Autobooting Hard Card with WordSync™ Interface
- WordSync Interface Kit also available separately
- Interface transfers 16 bits at once, giving DMA Speed Without DMA Problems
- Eliminates the sound, video, and serial I/O interruptions found with DMA interfaces
- 1-slot design & SCSI-out port
- Easy On/Off Autoboot Jumper
- Compatible with Amiga Bridgeboard, RAM, digitizers, and other boards
- Includes SupraBoot & SupraTools — two full disks of utility software
- Up to 30 Partitions
- All available file systems supported: FFS, MS-DOS, Unix, Macintosh, etc.
- Access to low-level parameters without maintaining MountList
- Excellent Technical Support
- Made in the U.S.A.

30MB (40 ms.)	\$649
40MB (11 ms. Quantum)	\$799
80MB (11 ms. Quantum)	\$1099
40MB SyQuest Removable	\$1199
WordSync Interface Kit	\$199 ⁹⁵

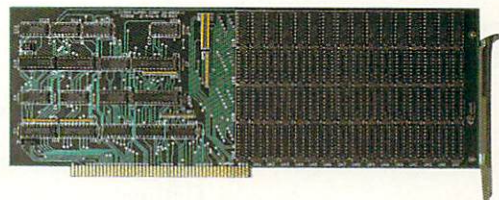
SupraModem™ 2400zi



- Half card modem fits in any Amiga bus slot
- Up to 5 modems per computer
- Works with all popular Amiga telecommunications software
- 100% compatible with the industry-standard "AT" command set
- Asynchronous 2400/1200/300 baud operation
- Compatible with Bell 103/212A and CCITT V.21/V.22/V.22bis
- Autoanswer/Autodial (tone or pulse)
- Adjustable-volume speaker
- Nonvolatile memory stores custom modem configuration and one telephone number
- Includes free subscriptions to popular on-line services
- Made in the U.S.A.

2400zi \$179.95

SupraRam™ 2000



- 2, 4, 6, & 8MB configurations available
- Installs easily into any Amiga internal expansion slot
- Easy to expand from your initial configuration — Start with 2MB & add RAM at your convenience
- 6MB configuration allows for maximum benefit with the Amiga Bridgeboard
- Lets you run larger and more sophisticated programs
- Allows creation of large and extremely fast RAM disks
- Test mode & test software make troubleshooting easy
- Made in the U.S.A.

8MB RAM Board 0MB	\$199
with 2MB Installed	\$449
with 4MB Installed	\$649
with 6MB Installed	\$849
with 8MB Installed	\$1049

AVAILABLE AT YOUR LOCAL DEALER, OR CALL:



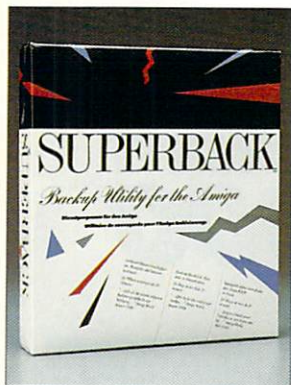
Supra Corporation

1133 Commercial Way Albany, OR 97321
Voice: 503-967-9075 Fax: 503-926-9370

SupraDrive, WordSync, SupraModem 2400zi, and SupraRAM 2000 are trademarks of Supra Corporation. Amiga is a registered trademark of Commodore-Amiga, Inc.

Circle 88 on Reader Service card.

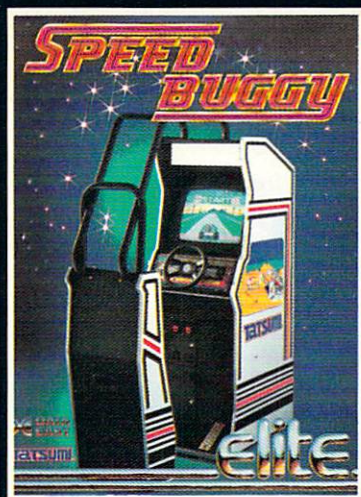
ORDERS: 1-800-727-8772



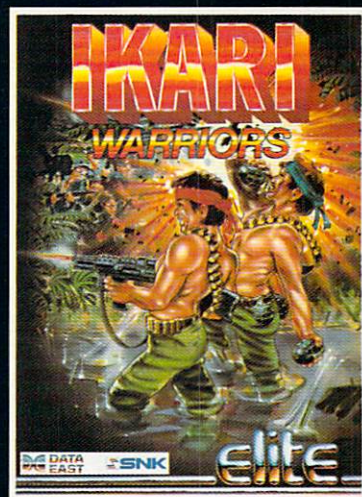
PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
LaserUp! PlotAegis	S. Anthony Studios	\$ 49.95		Draw files to PostScript.
LuCipher I	MegageM	\$ 49.95		Rotor-simulation file encryption system.
LuCypher II	MegageM	\$199.95		RSA Public Key Cipher system.
MAC-2-DOS	Central Coast	\$ 99.95		Transfers Macintosh files.
Magdex	Selectronics	\$ 10.00		Memory based index of Amiga magazines.
Magellan	Emerald Intelligence	\$195.00	1MB	AI/Expert System development tool.
MagiCode	Magic Circle	\$ 30.00		Encrypts computer data.
Mastering CLI & Shell	Graphic Expressions	\$ 39.95		Interactive DOS tutorial that covers 1.3.
Math-Amation	Taurus-Impex	\$ 79.95		Quantity processor.
Mitsubishi-Shinko	ACDA	\$130.00		Thermal color-printer driver.
Mono X11	GfxBase	TBA	1MB	Runtime utility.
Multi-Prefs	Soft-Link	\$ 29.95		Time-saving utilities.
Multi-User Software	Conceptual Comp.	\$120.00		Serve multiple terminals.
MultiBase	Conceptual Comp.	\$249.00		Access data files from several terminals.
Newsletter Fonts Vol 1	Inter/Active Softworks	\$ 30.00		120 Amiga fonts.
Outline!	PAR Software	\$ 79.95		Idea and list processor.
Palette Printer	Ontological Survey	\$ 29.95		Color match system.
PED	MicroDimensions	\$129.95		Programmer's text editor.
PixelScript	Pixelations	\$149.00		PostScript interpreter.
PlotPrint V.1	Hi-Tech Graphics	\$ 50.00	1MB	Utilize full printer resolution.
PlotPrint V.2	Hi-Tech Graphics	\$100.00	1.5MB	For 68020/68881.
Print 1.2	LaserUp!	\$ 89.95		Color separation.
Printer Drivers	Micro Programs	\$100.00		Various drivers; specify.
Printer Drivers	Tychon Technologies	\$ 39.95		Each sold separately; specify.
Project D	Fuller Computer	\$ 49.95		Multi-format disk backup utility.
Pubdex	Selectronics	\$ 10.00		Memory resident index of PD programs.
Quarterback	Central Coast	\$ 69.95		Hard disk to floppy backup.
RawCopy	Micro Systems	\$ 59.95		Backup utility.
RESEP	ASDG	\$ 59.95		Conversion utility.
Saf-T-net	Metadigm	\$ 49.95		Hard disk backup utility.
Shell	Metacomco	\$ 69.95		Unix-like AmigaDOS interface.
Snip	Digital Dynamics	\$800.00		Digital signal processing.
Software Enhancer	Commodore	\$ 29.95		DOS 1.3 upgrade kit.
Software From Hell	Conceptually Adv.	\$ 69.95		Routines and utilities for programmers.
STU	Custom Services	\$ 29.95		Diagnostic memory test utility.
Studio Fonts Vol 1	Inter/Active Softworks	\$ 35.00		Colorfonts and standard fonts.
Superback	The Disk Company	\$ 79.95		Disk-copying utility.
Supterback	Disc Company	\$ 79.95		Disk copying utility.
System Monitor	Zen Software	\$ 49.95		Monitors memory usage.
The Reaper	Conceptually Adv.	\$ 39.95		Backup utility.
TSS Net	Syndesis	\$250.00		Digital Network Architecture.
TxEd Plus	Microsmiths	\$ 79.95		ARexx-compatible text editor.
UltraDOS Utilities	Free Spirit	\$ 59.95		Hard-drive backup utility.
Virus Infection Protect.	Discovery Software	\$ 49.95		Virus vaccination for disks.
Virus Protection Toolbox	Abacus	\$ 59.95		Data security system.
VoRecOne	Impulse	\$159.95		Voice recognition package.
VTI 100 Emulator	Tychon Tech.	\$ 69.95		Emulates DEC terminal.
WordPerfect Library	WordPerfect Corp.	\$129.00		Desktop accessories and productivity tools.
X-Shell	GrafX Computing	\$199.00		Replacement user interface for X-Cad Pro.
Xerox 4020 Printer Driver	Glass Canvas Prod.	\$ 24.95		For Xerox 4020 color Ink Jet printer.

WORD PROCESSING

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
BeckerText	Abacus	\$150.00		Columns, dictionary, calculations.
Cyrillic Alphabets	Classic Concepts	\$ 34.95		Ten Russian/Cyrillic fonts.



\$39.95 RELEASE DATE
28-8-89
APPROX.



\$39.95 RELEASE DATE
14-8-89
APPROX.

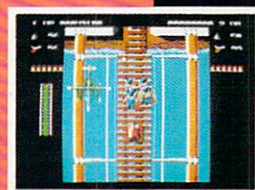
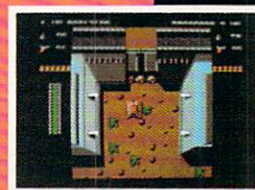


SPEED BUGGY

REALISTIC 3D RACING TRACK
CHOICE OF 5 EXCEPTIONAL COURSES
CLASSIC COIN-OP CONVERSION

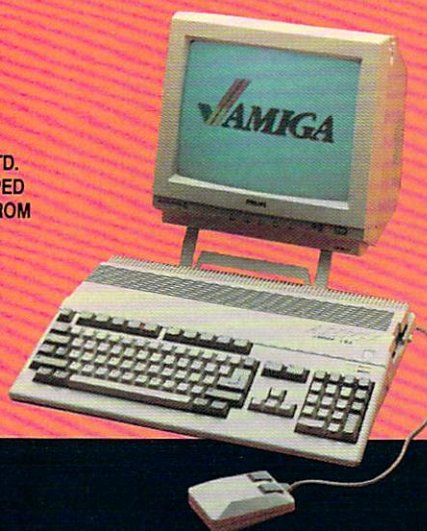
IKARI WARRIORS

EXPLOSIVE WAR ACTION
1 OR 2 PLAYER OPTION
OFFICIAL No.1 COIN-OP CONVERSION



HOW DO YOU GET THESE WORLD BEATING COIN-OPS INTO THIS WORLD BEATING HOME COMPUTER?

WE'RE NOT TELLING ... BUT WE DID IT!



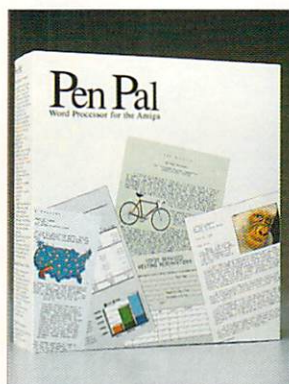
© 1989 ELITE SYSTEMS LTD.
ORIGINAL GAME DEVELOPED
BY TATSUMI. LICENSED FROM
DATA EAST, USA, INC.

LICENSED FROM
DATA EAST, USA, INC.
© 1988 ELITE SYSTEMS LTD.
© 1986 SNK CORPORATION.

**THE NEW NAME
IN THE ...**

AMIGA
GAME elite

TM
AMIGA IS A TRADEMARK
OF THE COMODORE
COMPUTER CORPORATION



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Eartype excellence!	Jumpdisk	\$ 3.00		Word processor for the seeing-impaired.
Fleet Check	Micro-Systems	\$299.95	1MB	WYSIWYG word processor.
FormAction	Professional Software	\$ 39.95		Dictionary, thesaurus, spell checking.
KindWords	Iconoclassic	\$ 69.95	1MB	Forms design package.
KindWords 2.0	The Disc Company	\$ 99.95		WYSIWYG, imports graphics.
LPD Writer	The Disc Company	\$ 99.95		Word processor.
Microtext	Digital Solutions	\$ 59.95		Mail merge, spelling checker.
Pen Pal	Ariadne	TBA		Word processor.
Promise	Softwood Company	\$149.95	1MB	Word processor with database.
ProScript	The Other Guys	\$ 49.95		Spelling checker.
ProWrite 3.0	New Horizons	\$ 49.95		Translates ProWrite files into PostScript.
Reason	New Horizons	\$124.95		Multiple fonts, colors, imports graphics.
Scribble! Platinum	The Other Guys	\$395.00		Proofreading and style analysis.
T R Writer	Micro-Systems	\$149.95		Spelling checker, thesaurus, graphics.
TEX	T R Software	\$ 39.95		Word processing and electronic typewriting.
Textcraft Plus	Micro Programs	\$200.00		Produces typeset documents.
TextPro	Commodore	\$ 99.95		Mouse driven, mail merge.
Thinker	Abacus	\$ 79.95		Word processor with graphics.
Transcript	Poor Person Software	\$ 80.00		Word processor with database.
VizaWrite	Gold Disk	\$ 69.95		WP with built-in spell-checker.
WordPerfect	Progressive	\$149.95		Imports graphics, multiple columns.
	WordPerfect Corp.	\$395.00		Spelling checker, thesaurus, macros.

Buyer's Guide Company List

A-Squared Distributions

6114 La Salle Ave.
Oakland, CA 94611
415/339-0339

A.M.S.

13552 Portsmouth Cr.
Westminster, CA 92683
714/893-0762

Abacus

5370 52nd St. SE
Grand Rapids, MI 49508
616/698-0330

Absoft

2781 Bond St.
Rochester Hills, MI 48309
313/853-0050

Academy Software

PO Box 6277
San Rafael, CA 94903
415/499-0850

Access Technologies

PO Box 202197
Austin, TX 78720
512/343-9564

Accolade

550 S. Winchester Blvd.
Suite 200
San Jose, CA 95128
408/296-8400

ACDA Corp.

220 Belle Meade Ave.
Setauket, NY 11733
516/689-7722

Active Circuits

106 Highway 71
Suite 101
Mamasquan, NJ 08736
201/223-5999

Activision Presentation Tools

3885 Bohannon Dr.
Menlo Park, CA 94025
415/329-0800

Aegis Development

2115 Pico Blvd.
Santa Monica, CA 90405
213/392-9972

Aesthetic Engineering

175 Duane St.
New York City, NY 10013
212/925-7049

AlohaFonts

PO Box 2661
Fair Oaks, CA 95628

American Software Distributors

RR 1 Box 290, Bldg. 3
Urbana, IL 61801
217/643-2050

Antic Publishing

544 Second St.
San Francisco, CA 94107
415/957-0886

Ariadne Software Ltd.

273 Kensel Rd.
London, England W105DB
01 960 0203

ARock Computer Software

1306 E. Sunshine
Springfield, MO 65804

ASDG

925 Stewart St.
Madison, WI 53713
608/273-6585

Avant-Garde

2213 Woodburn
Plano, TX, 75075
214/964-0260

Avocet Systems Inc.

120 Union St.
Rockport, ME 04856
800/448-8500

AZ/Tech

PO Box 3615
Flagstaff, AZ 86003
602/527-0187

B.E.S.T. Inc.

11525 SW Durham Rd.
Bldg. D
Tigard, OR 97224
503/684-6655 ▶



Storm the Skies!

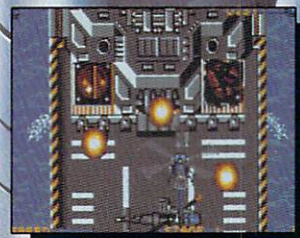
Thunder Blade™

PILOT THE MEANEST
FLYING MACHINE ON
YOUR HOME COMPUTER!

Enjoy a whole new action-perspective on your PC from the arcade Hit of 1988! You'll reach for a safety belt, your hands will sweat as incredible 3-D realism hits you.

Top-down perspective gives you a bird's eye view that sees all around, while first-person perspective gives you the chance to maneuver between buildings, duck in and out of arches and fire at hidden enemy targets.

Make no mistake. This is 100% action. Strap yourself onto the ultimate flying machine and have at it!



DISTRIBUTED BY

MINDSCAPE

Visit your retailer or call 1-800-221-9884 for VISA and MASTERCARD orders. To purchase by mail, send your card number and expiration date, check or money order for \$34.95 (C64 & C128), \$39.95 (IBM), and \$49.95 (Amiga and Atari ST), plus \$3.00 handling, to Mindscape, Inc., P.O. Box 1167, Northbrook, IL 60065. Allow 3-5 weeks for delivery. Coming soon for the IBM and Compatibles. ©Copyright 1989 Mindscape, Inc. Mindscape is a trademark of Mindscape, Inc. Copyright © 1989 Sega Enterprises, Ltd. This game has been manufactured under license from Sega Enterprises, Ltd., Japan. Thunder Blade is a trademark of Sega Enterprises, Ltd. Commodore 64 and Commodore 128 are registered trademarks of Commodore Electronics, Ltd. Atari is a registered trademark, and ST, 520ST, and 1040ST are trademarks of Atari Corporation. Amiga is a registered trademark of Commodore-Amiga, Inc. IBM is a registered trademark of IBM Corporation. Actual screen shots of Commodore Amiga version; others may vary. Made in U.S.A.

Buyer's Guide Company List

Banana Software Inc.

Dept. SA
6531 Park Ave.
Kent, OH 44240
216/673-6969

Bassett Geographic

1103 Rudd Ave.
Auburn, AL 36830
205/887-9057

Baudville

5380 52nd St. SE
Grand Rapid, MI 49508
616/698-0888

Benaiah Computer Products Inc.

PO Box 14502
Huntsville, AL 35815
205/881-1110

Blank Software

1477 Folsom St.
San Francisco, CA 94103
415/863-9224

Blue Ribbon Bakery

1248 Clairmont Rd.
Suite 3D
Atlanta, GA 30030
404/377-1514

Brittanica Software

345 First St.
San Francisco, CA 94107
415/546-1866

Brown-Wagh Publishing

16795 Lark Ave.
Suite 210
Los Gatos, CA 95030
408/395-3838

Bullfrog Productions

dist. by Electronic Arts

Byte By Byte

Arboretum Plaza II
9442 Capitol of Tex. Hwy. N
Austin, TX 78759
512/343-4357

Bytes and Bullets

Rt. 3 Box 3532
Manchester, TN 37355

Cadvision International

distributed by Brown Wagh

Capilano Computer Systems

1168 Hamilton St.
Suite 501
Vancouver, British Columbia
Canada V6B 2S2
604/669-6343

Celestial Data Systems Inc.

279 South Beverly Dr.
Suite 1010
Beverly Hills, CA 90212
213/838-3686

Centaur Software

4452 Redondo Beach Blvd.
Lawndale, CA 90260
213/542-2226

Charles Voner Designs

61 Clewley Rd.
Medford, MA 02155
617/396-8354

Classic Concepts

PO Box 786
Bellingham, WA 98227
206/733-8342

Classic Future

3100 W. Chapel
Cherry Hill, NJ 08002
609/667-7695

ClassicCompu

3100 W. Chapel Ave.
Cherry Hill, NJ 08002
609/667-7695

Commodore Business Machines

1200 Wilson Dr.
West Chester, PA 19380
215/436-4200

Complications

1727 Parkview
Redlands, CA 92374
714/794-5311

Computer Arts

PO Box 529
Opp, AL 36467
205/493-6312

Computerware

4403 Manchester Ave.
Suite 102
Encinitas, CA 92024
619/436-3512

Conceptual Computing

603 Castlefield Ave.
Toronto, Ontario
Canada M5N 1L9
416/781-7742

Conceptually Advanced Technologies

PO Box 3302
Santa Monica, CA 90403
213/452-1732

Consultron

11280 Parkview
Plymouth, MI 48170
313/459-7271

Crystal Rose Software

109 S. Los Robles Ave.
Pasadena, CA 91101
818/795-6664

CSS Inc.

PO Box 305
Wallowa, OR 97885
503/886-9075
800/826-1799

Custom Services

PO Box 254
Moorestown, NJ 08057

CygnusSoft

distributed by ASDG

Data Research Processing Inc.

5121 Audrey Dr.
Huntington Beach, CA 92649
714/840-7186

Datel Computers

3430 E. Tropicana Ave.
Las Vegas, NV 89121
702/454-7700

Delphi Noetic Systems Inc.

PO Box 772
Rapid City, SD 57709
605/348-0791

Delta Research

PO Box 1051
San Rafael, CA 94915
415/461-1442

Designlab

PO Box 419
Owego, NY 13827
607/687-5740

Diemer Development

distributed by Centaur

Digiscape Software

PO Box 113058
Carrollton, TX 75011
214/241-9891

DigiSoft

12 Dinmore St. Moorooka
Brisbane, Queensland
Australia 4105
61-7-277-3255

Digital Creations

2865 Sunrise Blvd.
Suite 103
Rancho Cordova, CA 95742
916/344-4825

Digital Dynamics

739 Navy St.
Santa Monica, CA 90405
213/396-9771

Digital Solutions

PO Box 345, Stn. A
Willowdale, Ontario
Canada L4B 1B9
416/731-8775

DigiTek Inc.

8910 N. Dale Mabry
Suite 37
Tampa, FL 33614
813/933-8023

Digitools

PO Box 7417
Buffalo Grove, IL 60089
312/459-8781 ►

ACTION!

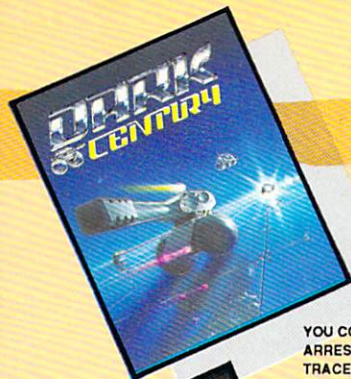
Slick up your joystick it's hot!



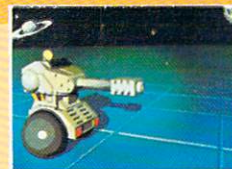
TITUS™

20432 CORISCO STREET,
CHATSORTH CA 91341
818-709-3693

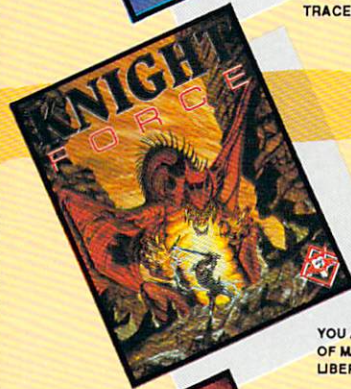
Circle 17 on Reader Service card.



DARK CENTURY



YOU CONTROL THE GREATEST HIGH-TECH TANKS IN THE WORLD. YOU ARE ON A PRISON PLANET TRYING TO ARREST SOME ESCAPED CONVICTS. PROGRAM AND LEAD YOUR TEAM OF TANKS TO TRICK YOUR OPPONENT! RAY TRACED 3D UNIVERSE, MULTITASKING, ONE OR TWO PLAYERS ARE THE FEATURES OF THIS GAME.

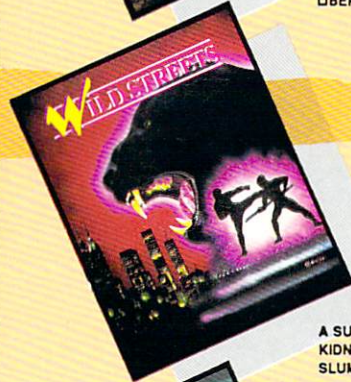


KNIGHT FORCE



YOU ARE THE SWORD MASTER, OF MAGIC GRAPHICS. LEAD LIBERATE THE PRINCESS

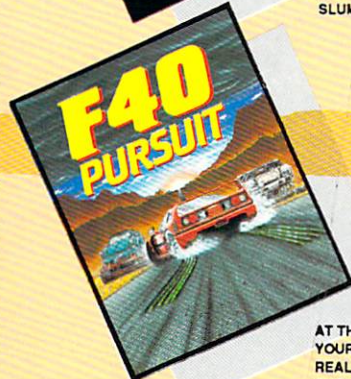
DEFENDER OF BELLOTH REALM. QUEST THROUGH FIFTEEN LEVELS AND FIVE ERAS YOUR ENCHANTED POWERFUL WEAPONS AND SPOIL THE MALEVOLENT TRAPS, TO TANYA FROM THE CLAWS OF RED SABAT THE SORCERER.



WILD STREETS



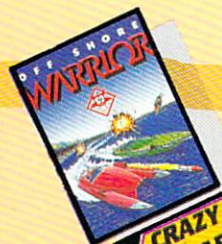
A SUPERCOP AND A BLACK PANTHER TEAM TOGETHER IN A HIGH RISK MISSION. "A TOP CIA AGENT HAS BEEN KIDNAPPED, FIND HIM! YOU KNOW THAT ACTION AND FIGHTING IS INEVITABLE". YOU'LL HAVE TO VISIT THE CITY SLUMS TO FIND HIM AND PROTECT YOU BOTH FROM MOBSTERS, PUNKS AND OTHER RIFF RAFFS.



F40 PURSUIT



AT THE WHEEL OF YOUR FABULOUS FERRARI F40, YOU'RE RACING AGAINST TIME AT 200 MILES PER HOUR. PLAN YOUR ROUTE, BUT BEWARE OF POLICE THAT WILL TRY TO STOP YOU IN YOUR MISSION. 360 DEGREE SPINS, AND REALISTIC 3D ROAD JUNCTIONS WILL MAKE YOU SENSE THE THRILL OF SPEED. DON'T JUST TAKE OUR WORD, BURN SOME RUBBER.



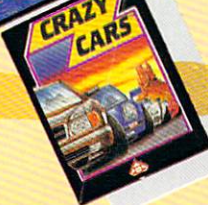
OFF SHORE WARRIOR

YOU ARE AN OFF SHORE WARRIOR AND YOUR FIRST ARENA, FULL OF FANS, IS WAITING FOR YOU. STRUGGLE AGAINST ROCKS, WAVES AND OPPONENTS IN A DEADLY GAME. ONLY FEW CAN LEAVE ALIVE. DO IT OR DIE!!!



FIRE AND FORGET

FACE THREE LEVELS OF SIX CONFLICTS, FROM SPORADIC WARFARE TO TOTAL WAR. NEVER LOOK BACK! IT COULD BE YOUR LAST MISSION. ONE OR TWO WARRIORS CAN TEAM UP.



CRAZY CARS

YOU ARE RACING FOUR OF THE MOST PRESTIGIOUS CARS IN THE WORLD'S CRAZIEST RACE THROUGHOUT THE UNITED STATES. PREPARE TO START, READY? GO!!!



TITAN

MAKE YOUR WAY THROUGH THIS STRATEGIC PUZZLE OF EIGHTY WORLDS WITH YOUR MAGNETIC CONTROL UNIT. BUT BE CAREFUL, THE ULTRA-FAST SCROLLING HAS ALREADY CAUSED SOME MENTAL BREAKDOWNS.

Buyer's Guide Company List

Discovery Software

163 Conduit St.
Annapolis, MD 21401
301/268-9877

dissidents

730 Dawes Ave.
Utica, NY 13502
315/797-0343

Don Keiffer

PO Box 316
Bellflower, CA 90706

Dr. T's Music Software

220 Boylston St.
Suite 206
Chestnut Hill, MA 02167
617/244-6954

DTM Werbug & EDV GmbH distributed by Mindware International

E. Arthur Brown

3404 Pawnee Dr.
Alexandria, MN 56308
612/762-8847

E.C.T. Sampleware

PO Box 36
Sierra Madre, CA 91024

Eagle Tree Software

PO Box 164
Hopewell, VA 23860
804/452-0623

EaseWare

11160 F. Southlakes Dr.
Suite 305
Reston, VA 22090
703/709-9686

Eastern Telecom Inc.

9514 Brimton Dr.
Orlando, FL 32817

Easy Script

10006 Covington Dr.
Huntsville, AL 35803
205/881-6297

Elan Design Inc.

PO Box 31725
San Francisco, CA 94131
415/359-7212

Electronic Arts

1820 Gateway Dr.
San Mateo, CA 94404
415/571-7171

Elipsys

PO Box 16757
Seattle, WA 98116
703/490-8157

Emerald Intelligence

3915-Al Research Park Dr.
Ann Arbor, MI 48108
313/633-8757

Express-Way Software

PO Box 10290
Columbia, MO 65205
314/474-2984

EZ Soft

21125 Chatsworth St.
Chatsworth, CA 91311
818/341-8681

FBN Software

2 Solander Court
Yarralumla ACT 2600
Australia 062-852

First Byte

distributed by Electronic Arts

First Byte

3333 E. Spring St. #302
Long Beach, CA 90808
213/595-7009

Free Spirit Software Inc.

PO Box 128
58 Noble St.
Kutz, PA 19530
215/683-5609

Frog Peak Music

PO Box 9911
Oakland, CA 94613
415/461-1442

Fuller Computer Systems Inc.

PO Box 9222
Mesa, AZ 85214
602/835-5018

GENP

37 Charles St.
Celtenham, Victoria
Australia 3192
61 3 584 2765

George Bailey

6474 Highway 11
DeLeon Springs, FL 32028

GfxBase

1881 Ellwell Dr.
Millpita, CA 95035
408/262-1469

Gimpel Software

3207 Hogarth Ln.
Collegeville, PA 19426
215/584-4261

Glacier Technologies

PO Box 1309
Vancouver, WA 98666
206/694-1539

Glass Canvas Productions

PO Box 6171
Boston, MA 02114
617/367-3229

Gold Disk

PO Box 789 Streetsville
Mississauga, Ontario
Canada L5M 2C2
800/387-8192
416/828-0913

GrafX Computing

6680 Wiltsie Rd.
Panama, NY 14767
716/782-2468

Gramma Software

17730 15th Ave. N.E.
Suite 223
Seattle, WA 98155
206/363-6417

Graphic Expressions

PO Box 110028
Nutley, NJ 07110
201/661-0408

Haitex Resources

PO Box 20609
Charleston, SC 29413
214/241-8030

Hash Enterprises

2800 E. Evergreen
Vancouver, WA 98661
206/693-7443

HC Software

GPO Box 2204
Adelaide
South Australia
5001
08/344-6897

Hilton Android Corp.

PO Box 7437
Huntington Beach, CA 92615
714/963-4584

Hi Resolution

Yorktown Bldg. #308
5840 E. River Rd.
Minneapolis, MN 55432
612/572-0650

HiSoft

distributed by Manx Software
Systems

Hitension Computer Services

US: M.A.S.T.
Aldershot
England 0252 344454

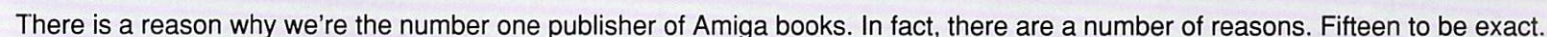
Hugh's Software Ranch

323 E. 8th St.
New York, NY 10009
212/353-2465

Iconoclassic

PO Box 31323
Richmond, VA 23294
804/273-0312 ▶

We publish too many books... too many that is if you have only a few questions or need only a limited amount of information about your Amiga. But if you have a lot of questions, chances are one of our books will answer your questions. Just look at our range of titles:



To order toll
free call
1-800-451-4319

Buyer's Guide Company List

Impulse Inc.

6870 Shingle Creek Pkwy #12
Minneapolis, MN 55430
612/566-0221
800/328-0184

IMSI

1299 Fourth St.
San Rafael, CA 94901
415/454-9678

Incognito Software

34518 Warren
Suite 149
Westland, MI 48185
313/937-1850

InnoVision Technology

1933 Davis St.
Suite 238
San Leandro, CA 94577
415/638-8432

INOVAtronic Inc.

8499 Greenville Ave.
Suite 209B
Dallas, TX 75231
214/340-4991

Intelligent Music

116 N. Lake Ave.
Albany, NY 12206
518/434-4110
800/344-2086

Interactive MicroSystems

PO Box 1446
Haverhill, MA 01831
508/372-0400

InterActive Softworks Inc.

2521 South Vista Way
Suite 254
Carlsbad, CA 92008
619/434-5327

Interface Technologies Inc.

3336 Richmond
Suite 323
Houston, TX 77098
713/523-8422
800/922-9049

Intracorp Inc.

14160 SW 139th Court
Miami, FL 33186
800/468-7226

Intuitive Technologies

distributed by American
Software

ISD Marketing

2651 Johns St. Unit 3
Markham, Ontario
Canada
416/479-1990

ISM Inc.

PO Box 247
Phoenix, MD 21131
301/666-2672

Jenday Software

PO Box 4313
Garden Grove, CA 92642
714/636-3378

JMH Software

7200 Hemlock Ln.
Maple Grove, MN 55369
612/424-5464

Joyce I. Peck

Box 1051 Qualicum Beach
British Columbia
Canada VOR
604/752-3364

Jumpdisk

1493 Mountain View Ave.
Chico, CA 95926
916/343-7658

Kara Computer Graphics

6365 Green Valley Circle
No. 317
Culver City, CA 90230
213/670-0493

KarmaSoft

distributed by American
Software

KFS Software Inc.

PO Box 107
Largo, FL 34649
813/584-2355

Kuma Computers Ltd.

12 Horseshoe Park
Pangbourne, Berkshire
England RG8 7JW
07 357 4335

Lake Forest Logic Inc.

28101 Ballard Rd., Unit E
Lake Forest, IL 60045
312/816-6666

Lattice

2500 S Highland Ave.
Suite 300
Lombard, IL 60148
312/916-1600
800/444-4309

Learners Image

PO Box 3669
Logan, UT 84321
801/752-5608
800/255-8791

Lee Software

PO Box 742644
Dallas, TX 75374
214/530-2864

Lionheart Publishing

PO Box 379
Alburt, VT 05440
514/933-4918

LogiComp Software

4010 Woods Blvd.
Lincoln, NE 68502
402/423-6768

Lucy Scale Developments

PO Box 5146
Laguna Beach, CA 92652

M2S Inc.

PO Box 550279
Dallas, TX 75355
214/340-5256

M.A.S.T.

1395 Greg St. #106
Sparks, NV 89431
702/359-0444

Mad Scientist Software

13422 N. Bayberry Cr.
Alpine, UT 84004
801/756-6027

Madriral Residential Designs

PO Box 2292
Santa Rosa, CA 95405
707/539-5675

Magic Circle

10 Radford Pl.
Hyde Park, MA 02136

Magnetic Images Company

PO Box 17422
Phoenix, AZ 85011
602/265-7849

Manx Software Systems

160 Ave. of Commons
Shrewsbury, NJ 07702
800/221-0440

McCauley Software Systems

PO Box 271031
Houston, TX 77277
713/630-0647

MegageM

Box 1785
Santa Monica, CA 93445
805/349-1104

Meggido Enterprises

PO Box 3020-191
Riverside, CA 92519
714/683-5666

Merit Software

13635 Gamma Rd.
Dallas, TX 75244
214/385-2353

Metacomco

26 Portland Sq.
Bristol, England BS2 8RZ
011-44 272 428 781

Metadigm Inc.

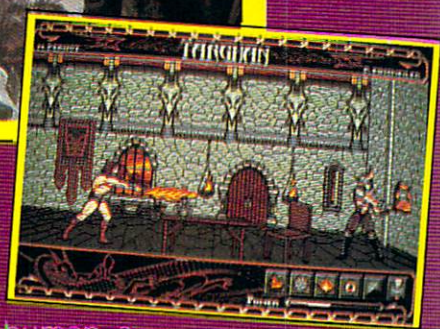
19762 MacArthur Blvd.
Suite 300
Irvine, CA 92715
714/955-2555 ▶

WIN
Second Drive
and a year's supply
of New Titles published by
Gainstar NOW!!!
LOOK BELOW FOR MORE
INFORMATION

TARGHAN



DEALER
ENQUIRIES
WELCOME —
SPECIAL
DISCOUNTS
Distributor
enquiries
welcome



Targhan

Far from Edengarhn is the castle of the evil one.

Far from your village, a lord keeps the secret, such a powerful lord that he cannot be human, a creature floating a world that dies and grows again.

Targhan is probably the most stunning game you'll ever play.

Targhan is an adventure-action game with more than 120 landscapes and 40 different characters. The game is playable on either keyboard or joystick.

The game offers digitised sound and outstanding graphics.

It will be released on Amiga, Atari and PC (EGA, VGA and CGA) by the end of Aug. The game will run on both colour and mono screens.

Look for reviews in
Commodore User,
Popular, The One,
C&VG, Ace,
ZAP, The
Games Machine
and Amiga User
International soon!



Silmarils

To enter our competition please send your warranty cards of TARGHAN and complete the following:

I like the game Targhan because

Send your entries to: Gainstar, RR 1 Box 192, Alstead, NH 03602

Closing date October 1, 1989.

Circle 153 on Reader Service card.



Buyer's Guide Company List

Metran Technology

PO Box 82538
Tampa, FL 33682

MichTron

576 S. Telegraph
Pontiac, MI 48053
313/334-5700

Micro Dimensions Inc.

455 N University Ave.
Provo, UT 84601
801/377-0933

Micro Ed Inc.

PO Box 24750
Edina, MN 55424
612/929-2242

Micro Magic

dist. by Centaur Software

Micro Momentum Inc.

100 Brown Ave.
Johnston, RI 02919
401/949-5310

Micro Programs Inc.

251 Jackson Ave.
Syosset, NY 11791
516/921-1351

Micro Systems Int.

1143 Monroe St.
Carleton, MI 48117
313/654-8402

Micro W Distributors Inc.

PO Box 1342B Route 23
Butler, NJ 07405
201/838-5606

Microdeal

distributed by MichTron

Microft Software

PO Box 1072
Exton, PA 19341
215/363-2832

MicroIllusions

17408 Chatsworth St.
Granada Hills, CA 91344
818/360-3715
800/522-2041

MicroMaster Inc.

1085A Broadhead Rd.
Alianippa, PA 15001
412/775-3000

MicroMomentum

100 Brown Ave.
Johnston, RI 02919
401/949-5310

MicroSearch Inc.

9896 SW Freeways
Houston, TX 77074
713/988-2818

MicroSmiths Inc.

PO Box 561
Cambridge, MA 02140
617/354-1224

MIDImouse Music

Box 877
Welches, OR 97067
503/622-4034

MIDITALK

PO Box 69
Albany, NY 12260
518/674-8466

Mindscape

3444 Dundee Rd.
Northbrook, IL 60062
312/480-7667
800/221-9884

Mindware International

33 Alliance Blvd. Unit 1
Barrie, Ontario
Canada L4M 5R3

Mirage Studio

5 Gipsy Lane
Wokingham
Berkshire, England
RG11 2B
0734-788965

Musicsoft

30 N. Raymond Ave.
Suite 505
Pasadena, CA 91103
818/449-8838

MV Micro

PO Box 1112
Wheatridge, CO 80034-1

New Horizons Software

PO Box 43167
Austin, TX 78745
512/328-6650

New Wave Software

PO Box 438
St. Clair Shores, MI 48080
313/771-4465

NewTek

115 West Crane St.
Topeka, KS 66603
913/354-1146
800/843-8934

Norris Software Ltd.

3208 W. Lake St.
Suite 65
Minneapolis, MN 55416
612/827-2766

Northeast Software

distributed by Brown-Wagh

Nova Research

distributed by A-Squared

Octree Software

311 West 43rd St.
Suite 904
New York, NY 10036
212/262-3116

Opcode Systems

1024 Hamilton Court
Menlo Park, CA 94025
415/321-8977

OTG Software

200 West 7th St.
Suite 618
Fort Worth, TX 76102
312/816-3474

Oxxi Inc.

PO Box 90309
Long Beach, CA 90809
213/427-1227

PAR Software

distributed by Brown Wagh

Paragon Software

111 Thornwood Dr.
Marlton, NJ 08053
609/596-8991

Passport Designs

625 Miramontes St.
Half Moon Bay, CA 94019
415/726-0280

Peacock Systems Inc.

South Tysons Office Park
2108-C Gallow
Vienna, VA 22180
703/847-1743

Pecan Software Systems

1410 39th St.
Brooklyn, NY 11218
718/851-3100
800/63-PECAN

Perpetual Designs

1134 N. Cambrian
Suite 4
Bremerton, WA 98317
206/373-6000

Peterson Enterprises

PO Box 614
Milford, NH 03055
603/673-4009

Pixelations Inc.

PO Box 547
Northboro, MA 01532
508/393-7866

Poco Loco

25 S. Broadway
Ridge, NY
914/757-4261

Polar Arts

14145 Janna Way
Sylmar, CA 91342
818/362-8565 ▶



Make Amigos With Other Amigas.

The largest group of Amiga® users in the world shares its problems and solutions online every day in CompuServe's Amiga Forums. And you can join them.

Whether you're an Amiga novice or a professional user in broadcasting, film special effects, animation, or music production, you'll find support from thousands of Amiga users and nearly every third-party Amiga software and hardware vendor.

Looking for a solid CAD program? Want to make the most of your Amiga's multitasking capabilities? Ask

somebody who's been through it all. There's no better way to get more out of your Amiga.

To join CompuServe, see your computer dealer. To order direct or for more information, call 800 848-8199. If you're already a member, type GO AMIGA at any ! prompt.

CompuServe®

Buyer's Guide Company List

Polyglot Software

10431 Ardyce Ct.
Boise, ID 83704
208/375-3741

Poor Person Software

3721 Starr King Cr. Dept. 4
Palo Alto, CA 94306
415/493-7234

Precision Approach

207 E. 3rd St.
Prophetstown, IL 61277
815/537-2211

Precision Inc.

distributed by American
Software

Pregnant Badger Music

10010 Biscanewoods Way
Sacramento, CA 95827
916/361-8217

Professional Software Inc.

51 Fremont St.
Needham, MA 02194
617/444-5224

Progressive Peripherals & Software

464 Kalamath St.
Denver, CO 80204
303/825-4144

Prolific Inc.

1808 W. Southgate Ave.
Fullerton, CA 92633
714/447-8792

Publishing International

333 W. El Camino Real
Suite 222
Sunnyvale, CA 94087
408/738-4311

Puzzle Factory

PO Box 986
Veneta, OR 97487
503/935-3709

Quelo

PO Box 490
Rockport, MA 04856
206/285-2528

Queue Software

562 Boston Ave.
Bridgeport, CT 06610
203/335-0908
800/232-2224

Radical Eye Software

distributed by Micro Programs

Rainbows Edge Production

4412 4th Ave.
Suite 2
Brooklyn, NY 11220
718/439-0299

ReadySoft

30 Wertheim Court Unit 2
Richmond Hill
Ontario, Canada L4B 1B9

Revolution Software

PO Box 38
West Chester, PA 19831
215/430-0412

RGB Video Creations

3944 Florida Blvd.
Suite 102
Palm Beach Gardens, FL 33410
407/622-0138

Right Answers Group

Box 3699
Torrance, CA 90510
213/325-1311

Robert Shannon

741 East #305
Woodland, CA 95695
916/622-9591

Robin Hoare Computers

PO Box 67
Rawene, Hokianga
New Zealand
64 887 57761

RockLogic

PO Box 22
Slippery Rock, PA 16057

Royal Software

PO Box 8900-156
Salem, OR 91303

RSN Software Inc.

(Metadigm Inc.)
889 De Haro St.
San Francisco, CA 94107
415/826-6193

Saxon Industries

14 Rochress Gardens
Nepean, Ontario
Canada K26 5A8
613/226-2355

Scientific Software

PO Box 202
Rexford, NY 12148

Sedona Software

11844 Rancho Bernardo Rd.
Suite 20
San Diego, CA 82128
619/451-0151

Selectronics Inc.

5147 S. 37th St.
Lincoln, NE 68516

Seven Seas Software

PO Box 1451
Port Townsend, WA 98368
206/385-1956

Shereff Systems

15075 SW Koll Parkway
Suite G
Beaverton, OR 97006
503/626-2022

Signs Etc. By D. Knox

PO Box 628
Carmichael, CA 95609
916/944-0790
800/634-2952

Silver Software

77 Mead St.
Bridgeport, CT 06610
203/366-7775

Slipped Disk

31044 John Rd.
Madison Heights, MI 48071
313/583-9803

Soft-Byte

PO Box 556 Forest Park
Dayton, OH 45405
513/278-1110

Soft-Link

PO Box 304
Coventry, RI 02816

Soft-Logik Publishing Corp.

11131 South Towne Sq.
Suite F
St. Louis, MO 63123
314/894-8608

Software Advantage

Consulting Corp.
37346 Charter Oaks Blvd.
Mt. Clemens, MI 48043
313/463-4995

Software Ingenuity

11325 94th St. N.
PO Box 10084
Largo, FL 34643
813/393-8240

Software Integration Solutions

11027 Twin Pond Terrace
San Diego, CA 92128
619/748-3350

Software Sensations

1441 S. Robertson Blvd.
Los Angeles, CA 90035

Software Toolworks

19888 Nordhoff Place
Chatsworth, CA 91311
818/885-9000

Software Visions

PO Box 3319
Framingham, MA 01701
508/875-1238
800/527-7014 ▶

THEY'RE BACK!



ON A COMPUTER NEAR YOU

	IBM	APPLE II	MAC	C64	AMIGA	ATARI ST
SCRABBLE®	\$39.99	\$39.99	\$39.99	\$29.99	\$39.99	\$39.99
MONOPOLY®	\$39.99			\$29.99	\$39.99	\$39.99
RISK™	\$39.99	\$39.99	\$39.99	\$29.99	\$39.99	\$39.99
CLUE® MASTER DETECTIVE™	\$39.99	\$39.99		\$29.99	\$39.99	\$39.99

Monopoly® © 1935, 1985. Produced under license from Parker Brothers, division of Tonka Corporation. Risk™ © 1959, 1989. Used under license from Parker Brothers. Clue® Master Detective™ © 1988. Produced under license from Parker Brothers, division of Tonka Corporation, and Waddingtons Games Limited. Scrabble® Licensed by Selchow and Righter Company, a subsidiary of Coleco Industries, Inc. Scrabble board design © 1948 Selchow & Righter Company.



Distributed by:- VIRGIN MASTERTRONIC INTERNATIONAL Inc.
18001 Cowan, Irvine, California 92714 U.S.A.
Telephone (714) 631-1001 Telefax (714) 631-1004



GO AMIGO!

THE WORLD'S LARGEST DISTRIBUTOR OF AMIGA™ PRODUCTS

MONEY-BACK GUARANTEE!

Buy Any Product From:

Avante-Garde • Central Coast Software • Elan Design • Gold Disk
• HiSoft • Impulse • Innovision • JDK Images • Lattice • Manx
• MicroSystems Software • New Horizons • Oxxi • Right Answers
Group • Soft Logik • William Hawes

Between now and December 31, 1989 and if you are dissatisfied for any reason, call for a Return Authorization and we will refund your money. No questions asked.

Because of your great response, even more products are now eligible — call to check on specific titles!

Freight costs not refundable. Products must be returned postage paid within 30 days of receipt in complete original packaging and resalable condition. Call for complete details.

Supra

2400 Baud Modem
with cable

Only \$125!

(Specify Amiga Model)

My-T Mouse

- Lifetime Warranty
- 3 Buttons

\$42

Music Special

- Yamaha Keyboard
- Deluxe Music
- MIDI Interface
- Rock'n Roll Data

\$129

Digi-Paint 3

The Ultimate
Paint
Program



\$65

GVP

GREAT VALLEY PRODUCTS

68030 POWER!

GVP's 68030 gives
you 10 times the
performance of a
stock Amiga 2000!

25MHz 68030,
25MHz 68882,
4MB RAM and
40MB Drive
only **\$3099.**

Entry-level boards from \$749. Go Amigo is the #1 GVP Dealer.

Supra Corporation

Hot Hard Drives for A1000 and A500

	20MB	30MB	60MB
A500	\$479	\$629	\$819
A1000	\$564	\$714	\$899

2MB RAM Module for A500: \$275. Prices include delivery in U.S.

VidTech

Scanlock Blowout!

- S-VHS In and Out
- NTSC In and Out
- Four Output Channels
- Super Clean Signal
- Slide Control Faders

\$884

Optional Power Supply \$69

**FEDERAL
EXPRESS**

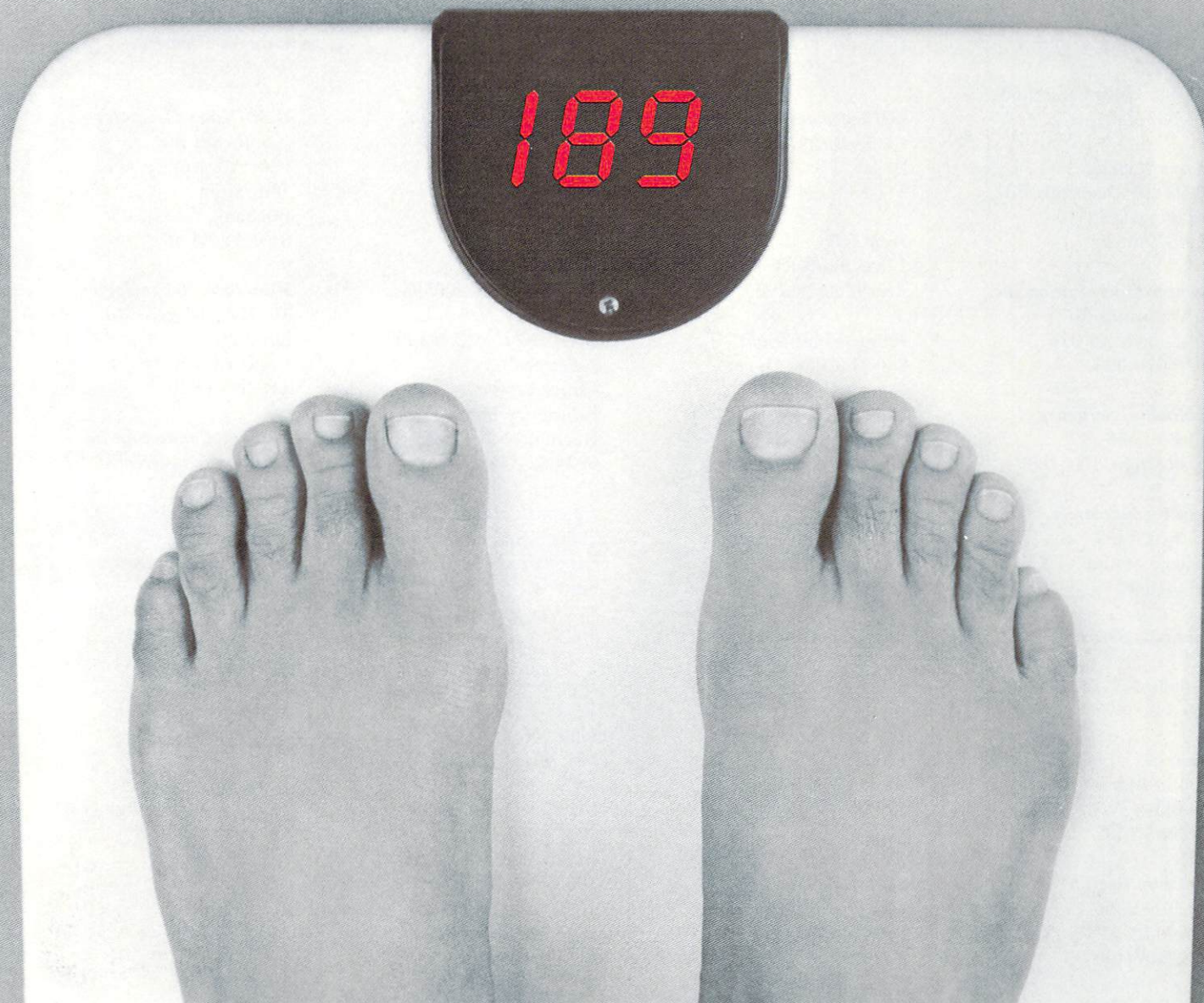
**ORDER BY
1 PM PST AND**

GET IT TOMORROW BY 3 PM.

- Software Rates: \$6 for first two items, \$3 for each additional
- Continental U.S. only • No CODs
- Low hardware rates available
- Call for complete details — not available to all areas.

HAPPY HOLIDAYS!

DOWNLOAD YOUR MAIN FRAME.



Total Control Diet taps the power of your computer to help you take off those unwanted pounds.

This personalized program enables you to lose weight quickly and sensibly, while maintaining balanced nutrition. Developed with the assistance of a professional dietician, Total Control Diet creates a calorie plan to help you reach your desired weight.

A data base of over 2,400 foods helps you make the best choices; additional foods can be added, including favorite recipes. Your caloric, fat, cholesterol, vitamin and mineral intakes are automatically computed to establish a day-to-day history. The program even adjusts your metabolic rate.

Total Control Diet is ideal for individuals or groups. List price: \$99.

System requirements: Amiga computer with 512K available RAM. Pronu, the professional diet and nutritional program, is also available. See your Amiga dealer or contact Lee Software for more information.

Get on-line with Total Control Diet. And tip the scales in your favor.

TOTAL CONTROL DIET


SOFTWARE™

Buyer's Guide Company List

Sound Quest Inc.
5 Glenaden Ave. East
Toronto, Ontario
Canada M8Y 2L2
416/234-0347

Sparta Inc.
23041 de la Carlotta
Suite 400
Laguna Hills, CA 92653
714/583-2394

Speech Systems
38 W 255 Deerpath Rd.
Batavia, IL 60510
312/879-6880

Spencer Organization Inc.
24 Wampum Rd.
Westwood, NJ 07675
201/307-9099

Subliminal Software
PO Box 343
Champaign, IL 61820

SunRize Industries
PO Box 1453
College Station, TX 77841
409/846-1311

SunSmile Software
533 Fargo Ave.
Buffalo, NY 14213
716/885-5670

Syndesis
N9353 Benson Rd.
Brooklyn, WI 53521
608/455-1422

Synthetic Reality
PO Box 6066
St. Cloud, MN 56302
612/259-9499

T & L Products
2645 Wilson St.
Carlsbad, CA 92008
619/729-4020

Tangent 270
PO Box 38587
Denver, CO 80238
303/322-1262

Taurus-Impex
3331 Bartlett Blvd.
Orlando, FL 32811
407/423-1987

TDI Software
10355 Brockwood Rd.
Dallas, TX 75238
214/340-4942

Tech Soft
17846 Renwick Rd.
Azusa, CA 91702

Tensor Productions
280 Mathilda Dr. #9
Goleta, CA 93117
805/562-7480

The Disc Company
3135 South State St.
Ann Arbor, MI 48108
313/665-5540

The Other Guys
PO Box H
Logan, UT 84321
801/753-7620
800/942-9402

The Sterling Connection
Box 4850
Berkeley, CA 94704
415/655-2355

The Trumor Company
2745 201st Ave. NW
Oak Grove, MN 55011
612/753-5050

ToolCaddy Works
PO Box 5873
Laughlin, NV 89029
702/298-4252

Triangle Audio Inc.
PO Box 1108
Sterling, VA 22170
301/526-6224

True BASIC
12 Commerce Ave.
West Lebanon, NH 03755
603/298-8517

TrueLight Software
9610 South 1040 E.
Sandy, UT 84094
801/572-2450

Tychon Technologies
25000 Euclid Ave.
Cleveland, OH 44117
216/531-2155

UBZ Software
395 St. Albans Ct.
Mableton, GA 30059

UNH Dept. of Computer Science
Chuck Grasso
Kingsbury Hall
Durham, NH 03824
603/862-3778

Unicorn Software
2950 E. Flamingo Rd.
Greenview Park
Suite B
Las Vegas, NV 89121
702/737-8862

Unison World
1321 Harbor Bay Prkwy.
Alameda, CA 94703
415/748-6670

Utilities Unlimited
12305 NE 152nd St.
Brush Prairie, WA 98606
206/254-6530

Vega Technologies
3171 Iris St.
San Ysidro, CA 92073

VersaSoft
4340 Almaden Expressway
Suite 250
San Jose, CA 95118
408/723-9044

Very Vivid Inc.
1499 Queen Street W.
Toronto, Ontario
Canada
416/537-7222

Vision FX
382 University Ave.
Palo Alto, CA 94301

Vivid Produce
PO Box 127, Stn. B
Toronto, Ontario
Canada M5T 2T3
416/686-7850

Walt Disney Computer Software Inc.
2600 West Olive Ave.
10th Floor
Burbank, CA 91505
818/972-3440

WaveTable Technologies
1647 Wollowpass Rd.
Suite 267
Concord, CA 94520
415/947-0689

Weather Connection Inc.
405 N. Wabash
Suite 1509
Chicago, IL 60611

West Chester Software
PO Box 38
West Chester, PA 19381

William S. Hawes
PO Box 308
Maynard, MA 01754
617/568-8695

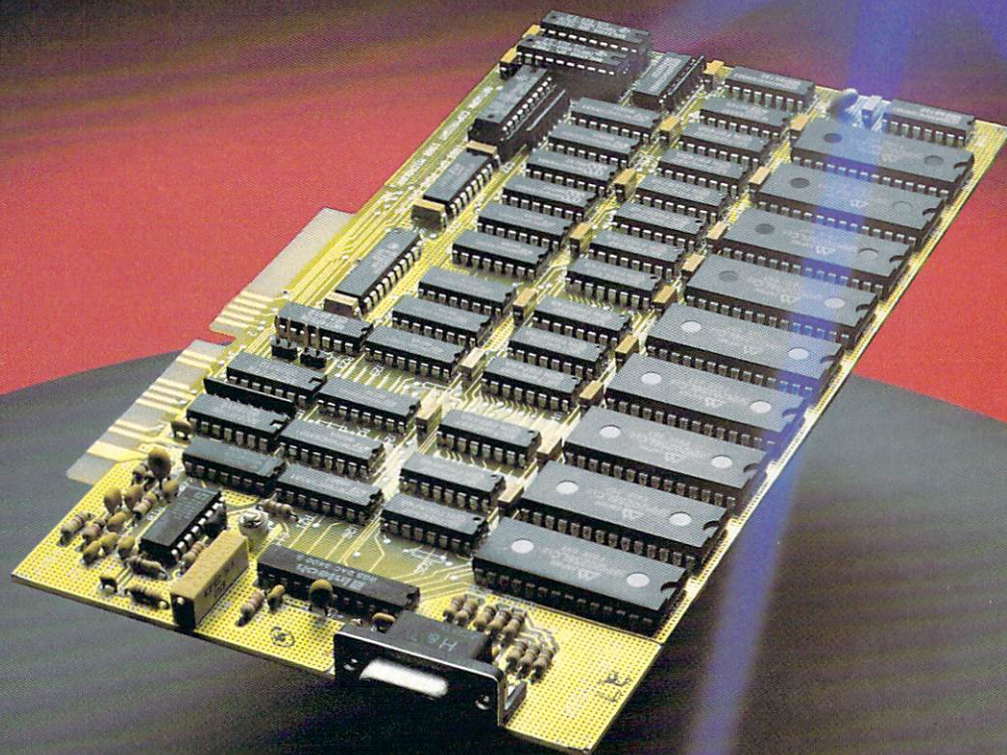
WordPerfect Corp.
1555 N. Technology Way
Orem, UT 84057
801/225-5000

Zen Software
815 East 7th Ave.
Olympia, WA 98501
206/352-0766

Zuma Group
6733 N. Black Canyon Hwy.
Phoenix, AZ 85015
602/246-4238 ■

AGA 2000

The flickerFixer™



UNLOCK THE GRAPHICS POWER OF YOUR AMIGA 2000!

flickerFixer is an advanced graphics adaptor that eliminates your Amiga 2000's interlace flicker and visible scan lines. The result: superior quality color or monochrome graphics and text — for such demanding applications as CAD/CAM, Desktop Presentation, Graphic Design, Animation, 3D Modeling, Video, and Word Processing.

flickerFixer upgrades the Amiga 2000 with a flicker free 4096 color palette, has an overscan mode that features a screen size of 704 x 470 pixels and drives most of the popular PC Multiscan and VGA monitors, including the NEC Multisync and Mitsubishi XC1429C.

Accolades include: **Best of 1988 Award**, Commodore Magazine (12/88); **#1 Reader's Choice Award**, AMIGAWORLD (12/88); **"The display is fantastic . . . It is the best display we have ever seen on any computer system."** Amiga GURU (5/88)

flickerFixer fits into the Amiga video slot, is fully compatible with all software, and does not modify the standard Amiga video signals. For more information or to order, call MicroWay Sales at (508) 746-7341 or your Amiga Dealer. Priced at \$595, **flickerFixer** is made in the USA and is FCC Class B approved.

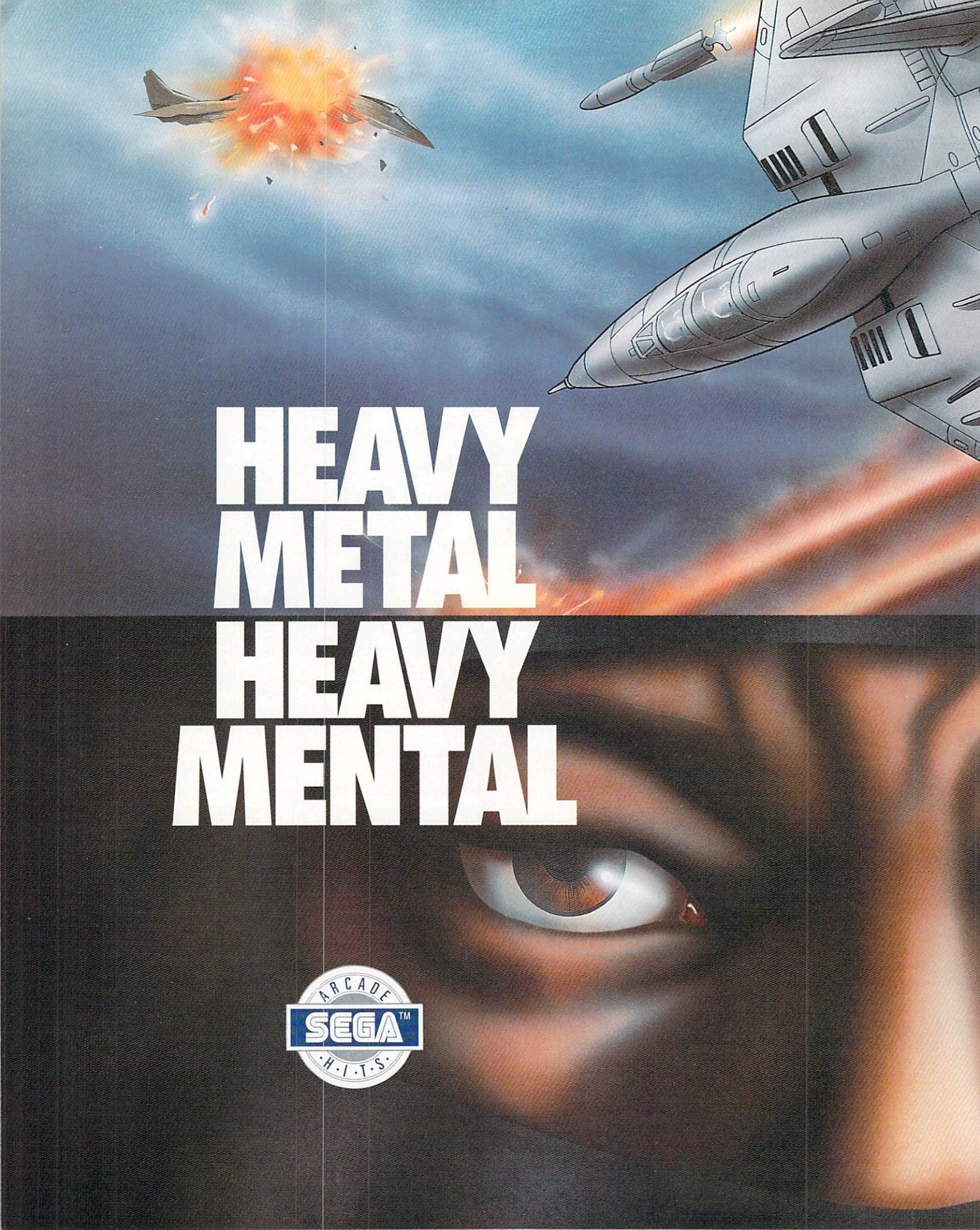
MicroWay . . . Respected throughout the industry for high quality engineering, service and technical support.

**Micro
Way**

World Leader in PC Numerics

P.O. Box 79, Kingston, MA 02364 USA (508) 746-7341
32 High St., Kingston-Upon-Thames, UK, 01-541-5466
USA FAX 617-934-2414 Australia 02-439-8400

Circle 78 on Reader Service card.
flickerFixer and MicroWay are trademarks of MicroWay, Inc. Amiga is a registered trademark of Commodore. Multisync is a registered trademark of NEC.



HEAVY METAL HEAVY MENTAL

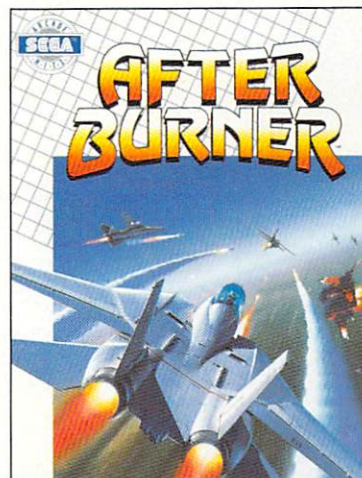


AFTER BURNER

Get your adrenaline pumping — you're going to need it when you take to the skies. Because you're not going to believe what's up there! You supply the guts, the skill and the reflexes — the F-14 Thunder Cat will supply the mach 2+ speeds and the state of the art battle computer.

To evade enemy fire, you must execute difficult maneuvers including a 360° barrel roll. Getting by the Flying Fortresses isn't a simple matter — but if you succeed there's a fuel tanker to dock with. It will replenish energy and ammo.

Ok, jet jockey. Show us your true colors. Are you an ace, the top card in the deck?



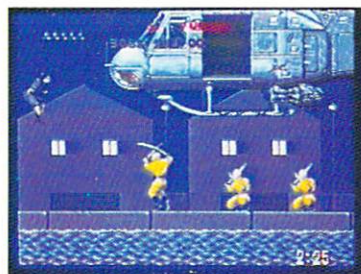
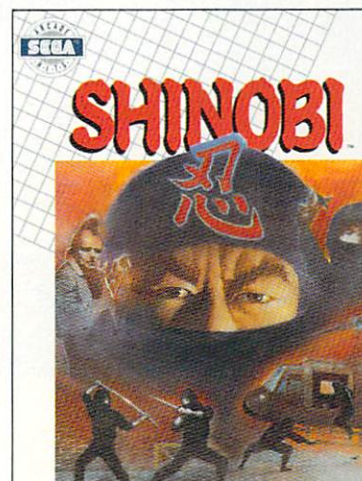
SHINOBI

By day, you are Jo Mushapi, an ordinary martial arts instructor. But in crisis, you are capable of extra-ordinary feats. Ninja Mastery, Might and Magic!

You become a walking, breathing force-field!

You can reach inside and unleash the powerful synergy of nerve, muscle and spirit. Behind every corner of the suprising world of Shinobi, danger lurks.

In the caverns of the city — everywhere — enemy leaders roam. Find them. Find their weaknesses. Rescue the hostages. Outmaneuver the attackers. Fend off thugs and mongos with your Ninja Star. Defeat the evil Ring of Five. Destroy the evil helicopter!

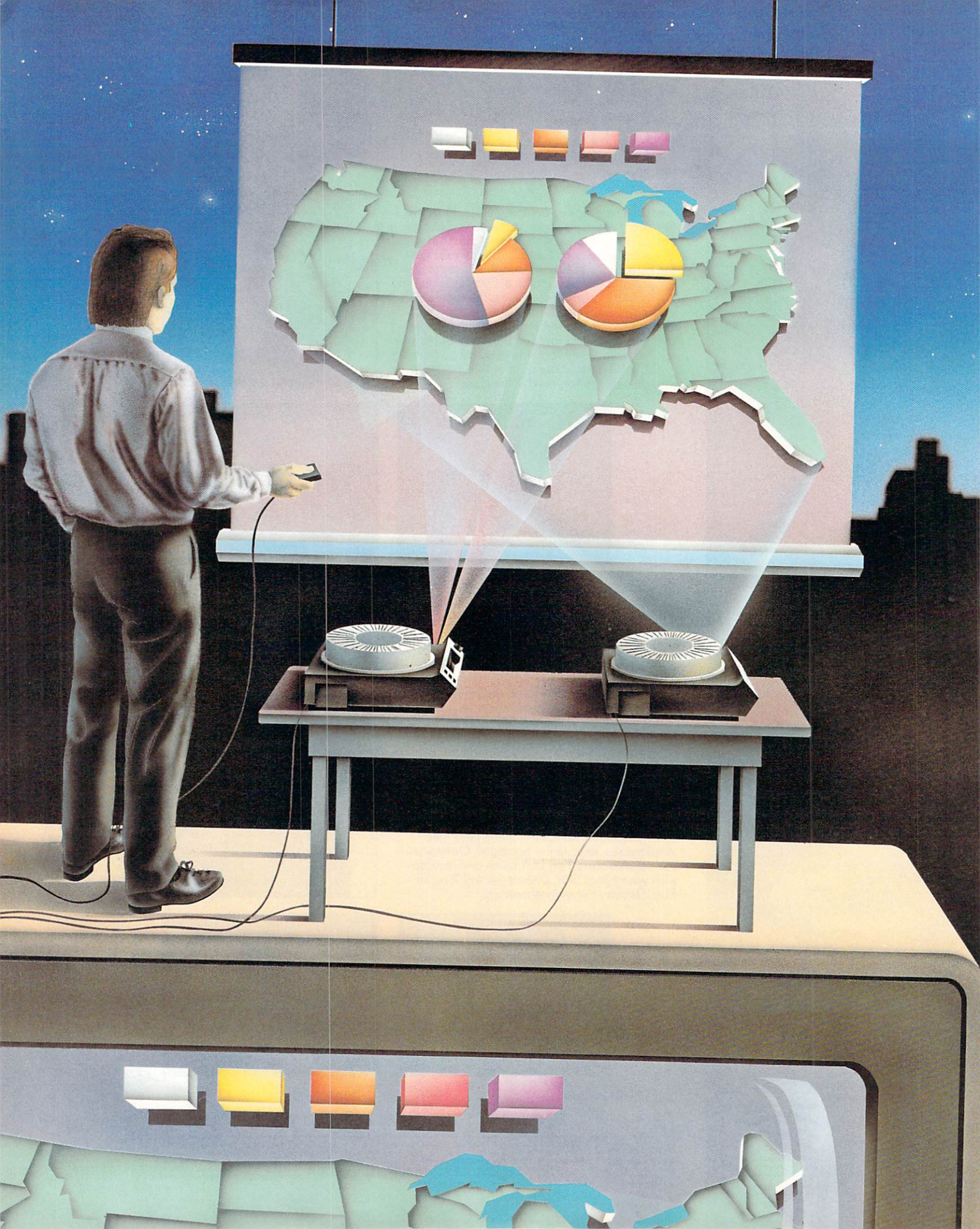


DISTRIBUTED BY

M I N D S C A P E



Visit your retailer or call 1-312-480-7667 for VISA and MASTERCARD orders. To purchase by mail, send your card number and expiration date, check or money order for \$34.95 (C64 & CT28), \$39.95 (IBM), and \$49.95 (Amiga and Atari ST), plus \$3.00 handling to Mindscape, Inc., P.O. Box 1167, Northbrook, IL 60065. Allow 3-5 weeks for delivery. © Copyright 1989 Mindscape, Inc. Mindscape is a trademark of Mindscape, Inc. Copyright © 1989 Sega Enterprises, Ltd. This game has been manufactured under license from Sega Enterprises, Ltd. Japan. After Burner and Shinobi are trademarks of Sega Enterprises, Ltd. Commodore 64 and Commodore 128 are registered trademarks of Commodore Electronics, Ltd. Atari is a registered trademark, and ST, 520ST, and T040ST are trademarks of Atari Corporation. Amiga is a registered trademark of Commodore Amiga, Inc. IBM is a registered trademark of IBM Corporation.



“ P R O J E C T I N G ”

Your Best Image

With a little coaching and the right equipment, you can use your Amiga to create a high-quality multi-projector slide-show presentation at reasonable cost for almost any business or professional purpose.

By Geoffrey Williams



Consider the irony: Although the Amiga shines as a tool to create top-drawer video and interactive presentations, most businesses still rely on slide-show projectors for their presentations—thus wasting many of the benefits of convenience, cost-effectiveness, and quality that this personal-computer solution has to offer. Result: If you need to create presentations for your company or professional organization, or provide such a service for others, you're pretty much compelled to create a traditional slide show.

Frustrating? Yes—but no reason to throw in the towel and abandon your Amiga. With the right basic knowledge, you can put your Amiga to work to create excellent slide graphics and to help you plan and develop effective slide-show presentations.

MULTI-PROJECTOR PRESENTATIONS: SOPHISTICATED POWER

Using a single projector may still be common for small or informal presentations, but shows for larger

groups use from three to several dozen projectors, all synchronized by a controller. The same audiotape that contains the musical score and sound track usually has a separate track reserved for audio tones that control each projector to tell it how long to show each image and what type of transition (bang, fade, dissolve) to use.

The sequence of events is programmed on a special computer that converts the sequence information into such audio tones. This is a fairly sophisticated process, and although there is a hardware/software package to do this on the Amiga available in Germany, as of this writing nothing similar exists in the US. You will usually have to go to a service house (found under "Audio-Visual" in the Yellow Pages) that will do the programming for you for around \$50 an hour. They will type the timings and transitions into something very similar to a spreadsheet, and they usually have all the projectors set up so that the show can be tested with the slides (and with music, if you have it).

It is well worth your time to look at the way the service bureau's computer is set up before you begin putting your show together. You may be able to create something very similar in a spreadsheet, which will allow you to make changes and play around with it ►

while keeping accurate track of timings. You can then print out the spreadsheet so that the programmer has an accurate and easy-to-follow list. This will save you a lot of money, as simple errors can take a lot of additional programming time to fix.

CREATING SLIDES ON THE AMIGA

Professional slide services usually create slides with very high resolution, far higher than the Amiga can display. The Amiga can produce excellent slides, but

of Digi-Paint 3 (NewTek, \$99.95) is its ability to automatically anti-alias any font, and as you can see from Figure 2 (top), it does a good job. The enlargement to the left shows how the extra colors are added (in this case, two shades of gray). This is currently the only paint program to offer this feature, making it very handy for slide work. Because anti-aliasing does require extra colors, using a HAM (Hold-and-Modify) program to create your slides may give you the best results.

You can also obtain anti-aliased text by using a character generator. All of the professional versions offer this feature. Figure 2 (bottom) shows how Pro Video Gold (Shereff Systems, \$299) anti-aliases text using a single, user-adjustable color. You can import IFF backgrounds and save the entire image with text as an IFF file—although you can use only the program's custom fonts in this way. As of this writing, Broadcast Titler (InnoVision Technology, \$299.95) has a similar restriction, although a module to transform any font into an anti-aliased font the program can use may be available by the time you read this. Broadcast Titler cannot save images as IFF files and does not multitask, so it will not work with the Polaroid Palette.

I would also suggest picking up the entire set of Kara Fonts (Kara Computer Graphics), as they are indispensable to anyone creating slides, and most of them are so well designed they need no anti-aliasing.

FROM SCREEN IMAGE TO FINISHED SLIDE

The next step in the process is to turning the Amiga image into a slide. The least expensive method is to take a photograph of the screen. Expert Jim Sachs recommends shooting in a darkened room from at least ten feet away. Using a zoom lens will flatten out the picture and reduce monitor curvature. Turn down the brightness and contrast on the monitor to

Getting Started

Storyboarding Your Show

PLANNING IS CRITICAL to the success of a multi-projector slide show, and it is common practice to create a *storyboard* that shows visually the sequence of events along with text describing the action. This is normally done by hand by an artist, but I have used the Amiga instead. I have my artist prepare roughs of the images we are going to create using DeluxePaint (Electronic Arts, \$149.95). We also do sketches for the photographs we will shoot on location, again using DeluxePaint or digitizing from sketches already created. I have devised a storyboard template in Professional Page (Gold Disk, \$395) with boxes for the images and boxes for text directly below them. I then add the text and import my images into the boxes. The printed result provides a very professional-looking storyboard, and because the printed images are much smaller than the originals, "jaggies" are reduced considerably. Changes are easy to make, and it also serves as a visual shooting script. —GW

you will need to use anti-aliasing, which is the same technique used in video to create an apparently higher resolution than is possible to display on a normal television set. By adding shades of a lighter color around the areas in which jaggies appear, the image will look smoother to the eye.

You can anti-alias an image by hand, or use a program that will do it for you. DeluxePaint III will apply anti-aliasing to any brush when you use Perspective mode. Reduce the size of the brush with High Anti-Aliasing turned on in the Perspective mode. You may have to experiment a bit, however, because results can be a little unpredictable. (See Joel Hagen's "Accent on Graphics" column, p. 42, in the February '89 issue of *AmigaWorld*, for hints on several other DeluxePaint smoothing techniques.) Another easy technique to decrease jaggies is to outline a brush in different colors. Figure 1 shows two different outlines used to smooth out text. DeluxePaint III has an automatic outlining capability.

Smooth-looking text is critical, as it is often the most important part of a slide. One of the features

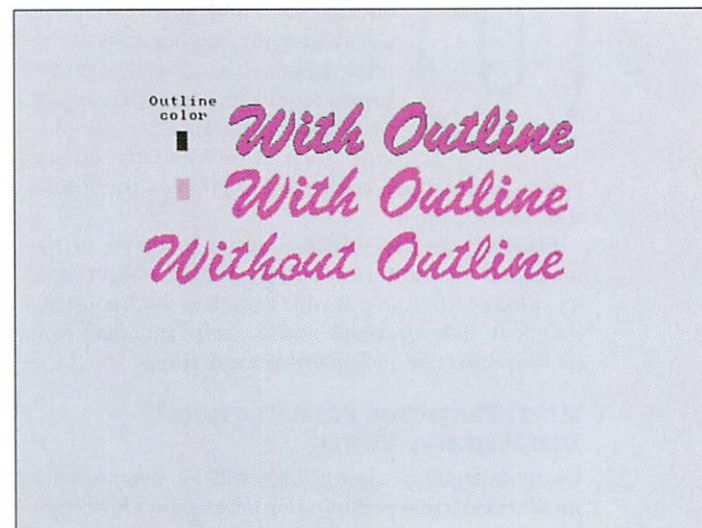


Figure 1. Outlining a brush in different colors is one way DeluxePaint III can anti-alias images and text.

reduce glare (very bright colors will glow and bleed in the photograph). The basic camera setting is F-stop 4 and one-quarter second exposure.

The real key, however, to getting usable results from this method is to employ a technique called bracketing. Use a range of F-stops and take several shots at each setting. Within each group, vary the shutter speed so that you also get a range of different exposures. You will go through a lot of film, but the odds of obtaining a suitable shot will increase greatly.

You may find that in certain shots the image will appear brighter in the middle than at the center. This is more likely a result of the way the monitor functions, rather than something lacking in your shooting technique, but following the bracketing procedure will minimize the effects as much as possible. In a similar way, you might also have problems with getting even grays.

The Polaroid Palette (Polaroid Corp., \$1495) has become the standard piece of hardware for making slides from Amiga graphics. Used with the Imprint interface (Liquid Light, \$495), it provides good output, although there are sometimes visible scanlines and strange dropouts. It also produces softer images, which are better for slides but not always what you want for print use.

The more expensive FreezeFrame (\$1995) from Polaroid does a better job, completely eliminating scanlines and recording directly from the RGB or NTSC (National Television Standards Committee) signal. It can even take a picture of a genlocked image. Because it does not require any special software or interface on the Amiga, it can take screen shots from programs that do not allow multitasking. (For a review of the FreezeFrame, see p. 44 in the June '89 issue of *AmigaWorld*.)

If you do not have \$2000 to invest in your own slide-making equipment, you will need to use a slide

service. (A selection of these is contained in the "Slide Services" list accompanying this article.) Hammond Photographic Services, which uses a slightly longer lens to get full-frame slides, provided me with the following tips:

- Use only standard Amiga screen sizes (no overscan).
- Create a border at the top and bottom of the screen of 18 pixels in hi-res and nine pixels in lo-res so that ▶

Up and Running

Animation and Special Effects

USING MORE THAN one projector to present your slide show will enable you to add animation and a variety of special effects. Typically, three projectors are used, with each showing one slide while the others are switching to the next image in their slide trays. You will also need a controller—often called a Dove—to automate the projectors. Achieving a top speed of about two slides per second—depending upon the speed of your controller and the number of projectors you are using—you will be able to create some very effective "animated" sequences.

You can also have two projectors display an image at the same time, which allows you to create composite images combining photographic and computer-created slides. In a show I did in Los Angeles, the first projector showed a slide of an empty Dodger Stadium, while a second later the slide in projector two slowly faded up with a DeluxePaint image in the shape of a person but with bright orange, white, and yellow colors on a black background. A moment later, projector three slowly faded up with an image of the stadium with a real person standing in the same position as the DeluxePaint outline, as projectors one and two faded out. The result was a very convincing "magical" ap-

pearance of a person. With more projectors, we could have made the DeluxePaint image shimmer and twinkle as the person appeared.

Instead of going to the expense of having special composite slides made up, if you are using multiple projectors you can project Amiga titling from one projector on top of a slide of people or any other live subject. Make sure that the titling slide has a black background (which is transparent when projected) and that the area on which you want the titling to appear on the other slide is also dark. A little bit of black tape or slide paint can also be used to black out an area of a slide.

The key element for any of these effects is careful registration. Mount your slides in pin-registered glass slide mounts. All slides should be mounted in the same type of mounts. The cardboard mounts in which most slides come are so thin that the slides will shift forward or back in the slide trays, throwing them out of registration. The pins in the registered slide mounts ensure that the slides will be positioned accurately. You should also use a pin-registered camera, such as the Ricoh XRM or the Nikon F-3, to make certain that each slide has the pin slots in the exact same position. —GW



Figure 2. Both DigiPaint 3 and Pro Video Gold anti-alias text by adding one or more extra colors to smooth out "jaggies."

the screen matches the aspect ratio of the slide. (Anything in these border areas will be cropped off.)

- Leave color 0 black.
- If you are using DeluxePaint, turn off the Stencil feature before saving the image.
- Do not make images and text too small (text should be at least 25 pixels high), and avoid crowding the screen.
- Avoid line widths of one pixel.
- Keep colors rich and saturated.
- HAM and standard resolutions will reproduce, but do not use Extra_Halfbrite mode.
- Make sure that you paint underneath the title bars and menu strip in DeluxePaint.

While most of these tips apply for other services, you may want to contact your local slide service before creating your slides to see if they have any special requirements.

Most slide services use the Polaroid Palette system, with the notable exception of Philadelphia Video Lab. They use a proprietary process to produce the best quality slides available. Most of their clients are corporations and magazines, and their service is a bit expensive. They have recently inaugurated a consumer version of their service, however, at a considerably reduced price.

SOUND ADVICE: ADDING AUDIO TO YOUR SHOW

You can also use your Amiga to score your slide show and add sound effects. You will need good quality recording equipment with which to tape your audio. Many slide-show controllers rely on the second audio

track to record the tones that sequence the projectors. If this is the case, you are just as well off making a mono, rather than a stereo recording.

You can find a lot of digitized sounds on bulletin boards and PD disks, or you can use an audio digitizer such as Perfect Sound (SunRize Industries / Micro-Search, \$89.95) to record your own. There are many sample editors available to customize your sounds after recording them. We have used Audio Master II (Aegis, \$59.95) to modify a car horn to make it sound like a ship's steam whistle, and we combined thunder and an explosion to get just the right sound of lightning hitting an object and blowing it to pieces. An audio editor also lets you adjust the sound effect so that it runs the exact amount of time you need.

We use Sonix (Aegis, \$79.95) for music because of its ability to handle very high-quality digitized samples and to use them as instruments. It also allows us to incorporate sound effects in the score. We record the score directly out of the audio channels onto metal tape with Dolby B and get very good results. Music X (MicroIllusions, \$299.95) will let you control a MIDI synthesizer and play Sonix instruments on the Amiga side.

TESTING THE SEQUENCE

Time is money when you go in to have your slide show programmed. The more you know about how you want things to look, the less time you will spend tinkering as the slide sequences are programmed. We use the Amiga to test slide timing and animation sequences before we go in to program. Using any animation package that animates IFF images and lets you set how long each frame is shown, you can create an animation that will look much like the finished projected version. We have used the storyboard graphics (see "Storyboarding Your Show" under *Getting Started*) to animate the live sequences, but you could also digitize slides in black and white and to get a good idea of what the live sequences will look like.

It is a great advantage to be able to see how things will look when they are sequenced, even before you have your slides printed. It is especially important to see how animated sequences look, so that you will know if you need an extra image or two before going in to the studio. You can easily set in advance how long you need a text screen to stay up. You can create the projected overlay effects by using two screens in DeluxePaint and merging the back one with the front. In short, you will save hundreds of dollars in programming costs because you can do experimenting on your own time and not when you are being charged by the hour. It is amazing how fast the costs add up with even small changes.

It is at this point that you should also consider whether you want a video recording of the slide show. The easiest way to do this is to make a recording when you have it programmed and tested. Trying to shoot during an actual performance is chancy. You ►

Up and Running

Digitizing Your Slides

THERE ARE TIMES when you may want to digitize a slide, perhaps to make a composite slide with text overlayed, or to test the animation sequence as described above. An easy way to record a slide with a video camera is to tape the slide over a macro lens and aim the camera at a light source. This will work fine with Digi-View (New-Tek, \$199.95) when working in black and white. For full-color

digitizing, mount a two-foot square piece of rear projection screen material (which can be purchased by the yard—check the sources at the end of the "Slide Services" list) onto a free-standing frame and project an image onto it from the rear. The Digi-View camera records the image from the front of the screen, and you will not have to worry about even lighting.

—GW

IMAGINE

Lying on a beach somewhere in the South Pacific. . .

Imagine flying high above Mt. Everest. . .

Imagine being able to create the most powerful artwork on the Amiga.

**In 16 Million Colors.
With Unlimited Resolution.**

Imagine 24 bit RAM animation, NTSC/PAL, RS178, Analog RGB/Composite video, 10 RISC MIPS/1.5/MFLOPS, 19 MB/S drawing speed, 8 MB BLIT Operations.

For more performance, the graphics board connects to our Transputer Processor Boards, each board capable of a max. performance of 120 RISC MIPS.

Each transputer chip is capable of addressing four gigabytes of memory.

Unlimited Expandability.

So why limit your imagination?

Let your talents soar to new heights with a Graphics Transputer Board from Digital Animation Productions.

For more information, contact:

Digital Animation Productions

1010 Thatcher St., Ste. 16

Boston, MA 02113

(617) 720-2038 or (617) 720-2355

may need to make several adjustments in order to get it on tape just the way you want it.

You must plan ahead, as slides are fifteen percent wider than a video image. Graphics that go to the edge of the slides will be cut off, so design your slides with seven percent at each edge that can be trimmed without cutting off important information.

After all your work is done, the best part is sitting back and watching the show with an audience. You will also have the satisfaction of knowing that using the Amiga can save you hundreds of dollars on a

slide-show presentation. While the Amiga is not the perfect solution for every situation, for most business applications it will give you very good quality at a very low price. ■

Geoffrey Williams is Executive Producer for Creative Business Communication and head of the Amiga Video-Graphics Guild, a nonprofit group that meets monthly to provide information on, and encourage the use of, the Amiga as a video and graphics machine. Write to him c/o AmigaWorld, Editorial Dept., 80 Elm St., Peterborough, NH 03458.

Slide Services

Applied Creative Arts

55 Grace St.
Malden, MA 02148
617/322-4571

CV Designs

61 Clewley Rd.
Medford, MA 02155
617/396-8354

Excalibur Graphics

819 W. Auman Dr.
Carmel, IN 46032
317/846-3718

Hammond Photographic Services

11280 Washington Place
Culver City, CA 90230
213/390-3010

Mueller Visual Productions

4024 28 Ave. #2
Rock Island, IL 61201
800/255-2255

Philadelphia Video Lab

2214-14 Walnut St.
Philadelphia, PA 19103
215/567-3222

Slide City

6474 Highway 11
Deleon Springs, FL 32028
904/985-1103

Tru-Image

PO Box 660, Cooper Station
New York, NY 10276
212/777-7609

REAR-PROJECTION SCREEN MATERIAL

Rosco

36 Bush Ave.
Port Chester, NY 10573
914/937-1300

and

1135 North Highland Ave.
Los Angeles, CA 90038
213/462-2233



Manufacturers' Addresses

Aegis Development

2115 Pico Blvd.
Santa Monica, CA 90405
213/392-9972
800/345-9871

Electronic Arts

1820 Gateway Dr.
San Mateo, CA 94404
415/571-7171

Gold Disk

PO Box 789, Streetsville
Mississauga, Ontario
Canada L5M 2C2
416/828-0913
800/387-8192

InnoVision Technology

PO Box 743
Hayward, CA 94543
415/538-8355

Kara Computer Graphics

6365 Green Valley Circle
No. 317
Culver City, CA 90230
213/670-0493

Liquid Light Inc.

2301 W. 205 St.
Suite 106
Torrance, CA 90501
213/618-0274

MicroIllusions

17408 Chatsworth St.
Granada Hills, CA 91344
818/360-3715
800/522-2041

NewTek

115 W. Crane St.
Topeka, KS 66603
913/354-1146
800/843-8934

Polaroid Corp.

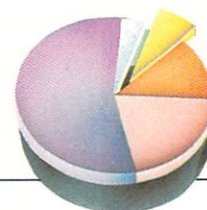
575 Technology Square
Cambridge, MA 02139
800/225-1618

Shereff Systems

15075 S.W. Koll Pkwy.
Suite G
Beaverton, OR 97006
503/626-2022

SunRize Industries

distributed by MicroSearch
9896 S.W. Freeways
Houston, TX 77074
713/988-2818



Harness the power of your Amiga—
Learn to use AmigaDOS and the CLI—
Become an Amiga Power User—
with...

THE AMIGA COMPANION

Second Edition

by Rob Peck

The AMIGA COMPANION, Second Edition, is your comprehensive guide to AmigaDOS and the CLI. In clear, concise, easy-to-understand language, the Amiga Companion shows you how to use the full range of powerful AmigaDOS and CLI commands. You'll get maximum performance from your Amiga 500, 1000, or 2000. Authored by former Commodore-Amiga innovator Rob Peck, the AMIGA COMPANION provides you with a thorough understanding and mastery of this vanguard computing system.

CONTENTS AT A GLANCE

The first edition of the AMIGA COMPANION helped thousands of Amiga users master basic, advanced, and innovative command skills in over a dozen help-filled chapters, including...

- Introduction to the CLI
- AmigaDOS Shortcuts
- Tools on the Workbench
- Information Commands
- Modifying Files Using AmigaDOS Commands
- The Heart of the CLI
- Configuring AmigaDOS
- AmigaDOS Command Scripts
- Console Control Characters
- AmigaDOS 1.3
- Software in the Public Domain
- Amiga Answers
- Plus Five Helpful Appendices and a Complete Index.

Now, the second edition gives you even more!

NEW, IN THE SECOND EDITION

- Full coverage of AmigaDOS 1.3
 - A new chapter on hard disks
 - Expanded CLI and SHELL commands
 - Over 50 additional pages of user-friendly examples and tips
 - A new MicroEMACS appendix
 - All topics completely revised and updated
- Plus...*
- Expedited delivery of your order via FIRST CLASS MAIL!

About the author: Rob Peck is one of the most respected and knowledgeable leaders in the Amiga community. Rob wrote the ROM Kernel Manual, the bible of Amiga developers. Rob is also the author of Programmers Guide to the Amiga and numerous magazine articles.

You don't need to be a technical expert to put the AMIGA COMPANION to work for you. The moment you open this help-filled book, you'll get more out of your Amiga than ever before! And as your skills develop, you'll find plenty of advanced ideas and information to make the AMIGA COMPANION the most valuable reference book you own!

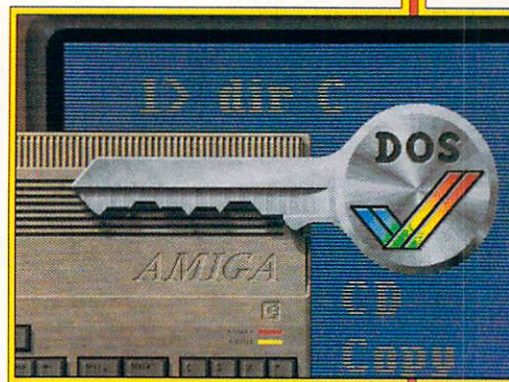
ORDER NOW!

Use this coupon to order your copy for expedited First Class Delivery. Or for even faster service, call 1-800-343-0728 and charge it on American Express, MasterCard or VISA. Order Today!

NEW EDITION!

Second Edition!
Amiga
Companion

By Rob Peck



An IDGC/Peterborough Publication

A complete, up-to-date guide to using AmigaDOS and the CLI.

EXCLUSIVE OFFER TO AMIGAWORLD READERS!

The AMIGA COMPANION has limited distribution in bookstores, but you can order your copy direct from the publisher. Just \$19.95! Call 1-800-343-0728 or mail this coupon today.

YES! Send me _____ copies of the AMIGA COMPANION, Second Edition, for just \$19.95 each plus \$2.50 per copy for first class delivery.

Name _____

Address _____

City _____ State _____ Zip _____

☐ My check or money order is enclosed (payable to AmigaWorld)

Charge my: ☐ American Express ☐ MasterCard ☐ Visa

Account# _____ Exp. date _____

Signature _____

Foreign Orders. Payment in US funds drawn on US bank is required. Orders outside of North America, please add \$12.00 per book for Air Mail shipping and handling. Domestic orders allow 2-4 weeks for delivery.

THE AMIGA COMPANION

IDG Communications/Peterborough

80 Elm Street • Peterborough, NH 03458

AW1289

Satisfaction Guarantee: If you don't get at least a dozen helpful ideas from the AMIGA COMPANION, simply return it within 10 days for a complete refund!

Amiga Specials Everyday

SUPER SPECIALS



Great Valley
Impact A500-HD30

\$759

Impact A500-HD30
w/ 2/0 RAM

\$809

Impact A500-HD30
w/ 2/2 RAM

\$1179

DISK DRIVES

Supra

20MB Ext. (A500)	\$559
20MB Ext. (A1000)	659
60MB Ext. (A500)	879
60MB Ext. (A1000)	1029
30MB Int. (A2000)	569
45MB Int. (A2000)	659
80MB Int. (A2000)	1159

Miniscribe

20MB Int. 3½" 40MS	259
20MB Int. 3½" 65MS	239

C. Ltd.

33MB Ext. (A500)	729
33MB Ext. (A1000)	769
44MB Ext. (A500)	799
44MB Ext. (A1000)	879
65MB Ext. (A500)	899
65MB Ext. (A1000)	939
33MB Int. (A2000)	659
44MB Int. (A2000)	1079
60MB Int. (A2000)	979

Great Valley

Impact A2000-2/0	289
------------------	-----

Impact A2000-2/2	\$729
Impact A2000-HC/40Q	799
Impact A2000-HC/80Q	1199
Impact A500-2/2	499
Impact A500-HD20M	709
Impact A500-HD40Q	989
Call For Configurations	
Not Listed!	

Buyers Special



Communication Specialties
Gen/one Genlock
\$649

Megatronics

3½" Internal Air Drive	119
3½" External Air Drive	145

PRINTERS

Alps

Allegro 24 24-Pin Flatbed	\$319
---------------------------	-------

Brother

M-1109 100cps Dot Matrix	179
M-1709 240cps, 132 Color	369

Canon

Canon BubbleJet 130	799
---------------------	-----

C.Ltd.

Laser Xpress	2199
--------------	------

Epson

LX-810 200cps, 80 Col.	179
FX-850 264cps, 80 Col.	339
FX-1050 264cps, 136 Col.	Call
LQ510 180cps, 24-Wire	339
LQ-850 330cps, 24-Wire	Call

Hewlett Packard

ThinkJet 2225	329
---------------	-----

Okidata

Okimate 20 Color	139
ML-172 180cps, 80 Col.	199
ML-182 Turbo 220cps	239
ML-320 300cps, 80 Col.	359

Panasonic

KX-P1180 192cps, 80 Col.	185
KX-P1191 280cps, 80 Col.	239
KX-P1124 192cps, 24-Wire	339

Star Micronics

NR-1000 Rainbow Color	229
-----------------------	-----

AUDIO/VIDEO

A-Squared

Live-A1000	\$229
Live-A500	299
Live-A2000	329

Anakin Research

Easyl Draw A1000	349
Easyl Draw A500	349
Easyl Draw A2000	389

Digital Creations

SuperGen Genlock	685
------------------	-----

Magni

4000 Genlock w/Remote Control	1839
-------------------------------	------

Mimetics

Genlock	145
Midi (A1000)	42
Midi (A500/2000)	42

Microway

Flicker Fixer	479
---------------	-----

Progressive Peripherals

Pro-Gen Genlock	359
-----------------	-----

Frame Grabber

519	
-----	--

Sunrise Industries

Perfect Vision	199
----------------	-----

AUDIO/VIDEO

Electric Color Splitter \$ 89

Perfect Sound 69

Image Scan 129

Summa

APRO Draw w/Cursor 499

MODEMS

Anchor

1200 Baud External	\$ 99
2400 Baud External	159

Hayes

Smartmodem 300	149
Smartmodem 1200	279
Smartmodem 2400	419

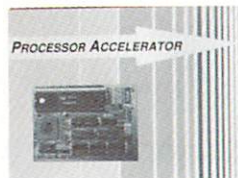
Practical Peripherals

1200 Baud External	85
2400 Baud Internal	145

Supra

SJ2400 External	119
SJ2400zi Internal/2000	145

Super Buy



Creative Microsystems
Processor Accelerator
\$175

BOARDS

Creative Microsystems Processor Accelerator

A500/A2000	\$175
A1000	189

Microbotics

Starboard II	Call
Upperdeck	45
8 Up (A2000)	179
Hard Frame	249

Spirit Technology

1.5MB w/OK (A1000)	259
1.5M w/OK (A500)	299

Supra

8MB Board w/2mg	519
-----------------	-----

Call 1-800-233-8950!

MONITORS

Magnavox	
8762 14" Comp/RGB	\$249
14" Color RGB/Comp	259
Nec	
Multisync IIA	\$499
Sony	
1302 13" Multiscan	699
1310 13" RGB	339

SOFTWARE

Accolade	
J. Nicholas Golf	\$ 33
Test Drive II	29
Grand Prix Circuit	33
Action Ware	
P.O.W.	24
Prison	26
Creature	26
Aegis	
Draw 2000	159
Lights, Camera, Action	49
Videoscape 3D	119
Video Titler	95
ANImagic	69
Broderbund	
Where in The World	28
Fantavision	38
Sim City	32

SOFTWARE

Contriver	
M4 Replacement Mouse	\$ 40
C.Ltd.	
Jet Master	50
Cinemaware	
Lords of The Rising Sun	32
Rocket Ranger	32
Three Stooges	32
TV Sports	32
Krystal	33
Digitek	
Hole-in-One	25
Hole-in-One Courses	14
Discovery	
Marauder II	24
Sword of Sodan	32

Best Buy



NEW TEK
Digi•Paint 3
\$57

Electronic Arts	
Master Ninja	21
Zany Golf	27
Deluxe Paint III	99
Epyx	
Battleship	21
Technocop	33
Gold Disk	
Design 3D	66
Desktop Budget	48
Movie Setter	64
Professional Page 1.2	219
Incognito	
Kings of England	30
Melbourne House	
War in Middle Earth	32
MicroDeal	
AMAS (A500/2000)	64
International Soccer	28
Tetra Quest	27
Zero Gravity	19

Hot Special



EPYX
California Games
\$29

Byte by Byte	
Animate 3D	105
Sculpt 3D	75
Sculpt 3D Excel	109
Sculpt/Animate 4D	429
Sculpt/Animate 4D Jr.	95
Centaur Software	
BAD	33

CMO Super Savings Special



EPSON
LQ950
264 cps, 24-Wire

\$499

Micro Systems		Readysort	
Scribble! Platinum	\$ 92	AMAX	\$129
Excellence	179	Cosmic Bouncer	21
On-Line! Platinum	62	Spotlight	
Micro Illusions		Deathbringer	26
Music-X	199	Speedball	26
Mindscape		Total Eclipse	26
Balance of Power 1990	32	Sedona	
Hostage	29	Money Mentor	52
New Tek		Spectrum Holobyte	
DigiView Gold	139	Tetris	23
Psygnosis		Falcon	29
Baal	19	TopTen	
Ballistix	22	Lombard Rally	27
Fire Brigade	33	WordPerfect	
Chrono Quest	34	WordPerfect	135
Captain Fizz	25	WordPerfect Library	79

Your Source for Hardware, Software & Peripherals
In U.S.A.



Over 500,000 Satisfied Customers

800-233-8950

In Canada call: 800-233-8949

All Other Areas call: 717-327-9575 Fax call: 717-327-1217

Educational, Governmental and Corporate Organizations

Call toll-free: 1-800-221-4283

CMO, 101 Reighard Ave., Dept. B1, Williamsport, PA 17701

POLICY: Add 3% (minimum \$7.00) shipping and handling. Larger shipments may require additional charges. Personal and company checks require 3 weeks to clear. Credit cards are not charged until we ship. Pennsylvania and Maryland residents add appropriate sales tax. All prices are U.S.A. prices and are subject to change. All items are subject to availability. We cannot guarantee compatibility. We are not responsible for typographic or photographic errors.

MMC
MICROCOMPUTER
MARKETING COUNCIL
of the Direct Marketing Association, Inc.



Memory to the MAX

Find out how much is enough and how to make the most of the RAM you have.



“MORE IS BETTER” says the old axiom, but with the Amiga, memory expansion is not that simple. Like assembly-line workers, the sections of an Amiga’s memory are each best suited for different tasks. If you have a labor shortage in the engine department, hiring extra hands for the body shop is no help. If you need more chip RAM to store graphics and sound, buying several megs of fast RAM is not the answer. Just as a foreman must know the employees’ production capacity to keep the factory running smoothly, you must understand the various types (fast, chip, and slow-fast) of memory and their uses to make your Amiga as efficient as possible. While buying more is one answer, several system and public-domain programs will help you work around a shortage when the budget is tight.

CHIP OFF THE OLD PROCESSOR

The Amiga’s multiple processors are in part responsible for the memory segregation. In addition to the computer’s main processor, the Motorola 68000, the Amiga has a number of coprocessors that control graphics, sound, and disk I/O, among other things. These coprocessors can directly access a portion of the Amiga’s memory and can change its contents without the intervention of the main processor. Because the coprocessors are integrated into large custom computer chips (called Agnus, Denise, and Paula), the portion of memory that they can use as their work space is called chip memory, or chip RAM. The initial 512K of the Amiga 500 and A2000, plus the A1000’s 256K and 256K upgrade, are all chip RAM, accessible to the main processor or the coprocessors.

When you add a memory-expansion module to the A500’s or the A1000’s external bus, or plug a memory board into one of the A2000’s expansion slots, you are adding another type of memory called fast RAM, or fast memory. Unlike chip RAM, fast RAM can be accessed only by the main processor, not by the coprocessors for graphics and sound storage. The main advantage of fast memory is that it does not have to

be shared among the processors like chip memory does. When the custom chips and the main processor both want to use chip RAM, they have to take turns accessing it, most of the time without a wait. When there is a lot of graphics activity, the graphics chips may access chip memory so frequently that they delay the main processor’s access to chip memory, slowing down program execution. With fast memory in the system, however, the main processor may access program instructions from that memory while the graphics chips are using chip RAM.

Fast RAM does have some disadvantages. Because it is not an integral part of the computer’s memory architecture, expansion RAM boards require auto-configuration circuitry to tell the computer how much memory is on the board and to let the Amiga add that memory to the system resources automatically. Memory-board prices reflect this added developers’ cost. Although fast RAM does not have multiple processors competing to access it, it cannot hold graphics display or sound information. Even with eight megabytes of fast RAM, you may not be able to multitask a graphics-intensive program, such as Professional Page (Gold Disk) or DeluxePaint III (Electronic Arts), because you still have only 512K of chip RAM available.

DORMANT HELP

When the Amiga 500 and 2000 were created, so was a new type of built-in memory, often referred to as slow-fast RAM. In most A2000s, the second 512K of the computer’s standard one-megabyte memory is slow-fast memory. In most A500s, the 512K module that attaches to the bus on the computer’s underside is slow-fast memory. This portion of memory combines the worst characteristics of both fast memory and chip memory. Like fast RAM, it cannot be used for graphics or sound information. The main processor may have to wait, however, before accessing slow-fast memory, as with chip RAM. Because it is connected to the system in a manner similar to chip memory, it can be recognized automatically by the system ►

BY SHELDON LEEMON



without requiring auto-config circuitry, providing an inexpensive upgrade to one megabyte.

Slow-fast memory's latent power is unleashed by Commodore's Enhanced Chip Set. While the original custom-chip set could address a maximum of 512K of chip RAM, the newly developed One-Meg Agnus

chip can address up to one megabyte of chip RAM. With the new Agnus, slow-fast memory turns into an extra 512K of true chip RAM.

Whether you should upgrade to the new One-Meg Agnus chip depends on the types of programs you run and whether you want to fully enjoy the improvements AmigaDOS 1.4 will offer. If you use programs that require a lot of graphics and sound memory (such as desktop-publishing, painting, 3-D, desktop-video, and music software), the One-Meg Agnus will let you work with larger files and multitask.

Installation requires modifications to the Amiga's motherboard, plus the delicate removal and insertion of square-package chips. Play it safe and have a registered service center do the work. The entire upgrade typically costs between \$150 and \$175.

If you bought your Amiga after June 1989, it may already have the new Agnus chip. You can test for its presence in an A2000 or A2500 with the AVAIL command. From the CLI or Shell, type AVAIL. If you have a megabyte of chip RAM, the third item (in the Maximum column) in the first row (marked "Chip") will read 1040152. If not, the number will be half as great.

The situation is trickier for A500 owners. You cannot tell if you have the new Agnus chip without opening up the computer. (If you have the chip, you will see only four RAM chips on the motherboard instead of 16.) Because the A500 comes with only 512K of memory, the computer is set at the factory for 512K of chip RAM. Even if you have the One-Meg Agnus and plug in a 512K expansion module, the RAM will not become chip RAM automatically. Your dealer must make internal modifications to the A500 before it will recognize the extra RAM as true chip RAM. Once the modifications are made, the computer will not operate unless the memory-expansion module is plugged in.

A1000 owners have no direct upgrade path to one megabyte of chip RAM, because the first Agnus chip is smaller than the new chips. A few third-party developers are working on adaptors that will allow the A1000 to accept the One-Meg Agnus. As of this writing, however, no details are available.

PRIORITY RANKING

The type of memory the system uses first depends on the order in which the memory is added and the priority of the various blocks of memory. Normally, fast memory has a priority of zero, while chip memory has a priority of -10. This means programs will load into fast memory first, preserving chip memory for programs that specifically request it for storing graphics and sound data. While this is usually desirable, it can cause problems with programs that were written before fast memory was generally available. Some older software assumes that all memory is chip RAM, and does not specify the type of memory to use for graphics images. As a result, the program's graphics and sound will not work correctly if you have fast RAM in the system. ▶

Memory versus Storage

WHILE BOTH HOLD data and are measured in units of kilobytes (K) and megabytes (MB), computer memory and storage are two distinct entities. You can think of computer memory as the processor's temporary work space, where it holds the instructions for the programs that are currently running and the information used by those programs. Because information stored in computer memory can be retrieved only by the processor, all of it is lost when the processor loses power or you reboot the computer.

Storage devices, such as floppy and hard disks, provide a permanent residence for program and data

files, as information is inscribed on the disks' surfaces. The computer's processor can address storage devices only for reading and writing, however, not for performing calculations and other operations required to run a program. While adding 40MB of hard-disk storage to a 512K Amiga lets you store a multitude of programs in one place, it will not let you run a program requiring a megabyte of memory.

Computer memory, then, is like the work area of your desk. Storage is like the drawers into which you sweep your papers each night, and from which you retrieve them each morning. □ —SL

Chip Sense

TO SAVE MONEY, you can purchase memory boards unpopulated (sans chips) then shop around for the best price on the chips. Make sure that the characteristics of the chips you buy match the requirements of your board. The safest way is to buy what the board's manufacturer recommends. Always make sure to check the:

- **Memory capacity**—The current generation of chips is divided into 256-kilobit chips and 1-megabit chips. The next generation of 4-megabit chips is just starting production, with 16-megabit chips to follow.

- **Memory layout**—Not all 1-megabit chips are accessed in the same way. While the most common type are 1 megabit × 1 chips, a significant number of Amiga boards used 256K × 4 chips. You can use the latter to upgrade memory in 512K increments (4 chips), while the 1 meg × 1 chips usually can be added only a megabyte at a time (8 chips).

- **Access speed**—Faster chips (80 nanoseconds and lower) cost a lot more than the slower chips (120

nanoseconds and higher). Because the stock 7.14 MHz Amiga is relatively slow by today's computer standards, do not feel obligated to pay extra for chips with a lower rating than 150 nanoseconds (unless the board requires them).

- **Chip package**—The most common plug-in style of chips are called DIPs (Dual Inline Package). These are the little plastic rectangles that look like bugs with rows of metal legs on either side. Another plug-in module is called a SIMM (Single Inline Memory Module). SIMMs are like circuit boards that let you plug in a whole megabyte at a time. Other packages turn the rectangular chips on their sides, with all of the legs coming out one edge of the chip. These include SIPs (Single Inline Package) and ZIPs (similar to a SIP, but with the legs staggered like a zipper).

- **Refresh type**—Most memory chips on the Amiga are Dynamic RAMs (DRAMs). The more expensive, but faster, Static RAMs (SRAMs) are used only for special applications, such as accelerator boards or battery-backed RAM disks. □ —SL

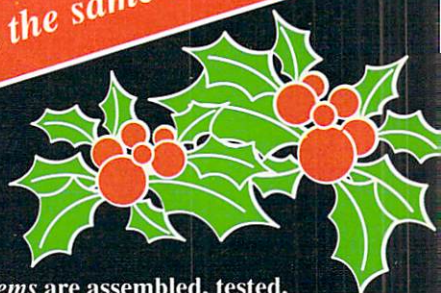
TRUMPCARD

LONG ON PERFORMANCE

SHORT ON COST

NEW!

Trumpcard / Amax utilities package allows multiple Mac partitions and multiple Amiga partitions on the same drive!

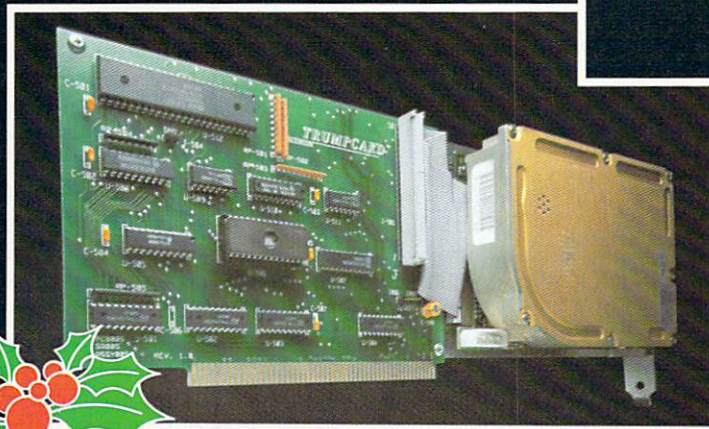


TRUMPCARD (above)

- User customizable driver supports over 20 devices.
- Transfer rates *measured* over 400 Kbytes/sec.
- Exclusive IVS checklist software makes configuration a breeze.
- IVS Smartboot autoboots all drives from cold start.
- List price \$199.95.

TRUMPCARD 500 (below)

- Premium 500HD series drive systems are assembled, tested, and formatted with WB1.3 by IVS.
- Standard Trumpcard 500 includes enclosure and Trumpcard SCSI disk controller.
- High quality, ergonomically designed, color matched aluminum enclosure houses all electronics and 3.5" SCSI drive!
- Extra slot for addition of optional 4 Mbyte Ram card.
- No cost A2000 upgrade! Trumpcard, RAM, and drive are A2000 compatible.
- Sloping face of chassis eliminates keyboard interference.
- Cards and drive run from A500 bus power or optional IVS SOURCER, a premium quality 40 watt switching supply.



TRUMPCARD HARD DISK CARD (left)

- Premium HC series includes Quantum drives assembled, tested and formatted with WB1.3 by IVS.
- Supports all Quantum, Seagate, Miniscribe, Conner, and Maxtor 3.5" drives.
- Identical speed as DMA to Buffer type controllers costing hundreds more!

All Products Distributed By Micro Pace.

All IVS Trumpcard products are available with drives pretested and formatted by IVS.
Ask for Trumpcard HC series 2000 cards or Trumpcard 500HD series for A500.

 **TRUMPCARD**
INTERACTIVE VIDEO SYSTEMS

11612 KNOTT AVENUE • SUITE 13 • GARDEN GROVE, CA 92641 • (714) 890-7040



You can temporarily disable all fast memory with a program called NoFastMem. Located in the System drawer, NoFastMem allows programs that run correctly only in chip memory to work in a machine with fast RAM. Click on the NoFastMem icon, then run your problem program. When you are finished, reboot and the memory returns.

The public domain offers some more permanent solutions. StealMemBoot (found on Fred Fish disk #150) installs a program on a disk's boot block that automatically disables all fast RAM when you start up from that disk. If your software uses boot-block copy

protection, however, do not use StealMemBoot. Writing to the boot block could render such a disk unusable. Another alternative is Fixhunk (Fred Fish disk #197). Fixhunk changes the offending program so that it requests to be loaded into chip memory without disabling fast memory. Because Fixhunk alters the program's code, use it only on a copy, not your original program disk.

The priority situation is more complex if you have both slow-fast and fast RAM. Slow-fast RAM has the same priority as fast RAM, and because it is added to the system before any expansion RAM, it is used before fast memory. For optimum performance, your system should access fast RAM first. Located in Workbench's System drawer, FastMemFirst (formerly SlowMemLast) changes the priorities of the memory blocks so that the system will use expansion RAM before slow-fast memory. If you use Workbench's default startup-sequence, you are all set. The startup-sequence runs FastMemFirst automatically when you boot the computer.

GET IT TOGETHER

On a multitasking machine such as the Amiga, free memory is not always located in one solid block. Let's say you run three 100K programs that load one after the other. If you close the first program and the third program, you free up 200K of memory, but it is fragmented: The 200K consists of two blocks of 100K each, separated by the second program, which is still loaded in memory. As a result, you may not be able to load a 150K data file into a program even though you have 200K of free memory. The AVAIL command will show you the size of the largest chunk of contiguous memory.

Although you should be aware of fragmentation, you cannot do much about it unless you have two or more memory-expansion boards. Even if the addresses of the two chunks of memory are located next to each other, the boards are considered separate. If you have a pair of two-megabyte boards, the largest chunk of fast RAM that a program can access is two megabytes. The MergeMem program in Workbench's System drawer will combine the boards' memory, however, so that a program can access them as a single chunk of memory that is four megabytes in size. Simply click on the icon.

The complexities of Amiga memory result from the flexibility and power of the computer itself. Because of its multitasking, graphics, and sound capabilities, the Amiga can make use of all of the memory that you can supply. By the same token, any memory that you add to your computer will expand the range of possibilities open to you. The key is to expand most in the areas where you have the greatest need. ■

Sheldon Leemon is the author of Inside Amiga Graphics and other books, and he is a frequent contributor to many computer publications. Write to him c/o AmigaWorld, Editorial Dept., 80 Elm St., Peterborough, NH 03458.

Accelerators and Memory Expansion

ACCELERATOR BOARDS THAT use 32-bit processors, such as the 68020 or 68030, raise their own memory issues. Although such boards can access all kinds of Amiga memory, they are fastest when used with their own 32-bit memory. This designation does not refer to a special kind of chip or more chips per megabyte. Rather, it refers to the way in which the chip is connected to the 32-bit processor, allowing the processor to read and write more information at a time. When buying, you should consider:

- **Auto-configuration**—Most memory boards auto-configure, which allows the system to recognize their memory automatically. The auto-config address space has room for only eight megabytes of expansion RAM, however, even though 32-bit processors can address up to 4096 megabytes (four gigabytes) of RAM. You can add boards that do not auto-configure on top of the eight megabytes of auto-config memory, but you must run a configuration program before the system recognizes them. Also, the

memory may be incompatible with some software, such as Amiga Basic.

- **DMA support**—Some 32-bit memory boards (such as the ones from IMtronics and CSA) do not allow DMA devices (such as hard-drive controllers) to directly read from and write to this memory. If you are using a DMA hard drive, non-DMA expansion memory will usually mean slower hard-drive access times.

- **Burst mode**—Some memory boards (GVP's) for the 68030 processor support that chip's special "burst mode," which speeds up memory reads.

- **Priority**—Auto-config memory boards usually put the 32-bit memory at the top of the memory list, while others (such as IMtronics' and CSA's) do not. If you are using a RAM disk, for example, you may not want this "faster" fast RAM used right away, however. Some public-domain programs—such as MemPri (available on CompuServe)—allow you to temporarily change the order in which such memory is used. □ —SL

Future Memory

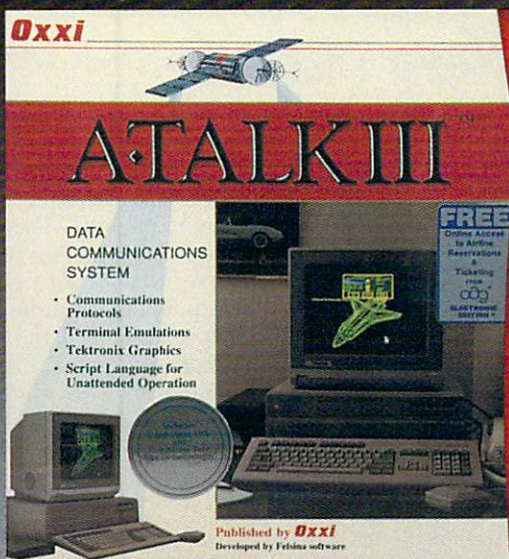
SOMEDAY YOU MAY not have to buy a memory board to expand your system. Newer accelerator boards contain a chip called a Memory Management Unit (68030 processor chips have an MMU built in) that lets your Amiga use storage devices such as hard drives as if they were very slow memory devices. When a program runs out of memory, it can read from and write to the disk instead of

RAM. Version 1.4 of the operating system will lay the groundwork for this development (called Virtual Memory), but full support will probably be a little farther down the road.

In the meantime, software developers take note: If your programs ask for 32 megabytes of memory, someday they just might get them. □ —SL

THIS SEASON'S M.V.P.s*

*(Most Valuable Programs)



A-TALK III™

Ahead of the Pack

A-Talk III, the first communications program for the Amiga Computer™ to bring you an ARexx language interface now adds support of ASDG's new multi-serial port cards for the Amiga 2000™. With A-Talk III and ASDG's multi-serial cards you can now set up a multi-line BBS. A-Talk III is a professional program maintained by professionals.

Standard A-Talk III features include:

- Advanced Script Language with over 50 commands, interactive commands, and automatic generation of logon Scripts.
- ARexx Language Interface.
- Over 9 protocols including: XMODEM, YMODEM-g, Kermit and WXMODEM and ZMODEM resume.
- Global setting screen for setting up parameters for host systems.
- Support for over 10 modems including Hayes™, HST and Telebit.
- Busy signal detection.
- System Clipboard support with Cut, Copy and Paste.
- International Fonts and Keyboard Support.
- Terminal emulations including: VT100, VT52, H19, ANSI, and Tektronix 4010/4010, IBM PC ANSI Color Graphics.
- Overscan in NTSC and PAL

Requires 512K, 1 Meg of Memory Recommended

List Price: \$99 US

Critics' Praise:

"More file transfer, display and communications options than you can shake a stick at."
— INFO Magazine

"One of the most powerful communications packages on the market"
— Amiga World

"I would wholeheartedly recommend your using A-Talk (III)"
— Amiga Sentry

"If you need a communications package that does it all"
— Amazing Computing

"A-Talk, the outstanding commercial program from America"
— Your Amiga (UK)

"A-Talk III sets new standards"
— Amiga Markt & Technik

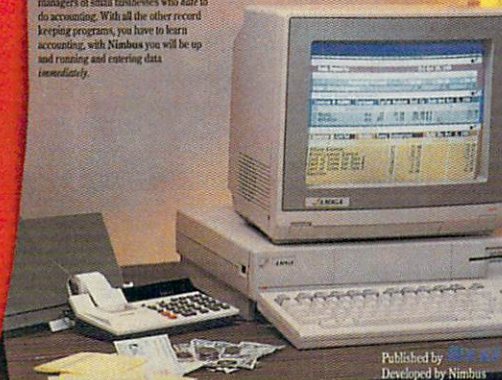
"A sports car disguised as a Volkswagen"
— Dator Magazine

"A-Talk III is the program of choice"
— Amiga

Do Business,
Not Accounting with

NIMBUS™

The easy new accounting program for managers of small businesses who hate to do accounting. With all the other record keeping programs, you have to learn accounting, with Nimbus you will be up and running and entering data immediately.



NIMBUS™

Tackle Business, Not Accounting

Nimbus simplifies the accounting process so you can get on with your business. Accounts are kept on a cash basis, automatically transforming your check book register into an Income Statement and Balance Sheet. Setting up Nimbus is as easy as entering your company name, address and an opening account balance. Forget debits and credits, Nimbus dispenses amounts to proper accounts as you write checks and create invoices. Customers and vendors are kept track of by name not an assigned number. The built-in Chart of Accounts can be used as is, or edited to suit your particular requirements.

Standard Nimbus features include:

- Fully integrated General Ledger, Sales/Accounts Receivable, Purchases/Accounts Payable
- Standard reports including aging report available at any time
- Logically progressive Mini-menus guide you through the data entry process
- Daily, weekly, or monthly sales and expense reports
- Separate Customer Statements
- Capsule statement available at bottom of each invoice if desired
- Utilizes Hard Disk and separate Data Disk for unlimited invoicing and payables.
- Plain paper or pre-printed Invoices and Statements

Requires 512K, 1 Meg of Memory Recommended

List Price: \$159 US

Both Now Available from your Amiga Software Dealer

Dealers call: American Software, Comp Rehead, Micro-Pace, Soft-Kat, Southern Technologies or Triangle Electronics.

Oxxi inc.

P.O. Box 90309, Long Beach, CA 90809
(213) 427-1227

A-Talk-III, Amiga, Tektronix, Hayes, IBM and Nimbus are the respective trademarks of Felisia Software, Commodore-Amiga, Tektronix, Inc, Hayes Microcomputer Products, Inc., IBM and Nimbus. Copyright © 1989 Oxxi, Inc.



Circle 75 on Reader Service card.

Announcing The Most Exciting New Dimension in Computing

AMIGA
WORLD

VIDEO & ANIMATION SPECIAL

PRE-
PUBLICATION
OFFER!

A Landmark Special Issue That Will Help You Discover How YOU CAN DO IT, TOO!

Here it comes! The largest and most authoritative Special Issue ever! It pulls together the latest hardware, the newest software, the best peripherals! Expert tips and techniques by the industry's hottest authors in articles written by top pros from Disney, Hanna-Barbera and other leading TV, film and design shops. Credits include Diehard, an award-winning Campbell's Soup commercial, Bette Midler's "Stella" and more!

In short, it's everything you need to get your own video and animation projects up and running!

Dazzling special-effects generators, sophisticated 3-D modeling, super-realistic sound tracks, top-drawer video titling and more... the VIDEO & ANIMATION SPECIAL will take you where the action is in video and animation today... and where it's headed tomorrow!

Along the way, you'll prove to yourself the amazing power of Amiga as the platform of choice for mind-bending, award-winning images at every level of skill and ability!

☑ Get up to speed quickly with a money-saving Buyer's Guide that will help you identify and price the major hardware and software options...

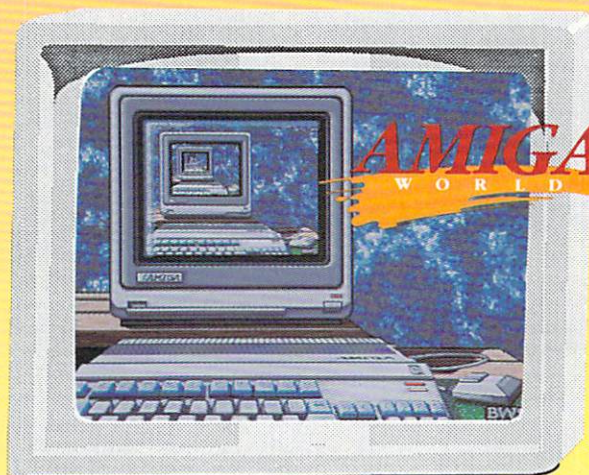
☑ Zero in on price/performance comparisons of the Amiga, MAC and PS/2, and be astounded by the impressive array of third party support commanded by Amiga...

☑ Fine tune your projects with a comparison of 9 Genlocks complete with vectorscope and waveform analyses, and 8 Commercial Titling programs.

☑ Set up your studio for beginning, intermediate or advanced video work. Explore the questions to ask when buying VCRs and video cameras plus high-end equipment like time base correctors and single frame controllers.

☑ Review the limits and advantages of cell and morphological animation. Create special effects and presentations using LIVE!, Mandalla and review five other software programs.

☑ Dean Freidman talks about his groundbreaking Nickelodeon project. Do you need The Director or will a simple slide show do it? How do you display images... control them... flip forward and backward between images?



AND MORE, MORE, MORE!

Including a discussion of the Amiga 3000, authoring systems and yet unseen technologies... visit with the Amiga "heros"—leading animators and video pros of film and TV... an overview of rotoscoping for animators who don't draw... a comparison of the four major paint programs... how to add sound to your animation... an inside tour of Turbo Silver and Sculpt... convert 2-D animations to 3-D and put them on videotape... save money with low cost titling and other high-tech techniques... learn how image processors can make your job easier. There's Q&A, lists of resources, **PLUS YOU CAN GET A SPECIAL VIDEO AND TWO FANTASTIC ANIMATION DISKS!**...

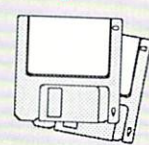
Expand Your Creativity With Additional Special Products From AmigaWorld!



A 45-minute Animation Video and a Two-Disk Set of Software, Utilities and Objects You Can Use Now!

This colorful video is packed with dozens of examples of the best animations submitted by AmigaWorld readers—most of whom are real pros!

This useful two-disk collection gives you vector objects... animated brushes... color fonts... video & animation utilities... much more!



Try them both for 30 days without obligation. Money back if not satisfied.

Complete and mail the coupon now or **CALL TOLL FREE 1-800-343-0728** (NH: 924-9471) to reserve your copy of AmigaWorld's VIDEO & ANIMATION SPECIAL!

☐ **Yes!** Send me _____ copies of the AmigaWorld's VIDEO & ANIMATION SPECIAL @ \$4.95 each.

☐ Also send AmigaWorld's Animation Video at \$19.95.

☐ Send AmigaWorld's 2-Disk Software Library at \$14.95.

AW1289

Name _____

Address _____

City _____ State _____ Zip _____

Amount Total _____

Check/Money order enclosed (payable to AmigaWorld Special Issue.)
Charge my: ☐ MasterCard ☐ Visa ☐ Amex

Card # _____ Exp. Date _____

Signature _____

Publication date: 1/15/90. Please allow 3-6 weeks for delivery.

Foreign orders, \$5.50 for surface mail or \$9.50 for Airmail on Special Issue. Canadian and Mexico, 5.50. 2-disk Software Library is an additional \$1.50 for surface mail or \$4.00 for airmail. Video, add \$2.50 for surface mail, or \$7.50 for airmail. Payable in U.S. funds drawn on U.S. bank. Make check payable to AmigaWorld Special Issue.

AmigaWorld's Video & Animation Special • 80 Elm Street • Peterborough, NH 03458

The 1989 Experts' Choice Awards

V O T E D B Y

Gene Brawn	Joel Hagen	Patrick Quaid
Bill Catchings	Morton Kevelson	Dorothy Rankin
Nancy Devitt	Loren Lovhaug	Joel Tessler
Chris Dickman	Gary Ludwick	Tim Tully
Gary Fields	John Massengail	Mark Van Name
Dean Friedman	Dave McClellan	Lou Wallace
Roger Goode	Margaret Morabito	Tim Walsh
Randy Greenwald		Geoffrey Williams

IN RECOGNITION OF outstanding software (and to help you get the most for your money), *AmigaWorld* presents the winners and runners up in the 1989 Experts' Choice Awards. Each is followed by a synopsis of the judges' comments.

This year's panel was culled from our writers and professionals who use the products daily in their studios and offices. Artists and animators examined graphics programs; publishers evaluated desktop-publishing software; architects rated CAD packages; and musicians ranked the music category.

For manufacturers' addresses and more information on the winners, consult our Software Buyer's Guide on page 21.

ACCOUNTING

EasyLedgers

Brown-Wagh, \$295

Accounting is difficult enough without having to fight the interface. EasyLedgers is simple to use and offers on-line help for the General Ledger, Inventory, Accounts Payable, and Accounts Receivable sections. One step postings automatically update all accounts. For pre-project accounting, Job Estimating, Costing, and Charging functions are in the works.

The Accountant

KFS Software, \$299

For those who like traditional accounting packages and are willing to invest some time, The Accountant has all the basic mod-



ules—Sales, Expenses, Receivables, Payables, Inventory, Cost, Payroll, and more.

CAD

X-CAD Designer

CADVision International, \$149.95

Unlike its predecessor, X-CAD Designer has a friendly, intuitive interface that gives you access to the arcs, ellipses, splines, and other traditional drafting commands. You can then print your up to 256-layer design to a dot-matrix printer or a plotter. For disk saves it supports its own format, plus Aegis Draw and IFF format.

Draw 2000

Aegis, \$279.95

Like X-CAD, Draw 2000 employs standard ►

CAD functions, but not those extras that engineers and architects need.

EDUCATION

Discovery Series

MicroIllusions

The series is made up of the Discovery game (\$39.95), a space adventure in which you must answer questions correctly to proceed past obstacles, and data disks (\$19.95 each) for math, spelling, geography, and science. Problems for elementary to high school grades are available, making this the most flexible and enduring of the educational genre.

Where in the World Is Carmen Sandiego?

Broderbund, \$44.95

You're a master detective collecting clues and scanning the world (and the included World Almanac) for the thieving Carmen Sandiego. You'll have so much fun with this graphics adventure, you might not notice you're learning geography.

GRAPHICS

2-D

DeluxePaint III

Electronic Arts, \$149.95

As one ballot said, "Fait accompli." The smart design, easy-to-use interface, keyboard shortcuts, performance speed, animation capabilities, plus practically every function an artist could want make DeluxePaint III the standard against which others are judged.

Deluxe PhotoLab

Electronic Arts, \$149.95

An all-in-one package with an elegant interface, Deluxe PhotoLab integrates paint options with image processing and analysis functions.

3-D

Turbo Silver 3.0

Impulse, \$199

Superior lighting, fast rendering, and a multitude of functions (such as the ability to generate mountains and oceans) top Turbo Silver's list of qualifications. While it does not support the Anim standard, you can animate your objects by using simple paths. The price/performance ratio can't be beat.

Sculpt-Animate 4D

Byte by Byte, \$499.95

Although it provides excellent image quality and a solid user interface, Sculpt-Animate 4D's inferior lighting and limited options hold the program back.

ANIMATION

DeluxePaint III

Electronic Arts, \$149.95

For creating frame-by-frame cel animation, nothing comes close to DeluxePaint III. The environment is equally outstanding for computer-generated tweening. You'll get smooth results for both 2-D and simulated 3-D Anims with a minimum of fuss.

The Director

The Right Answers Group, \$69.95

The Director is a powerful and flexible tool for creating animated presentations with excellent sound and music integration. You are limited only by your imagination and the learning curve.

HAM

Photon Paint II

MicroIllusions, \$149

Special effects and animation capabilities nudged Photon Paint II past the competition. Full font support, contour mapping, a sophisticated and intuitive blend tool, and a user-definable stencil are the standouts.

Digi-Paint III

NewTek, \$99.95

A very close second, Digi-Paint III sports the best anti-aliasing and speed. All the tools are practical and professional. The ARexx interface gives you added flexibility.

SPECIAL EFFECTS

The Director

The Right Answers Group, \$69.95

If you have an idea for a special effect, you can probably find a way to achieve it with this graphics-oriented language. Learning the program, however, may be a bit rough, as you are programming, not pointing and clicking. The companion Toolkit module (\$39.95) adds MIDI output, a text display, new wipe routines, and a pie chart generator.

Invision

Elan Design, \$129

Although limited to use with LIVE! (A-

Squared), Invision provides video effects you won't find anywhere, short of professional equipment such as a DVE or Dubner board.

VIDEO TITLERS

Pro Video Gold

PVS Publishing, \$299.95

For studio use, you want a reliable and solid titler; Pro Video Gold has that professional feel. The supplied typefaces are limited, but the program is IFF compatible and anti-aliases cleanly. The many included transitions will keep your production moving.

Broadcast Titler

Innovision Technologies, \$299.95

Numerous fonts with good proportional spacing and overscanned screens are Broadcast Titler's highlights. Unfortunately, the program is awkward to learn.

DATABASES

Superbase Professional

Precision Incorporated, \$349.95

Flexible, powerful, and relational, Superbase can handle virtually any application. Gadgets, pull-down menus, and requester boxes coddle the novice, while the BASIC-like programming language, ARexx interface, and detailed query system satisfy the expert. Along with text and numbers, you can store IFF graphics and sounds.

Professional DataRetrieve

Abacus, \$295

While this programmable, relational database is easier to learn than Superbase, it is also less flexible.

DESKTOP PUBLISHING

Professional Page

Gold Disk, \$395

With an optional four-color separation module, sophisticated typographic controls, excellent PostScript support, and flexible page manipulation, Professional Page is the reigning king of desktop publishing. Add its well-implemented Amiga interface and you see why the program is at the top.

PageStream

SoftLogik, \$199.95

The title of Crown Prince falls to Page-

Stream by virtue of its graphics and text manipulation, fonts, and print options.

MUSIC

M

Intelligent Music, \$200

M is the first program to allow truly interactive composition, letting you and the computer make meaningful contributions at the same time. The interface is excellent for governing random pattern generation of musical sequences.

AudioMaster II

Aegis, \$59.95

Flexible sample editing and a Hi-Fi play mode that exceeds the normal playback rate of 28K are this program's biggest assets.

PROGRAMMING

BASIC

HiSoft BASIC Professional

MichTron, \$159.95

An integrated compiler and editor, HiSoft BASIC produces compact code quickly. Your old programs won't be outdated; HiSoft is almost completely compatible with Amiga Basic. It also gives you easy access to ROM Kernel routines.

GFA BASIC 3.0

Antic, \$139.95

A rich assortment of commands plus inline C and assembly language capabilities enhance this speedy interpreter. Amiga Basic incompatibility drags it down.

C

Lattice C 5.02

Lattice, \$300

This year's winner of the C war is version 5.02 of the Lattice compiler. Added options (such as registered parameters) and the global optimizer improve the code produced. The variety of compilation options, flexible linker, extensive library, and source level debugger round out this reliable package.

Aztec C 3.6

Manx, \$199; \$299 developer's version

Like Lattice, the Manx C compiler generates fast, efficient code, but a relatively in-

flexible development environment relegates it to the number two spot. The source-level debugger is an additional \$125.

MODULA-2

Benchmark: Modula-2

Avant-Garde, \$199.95

Benchmark: Modula-2 lives up to its name, creating small, fast programs reasonably quickly. The integrated environment makes life easier as do the optional libraries and symbolic debugger.

M2Sprint

M2S Inc., \$385

This fast single-pass compiler is accompanied by ARP, IFF, and ARexx libraries. You'll appreciate the good manuals, as the program is still a bit buggy.

UTILITIES

ARexx

William S. Hawes, \$49.95

The standard for inter-program communications, ARexx is a programmable command language with extensive string options. It is compliant with Amiga programming standards and uses system capabilities effectively. As the list of supporting programs grows, ARexx will only become more useful.

TxEd Plus

MicroSmiths Inc., \$79.95

A fast, small, politely multitasking text editor, TxEd Plus makes code entry and editing efficient.

SPREADSHEETS

Superplan

Precision Incorporated, \$149.95

In addition to all the conventional spreadsheet capabilities, Superplan sports project management options and extremely powerful (but arcane) graphing functions. For the connoisseur, it also offers two types of macros, Lotus 1-2-3 file compatibility, and an ARexx interface.

MaxiPlan Plus

Oxxi Inc., \$199

Extremely easy to learn and use, Maxiplan

Plus is a powerful number cruncher with beautiful graphs and database capabilities.

TELECOMMUNICATIONS

A-Talk III

Oxxi Inc., \$99

Very user-friendly, A-Talk III gets you online without getting in your way. The extensive script language lets you customize almost everything, while the expansive list of protocols assures efficient downloading.

Access

Public Domain

Straightforward and easy to use, Access gives beginners quick entry into the online world. While it lacks the multitude of protocols and options of commercial programs, the experts can't pass up a good bargain.

UTILITIES

DiskMaster

Progressive Peripherals & Software, \$49.95

The intuitive design makes DiskMaster easy to run and simple to customize. The program combines common and some specialized file-management functions in a single comprehensive control screen.

Facc II

ASDG, \$34.95

The program does two simple but important jobs well—speeding up floppy-disk access and managing memory.

WORD PROCESSORS

excellence!

Micro-Systems Software, \$299.95

A strong Amiga interface coupled with sophisticated features is the key to excellence!'s success. To keep your document letter perfect, the package includes a spelling checker, thesaurus, and rudimentary grammar checker. You can incorporate graphics and output to a PostScript printer for professional results.

WordPerfect

WordPerfect Corp., \$395

Extensive text formatting controls, a spelling checker, a thesaurus, and PostScript output all stand in WordPerfect's favor. The interface does not. ■



10

◆

**A continuing series
of tips, techniques,
and tricks for
creating more
imaginative Amiga
graphics.**

◆

By Joel Hagen

The "Fix" Is On

I AM SO accustomed to the mercy of the UNDO button when painting on the Amiga that I unconsciously reach for it in day-to-day life. Jab as I may, however, bread remains jelly-side down on the cat and fingers stay smashed between wrench and water pump. Fortunately, in the more easily governable world that is the subject of "Accent on Graphics," I can explore with you, in this month's installment, a variety of Amiga options for correcting mistakes and cleaning up images.

UNDO—at least in DeluxePaint and some other paint programs—is the major panacea for most problems. Remember, though, that UNDO affects only your last action (although it is my understanding that Express Paint maintains a history of actions that can be successively undone). Get used to using the U key in DPaint instead of the mouse-oriented toolbox. If your toolbox is turned off with the F10 key and you need to undo something, turning it back on to find UNDO becomes your most recent move and you are stuck. Using the U key gets around this dilemma.

CHANGING COLORS IN MIDSCENE

The need to change an area of color is a common painting situation. For example, you may have spattered several colors into a landscape to give the effect of sand, and you now need to replace the orange with brown. Or, perhaps, you digitized a black-and-white portrait to translate into PostScript for printout. To avoid any glaring, blank shapes caused by pure white, those areas must be one level darker—the lightest PostScript dot pattern.

Obviously, you can always go into the palette and adjust any color while looking at the painting to judge the result—although this eliminates the color com-

pletely, replacing it with your new choice. For instance, in the PostScript problem posed above, it is simple to go into the palette and adjust color 15, white, to match color 14 by clicking once in its Value slider. This is a global change, however; white no longer exists. Thus, if later on you are going to need pure white in a border area or a text box, you must now selectively replace color 15 with color 14 without altering the palette.

In DPaint, under the Picture menu, you can use the option "BG to FG" (background to foreground) in Change Color to solve the problem. Make the background color 15, and the foreground color 14. Clicking "BG to FG" makes the color change over the entire picture, but does not affect the Palette. You can fill or repaint any areas you now want pure white. You can also pick up an area as a brush, use "BG to FG" in the Brush menu to localize the change, and then stamp it down again on the picture. Changing the white areas pixel by pixel would have been possible, but tedious.

There are yet other ways to change colors. For instance, you can make a Stencil under the Effects menu. Select the color you wish to change, either from the Stencil window or directly from the screen. Click on Invert, then on Make. The color is now the only one that can be affected. Select a replacement color and paint with an appropriately sized brush. This is a good method to selectively change color within a complex area. In Dpaint III, the Stencil feature also allows you to pick up as a brush only those colors not locked by Stencil. This means you can create a Stencil and then use the brush tool and right mouse button to remove color from any area, replacing it auto-

The smart money is on these cleanup and correction tips when it comes to saving time and mess in making revisions to your work.

matically with the background color you have selected.

PROJECT CLEANUP

Let's explore other techniques as I describe the steps of a specific cleanup situation in the accompanying Iceland map illustration. Using Digi-View in Lo-Res Overscan mode, I captured a black-and-white image from a postcard map and then loaded it into DPaint for cleanup. Working in 16-color Lo-Res allowed me to manipulate large areas of the screen. I used "BG to FG" to change all white in the picture to the next darker shade. I then made the vacant Palette position blue for good visibility. Under Effects, I selected Freeze Background, and using a small blue brush, I traced around the edges of the map. With the + and - keys, I sized the brush up and down to get into fjords or cover broader areas of coast. When I made mistakes, Background Freeze allowed me to erase back to the original map with the right mouse button. I also kept my left hand on the keyboard, using the U key frequently until I was happy with a line. When the outline was complete, I unfroze the background.

Selecting Fill and using blue as the background color, I filled the ocean while holding down the ALT key. In DPaint III, this allows fill to cover all colors until it reaches the boundary of the current background color. In one move, all the black-and-white digitized dither was replaced with blue. Selecting gray as foreground color, I picked up the entire map from the background with the Brush tool and then pressed SHIFT-K to clear the screen to blue. When I hit F2, Color mode, the digitized map became a clean silhouette in the foreground color, which I then stamped down in the ocean.



The finished map of Iceland above began as an ordinary black-and-white postcard illustration with little detail.

I then adjusted the vacant Palette positions to more useful colors, making the map light green. With foreground green and background blue, I used the postcard for reference and touched up details, using both mouse buttons and Magnify when needed. Selecting a darker green foreground color, I removed the map from the ocean with the right button and hit F2 again to make the entire map a dark green brush. I extruded the map from lower right to upper left with the straight line tool "v." Without moving the mouse, I hit F1 to restore the brush to its original color and stamped it down in place over the extrusion.

After saving the result for safety, I

went to Screen Format to switch to Hi-Res Overscan in order to add text. After DPaint stretched the image to the new format, I typed the title. Text always looks better in Hi-Res, but I worked on the actual map in Lo-Res so that I could cut large brushes.

Feeling at ease with a variety of cleanup techniques let me finish the project neatly and quickly. Putting the time to good use, I was able to wash the jelly off the cat. ■

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope.

Scripts For Success Part 2

They cast their characters and gave you the intro last month. Now our AmigaDOS directors will set you the task of learning your "scripts"—and discovering the powerful work they can do when you add more complex parameters.

By Mark L. Van Name and Bill Catchings

IN THE FIRST installment of our series, we discussed how to create and execute script files. The sample we gave, however, provided only a way to avoid typing a fixed set of commands over and over. This month we will show you how you can make your scripts much more powerful by letting them work on many different sets of files and input options. You add this power by defining parameters.

A parameter is a placeholder that you use instead of a fixed filename or other string. You declare a parameter with the special script-file statement

```
.KEY parameter_name
```

which you can also abbreviate as

```
.K parameter_name
```

This statement should be the first line in the script. You can then use the parameter anywhere in the script. For example, to create a simple script, BACKUP, that makes a copy of any file, you need only the statements

```
.KEY file  
COPY <file> <file>.BAK
```

Notice the < and > bracket characters that surround file. You must place them around the parameter's name every time you use that name in the script except in the initial .KEY statement.

When you execute the script, the EXECUTE command replaces the parameter with an actual value that you supply as the script's argument, just as you would give an argument to any AmigaDOS command. To run BACKUP on the file my_data, enter

```
EXECUTE BACKUP my_data
```

The result will be a backup file, my_data.BAK.

ONE IS FUN, BUT LET'S POUR ON MORE

In many cases, a single script parameter may not be sufficient to perform all the operations you want your script to accomplish. For example, you may wish to control the disk on which BACKUP places the .BAK copy of the file. Fortunately, a script can have many parameters. Just list them, with commas between them, on the .KEY statement, as in

```
.KEY file,disk  
COPY <file> <disk>:<file>.BAK
```

Do not leave a space between the parameters you define. If you do, when you EXECUTE the script you will get the message

```
EXECUTE: Parameters unsuitable for  
key "file, disk"
```

(where the string in quotes will be the text of your .KEY statement.) If you have more than two parameters, as in

```
.KEY p1,p2,p3
```

and you leave a space between the second and third, EXECUTE will never see the third parameter—an error that obviously can hurt your script file.

Regardless of how many parameters you define, they must all appear in the same .KEY statement. If you try to EXECUTE a script with two or more .KEY statements, you will get the error message

```
EXECUTE: More than one K directive
```

You must, of course, supply an argument for each parameter. EXECUTE then matches your arguments to the parameters. There are two ways to link ►

THE AAMIGA CENTER

Formerly The 64 Store

Call Toll Free **ORDERS ONLY**
1-800-388-2700
 10 AM To 6PM Mon. thru Sat.

256K x1 100 NS CHIPS.....	3.30
3-D POOL.....	21.95
A-MAX.....	141.00
ACAD TRANSLATOR.....	141.00
A-TALK III.....	64.95
ADRAM II.....	46.00
AIR DRIVE - 3.5" INT.....	149.95
AMI EXCHANGE.....	CALL
AMIGA +.....	CALL
AMIGA BASIC I/O - DISK.....	9.95
AMIGA BASIC I/O - BOOK.....	16.25
AMIGA DRIVES I/O - DISK.....	10.00
AMIGA GRAPH STARTER KIT.....	52.00
AMIGA DRIVES IN & OUT.....	21.00
AMIGA 3D GRAPHICS DISK.....	9.50
AMIGADOS TOOLKIT.....	36.00
AMIGATOSH DISK DRIVE.....	201.00
ANIMATION.....	32.50
ANTIC.....	CALL
AQUA VENTURA.....	CALL
ARCHPELAGOS.....	24.95
AREXX USERS MANUAL/DISK.....	32.50
ARTURA.....	26.00
B.A.D. DISK OPTIMIZER.....	32.50
BAAL.....	18.75
BARS & PIPES - MUSIC.....	CALL
BATTLE SQUADRON.....	24.95
BLOCKOUT.....	CALL
BLOOD MONEY.....	24.95
BOING MOUSE.....	104.95
BROADCAST TITLER 2.0.....	179.00
C-VIEW CHROMA LUMA.....	29.75
C-VIEW RGB TO COMPOSITE.....	29.75
C-LTD 502 ZERO KB.....	93.50
CALAGARI.....	156.50
CHESSMASTER 2000.....	29.00

WE WILL MATCH ANY ADVERTISED PRICE

CHESSMASTER 2100.....	31.00
DARK CENTURY.....	CALL
DELUXE PAINT III.....	90.00
DIGI - PAINT 3.....	60.00
DIGI - VIEW GOLD.....	128.00
DIGI - WORKS 3D.....	93.75
DIRECTOR.....	42.10
DIRECTOR TOOLKIT.....	24.95
DOS 2 DOS.....	34.25
DOUBLE DRAGON II.....	CALL
DR. T'S COPYIST PRO.....	170.00
DR. TERM PRO.....	62.50
DRAGON'S LAIR II.....	CALL
DUNGEON MASTER.....	24.95
DUNLAP UTILITIES.....	49.95
EXCELLENCE.....	159.00
EYE AT HORUS.....	24.95
FALCON.....	29.00
FANTAVISION.....	41.25
FEDERATION.....	37.50
FIENDISH FREDDY'S.....	31.25
FLIGHT SIMULATOR.....	31.25
FRAME GRABBER.....	540.00
GVP 030 BOARD.....	299.00
HAWAIIAN ODYSSEY.....	CALL
HEROS OF THE LANCE.....	27.50
HUNT FOR RED OCTOBER.....	21.95
INDIANA JONES (ARC).....	27.50
INDIANA JONES (ADV).....	CALL
INFESTATION.....	CALL
IT CAME FROM THE DESERT.....	33.50
KILLING GAME SHOW.....	CALL
KNIGHT FORCE.....	28.00
LEISURE SUIT LARRY II.....	31.25
LICENCE TO KILL.....	24.95
LOST DUTCHMAN MINE.....	CALL
MAC ROM CHIPS.....	139.00

OVER 1700 ITEMS AVAILABLE

MAC-2-DOS.....	93.50
MAGELLAN.....	121.95
MASTER PIECE FONTS.....	157.00
MEAGE.....	18.75
MIGHTY NERD.....	32.25
NEVER MIND.....	CALL
NEUROMANCER.....	CALL
OMEGA.....	29.00
OMNI PLAY BASKETBALL.....	34.25
ONLINE PLATINUM.....	49.75
OP-COUNTER STRIKE.....	15.50
OPTICS.....	109.00
P40 PURSUIT.....	28.00
PAGEFLIPPER PLUS FX.....	86.25
PAGESTREAM.....	124.95
PANASONIC KXP1124 PRN. CALL.....	CALL
PEN PAL.....	89.00
PHOTON PAINT 2.0.....	93.75
PHOTON VIDEO CELL ANIM.....	93.75
PLANET OF LUST.....	24.95
POPULOUS.....	33.00
POPULOUS DATA DISK.....	14.95
PRO WRITE 2.5.....	67.98
PROFESSIONAL DRAW.....	124.95
PROFESSIONAL PAGE.....	237.50
PROGEN GENLOCK.....	449.00
PRO-MIDI SOUNDSCAPE.....	93.75
QIX.....	21.95
QUARTERBACK.....	37.50
RAMBO III.....	21.95
RF MODULATOR.....	41.00
RVF HONDA.....	24.95
SAFE SKINS.....	22.50
SCANLOCK.....	85.00
SCULPT ANIMATE 4D JR.....	82.95
SCULPT ANIMATE 4D.....	349.00
SCULPT 3D.....	49.95

Commodore HARDWARE - CALL

SCULPT ANIMATE 4D.....	349.00
SCULPT 3D XL.....	110.00
SHADOW OF THE BEAST.....	31.25
SHINOBI.....	CALL
SHOOT 'EM UP CONST. SET.....	12.50
SHUFFLE PUCK CAFE.....	27.50
SIM CITY.....	31.25
SPEED BALL.....	245.95
SPIRIT 501 2MB/OK.....	269.00
SPIRIT INBOARD 1000.....	216.00
SPIRIT INBOARD 500.....	236.00
STAR NX 2400 24 PIN PRN.....	337.00
SUPERGEN.....	689.95
SUPERPLAN.....	93.75
SUPRA 2400 EXT. MODEM.....	119.00
SUPRA 2400 INT. MODEM.....	125.00
SWORDS OF TWILIGHT.....	34.35
SYNTHIA PROFESSIONAL.....	247.50
TARGHAN.....	24.95
TAX PLAN.....	21.95
TEENAGE MUTANT NINJA.....	CALL
THE WORKS PLATINUM.....	184.50
THEIR FINEST HOUR.....	CALL
TIMES OF LORE.....	24.95
TRUMPCARD - 2000.....	CALL
TRUMPCARD - 500.....	CALL
TURBO SILVER.....	125.00
VIDEOSCAPE 3D 2.0.....	125.00
VISUAL AURALS.....	106.75
WELLTRIS.....	CALL
WHERE IN THE WORLD IS C.S.28.75.....	39.95
WICO TRACKBALL.....	39.95
WILD STREETS.....	161.00
WORD PERFECT.....	21.95
WORLD TOUR GOLF.....	21.95
X-SPECS 3D.....	69.97
X-10 POWERHOUSE S'WARE.....	27.00

Commodore's First Authorized Amiga Dealer In The USA !!

The AAMIGA Center
5920 Roswell Road
Atlanta, GA 30328

TERMS: Software S/H USA \$3.95 per item, Hardware S/H by quote; Minimum order \$30.00; Cashiers check, Money Order, Visa, MasterCard & Discover welcome. No credit card fee; NO COD's. We ship UPS ground, Add \$6.00 for 2nd day air per item. Allow 3 weeks for personal checks; Return authorization number required for defective products. (Call (404) 252-1235); Only like product will be exchanged; 20% restocking fee on non defective return goods; Overseas shipping available; Georgia residents add sales tax.

Tech Support: (404) 252-1235 Customer Service: (404) 252-1233

AW-12/89

Circle 61 on Reader Service card.

More than just a Disk Copier!

Project D is the most powerful Amiga disk copier ever created. It allows you to protect your software investment by making backup copies of your personal, public domain, and commercial software (it even copies copy-protected software!). No other copier allows you to copy to all four disk drives at the same time. No other copier keeps a list of the errors that happened during the last backup. No other copier lets you set the starting and ending tracks of a backup. No other copier has been continuously supported for the past two years, and **Project D** is not and will never be copy protected in any way!

Project D was designed with the future in mind. We offer registered owners inexpensive, frequent upgrades to our parameter file so you can backup your latest software without having to wait months for new 'Brain Files'.

Project D includes three other useful utilities as an added bonus! The **OmniCopy** Tool can be used to make backups of software that you have for other computers (like MS-DOS or Atari ST). **EditorTool** allows you to examine and edit AmigaDOS disks all the way down to the MFM level. **CatalogTool** is a powerful automatic disk cataloging utility that lets you maintain detailed lists of your software library.

Compare the features of **Project D** to the competition and you will see that **Project D** is quite simply the best disk copier package money can buy!

All these great features for only **\$49.95** and that includes shipping and handling!

Available at fine Amiga dealers everywhere!

To order direct, call **(602) 497-6070**

or send check or money order to:

Fuller Computer Systems, Inc.

P.O. Box 9222

Mesa, AZ 85214



See How Project D Stacks Up Against The Competition

	<u>Project D</u>	<u>RawCopy</u>
Duplication Speed	80 Sec.	100 Sec.
Easy To Understand User Interface	YES	NO
Upgradable With Parameter Files	YES	NO
Catalog Utility Included	YES	NO
Copies other formats	YES	NO
Price	\$49.95	\$59.95

Don't settle for a mere Raw Copier when you can have a completely refined, powerful, accurate and original Disk Utility System that is really Well Done!

Just see what the critics have to say:

"I consider **Project D** to be akin to a well equipped luxury automobile; it gives a smooth ride and lots of easy to use operations."

Denny Atkin - AmigaWorld (Feb. 1989, pp. 92-94)

"The user interface is wonderful..." Info Rated: 4+ stars
 David Martin - Info Magazine (Sept/Oct 88, p. 16)

"**Project D** is by far the most comprehensive disk-utility package available for the Amiga today."
 Mitchell Lopes - Editor, Robo City News

Project D: The Disk Copier... Plus!

Amiga is a registered trademark of Commodore-Amiga, Inc.

Dealer Inquiries Invited

Arizona residents please add 6.5% sales tax.

Circle 183 on Reader Service card.

arguments with their corresponding parameters. The first is by position: EXECUTE matches the first argument to the first parameter in the .KEY statement, the second argument to the second parameter, and so on. In our new BACKUP script, the command

```
EXECUTE BACKUP foo DF0
```

matches foo to file, and DF0 to disk. (Note that you need not enter a colon after the disk name as you would normally do with other commands; the colon is in the script.)

You can also use the names of the parameters to identify their arguments on the command line, as in

```
EXECUTE BACKUP file foo disk DF0
```

or

```
EXECUTE BACKUP disk DF0 file foo
```

When you use parameter names, you can list the arguments in any order.

You can also mix these two methods. For example, to give the disk name first, enter

```
EXECUTE BACKUP disk DF0 foo
```

EXECUTE matches DF0 to the parameter disk because you used that parameter's name. It then matches the other argument, foo, to the remaining parameter, file. In general, EXECUTE first matches arguments with preceding parameter names to those parameters. It then matches the remaining arguments to the remaining parameters by position.

NO ARGUMENTS FROM US

Although we have stated so far that you must always supply an argument for every parameter, this is not entirely true; technically, you can omit any arguments you want. When you do, EXECUTE replaces that parameter in the script file with the null string (" ") everywhere it finds that parameter's name. The problem is that when you omit an argument, errors can easily arise. Leave out either argument to our BACKUP script, for example, and the COPY command will fail and give you the error messages

```
Bad arguments
copy failed returncode 20
```

Some scripts, though, will work perfectly well without one or more of their

arguments. Consider a simple script, NEW DISK, that copies a file to another disk, optionally with a new name for that file:

```
.KEY file,disk,new_name
COPY <file> <disk>:<new_name>
```

Run it with

```
EXECUTE NEW_DISK my_file
DF0 fred
```

and it copies my_file to DF0:fred (the file named fred on DF0:). Run it without the third argument, as in

```
EXECUTE NEW_DISK my_file DF0
```

and it copies my_file to DF0: retaining the filename my_file on that disk.

You should also be careful to type parameter names correctly. If you get a parameter name wrong, EXECUTE will assume that the name is an undefined parameter and replace it with the null string. Thus, if we wrote NEW_DISK as

```
.KEY file,disk,new_name
COPY <file> <disk>:<newname>
```

(inadvertently substituting <newname> for <new_name> on the second line), EXECUTE would replace <newname> with the null string and always copy <file> to <disk>: without a new name, regardless of the third argument.

Two special "switches" let you control whether you must supply an argument for a parameter. These switches follow the parameter's name on the .KEY line. The /a switch makes a parameter mandatory. To force users of NEW_DISK to supply at least the first two arguments, change the .KEY statement to

```
.KEY file/a,disk/a,new_name
```

(Again, remember not to leave any spaces between the parameters.) If you try to EXECUTE NEW_DISK without supplying either of the first two arguments, you will get the error message

```
EXECUTE: Parameters unsuitable for
key "file/a,disk/a,new_name"
```

On the other hand, the /k switch makes the parameter optional; if you do supply an argument for it, however, you must use the parameter name before that argument. Thus, if the .KEY statement in NEW_DISK is

```
.KEY file/a,disk/a,new_name/k
```

then to give a new_name argument you

must run it with a line such as

```
EXECUTE NEW_DISK my_file
DF0 new_name fred
```

If you omit the parameter new_name, you will get the familiar message

```
EXECUTE: Parameters unsuitable for
key "file/a,disk/a,new_name/k"
```

GREATER VALUE—BY DEFAULT

It is sometimes useful to give a missing optional parameter a value other than the null string. You can define default values for such parameters in two ways.

The first is with the .DEF statement, as in

```
.DEF new_name "fred"
```

This statement makes EXECUTE use the value fred whenever you run NEW_DISK without a new filename. Notice the quotes around the default value; always use them in .DEF statements. You need one .DEF statement per parameter. You can have more than one .DEF for a single parameter, but the value in the first .DEF is always the one assigned to the parameter. Thus, the two lines

```
.DEF new_name "fred"
.DEF new_name "joe"
```

are equivalent to the single line

```
.DEF new_name "fred"
```

The other option is to define a default value when you use a parameter. You do so by following the parameter's name with a dollar sign (\$) and then the default value. In the COPY statement in NEW_DISK, we could enter

```
COPY <file> <disk>:<new_name
$fred>
```

When you use this method, do not put quotes around the default value.

You can mix these two styles if you want, but the first .DEF statement will always define the default value. It will override any later .DEF statements or <parameter_name\$default_value> usages for that parameter. And, of course, any argument that you supply for a parameter will override the parameter's default value.

Additionally, there is one special way to use the dollar sign that has nothing to do with default values. EXECUTE will ►

CHOOSE THE RIGHT PATH! INVEST IN THE SUPERBASE SYSTEM

Superbase™
PERSONAL

AS EASY TO USE AS A VCR

- Fully multi-file relational power
- VCR style control panel gives easy access to data
- 3 ways of viewing data to cover entry, review and comparison
- Set up and change file definitions quickly using point and click controls
- Define and print multi-file reports with Superbase Query function
- Include images, sound and text as external files within your database record

■ **Superbase Personal: Multi-file relational power at a flat-file price**

NEW LOW
PRICE

\$79⁹⁵

UPGRADE
PATH

Superbase™
PERSONAL
2

POWERFUL FILE MANAGEMENT WITH BUILT-IN TEXT PROCESSING

All the features of Superbase Personal PLUS

- Text Editor for creation of letters and documents; editing options include cut and paste
- Improved data handling facilities including batch entry of data and cross-file lookup
- Keyboard controls for easy editing
- Time field type and additional validation options
- Mail-merge facility for producing personalized letters
- Built-in telecommunications for swift data transfer

■ **Superbase Personal 2: Full-featured file management at your fingertips**

"... offers more power and sophistication than do most non-programmable databases. ..."

"Personal 2's LOOKUP command... gives the program a decided advantage over most of its competitors."

AmigaWorld July '89

\$149⁹⁵

UPGRADE
PATH

Superbase™
PROFESSIONAL

THE MOST POWERFUL DATABASE FOR THE AMIGA COMPUTER

- Database management language (DML), Superbase's own 4GL programming language. Over 250 high-level commands, and other powerful features such as arrays, looping constructs and branching
- Create sophisticated custom programs and applications
- Report generator for ease of set-up and output of reports
- Intelligent Forms Editor enables you to generate multi-file applications without the need for programming
- Automatic transaction processing lets you reproduce standard business forms.
- Extensive programmable telecommunications facilities

■ **Superbase Professional: World Class programmable database that's easy to learn and use!**

Version 3

\$349⁹⁵

**SUPERBASE
PROFESSIONAL
AND SUPERPLAN
NOW SUPPORT
ARexx**

SPREADSHEET • BUSINESS GRAPHICS • TIME MANAGEMENT

- Full featured spreadsheet environment that tracks time, resources and money to give a complete picture of your project plans
- Print wall planning charts, Gantt charts; do critical path analysis
- Graphics facility to visually portray your data in over 100 different graph styles and options
- Sideways printing, full color output to extensive range of printers and plotters
- Fully programmable, Lotus 1-2-3 and dBase file compatible
- Works stand alone or with Superbase to provide superb productivity environment

■ **Superplan: The Fourth Dimension**

"The program's abilities are limited only by your imagination and ingenuity, and you will likely never outgrow Superplan's capacity."

AmigaWorld August '89

\$149⁹⁵



**Precision
Incorporated**

London • Dallas • Munich

Precision Incorporated
8404 Sterling Street, Suite A
Irving, TX 75063
Tel: (214) 929-4888. Fax: (214) 929 1655

Circle 187 on Reader Service card.

Available from your dealer
or call Precision
Tel: (214) 929-4888

Precision Incorporated acknowledges all trade marks

replace the string <\$\$> with the current CLI's number. That number can be handy for such things as unique temporary filenames, pipes, and so on.

CUSTOMIZED SCRIPTS

As with so many other things, AmigaDOS lets you customize your script-file features. If you want to use an angle bracket (<, >) or a dollar sign in a string in a script, three dot (.) commands allow you to change the characters EXECUTE uses for those functions:

```
.BRA
.KET
.DOLLAR
```

(The first two get their names from the BRACKET characters they define.) By default, EXECUTE acts as if you had entered the commands

```
.BRA <
.KET >
.DOLLAR $
```

Here you must insert a space between the command name and the character you are defining. Also, the dot (.) must

be the first character on the line.

You can change these characters, as in

```
.BRA [
.KET ]
.DOLLAR &
```

With these changes, our previous default-parameter value example would be

```
COPY [file] [disk]:[new_name&fred]
```

You can use a . with no command name to enter comments in a script, as in

```
. This is a comment.
```

You must, however, leave one or more spaces after the . and before the comment's text, or you will get the error message

```
EXECUTE: Invalid directive
```

You can also follow a . with a new line to put a blank line in a script.

Although these last two features might seem useless at first, they can prove helpful. A script is a kind of program. While many scripts are simple, some may get quite complex. By using com-

ments and blank lines, you can document your scripts and make them more readable, just as a good programmer will document code in any language.

We said previously the .KEY statement should be the first statement in your script. While that is generally good practice, it is not an absolute requirement. What is mandatory, however, is that if you want to use parameters in a script, some dot command must be the first line in that script. Also, the .KEY command must precede all .DEF commands.

We have now covered how to enter and execute scripts, and ways to pass them parameters. In the third and final part of this series, we will explore several special CLI script commands that allow you to make choices based on the values of parameters. Until then, in writing script files, as in any kind of programming, there is no substitute for practice—so get to it! ■

Bill Catchings and Mark L. Van Name are contributing editors to AmigaWorld. Write to them at 10024 Sycamore Rd., Durham, NC 27703.

DESKTOP VIDEO GRAPHICS

LEARN FAST!

GET THE MOST DETAILED
PROFESSIONAL VIDEOTAPE INSTRUCTION
AVAILABLE ON CREATING AMIGA GRAPHICS

Get clear step by step instruction, punctuated with extensive graphics demos and real professional tips gained from years of experience. The first three tapes in this series are now available!!!

TAPE 1 - VIDEO GRAPHICS TECHNIQUES

Loaded with eye-popping effects and concise instruction. Demonstrates Dos and Don'ts of titling, special effects, genlocking, fades, wipes, dissolves, charts and graphs and much more. Covers planning and incorporating graphics and special effects into your videos. Approx. 30 minutes.

TAPE 2 - COLOR CYCLING ANIMATION

Learn to create color cycling animations with Deluxe Paint. Begins with understanding the palette and basic cycling, then progresses to more complex animation creation. Includes a free color cycling art disk. Approx. 40 minutes.

TAPE 3 - DIGITIZING FOR EFFECT

DigiView digitizing from equipment set-up to finished graphics. Detailed hook-up & set-up instructions. Shows DigiDroid, CS-1L Copy Stand & WV 1410 Camera. Compares lenses, cameras & IFF versus HAM Images. Approx. 45 minutes.

Single Tapes \$39.95 plus shipping; Any Two Tapes \$75.00 or All Three \$99.50 (4th Class Included)
See Your Amiga Dealer or send U.S. Check or Money Order to:

TeleGraphics International, Dept. AW, 605 Dock St., Wilmington, N. C. 28401
Orders and Shipping Info: (919) 762-8028. (Available NTSC VHS format only)



MasterCard / Visa Accepted



Circle 288 on Reader Service card.

GOLFERS

Now you can play the great golf courses of the world. Choose from 6 disks - each with 8 exciting golf courses to choose from!

- Disk # 1: "The Majors" Includes: Royal Troon, Kemper Lakes, Oak Tree, Royal Lytham & St. Annes, etc.
- Disk # 2: "The California Courses" Includes: Spyglass Hill, La Costa, Riviera CC, The Olympic Club, etc.
- Disk # 3: "TPC Courses" Includes: Sawgrass, Scottsdale, Starness, Eagle Trace, etc.
- Disk # 4: "PGA # 1" Includes: Firestone, Magnolia, Oak Hills, Tuckaway, etc.
- Disk # 5: "PGA # 2" Includes: Atlanta CC, Butler National, Castle Pines, Fairway Oaks, etc.
- Disk # 6: "PGA # 3" Includes: Las Vegas, Medinah, Oak Hill, Oakland Hills, etc.

EACH DISK IS \$ 18.00 (US CURRENCY) PLUS SHIPPING AND HANDLING. PURCHASE ALL 6 FOR \$ 79.95 (PLUS 3.00 S & H), AND RECEIVE A BONUS DISK WITH 5 ADDITIONAL GOLF COURSES. SPECIFY FOR "WCLB"(tm), or "WORLD TOUR GOLF"(tm) SEND CHECK OR MONEY ORDER TO:

**SAXMAN SYSTEMS
400 WALNUT ST.
SUITE 403A
REDWOOD CITY, CA. 94063**

**PLEASE ALLOW 2 - 4 WEEKS FOR DELIVERY.
CALIFORNIA RESIDENTS ADD 7% SALES TAX.**

Circle 336 on Reader Service card.



NEW! ... and available now!

"AX-S"™ EXPANSION SYSTEM.

...Access to a selection of hundreds of low cost, simple, plug-in expansion boards for your Amiga 500 or 1000!

Here is a list of typical, easy to install, plug-in boards with the technology that AX-S is designed to use:

Single serial port	\$ 17
2 serial port	\$ 48
4 serial port	\$ 79
Parallel port	\$ 29
Floppy disk controller	\$ 29
Personal telephone dialer/manager	\$ 29
8-bit hard drive controller, MFM/RLL	\$55 / \$ 62
16-bit hard drive controller, MFM/RLL	\$95 / \$110
SCSI hard drive controller	\$ 98
1200 baud modem (internal)	\$ 50
2400 baud modem (internal)	\$ 99
EPROM programmer	\$125
Digital voltmeter	\$150
Handscanner	\$171
A/D / D/A converters	\$199 / \$260
2400 baud FAX	\$219
9600 baud FAX	\$389
CD data cartridge/drive	\$350
Data acquisition cards (various)	\$375
8 meg RAM memory, expandable from 0K	\$199
40 meg tape backup	\$299
20 meg hard drive, complete system	\$229
40 meg hard drive, complete system	\$359
80 meg hard drive, complete system	\$575

Imagine the possibilities with access to hundreds of plug-in boards for your Amiga. For example, your AX-S chassis could have one 80 Meg 5.25" hard drive, two 40 Meg 3.5" hard drives, one 40 Meg tape backup, two 3.5" floppy drives, a FAX card, a modem, a multiple serial port and a scanner... all accessible from your Amiga.

AX-S connects from Amiga's 86-pin expansion port to a hi-tech chassis with a heavy duty -- 200w power supply, ventilation fan, 7 plug-in expansion slots including XT/AT bus and multiple peripheral drive bays. Driver software for some plug-in accessories is supplied. Also included is the AX-S proprietary Resource Library Software to allow Amiga owners to write their own drivers for expansion boards.

The AX-S Resource Library will be available on PD networks. Look for the Spirit "AXS.Library" on Compuserve, People Link and Genie.

AX-S... "access\ak-ses\n... the freedom or ability to obtain or make use of" ... the most marvelous accessory -- ever -- for Amiga... BELIEVE IT!

SUPERIOR EXPANSION HARDWARE!

Spirit Technology is in its third year of producing fine professional quality Amiga hardware. Tens of thousands of Spirit RAM expansion boards are in use throughout the world. Spirit is committed to continued development of only superior Amiga peripherals.

NEW!

"OCTABYTE"™ 8MB RAM EXPANSION.

- A2000 or AX-S internal plug-in board.
- A500 and A1000 plug-in low profile external chassis with power supply.
- Expandable from 0K with 1 Meg x 1 DRAMS.
- Full autoconfig. ● Software support disk includes RAM test program.

NEW!

"INTERLOK"™ VIDEO GENLOCK for all Amigas.

A mid-priced, professional quality genlock and encoder with everything needed to produce simple or elaborate production or post-production.

Some features:

- 2, RS 170A video outputs (BNC).
- Key out (BNC).
- Filtered RGB drives out (BNC).
- Locks to studio sync or VCR.
- 23-pin socket for Amiga color monitor.
- Remote fader panel with 0 to 100% overlay control.

INTERNAL 1.5MB RAM EXPANSION for A1000.

- Battery backed clock/calendar.
- Expandable from 0K with 256K x 1 DRAMS.
- Full autoconfig. ● Software support disk includes RAM test program.

INTERNAL 2MB RAM EXPANSION for A500.

- Expandable from 0K with 256K x 4 DRAMS.
- Plug-in -- no jumpers.
- Full autoconfig. ● Software support disk includes RAM test program.

NEW!

A-MAX 1MB INTERNAL CONTIGUOUS RAM.

- Get the most out of your A-MAX software by adding contiguous fast memory to your Amiga's chip memory.
- Available for the A500 and A1000.

NEW!

512K (A501 CLONE) RAM EXPANSION for A500.

- Easy plug-in installation into the "trapdoor" expansion slot.
- Includes battery backed clock/calendar.
- Available 0K with 256Kx4 or 256Kx1 board versions.

HARD DRIVE ADAPTORS for A500 and A1000.

- Amiga matching metal chassis with passthru.
- Optional autoboot kit.
- Full Driver Software.

NEW!

"SLOT MACHINE"™ HARD CARD for A2000.

- Autoboot and Driver Software included.
- Plug-In installation.
- Hard drive installs as HARD CARD or into the drive bay.
- Available with or without drive.

"MIDI-STAR"™ PROFESSIONAL MIDI Interface.

- 2 IN, 6 OUT/OFF/THRU ports.
- Switch control and LED status indicators.
- Amiga RS-232 with passthru.
- Switchable to A1000 or A500/A2000.

GET THE SPIRIT! CALL TOLL FREE 1-800-433-7572

Circle 19 on Reader Service card.

SPIRIT™
TECHNOLOGY

Corporate Office: 220 West 2950 South, Salt Lake City, Utah 84115 Phone (801) 485-4233 FAX: (801) 485-6957 USA Sales: Phone (918) 834-2509
Canada: Phone (416) 823-4821 ● United Kingdom: Phone 44-253-734218 ● France: Phone 33-56-37-4378 ● Australia: Phone 61-336-97020

AMIGA is a Registered Trademark of Commodore/Amiga, Inc.; A-MAX is a Trademark of ReadySoft Inc.; AX-S, OCTABYTE, INTERLOK, SLOT MACHINE, and MIDI-STAR are Trademarks of Spirit Technology Corp.

BEFORE YOU BUY A HARD DRIVE-READ THIS!

GVP 25Mhz '030+40Q	\$1295
GVP 25Mhz '030+80Q	\$1695
(Either of the above with 68882 processor—add \$330)	

QUANTUM 40 AT	599
QUANTUM 40MB HARD DRV	599
QUANTUM 80 AT	595
QUANTUM 80MB HARD DRV	995
RAM 1MBx1	16
RAM 256K1 -12 DIPP	20
RAM 256K4 -12 DIPP	20
RAM 256K4x80 DIPP	20
SOUNDCAPE MINI PACK	279
STAR 1000	279
STAR NX1000 RAINBOW	270
STARBOARD 2 A1000 UC	250
STARBOARD A1000 HD	425
STARBOARD A1000 MOD	425
STARBOARD 2 A1000 DIPP	59
STARBOARD SB2000 APP	59
STEREO SOUND SAMPLER	87
SYS SYSTEM 8000	599
TECHNOLOGY	599
SUPRA 2400 INTD MODEM	149
SUPRA 2400 INTD MODEM	159
TOOLBOX A1000 ECE2110	170
TOOLBOX A1000 ECE2120	170
TOOLBOX A1000 ECE250	230
TOOLBOX A500 ECE2510	170
TRUMP CARD SCSI A2000	399
VAULT 30MB HARD DRIVE	999
VAULT 40MB HARD DRIVE	999
VCR, BROOKSNIK	249
VI 600 RF VIDEO INTF	79
VI 2000 VIDEO INTF	69
VI 500 RF VIDEO INTF	79
VI 500 VIDEO INTF	59
VIDEOTE SCANLOCK	949
X-SPCS 3D	499
XEROX 4240 PRINTER	1140
XEROX 4240 PRINTER	1140
ZORAN 2400 BARD MODEM	139

NEW-PROFESSIONAL PAGE 1.3

ANIMATORS EDITOR	38.95	PAGESTREAM FNTS A-B (EA)	24.95
ANIMATORS EFFECTS	32.46	PERIPHERAL BLANK 5.25	1.95
ANIMATORS MULTIPLE	26.95	PHOTO PULL ANIMATOR	19.95
ANIMATORS STAND	32.46	PHOTO PANT 2.0	0.00
ANIMOTON	62.95	PHOTO PANT EXP. DSK.	11.95
ART COMPANION	19.95	PHOTO TRANSPORT CONT	19.95
ART GALLERY 1 & 2	25.95	PHOTO TRANSPORTER	4.95
ART GALLERY FANTASY	23.95	PIXIMATE	4.95
ASHAS CALLIGRAFI FONTS	58.95	PRINT MASTER ART #1	11.95
BROADCAST TITLER	194.95	PRINT MASTER ART #2	11.95
BUTCHER 2.0	35.95	PRO FONTS I	2.95
CAD PARTS 4 INTRODUC	16.50	PRO FONTS VOL 1	1.95
CALIGARI CONSUMER	164.95	PRO FONTS VOL 2	1.95
CALIGRAPHER	84.95	PRO FONTS VOL II	2.95
CHRISTIANITY	51.95	PRO VIDEO GLOW	1.95
CITYDESK COMPANION	19.95	PROFESSIONAL DRAW	12.95
CLIP ART (#1 THRU #8) (EA)	12.95	PURE COLOR.	10.95
COMIC SECTOR	64.96	RECEP	5.95
COMICSECTOR FUNNYPATH	25.95	SCULPT 3DXL	9.95
COMICSECTOR HERO DATA	25.95	SCULPT ANIMATE 4-D	9.95
COMICSECTOR SF DATA	25.95	SCULPT ANIMATE 4-D JR	8.95
DELUXE ART PARTS #1	21.95	SPRITZ	4.95
DELUXE ART PARTS #2	21.95	STRUCTURED CLIP ART	3.95
DELUXE ART PARTS #3	21.95	THE VIDEO FONTS V1	2.95
DELUXE PAINT JUVENIO	73.95	TELESPIN	4.95

BREAKING THE SPEED & PRICE BARRIERS!!

50 PANCE 30 FONTS SILVER	51.95	ZUMA FONTS VOL 1.4 (EA)	22.95
ANTIFANSION	42.95		
FLOOR PLAN LIB. AIDS	59.95	MUSIC	
FLOOR PLAN LIB. IFF	59.95	AUDIOMASTER	37.95
FOCUS VIDEO	119.95	AUDIOMASTER II	64.95
FOCUS VIDEO	64.95	CELESTIAL	29.95
FONTS AND BORDERS	54.95	CD TS 4 OF EDLIB	19.95
FOUNDATION/FRAME LIB	59.95	CD TS BACK SONGBOOK	17.95
GALLERY 3.0	51.95	CD TS CASIO V21	92.95
GOLD DISK FONT SET #1	21.95	CD TS COPIST	153.95
GOLD DISK FONT SET #2	21.95	CD TS COPIST II	119.95
GRAPHICS STARTER KIT	64.95	CD TS C2 CARTRIDGE	92.95
HAM MANDEL	54.95	CD TS C2 RIDER	92.95
HOME BUILDERS CAD	129.95	CD TS 110 EDLIB	92.95
HOMETOWN USA	25.95	CD TS 50 EDLIB	92.95
INT. DESIGN LIB AIDS	59.95	CD TS 50 EDLIB	92.95
		CD TS DR KEYS	17.95

AUDIOMASTER	37.4
AUDIOMASTER II	64.9
DELUXE MUSIC 2.0	69.9
DR TS 4-90 ED/LIB	92.9
DR TS BACH SONGBOOK	17.9
DR TS CASIO V21	92.9
DR TS COPYIST	155.3
DR TS COPYIST II	159.9
DR TS CZ CARTRIDGE	61.9
DR TS CZ RIDER	92.9
DR TS D-110 ED/LIB	92.9
DR TS D-50 ED/LIB	92.9
DR TS DR DRUMS	17.9
DR TS DR KEYS	17.9

NEW PRODUCTS ARRIVE DAILY. CALL FOR UNLISTED ITEMS.

DR. T'S ESQ-APADE 1.....	92 95	DISCOVERY TRIVIA 1.....	12
DR. T'S KAWAI K-1.....	92 95	DISCOVERY TRIVIA 2.....	12

DR TS KAWAI K-5	92.95	DISCOVERY W/MATH	21
DR TS KCS LEVEL II	154.95	DISCOVERY SPELLING	22
DR TS KCS LEVEL III	219.95	DISCOVERY W/ALPHA	23
DR TS M-1	92.95	DISCOVER MATHEMATICS	24
DR TS M-1 EDU/IB	92.95	FIRST LETTERS & WORDS	25
DR TS MATRIX-6	92.95	FIRST SHAPES	26
DR TS M1 REC. STD.	43.50	FRACTION ACTION	30
DR TS M1-32 EDU/IB	92.95	GRADE MANAGER	31
DR TS M1-32	92.95	GREAT START II	32
DYNAMIC DRUMS	49.46	INTELLITYPE	33
DYNAMIC STUDIO	139.00	KIDTALK	34
FRACTAL MUSIC	12.95	KINDERAMA	35
INSTANT MUSIC 1.2	12.95	LEARNING CURVE	5
INSTANT MUSIC 2	12.95	LEARNING ALPHABET	6
M INTELLIGENT MUSIC	139.95	LINKWORD DUTCH	2
MASTER TRACKS PRO	259.95	LINKWORD FRENCH	21
M1 MAGC	97.95	LINKWORD GERMAN	22
PRO MID1 STUDIO	130.95	LINKWORD GREEK	23
SAMPLEWARE - DIGIT 16	16.95	LINKWORD ITALIAN	24
SAMPLEWARE - GRAB BAG	16.95	LINKWORD PORTUGUESE	25
SAMPLEWARE - ORCHESTRE	16.95	LINKWORD RUSSIAN	26
SAMPLEWARE - ROCK	16.95	LINKWORD SPANISH	27
SONIX	49.95	LOTTO PROGRAM	3
SONIX 04035	49.95	MAGICIAN	4
SOUNDCLAR	209.95	MAGICIANS DUNGEON	2
SOUNDSTG DX7-2 MASTER	109.95	MASTERING CLI	21
SOUNDSTG GEMERIC MSTR	77.95	MATCH IT	22
SOUNDSTG M1-32-MASTER	92.95	MATH MAGICIAN	23
SOUNDSTG TX602-MASTER	92.95	MATH MAGICIAN	24
SOUNDSTG TX602	92.95	MATH TALK FRACTIONS	25

AMAX EMULATOR
FOR THE AMIGA!

AMAX Emulator	\$139
Mac 128K EPROMS	\$149
AMIG-a-TOSH 880K floppy disk drive	\$179

COMPLETE PACKAGE!
All the above only \$429 |

SOUNDQUEST D10/20/110	102.9
SOUNDQUEST D110 MASTR	92.9
SOUNDQUEST D50 MASTER	92.9
SOUNDQUEST DX7 MASTER	109.9
SOUNDQUEST ESQ/ESQ-80	92.9
SOUNDQUEST FB/01 MSTR	97.9

SOUNDQUEST K-1 MASTER	92 95
SOUNDQUEST M-1 MASTER	119 95
SOUNDQUEST TEXTURE	92 95
SOUNDQUEST TEXTURE II	159 95
SOUNSCAPE UTIL I	35 95
SOUNSCAPE UTIL II	42 95
SOUNSCP PATTERN SPLT	35 95
SOUNDTRAX VOL 1	14 95
SOUNDTRAX VOL 2	14 95
STUDIO MAGIC	64 95
SYNTHIA	64 95
SYNTHIA PROFESSIONAL	249 95
ULTIMATE SOUNDTRACKER	25 95
ZOINB SOUNDS VOL 1	21 95

ADVENTURES OF SINBAO	32.46
ASPECTS FABLES	39.95
ALGEBRA I	36.95
ALGEBRA II	32.46
ALL ABOUT AMERICA	32.46
ANIMAL KINGDOM	32.46
BASIC GRAMMER SERIES	19.46
BOOMERANG	32.46
CALCULUS	36.95
CHICKEN LITTLE	32.46
CLASS	84.95
CROSSWORD CREATOR	14.95
DECIMAL DUNGEON	32.46
DES CARTES	22.95
DINOSAURSAURUS	32.46
DINOSAURSAURUS KV	27.46
DISCOVER AMERICA FOREVER	25.95
DISCOVER ALPHABET	14.95
DISCOVER CHEMISTRY	14.95
DISCOVER HISTORY/GEO	14.95
DISCOVER MATH	14.95
DISCOVER SCIENCE	14.95
DISCOVERY GEOGRAPHY	12.97
DISCOVERY HISTORY	12.97
DISCOVERY LANG 1	12.97
DISCOVERY MATH 1	12.97
DISCOVERY MATH CONCP	12.97
DISCOVERY SCIENCE	12.97
DISCOVERY SOCIAL STUD	12.97

SPELLING IMPROVEMENT	25
TALES FROM ARABIAN NT	32
TALKING COLORING BOOK	38
TRANSCONT RAILROAD	25
TRIGONOMETRY	36
TRUEBASIC ARITHMETIC	45
TYPIING TUTOR WRD INV	22
UNCLE D CONSDNTRATION	25
UNCLE D'S DATA DISK I	19
VOCAB IMPROV TUTOR	19
WHERE IN THE WORLD	31
WORD MASTER	32

PROGRAMMING

64 EMULATOR 2/1A1000	49
64 EMULATOR 2 THE	49
AC BASIC	129
AC FORTRAN	129
ACCESS 64/1A1000	57
AD	57
ALIGNMENT SYSTEM	32
AMIGA DOS TOOLBOX	38
AMIGA LISP	59
ANTI-VIRUS	25
AREXX	32
ASSEMBLY	97
ATARI	97
ATREDES (BBS)	91
ATTEZ C PROFESSIONAL	129
BAUD BANDIT	29
BBS PC	99
BENCHMARK C LIBRARY	64
BENCHMARK IFF LIBRARY	64
BENCHMARK MODULE 2	129
BENCHMARK SIMPLE LIBR	64
BOARD MASTER	64
CAPE 68K ASSEM 2 0	58
CROSS DOS	58
DEMONSTRATOR THE	21
DEV DISK ASSEMBLER	26
DEV DISK TOOLKIT	26
DEVPCAP AMIGA	79
DISK MAGIC	32
DISK MECHANIC THE	58

IN ONE	16.68
4x4 OFF ROAD RACING	32.46
4x4 & INCHES CONSTRUC.	9.95
4x4 AND INCHES	29.95
AAARH	3.95
ACTION FIGHTER	25.95
ACTION SERVICE	25.95
AFRICAN RAIDERS	25.95
AFTERBURNER	32.46
ALGAL	32.46
ALIEN LEGION	32.46
ALIEN SYNDROME	32.95
ALTERNATE REALITY	27.95
AMIGA KARATE	24.95
AMERICAN MISSION	24.95
ANNALS OF ROME	31.95
AZAKOS TOMB	24.95
ARCADE ACTION PACK	34.95
★ ARCHPELAGOS	25.95
ARCHON	13.97
ARCHWIND	19.95
ART OF CHESS, THE	22.95
ARTHUR	32.46
★ ASTAROTH	32.46
AUNT-ARTIC	25.95
AUTODEL	25.95
BAAD	22.95
BAO CAT	30.25
★ BAD DOGIES	28.95

BARBARIAN	25.95
● BARBARIAN II	25.95
BARO'S TALE	17.95
BARO'S TALE HINT DISK	13.95
● BARO TALE II	25.95
BATMAN	29.95
BATTLE CHESS	32.95
BATTLE HAWKS	38.95
BATTLE SHIP	19.46
BATTLESHIP	32.46
BETTER DEAD THAN LIVES	21.95
BEYOND ZORK	33.95
BIONIC COMMAND	25.97
BLACK CAULDRON	28.95
BLACK LAMP ACADEMY	25.95
BLACK LAMP	22.00
● BLACK MAGIC	22.95
BLACK SHADOW	22.95
BLITZKRIEG (1 MEG VR)	38.95
BLOOD	32.95
BLOOD MONEY	25.95
● BLOODWYCH	37.48
BOBO	20.96
BOMB BUSTER	21.95
BOMBING	25.95
BREACH	25.95
BREACH SCENARIO DISK	16.95
BRIDGE 5.0	22.95
BUBBLE BOBBLE	22.95
BUBBLES	22.95
BUFFALO BILL'S ROdeo	32.46
BUTCHER HILL	25.95
CALIFORNIA CHALLENGE	14.95
CALIFORNIA GAMES	29.95
CARON	25.95
CAPTAIN BLOOD	32.46
CARRIER COMMAND	30.95
CASINO FEVER	19.95
CENTERFOLD SQUARES	15.95
CHASER	25.95
CHESSMASTER 2000	32.46
CHRONO QUEST	33.95
CIRCUS ATTRACTIONS	25.95
CLEVER AND FAST	22.72
COLOSSEUM CHESSES	22.72
COMBAT COURSE	25.95
COMPUTER HITS VOL. 2	25.95

HARD DRIVE MADNESS SALE:
(Prices valid only thru Dec. 30th, 1989)

Impact A500-SCSI HD/20-20 Meg HD	\$ 599.00
Impact A500-SCSI HD/30-30 Meg HD	\$ 699.00
Impact A500-SCSI HD/40Q-42 11ms Quantum	\$ 799.00

Quantum 42 Meg 11ms HD	\$ 895.00
Quantum 84 Meg 11ms HD	\$1095.00
Quantum 100 Meg 11ms HD	\$1195.00
A2000 Controllers:	

GVP SCSI-2 controller with sockets for 2 Megs RAM	\$ 279.00
GVP hardcard controller HC/0	\$ 249.00
Microbotics Hardframe hardcard	\$ 239.95
Sunra WordSync hardcard	\$ 189.95

A2000 Removable Media:	
GVP Syquest removable 42 Meg HD	\$ 995.00

NOTE: * = NEW ITEM. WE CAN BEAT ANY ADVERTISED PRICE! BUT WE SELDOM HAVE TO—OUR PRICES ARE THE LOWEST! (IF YOU SEE A LOWER PRICE ON AN ITEM, GIVE US A CALL.)

- CONFLICT EUROPE 32.46
- COSMIC BOUNCER 19.95
- COSMIC PIRATE 25.95
- COSMIC RELIEF 24.50
- CRAPS ACCELY 25.95
- CRASH GARET 25.96
- CUBEMASTER 5.00
- DAILY DOUBLE HORSE RACE 19.95
- DANGER FREAK 19.95
- DARK CASTLE 9.95
- DARK GOLF 25.95
- DATASPORT 25.95
- DEATH BRINGER 25.99
- DEATH SWORD 25.95
- DEFCON 3 25.95
- DEFENDER OF THE CROWN 34.95
- DEJA VU II - LOST VEG 34.95
- DEMON'S WINTER 27.95
- DENARIS 24.95
- DESTROYER 25.95
- DISTANT ARMIES 25.95
- DOMINOES 16.95
- DOUBLE DRAGON 27.95
- DR. DOOM'S REVENGE 29.95
- DRAGON LAIR 25.95
- DREAM ZONE 32.46
- DUNGEON MASTER 32.46
- DUNGEON MASTER EDITOR 19.95
- DUNGEON MASTER HINTS/DISK 12.95
- EGYPTIAN QUEST 32.46
- EARL WEAVER BASEBALL 34.95
- EARL WEAVER COMM DSK 14.95
- EARL WEAVER STATS 14.95
- EBON STAT 25.96
- ELIMINATOR 25.95
- ELITE 25.95
- EMETIC SKINNER 25.96
- EMMANUELLE 25.95
- EMPIRE 34.95
- EMERGE STRIKES BACK 30.25
- ENIGMA DEVICE 25.95
- ENLIGHTENMENT 15.95
- EXTENSOR 25.95
- F-16 COMBAT PILOT 32.46
- F40 PURSUIT 29.95
- FAIRYTALE ADVENTURE 7.95
- FAIRYTALE GUIDEBOOK 32.46
- FALCON 32.46
- FALCON MISSION DISK 16.95
- FALCON FOUR 19.95
- FAST BREAK 25.95
- FERNANDEZ MUST DIE 25.95
- FERRARI FORMULA ONE 32.46
- FIBERBAND FREEDY 32.46
- FINAL ASSAULT 32.46
- FINAL MISSION 32.46
- FIRE N' FORGET 25.95
- FIRE-BRIGADE 32.46
- FIREPOWER 16.95
- FIREZONE 23.95
- FISH 29.95
- FLIGHT SIMULATOR II 34.95
- FOUNDATIONS WASTE 23.62
- FRIGHT NIGHT 25.96
- FROSTBYTE 19.95
- FUELED 25.95
- GAMES 19.95
- GALACTIC CONQUERER 29.95
- GALAXY FIGHT 9.95
- GALDREONS DOMAIN 25.95
- GAMES WINTER EDITION 32.46
- GAUNTLET II 25.95
- GEMINI WINE 25.95
- GETTYSBURG TURN POINT 40.95
- GIGANOID 12.96
- GLOBAL COMMANDER 19.95
- GOLD OF THE REALM 25.95
- GOLD RUSH 25.95
- GOLDEN PATH 25.95
- GOLDEN RUNNER II 25.95
- GOLD MONSTER SLAM 25.95
- GRAND PRIX CIRCUIT 29.95
- GRAND SLAM TENNIS 31.25
- GRETZKY HOCKEY 25.95
- GRIDIRON WITAMIN DISK 19.95
- GUNSHIP 35.95
- GUNSHOOT 22.72
- HARDBALL 28.95
- HARRIER COMBAT SIMUL 32.46
- HARRIER MISSION 19.95
- HEAD COACH 32.46
- HEROS OF THE LANCE 27.95
- HEROS OF THE LANCE BK 13.95
- HEX 25.95
- HIGH STEEL 25.95
- HIGHWAY HAWKS 22.95
- HULKY 38.95
- HUM 22.95
- HOLE IN ONE 25.99
- HOLE IN ONE COURSE #3 12.95
- HOLLYWOOD POKER 25.95
- HUNT FOR RED OCTOBER 29.95
- HYBRIS 34.95
- HYPERDOME 22.95
- ILUDOROUS 19.95
- IMPOSSIBLE MISSION II 32.46
- INDIANNA JONES 31.25
- INDOOR SPORTS 31.25
- INDY & LAST CRUSADE 27.95
- INSANITY FIGHT 25.95
- INTERCEPTOR 37.95

BYTE BY BYTE

DISTRIBUTED BY CENTAUR SOFTWARE

SCULPT 3DXL \$99.95

Create and render ray-trace objects with the speed and power of 4D.

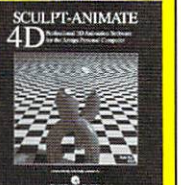
SCULPT ANIMATE 4D JR. \$89.95

Create, render and animate solid objects with the same easy-to-use interface as 4D (no ray-tracing).

SCULPT ANIMATE 4D \$350

The most sophisticated and powerful 3D animation and ray-tracing software available on ANY PERSONAL COMPUTER AND IT'S ALSO THE EASIEST TO USE!

CREATIVE COMPUTERS' EXCLUSIVE UPGRADE POLICY: You can upgrade your 3DXL or 4D Jr. to 4D directly from Creative Computers by sending us your 3DXL master disk + \$290 or 4D Jr. master disk + \$300.



- INTERNATIONAL SOCCER 25.96
- INTO THE EAGLES NEST 25.95
- IT CAME FROM DEEP 34.95
- JACK NICKLAUS COURSE 17.95
- JACK NICKLAUS GOLF 32.46
- JAWS 25.95
- JET 37.46
- JINX 19.95
- JINXER 25.95
- JOKER POKER 32.46
- JOURNEY 32.46
- JUG 25.95
- KARATE KING 31.95
- KARATE KING 15.95
- KARTING GRAND PRIX 17.95
- KENNY APPROACH 32.46
- KIKUJI 16.95
- KING OF 25.95
- KING'S QUEST I 32.95
- KING'S QUEST II 32.95
- KINGDOMS OF ENGLAND 24.95
- KINGS QUEST 3 HNT DSK 12.95
- KING OF THE HILL 19.95
- KNIGHT ORC 30.95
- KRISTAL 32.46
- LANCELOT 27.95
- LAST DUKE 22.95
- LAST INCA 25.95
- LEATHERNECK 25.95
- LED STORM 25.95
- LEGEND OF DUEL 32.46
- LEISURE SUIT HINTS/DISK 12.95
- LEISURE SUIT LARRY 25.95
- LIBYAN'S IN SPACE 19.95
- LIGHT FORCE 25.95
- LOMBARD RACE RALLY 25.95
- LORDS OF THE RSNG SUN 29.95
- MAJOR MOTION 25.95
- MAN HUNTER - NEW YORK 12.46
- MANIAX 16.95
- MARBLE MADNESS 33.00
- MASTER NINJA 30.95
- MEAN 18 GOLF 26.95
- MEAN 18 GOLF 26.95
- MENACE 19.98
- MICKEY MOUSE 25.95
- MIGHTY NERD 32.46
- MIND ROLL 19.95
- MIND WALKER 9.95
- MISSION CON-BAT 31.16
- MOBIUS 25.95
- MOTOR MASSACRE 24.95
- MOUSE QUEST 19.95
- NIGHT DAWN 19.95
- NINJA MISSION 30.95
- OBTLERATOR 25.95
- OFFSHORE WARRIOR 25.96
- OGRE 32.46
- OGRE 32.46
- OMNI PLAY BASKETBALL 32.46
- ONE ON ONE 14.95
- OPER. CLEAN STREETS 25.95
- OPERATION TOPGUN 32.46
- OPERATION WOLF 25.95
- P.O.W. 25.95
- PACLAND 19.95
- PACMANIA 25.95
- PALADIN 29.95
- PALADIN - QUEST DSK 1 16.86
- PAPERBOY 32.46
- PHANTASIE 27.47
- PHANTASIE 3 27.95
- PHANTASIE 4 27.95
- PINK PANTHER 28.56
- PIONEER PLAGUE 25.96
- PLANET OF LUST 25.95
- PLATOON 29.21
- PLUTOS 19.48

- SPACE HARRIER 32.46
- SPACE QUEST 32.46
- SPACE QUEST II 32.46
- SPACE RACER 19.46
- SPACE SCHOOL SIM 22.95
- SPACESTATION DELUVION 32.46
- SPEEDBALL 25.95
- SPHERICAL 25.95
- SPIN WHEEL 25.95
- SPLITTING IMAGE 25.95
- STAR COMMAND 38.95
- STAR WARS TRILOGY 29.95
- STARFLEET I 39.95
- STARFLEET II 29.95
- STARFLEET III 29.95
- STELLAR CONFLICT 28.95
- STELLARX 25.95
- STOCK MARKET-THE GAME 16.95
- STORY SO FAR VOL. 1 39.95
- STREET CAT 16.95
- STREET FIGHTER 25.95
- STREETSPORTS BASKETBALL 13.95
- STRIP POKER DATA #4 12.95
- STRIP POKER DATA #5 12.95
- STRIP POKER DATA #6 12.95
- SUMMER CHALLENGE 19.95
- SUPER 6 29.95
- SUPER CARS 14.95
- SUPER HANG-ON 32.46
- SUPERIOR GOLF KIT 32.46
- SUPERMAN 32.46
- SUPERSTAR ICE HOCKEY 32.46
- SWORD OF SODAN 32.46
- SWORDS OF TWILIGHT 34.95
- TANGLWOOD 25.95
- TANK ATTACK 16.95
- TAREHAN 25.95
- TASS TIMES TONE TOWN 19.95
- TECHNOPO 32.46
- TECHNO QUEEN 32.46
- TELEGAMES 23.95
- TERRAPORT 25.95
- TESTDRIVE II 29.95
- TETRA QUEST 25.95
- THE DEEP 22.95
- THEYDER 23.95
- THREE STORIES 32.46
- THUNDER BOLT 32.46
- THUNDERBOLT 22.95
- TIGER ROAD 25.95
- TIME & MAGIC 26.95
- TIME BANDITS 25.95

The "We Want Everyone's Business" Blow-Out SALE!!!

- Deluxe Point II 49.95
- Deluxe Video II 49.95
- Deluxe Point II & Deluxe Video II (combo) 79.95
- Angels Animator 19.95
- Dark Castle 28.50
- Beyond Dark Castle w/Dark Castle I (combo) 28.50
- Mission Elevator 9.95
- Crystal Hammer 9.95
- Let's General Action 39.95
- Captain Jax 9.95
- Metacoma Toolkit 19.95
- Acquisition Database (reg. 19.95) 49.95
- Joe Blad 9.95
- Softwood File II 19.95
- Parts of Call 19.95
- NIT Fonts (Roman, Sans, Serif or Comic) 9.95
- Angie Textcraft Plus 9.95
- Graphics Studio 19.95
- Forms In Flight II (3D animation, very powerful, incredible value—reg. 17.95) 49.95
- GO-64 (C-64 emul.) 89.95
- MaxiPlan Plus 89.95
- Evil Garden 14.95
- Joe Blad 14.95
- Slaygon, Deep Space, Arena, War, Space Station or Fire Buster (each) 5.00
- 3 Mega-Intellex 399
- Microcopy Flicker Fixer 449

- REALM OF THE WARRIOR 22.74
- REBEL CHARGE AT CHK 39.95
- RED LIGHTNING 41.95
- REEL FISHIN' 30.95
- RENEGADE 22.96
- RETURN TO TOPGUN 22.95
- RETURN TO GENESIS 22.95
- REVENGE OF DEFENDER 22.95
- RINGSIDE BOXING 22.95
- ROAD RAIDERS 25.96
- PACMANIA 27.47
- ROADWARR EUROPA 29.95
- ROBBEARY 16.95
- ROBOCOP 32.95
- ROCKET RANGER 32.46
- ROCKFORD 23.95
- ROLL OUT 22.95
- ROMANTIC ENCOUNTER 25.95
- RUNNING MAN 32.46
- RVF HONDA 22.95
- SANTA PAVIA & FIUMA 19.95
- SARGON III 35.95
- SAVAGE 32.46
- SCARY MUTANT ALIENS 25.95
- SCENERY DISK #9 19.95
- SCENERY DISK #11 19.95
- SCENERY DISK #7 19.95
- SCENERY DISK W. EUROPE 19.95
- SCENERY DISK, EUROPE 17.95
- SCENERY DISK, JAPAN 19.95
- SCORPION 25.95
- SECRET SERVICE 27.46
- SODI - CINIMAWARE GAST 34.95
- SECRETS DUNGEON MASTR 9.95
- SEX VIKENS FROM SPACE 25.95
- SHADOW GATE 19.95
- SHADOW OF THE BEAST 14.95
- SHANGHAI 27.46
- SHERLOCK 27.00
- SHOON 38.95
- SIDE ARMS 25.95
- SILENT SERVICE 27.46
- SIMCITY 30.95
- SINBAD & THE SWORD 29.95
- SKY BLASTER 19.95
- SKY CHASE 27.46
- SKYRIF 27.46
- SLEEPING GODS LIE 32.46
- SLIP STREAM 16.95
- SLAKE PIT 24.95
- SOLITAIRE ROYAL 22.71
- SORCERER LORD 25.95
- SPACE CUTTER 32.46

M.A.S.T. PRODUCTS

- Unidrive 149.95
- Twinn Drive 249.95
- Nimble 199.95
- Nimble 500 or A1000 199.95
- 512K 289.00
- 1 Meg 399.00
- 2 Megs 599.00
- Fireball SCSI hardcard 229.00
- 30 Meg 359.00
- 135 Meg 1399.00
- 182 Meg 1599.00
- AMIG-6-TOSH 179.95
- Tiny Tiger II HDs CALL
- Infinity Machine CALL

- TWILIGHTS RANSOM 19.95
- TWILIGHTS RANSOM 19.95
- ULTIMA III 38.96
- ULTIMA IV 38.96
- US CIVIL WAR DATAS 12.95
- USM VIETNAM DATAS 12.95
- UNINVITED 39.95
- UNIVERSAL MILITARY SM 32.46
- UNIVERSAL 32.46
- VAHNSER'S EMPIRE 39.95
- VEGAS GAMBLER 25.95

- VIDEO VEGAS 24.95
- VIGILANTE 25.95
- VINDICATORS 25.95
- VIRUS (GAME) 19.95
- WANDERER 25.95
- WAR IN MID-EARTH 36.95
- WARLOCK 22.71
- WESTERN GAMES 22.95
- WHO FRAMED ROGER RABBIT 29.97
- WILLOW 25.95
- WINTER 27.46
- WORLD CLASS GOLF 29.95
- WORLD GAMES 27.46
- WORLD SNOOKER & OTHER 19.95
- WORLD TOUR GOLF 27.45
- WORLD WRESTLING 25.95
- XENIX 2 MEGALIST 34.95
- ZAK MCKRACKEN 30.95
- ZANY GOLF 17.95
- ZERO GRAVITY 19.46
- ZIGZAG 12.95
- ZORK TRILOGY 47.95
- ZORK ZERO 38.95
- ZYNAPS 23.95

BUSINESS/PRODUCTIVITY

- ACCOUNTANT, THE 186.95
- ACQUISITION TAURUS 49.95
- ANALYZE 2.0 64.95
- ANKOR MAKER - EDUC 19.95
- AWARD MAKER - SPORTS 19.95
- AWARD MAKER - MUSIC 32.46
- BECKER TEXT 99.95
- BEST BUSINESS BUDGET 52.95
- BEST BUSINESS MGMT 199.95
- BEST GENERAL LEDGER 52.95
- BUDGETEER 32.46
- BUTTON & BADGE MAKER 38.95
- CELEBRITY COOKBOOK 22.95
- CITY DESK 99.95
- COMPACT 64.95
- DATA RETRIEVE 51.95
- DATA RETRIEVE PROFESS 21.95
- DESIGNER DBASE BUSI 45.95
- DESIGNER DBASE HOME 1 25.95
- DESIGNER BUDGET 45.95
- EASY LEDGERS 189.95
- EXCELLENCE 195.00
- FAMILY TREE 32.46
- FLEET CHECK 25.96
- FORMS 62.32
- FORMATION 45.95
- GOLD SPELL II 29.95
- HALICAC SPREAD SHEET 30.95
- IMPACT 62.46
- INVESTOR'S ADVANTAGE 64.95
- KINDWORDS 64.95
- LEXCHECK 26.85
- LOTTO PROB. GENERATOR 19.48
- MAXPLAN 500 78.95
- MAXPLAN 500 PLUS 116.95
- MICROALPHA 37.95
- MOMENTUM CHECK 19.95
- MOMENTUM MAIL 19.95
- MONEY MENTOR 19.95
- NAG PLUS 0 49.95
- NIMBLE 13 104.95
- NORDEN GEOLOGICAL 32.40
- NUTRIFAX 37.95
- ORGANIZE 62.32
- PAGE STREET 129.95
- PAGESSETER SPECIAL ED 24.95
- PEN PAL 89.95
- PHINASTER 59.95
- PHINASTER PLUS 75.95
- PRO PAGE 1 A PREPARED 195.00
- PRO PAGE TEMPLATES 38.95
- PROFESSIONAL PAGE 229.00
- PROJECT MASTER 129.95
- PROSCRIPT 32.95
- PROWRITE V2.5 79.95
- PUBULISER PLUS 124.95
- RECIPE FAX 24.95
- SCRIBBLE PLANET 97.95
- SECURITIES ANALYST 49.95
- SOFTWOOD FILE SG 19.95
- SUPERMAN PERSONAL 78.95
- SUPERBASS PERSONAL 2 94.46
- SUPERBASS PROF 3.0 209.95
- SUPERPLAN 99.95
- TAX BREAK 59.95
- THINKER 45.95
- TRANSCRIPT 45.95
- TRIP 39.95
- TUXED PLUS 51.95
- VIVA 125.95
- WORD PERFECT 179.00
- WORD PERFECT LIBRARY 84.95
- WORDS PALATINUM 179.00

ACCESSORIES

- 3.5" DISK/FILE/30 8.95
- 3.5" DISK/FILE/80 14.95
- AMIGA ATHLETIC BAG 24.95
- AMIGA BL LIGHTER 1.95
- AMIGA BRASS KEY RING 3.95
- AMIGA CORD/ROD CAP 7.95
- AMIGA GARMET BAG 34.95
- AMIGA GOLF SHIRT 19.95
- AMIGA JACKET 39.50
- AMIGA LOGO NOTE PAD 4.99
- AMIGA MUG 5.78
- AMIGA PEN & PENCIL 19.95
- AMIGA PLASTIC VISOR 1.95
- AMIGA SPORTS TOWEL CALL
- AMIGA SWEATSHIRT 14.95
- AMIGA T-SHIRT 7.95
- AMIGA TERRY VISOR 5.50
- AMIGA THE PINS 4.95
- AMIGA TOWEL 15.95
- AMIGA TOWEL CAP 7.95
- BOSS JOYSTICK 12.95
- CABLE (nearly all types available including custom cables) CALL
- CLEANING KIT LARGE 14.95
- CLEANING KIT SMALL 7.95
- COPY/CAMERA STAND 64.95
- CRYSTAL CLEAR TUBES 11.85
- DESKJET BLK CARTRIDGE 15.95
- DESKJET COURIER FONTS 62.95
- DESKJET DUST COVER 29.95
- DESKJET EPOXY FM 62.95
- DESKJET FM CIVIL 62.95
- DESKJET HELV ASCII 104.95
- DESKJET LANDSCAPE 79.95
- DESKJET LETTER GOTHIC 79.95
- DESKJET PRESENTATION 79.95
- DESKJET RESISTANT 79.95
- DESKJET STAND/CRONZ 64.95
- DESKJET TMS/RMN 12 PT 62.95

- DESKJET TMS/RMN ASCII 104.95
- DIGI-DROID 69.95
- DISKETTES, 50 PACK 64.95
- DUAL GUN ADAPTER 24.95
- DUAL JOYSTICK ADAPTER 10.95
- DUST COVER A1000 & MND 13.95
- DUST COVER A2000 & MND 11.95
- DUST COVER A500 CPU 8.95
- DUST COVER MONITOR 11.95
- DUST COVER SM PRINTER 8.95
- EASYL DISK FOLDER 14.95

SALE! ADD! DUAL SERIAL BOARD \$149.00

FEATURES: 2 high-speed RS232 serial ports for the Amiga 2000, IBM PC AT style D-pin connectors for modems, transfer from 50 to 96,000 BAUD. Comes complete with Amiga software and full documentation.

- EPYX 200X JOYSTICK 11.95
- EPYX 500X JOYSTICK 14.95
- ERGO STICK 17.95
- FAST BACK DISK HOLDER 3.49
- FLICKER MASTER 13.95
- FLOPPY WALLET 7.95
- FOUR PLAYER ADAPTER 11.95
- GAME PLAY COMPACT DISK 12.95
- GRAVIS ADVANCED STICK 35.95
- WINNER JOYSTICK 14.95
- INTERACTIVE CABLE 9.95
- JOYSTICK Y ADAPTER 10.95
- KALIMAR TEAK 13 DISK 35.95
- KALIMAR TEAK 80 DISK 24.95
- KALIMAR TEAK 90 DISK 29.95
- KEYBOARD SKIN A1000 19.95
- KRAFT ACE JOYSTICK 5.99
- KRAFT MAZEMASTER JSTK 9.95
- LASERJET DUST COVER 29.95

- LASERJET HP 1MB EXP 378.00
- LASERJET HP 2MB EXP 768.00
- DISKETTES, 50 PACK 64.95
- LASERJET HP TOWER/EX 79.95
- LASERJET HP TRAY/EX 99.00
- LASERJET HP TRAY/EX 158.00
- LASERJET-2 COURIER 144.50
- LASERJET-2 ENVLP TRAY 77.95
- LASERJET-2 LASER CNTR 119.95
- LASERJET-2 TONER CRTG 104.95
- LASERJET-20 ENVLP TRAY 279.95
- LIGHT GUN, PHASAR 32.46
- NICHTRON DISK FOLDER 10.95
- MONITOR STAND & DRAWER 59.95
- MOUSE MASTER 29.95
- MOUSE MASTS 6.95
- MOUSE WASH 6.95
- MY MOUSE 59.95
- OKIMATE COLOR RIBBON 5.99
- PAINTJET BLK CARTRIDGE 23.60
- PAINTJET COLOR CARTRIDGE 29.10
- PAINTJET CUT PAPER 19.10
- PAINTJET DUST COVER 29.95
- PAINTJET PAPER CATCH 23.95
- PAINTJET PRINTER STAND 66.95
- PAINTJET TRANS FILE 54.05
- PAINTJET 2-FOLD PAPER 14.95
- POWER STRIP, INTEREX 19.95
- POWERPLAYERS JOYSTICK 19.95
- QUICKSHOT 2 JOYSTICK 12.95
- QUICKSHOT II PLUS 8.95
- RAVEN/AVATAR 2000 32.46
- SAFEXIN/ASD 18.95
- SONY COLOR DISKETTES 22.95
- SONY DISK 10 PACK 20.95
- SONY DISK 15 PACK 29.95
- STAR CURSOR JOYSTICK 32.46
- STAR NX-1000 RIBBON 6.95
- STAR RAINBOW RIBBON 10.95
- SWITCH BOX AS 78.95
- TAC-2 JOYSTICK 10.95
- TECH-TECH 130 32.95
- TECH-TECH 60 26.95
- THINK II COPY HOLDER 6.95
- TRACKBALL MOUSE STYLE 39.95
- TRACKBALL JOYSTICK 39.95
- WIC-5-WAY JOYSTICK 25.95
- WINNER JOYSTICK 14.95
- XEROX 4020 4 PACK INC 19.95
- XEROX 4020 BLACK INC 11.95

BOOKS/MAGS/VIDEO TAPES

Complete selection of Amiga titles... CALL

FREE SHIPPING!

CREATIVE COMPUTERS is both a mail order company with a store's support and three store showrooms with mail order prices. Visit one of our showrooms today. You'll be amazed!

3 RETAIL SHOWROOM LOCATIONS TO SERVE YOU

SANTA MONICA & WESTSIDE: 318 Wilshire Blvd., Santa Monica, CA 90401. Tues.-Sat. 11-7 p.m./Sun. 11-5 p.m./Phone: 213-542-7779.

LAWRENCE & SOUTH AVE: 4453 Redondo Beach Blvd., Lawndale, CA 90260. Mon.-Sat. 11-7 p.m./Phone: 213-542-2292.

VENTURA, OXNARD & SANTA BARBARA: 2112 E. Thompson Dr., Ventura, CA 93001. Tues.-Sat. 11-7 p.m./Sun. 12-5 p.m./Phone: 805-652-0325.

7 REASONS WHY YOU SHOULD SHOP AT CREATIVE COMPUTERS:

1. We're the largest dealer of Amiga products in the World. Now with even larger facilities and twice the staff!
2. Three store locations means excellent support.
3. Our new mini-computer assures you:
 - Immediate customer service and order status.
 - Advanced inventory control and ordering minimizing back orders and delays.
4. Best service center, anywhere!
5. Uniform low pricing and largest selection, no hidden costs or catches.
6. U.S. and International TOLL-FREE ordering!
7. We don't charge your card until the product ships.

CUSTOMER SERVICE: For technical support call 213-542-2292 from 11 a.m. to 7 p.m. PST for technical questions.



SHIPPING INFO: No surcharge for Visa/MasterCard; 4% surcharge for American Express; 1% surcharge for Discover. Shipping within the continental United States for software orders over \$100 (U.S.) is FREE. Please call for all other shipping information. Educational, corporate and aerospace purchase orders accepted.

RETURN POLICY: Call Customer Service at (213) 214-0000 for return authorization. All returns without authorization number (RMA#) will be refused. Returned products must be in original condition and packaging and must be sent back within 30 days of our invoice date. No refunds product replacements only. We make no guarantees for product performance.

CONDITIONS: Prices and availability of products are subject to change without notice.

MAIL-IN ORDERS: Send money orders or cashiers check for fast service. (Personal checks take up to 10 days to clear.) Includes: name, address and telephone number. If ordering by credit card, include expiration date and billing address. Please call for exact shipping rates.

CREATIVE COMPUTERS IS INTERNATIONAL!

INTERNATIONAL TOLL-FREE ORDERING POLICIES: Minimum order \$100 U.S. Orders only please. Absolutely no product inquiries, or any shipping inquiries, will be taken over the toll-free phone lines. For any other information, please call (213) 214-0000. We have operators versed in the following languages: English, French, and Spanish, only. Shipping prices vary and are quoted following your order. Payment is made via credit card or electronic fund transfer. For any other information please call our regular toll lines. Federal Express and International Shipping available.

INTERNATIONAL PHONE NUMBERS: Canada 1-800-548-2512; Italy 1678-74086; United Kingdom 0800-89-1178; France 19-0590-1099; W. Germany 01-30-10466; Japan 0031-11-1351; Australia 0014-800-125-712; Netherlands 06-022-8613; Norway 050-12029; Denmark 0434-0297; Switzerland 045-3420.

CENTAUR PUTS THE FUN IN FUNCTIONAL!

- CSI 5500 Beating Mouse (optical mouse) \$99.95
- CSI 6600 MiniMax (1.8 Meg expansion fits in A501 slot) CALL</

THE GAME PRESERVE

Last Minute Help

These late arrivals are right on time for the shopping rush.

By B. G. Hunter

THE END OF the year always puts me in a desperate and reflective mood; I get desperate for gift ideas as I reflect on all the game suggestions I've already given out. If you're still searching for the perfect present too, take heart. Several new games have arrived on my desk and beat out my old favorites. Grab your shopping list (or your wish list) and take note.

TEE ANYONE?

Winter temperatures make me yearn for the sun. A round of **Jack Nicklaus' 18 Greatest Holes of Championship Golf** (Accolade, \$49.95) isn't a trip to Ja-

maica, but it'll do in a pinch. The game is a lot more fun to play alone than my previous favorite, *Mean 18* (Accolade, \$44.95). Now, you can choose up to three computer-controlled opponents of varying ability. Top of the heap, of course, is the Golden Bear himself.

As you play, keep an eye on those opponents; they can teach you a lot. From Jack I learned to gamble and overswing. Just let your back-swing enter the red danger zone, then let it rip. Sure, your swing is more likely to be wild, but the resulting longer shots may get you on the green in fewer strokes. Don't worry about making a perfect swing and clicking the mouse button at exactly the right moment on the downswing. You'll probably be consistently a little late or a little early. Don't fight it; just position yourself to compensate for your natural hook or slice.

A few clouds do darken the game's horizon. Playing with the computer opponents lengthens the game, and detailed graphics slow play further. Putting is also tougher than in *Mean 18*. Most annoying was when one of my computer opponents (not Jack) got



Set your sights on enemy installations with *Falcon*.

**COMMODORE (AMIGA)
SPECIALISTS
SINCE 1979**
*Authorized Service
and repair*

COMPUTERS etc!

Authorized
COMMODORE
AMIGA™
Dealers

Authorized Amiga Graphic Design & Desktop Publishing Specialists

HARDWARE

Master 3-A External Disk Drive	139.00
Digital Creations SuperGEN	650.00
Perfect Sound	66.95
Bridgeboard Speaker	19.95
ECE MIDI Interface	49.95
X-Specs - 3D Glasses	79.95
Panasonic 1124 - 24 pin printer	325.00
Twin Drive	235.00

Save on SUPRA Products!

Amiga 2000 Products

40 MB Quantum Hard Card	635.00
80 MB Quantum Hard Card	915.00
8 MB Ram Card with 2 MB	325.00

Amiga 500 Products

20 MB External Hard Drive	455.00
80 MB External Hard Drive	940.00
2 MB Ram Board for above	260.00
512K Ram Expansion w/clock	110.00

**SupraModem 2400 Baud with Cable and
Software only \$129.95!**

ACCESSORIES

3.5" Diskettes	79 cents!	Mousepad	6.95
Switch Box AB	29.95	MouseHouse	6.95
SwitchBox ABCD	44.95	MouseHolder	5.95
Disk Case (80)	15.00	MouseDoctor	10.95
Flicker Master	14.00	EPYX JoyStick	14.00

Custom Cable Specialists! Call for Pricing!

SOFTWARE

Electronic Arts

Deluxe Music	66.00
Deluxe Photo Lab	99.00
Deluxe Video	78.00
Populous	31.25
Power Drome	25.00

**Deluxe Paint III
Only
\$89.95!**

First Byte Educational Software

All Titles only \$26.50!

Dinosaur Discovery	First Shapes	First Words/Letters	Kid Talk
Math Talk	Speller Bee	Math Talk Fractions	
Smooth Talker	Rhyming Notebook	Puzzle Storybook	

Games/Entertainment

Dragon's Lair II	43.75	Joan of Arc	30.90
Battle Squadron	25.00	Eye of Horus	25.00
Hard Ball II	30.90	Shadow of Beast	31.25
Tarot Master	18.75	Sim City	28.95
Qix	25.00	Sonix	49.95

UTILITIES/APPLICATIONS

AmigaDOS 1.3	25.00	Mastering CLI	29.95
B.A.D.	31.22	Pha\$ar	56.22
UltraDOS Utilities	37.49	CLimate	29.95
Plan-It	115.00	B.E.S.T.	225.00

More Power for your Amiga 500!

The HD-150 and HD-150DL were developed by Computers, Etc! because of the increasing demand for replacement Amiga 500 power supplies. Our power supplies both feature a 150 watt Power Supply, Short circuit protection, Internal mounted fuse, on/off switch and a full one year warranty. In addition to these features, the HD-150DL features 3 switched A/C Accessory outlets with their own fuse, an internal cooling fan, and a 5 pin external connector. Save over \$20.00 with our special Introductory pricing: HD-150 Now Only \$99

HD-150DL Now Only \$129

Call Andrew at (813) 378-2394 for more information!

MUCH, MUCH, MORE...TOO MUCH TO MENTION! ...CALL FOR PRICES

Call (800) 634-5546 to place an order or to receive our FREE 48 page catalog!

Free Shipping on all Software orders over \$100. You pay only actual shipping costs on all other orders. We will not charge your credit card until the product actually ships. Most orders shipped within 24 hours. No surcharge for credit cards. We accept Visa, Master Card, American Express, Diner's Club and Carte Blanche, as well as cash, checks or money orders. FLORIDA RESIDENTS: Please add 6% Sales Tax. Our Mailing Address is: 4521-A Bee Ridge Road * Sarasota, Florida 34233

We've opted for readability, rather than quantity of items, so please call for prices on any item not listed. Custom Packages are our specialty. Service and Support are our strongest assets. Over 350 Public Domain disks in stock, only \$5.00 each. Call or write for FREE catalog! Pricing and availability subject to change.

Helpful Telephone Numbers

ORDERS ONLY

(800) 634-5546

TECHNICAL SUPPORT/HELP!

(813) 378-2394

CUSTOMER SERVICE

(813) 377-1121

COMPUTERS, ETC! BBS (300/1200)

MODEMS ONLY (813) 378-3477

David Bradley - Sysop Punternet Node 13



Circle 52 on Reader Service card.

stuck in an infinite loop, hitting the ball into the water continually.

RESTART YOUR ENGINES

The roadways are more crowded than the fairways, boasting two new arrivals.

Stalled for two years in development, **Turbo** (MicroIllusions, \$24.95) has finally hit the streets. You race up the screen through cities and countrysides, past an endless stream of cars and motorcycles. Your goal is to reach the finish line before time runs out. Another vehicle in your path? Knock it out of the way or shoot it—but don't let anybody else get you. Pedestrians? Run them over and listen to the screams. You can even pick up such valuable supplies as faster tires and weapons. Be forewarned, however, that the scoring is oddly inconsistent: You get 5000 points for shooting a vehicle, but only 10 for knocking it off the road. I ran over and around (ahem, and into) a lot of obstacles but never made it close to the finish line. You won't find any beginner levels to make the task easier, either. If you don't get too frustrated, the long playing life coupled with the low price could make Turbo the holiday bargain.

For a less bloodthirsty, but no less thrilling, ride, try **The Duel: Test Drive II** (Accolade, \$44.95). You speed along country roads, racing either another car or the clock, winding your way through the traffic, all the while avoiding the ubiquitous police. To simplify the learning process of steering, shifting, and cop watching, Accolade has added several skill levels. On the first few, the car shifts itself. The road is easier to navigate at first, as well. As you drive, the road becomes less forgiving, more twisting, and more traffic infested. Ol' Smokey doesn't hassle you until the third segment. The game's biggest disadvantage is the limited selection of cars: a Porsche 959 and a Ferrari F40. For more variety, you can buy additional car and scenery disks (\$19.95 each).

The key to learning The Duel is to start out at the

lowest skill level. When you can complete the course, move up to the next level. You'll have more fun, and your scores will increase as the levels get harder. To rack up the points you'll need a fast car. The Lotus, with its top speed of about 160, just doesn't make it. Race against the clock. You won't have to worry about the computer-controlled jerk crashing in your path and slowing you down. Also, pay particular attention to the course's first segment. While it's the easiest, it's also crucial if you want a high score. If you finish it with the pedal to the metal the whole way, and never crash, you can average over 130 mph and score over 60,000 points at the highest difficulty level.

The Duel may not be the ultimate racing game, but it's my present favorite. Let me know if these hints help you top my score of slightly under 130,000.

THE JET SET

If jet fuel flows in your veins, you'll want to find **Falcon** (Spectrum Holobyte, \$49.95) and its **Operation: Counterstrike Mission Disk** (\$24.95) under your tree.

You fly Falcon's F16 in basically the same way you fly other simulators. It even uses some of the same keys—press the G key and, sure enough, the landing gear retracts. It isn't quite as much fun to fly as F/A-18 Interceptor (Electronic Arts, \$49.95), but it is very close. Don't make the mistake of thinking you can get by strictly on your knowledge of other flight simulators; Falcon is a very complex game. To be an ace you must read the 140-page manual.

Missions are the most fun. In the original game, 12 missions progressively lead to your enemy's total destruction. As you complete each mission you get ribbons and medals. You can fly the missions at different difficulty levels and ranks. As a first lieutenant, for example, you don't have to worry about crashing. If you want all the medals, however, you can't avoid high rank and responsibility: Some medals go only to high-ranking officers. The dozen Counterstrike missions are better and more realistic. If you blow up a tank factory on one mission, for example, in succeeding missions you'll have fewer tanks to fend off (until they rebuild the factory). ►

Manufacturers' Addresses

Accolade

550 S. Winchester Blvd.
Suite 200
San Jose, CA 95128
408/296-8400

Electronic Arts

1820 Gateway Dr.
San Mateo, CA 94404
415/571-7171

MicroIllusions

17408 Chatsworth St.
Granada Hills, CA 91344
818/360-3715
800/522-2041

Spectrum Holobyte

2061 Challenger Dr.
Alameda, CA 94501
415/522-3584

BEST BUY
SUPRA 2400 MODEM
\$129.00
HAYES COMPATIBLE
300/1200/2400 BAUD

3D DEMON	68.00
3D FANCY FONTS	48.00
3D AARCH	21.00
AC BASIC	135.00
AC FORTRAN	198.00
AEGIS DRAW 2000	168.00
AMIKIT	24.00
ANALYTIC ART	38.00
ANALYZE 2.0	62.00
ANDROMEDA MISSION	25.00
ANIMAGIC	63.00
ANIMATE 3D	95.00
ANIMATOR APPRENTICE	187.00
AQUAVENTURE	24.00
ARCHITECTURAL DESIGN	22.00
AREXX	30.00
ARKANOID	25.00
ASSEMPRO	69.00
ATALK II	60.00
ATREDES BBS PRO.	90.00
ATREDES TERMINAL	30.00
B.A.D.	30.00
BARD'S TALE II	37.00
BATTLE CHESS	30.00
BAUD BANDIT	30.00
BBS-PC	92.00
BENCHMARK MODULA 2	138.00
BENCHMARK LIBRARIES	69.00
BEYOND DARK CASTLE	21.00
BLITZ, ON THE ARDENNE	37.00
BLOOD MONEY	24.00
BREACH	28.00
BRIDGE 5.0	22.00
BUBBLE BOBBLE	26.00
BUBBLE GHOST	25.00
BUTCHER 2.0	23.00
CALIFORNIA GAMES	27.00
CALLIGRAPHER	74.00
CAPE 68K ASSEMBLER	59.00
CAPONE	35.00
CAPTAIN BLOOD	31.00
CARMEN SAN DIEGO	27.00
CARRIER COMMAND	28.00
CENTERFOLD SQUARES	20.00
CHESSMASTER 2000	31.00
CHRONOQUEST	24.00
CITY DESK 2.0	120.00
CLUE	24.00
COMICSETTER	66.00
COMICSETTER DATA DISKS	22.00
CRITICS CHOICE	150.00
CYGNUS ED PRO	60.00
DARK CASTLES	28.00
DATARETRIEVE	53.00
DEATH BRINGER	24.00
DECIMAL DUNGEON	32.00
DELUXE HELP DISKS	22.00
DELUXE MUSIC 2.0	69.00
DELUXE PAINT III	99.00
DELUXE PHOTO LAB	98.00
DELUXE PRINT II	57.00
DELUXE PRODUCTIONS	138.00
DELUXE VIDEO 1.2	67.00
DEMON'S WINTER	27.00
DESIGN 3D	70.00
DESKTOP BUDGET	42.00
DESTROYER	27.00
DEVPAK ASSEMBLER	60.00
DIGI PAINT 3.0	66.00
DIGIWORKS 3D	78.00
DIRECTOR	44.00
DIRECTOR TOOLKIT	28.00
DISCOVERY DATA DISKS	14.00
DISCOVERY MATH	28.00
DISC. SPELL	28.00
DISC. TRIVIA	28.00
DISK MASTER	48.00

DISK MECHANIC
DOS TO DOS
DOUGS MATH AQUARIUM
DOWNHILL CHALLENGE
DR. TS SOFTWARE
DRAGON'S LAIR
DRUM STUDIO
DUNGEON MASTER
DYNAMIC DRUMS
DYNAMIC STUDIO
EARL WEAVER BASEBALL
EMPIRE
EMPIRE STRIKES BACK
ENCHANTER
EUROPEAN SCENERY DISK
EXCELLENCE
EXPRESS PAINT 3.0
FA INTERCEPTOR
FACC II

HOLLYWOOD POKER	22.00
HONEYMOONERS	25.00
HUMAN DESIGN	25.00
HUNT FOR RED OCTOBER	35.00
HURIS	24.00
INDOOR SPORTS	55.00
INOVA TOOLS #1	28.00
INSANITY FIGHT	35.00
INTELLITYPE	35.00
INTERCHANGE	32.00
INTERFONT	72.00
INTERNATIONAL SOCCER	24.00
INTROCAD	51.00
INVESTOR'S ADVANTAGE	66.00
JACK NICHOLAS GOLF	30.00
JET	36.00
JET SET UTILITIES	24.00
JEWELS OF DARKNESS	21.00
JIGSAW	30.00
JINXTER	28.00
JOE BLADE	21.00
KAMPFGRUPPE	39.00
KARATE KID II	28.00
KARATE KING	19.00
KARTING GRAND PRIX	19.00
KINDERAMA	32.00
KINDWORDS	63.00
KING OF CHICAGO	35.00
KINGDOMS OF ENGLAND	30.00
KRISTAL	30.00
LANCELOT	26.00
LAS VEGAS	19.00
LATTICE C 5.0	204.00
LAZERSCRIPT	29.00
LEADER BOARD DUAL PAK 2	21.00
LEATHER GODDESSES	26.00

OF THE FLESH
 ONE ON ONE
 ONLINE PLATINUM
 OPERATION WOLF
 OPTICS +
 ORGANIZE
 OUTRUN
 PAPER BOY
 pAGE STREAM
 PAGEFLIPPER + F/X
 PALADIN
 PEN PAL
 PERFECT SCORE
 PERSECUTORS
 PHANTASIE III
 PHASAR 3.0
 PHOTON CELL ANIMATOR
 PHOTON PAINT 2.0
 P.HO. PAINT SURFACE DISK
 PIONEER PLAGUE
 PIXELSCRIPT
 PIXMATE
 PLATOON
 POPULOUS
 PORT OF CALL
 POWER WINDOWS 2.5
 PRINTMASTER +
 PRISON
 PRO ASM
 PRO BOARD
 PRO NET
 PRO SOUND DESIGNER
 PRO VIDEO PLUS
 PRO. DATARETRIEVE
 PROFESSIONAL PAGE
 PROJECT D

TECNOCOP
TELEGAMES
TELEWARS
TERRORPODS
TEST DRIVE II
TEXTPRO
THE ACCOUNTANT
THE THREE STOOGES
THE WORKS PLATINUM
THEXDER
THUNDERBLADE
TIME AND MAGIK
TITAN
TRACER
TURBO SILVER
TV SPORTS FOOTBALL
ULTIMA IV
UNINVITED
UNIV. MILITARY SIM.
V.I.P.

29.00	CM 85 MEG A500/A1000	850.00
22.00	C5-1 COPY STAND	62.00
28.00	CVIEW 1	35.00
28.00	CVIEW 2	35.00
53.00	DELUXE MIDI INTFCE	35.00
57.00	DIGI-DI-DROID	62.00
190.00	DIGI-VIEW 3.0	139.00
35.00	DIGI-VIEW GOLD	139.00
178.00	ECE MIDI	14.00
26.00	EPYX 500 XJ JOYSTK	50.00
30.00	ERGOSTICK JOYSTK	18.00
26.00	FLICKER FIXER	510.00
27.00	FLICKER MASTER	12.00
22.00	FRAMEGRABBER	529.00
115.00	FUTURE SOUND	136.00
29.00	FUTURE SOUND 500	99.00
41.00	GEN ONE GENLOCK	699.00
35.00	GO 64	24.00
30.00	GO 64 INTERFACE CABLE	15.00
30.00	GVP.68010A05D	CAI 1



**CALIFORNIA
ACCESS CA-880**
NEW LOW PRICE
\$139.00

VIDEO EFFECTS 3D	130.00
VIDEO TITLER	88.00
VORTEX	24.00
WAYNE GRETZKY HOCKEY	30.00
WORDPERFECT	145.00
WORLD CLASS LEADER BD	28.00
WORLD TROPHY SOCCER	30.00
X-CAD DESIGNER	90.00

GVP 68030 W/68882	CALL
GVP 68030 W/4 MEG	CALL
GVP 20 MEG HARDCARD	575.0
GVP 30 MEG HARDCARD	698.0
GVP 45 MEG HARDCARD	816.0
GVP AUTOBOOT EPROM KIT	29.0
GVP IMPACT A500	CALL
GVP A500 RAM MODULE	66.0

Super Special
A501 CLONE
\$119.00
512K MEMORY
With Clock/ Calendar

8 UP OK	179.00
8 UP W/2 MEG	489.00
8 UP W/4 MEG	CALL
8 UP W/6 MEG	CALL
8 UP W/8 MEG	CALL
ADAPTEC 4000	126.00
ADAPTEC 4070	170.00
AIR DRIVE EXT.	148.00
AIR DRIVE INT.	139.95
AMIGEN GENLOCK	156.00
APPROVAL 12 X 12	480.00
C LTD REPLMNT KYBD	98.00
C LTD HARD DRIVES	CALL
CALIFORNIA ACCESS	149.00
C LTD KRONOS SCSI	CALL
C LTD SCSI 500	156.00
C LTD SCSI 1000	186.00
C LTD SCSI 2000	119.50
CM 20 MEG A500/A1000	639.00
CM 20 MEG A2000	539.00
CM 40 MEG A500/A1000	799.00
CM 40 MEG A2000	749.00
CM 65 MEG A500/A1000	879.00
CM 65 MEG A2000	799.00

MIDI STAR	216.0
MODEM CABLE A1000	15.0
MODEM CABLE A500/A2000	15.0
MOUSE MASTER	27.0
MOUSE PADS	9.0
NEC PINWRITER 2200	379.0
PERFECT SOUND	66.0

**NEW MW 738
A500 POWER SUPPLY
\$81.00**

PERFECT VISION	189.00
PRO GEN GENLOCK	384.00
PRORAM 8 MEG W/2 MEG	489.00
SCSI CABLES	25.00
SEAGATE ST175N 48 MEG	439.00
SEAGATE ST225N 20 MEG	345.00
SEAGATE ST251N 40 MEG	440.00
SEAGATE ST277N 65 MEG	510.00
SEAGATE ST138N 30 MEG	394.00
SEAGATE ST296N 85 MEG	570.00
SPIRIT TECH 500A 512K OK	44.00
STARDRIVE SCSI CONT.	102.00
SI COLOR SPLITTER	90.00
STARBOARD II OK	260.00
STARBOARD II 512K	360.00
STARBOARD II 1 MEG	428.00
STARBOARD II 2 MEG	635.00
SUPER GEN GENLOCK	699.00
SUPRA 2400 MODEM	129.00
BRICK 5000 POWER	102.00
TIMEASVER	55.00
VD-I FRAMEGRABBER	920.00
VI-2000RF	78.00
VI-500RF	78.00
WV-1410 W/LENS,CABLE	94.00
X-SPCS 3D	23.00

Spirit Technology
A500 & A1000 Memory Expansion

Inboard 512K	\$299.00
Inboard 1 meg	\$349.00
Inboard 1.5 meg	\$439.00
Inboard 2 Meg A500	\$489.00

SHIPPING INFO: Software rates are \$2.00/item (Max 8.00) UPS Ground or \$4.00/item (Max 14.00) UPS 2nd Day Air. Call for Hardware shipping info. **REFUND & RETURN POLICY:** Defective merchandise under warranty will be repaired or replaced. Returned product must be in original packaging. We do not offer refunds for defective products or for products that do not perform satisfactorily. We make no guarantees for product performance. Money back guarantees must be handled directly with the manufacturer. All returns must have an RA #. Call 409-560-2826 for an RA. Returned products are subject to a 20% restocking fee. Prices subject to change without notice. Delivery subject to availability.



**FEDERAL
EXPRESS**

Standard Air
Available on Request
Circle 69 on Reader Service card

Computer Mart
105 Lynn St.
Nacogdoches, TX 75961
INFORMATION: 409-560-2826

While the missions are more challenging, the flying is easier in Counterstrike. The F-16's landing gear is more forgiving, and the cockpit instrumentation is a step forward.

Next month I'll be back with plenty of useful strategy hints for playing some of those games

you unstuffed from your stocking. □

Although not the type to be caged in an office, B. G. Hunter does skulk in occasionally to pick up his mail. Write to him c/o AmigaWorld, Editorial Dept., 80 Elm St., Peterborough, NH 03458.

G A M E R E V I E W S

TIMES OF LORE

By Patrick Quaid

THE BELOVED HIGH King of Albareth has been missing for several years, and the kingdom is going to pot under the ineffective leadership of his steward. Through a series of quests you must investigate the disappearance and restore the High King to the throne.

You gather information by talking to people. Select the mouth icon and choose to chat with or question nearby characters. If you decide to ask a question, the game provides a list of topics. Topics are added to this list as your character finds out about them through

conversations, and removed when all the related information has been uncovered.

The interesting part of Times of Lore is that the auxiliary characters live their own lives. If you walk into a fellow's (I never saw a female character) house at night, he is likely to be in bed. If not, he's probably up to something. In the morning you can watch him get up, putter around the house, then, for example, spend his day in a bar.

The map is drawn from an almost overhead point of view, using shadows and well cho-

sen colors to give it a feeling of depth. The design of the individual squares and their layout make the map seem like a continuous sheet, rather than the familiar grid systems. This effect is further supported by the way the characters move in small increments, ignoring the implementation of the map. Reality sets in, however, when you try to walk through a doorway, around a table, or up some stairs. Until you get used to it, these obstacles can be quite a puzzle.

Times of Lore comes on a copy-protected disk with a

well-written game book, a poster-sized map, and a computer-specific reference card. The book begins with a narrative about the kingdom, then describes game mechanics and provides several clues.

Times of Lore injects new life into a game genre that definitely needed it. Although some aspects, such as conversation and combat, seem too simple, the foundation of the game is solid and refreshing. (\$39.95, Origin Systems, 136 Harvey Rd., Building B, Londonderry, NH 03053, 603/644-3360. No special requirements.)

KINGDOMS OF ENGLAND

By Patrick Quaid

IF YOU'VE EVER thought about conquering Britain at the head of a massive army (and who hasn't), Kingdoms of England might be your cup of tea. It combines a simple strategic challenge with a clean, useful interface to make a very entertaining game.

You start with one province, a small army, and a deep antipathy for your neighbors. You spend your tax money on troops, catapults, or castles (not many social programs in 1421), and try to wage campaigns without being waged upon. You manage your empire almost entirely with the

mouse, scrolling around a well-rendered map that includes Scotland and Wales. The game's methods for indicating troop movements, geographical features, and castles convey their messages clearly and effectively, and entering orders is intuitive.

This efficiency is complemented by touches that enhance the atmosphere of the game without slowing it down. Twice every game year, for example, you compete in an archery tournament. It has almost nothing to do with the rest of the game, but it's fun and a welcome change of ►



Fight to free your compatriots.

Merry Diskmas from SD of A

Ho! Ho! Ho! Save Dough, Dough, Dough.



We have what you're looking for!

ACTIVISION

Adventure thru 14 full scrolling complex castle mazes. Destined to be a #1 favorite of arcade and adventure gamers everywhere.



BEYOND DARK CASTLE
List \$34.95

SDA Discount Price \$23

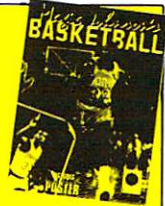
ABACUS	Daily Double Horse Race	\$19
Assem Pro	Jigsaw Puzzlemania	\$19
*Abacus Books in stock! Call	Linkword Languages	\$19
ACCESS	Strip Poker 2	\$25
W.C. Leader Board Golf	S.P. Data Disk 4 or 5	\$14 Ea
ACCOLADE	Tank Attack	\$19
Blue Angels Flight Sim	World Snooker	\$16
Bubble Ghost	BAUDVILLE	
Fast Break	Video Vegas	\$23
4th & Inches Football	BETHESDA	
4th & Inches Team Const.	Gretzky Hockey	\$32
Grand Prix	Gridiron	\$19
Hardball	BRITANNICA/DESIGNWARE	
Heatwave Boat Racing	Archipelagos	\$25
Jack Nicklaus Golf	Designasaurus	\$32
J.N. Golf Champ Courses	BRODERBUND	
Test Drive 2: The Duel	Carmen S.D. - U.S.A.	\$32
T.D. 2: Calif. Scenery	Carmen S.D. - World	\$29
T.D. 2: Europe Scenery	Downhill Challenge	\$23
T.D. 2: Muscle Cars	Fantavision	\$39
T.D. 2: Super Cars	Licence to Kill	\$23
ACTION WARE	Omni-Play Basketball	\$32
Capone	Operation: Clean Streets	\$25
Phaser Gun	Shufflepuck Cafe	\$25
Prison	Sim City	\$29
ACTIVISION	Star Wars	\$25
Battle Chess	BROWN-WAGH	
Beyond Dark Castle	Pen Pal Word Processor	\$89
Neuromancer	BYTE BY BYTE/CENTAUR	
Rampage	Animate 3-D	\$99
Shanghai	B.A.D. Disk Optimizer	\$32
AEGIS	Sculpt Animate 4D Jr.	\$95
Amiga Graphics	CINEMWARE	
Starter Kit	Defender of the Crown	\$32
Audio Master 2	It Came From The Desert	\$36
Draw 2000	King of Chicago	\$16
Videoscape 3D	Kristal	\$32
ARCADIA	Lords of Rising Sun	\$32
Double Dragon	Rocket Ranger	\$32
ARTWORX	T.V. Sports Basketball	\$32
Bridge 5.0	T.V. Sports Football	\$32
Centerfold Squares	DATA EAST	
Colossus Chess X	Bad Dudes	\$29

MELBOURNE HOUSE

All the action & realism of Magic's Arcade Game is brought to your home computer. 2-on-2 play with officials and more.

MAGIC JOHNSON'S BASKETBALL
List \$49.95

SDA Discount Price \$32



Batman	\$29	Street Sports Basketball	\$9.44
Platoon	\$29	Sub Battle Simulator	\$9.88
Robocop	\$29	Technocop	\$24.88
Super Hang-On	\$29	The Games: Winter Ed.	\$9.44
Vigilante	\$23	FREE SPIRIT	
DATA SOFT		Amiga Alignment System	\$32
Hunt for Red October	\$32	Planet of Lust	\$25
Sorcerer Lord	\$23	Sex Vixens From Space	\$25
Time & Magik	\$26	FTL	
DIGITEK		Dungeon Master	\$25
Hole in One	\$25	GOLD DISK	
Hollywood Poker (X-Rated)	\$23	Comic Setter	\$59
DISCOVERY		Desktop Budget	\$44
Arkanoid	\$19	Jinks	\$19
Better Dead Than Alien	\$23	Movie Setter	\$59
Grabbit	\$19	INCOGNITO	
Sword of Sodan	\$32	Kingdoms of England	\$32
Zoom!	\$19	INFOCOM	
ELECTRONIC ARTS		Battletech	\$32
Bard's Tale	\$14	Beyond Zork	\$14
Bard's Tale 2	\$39	Journey	\$32
Battlehawks 1942	\$32	King Arthur: The Quest	\$32
Cresmaster 2100	\$32	Shogun	\$32
Dark Castle	\$26	Zork Trilogy	\$19
Deluxe Music Const.	\$65	Zork Zero	\$39
Deluxe Paint 3	\$99	INKWELL	
Deluxe Photo Lab	\$99	Amiga Light Pen 2.0	\$89
Deluxe Print 2	\$49	KEYPUNCH/BOX OFFICE	
Deluxe Productions	\$129	Ikan Warriors	\$25

ACCOLADE

Fly heart-stopping precision flight patterns with the daredevil blue angel team. 25 actual air show maneuvers & more.



BLUE ANGELS
List \$44.95

SDA Discount Price \$29

Deluxe Video 3	Call	Speed Buggy	\$25
Dragon Force	\$32	LEISURE/ARCADIA	
Empire	\$32	Clue	Call
FA/18 Interceptor	\$32	Double Dragon	\$26
Ferrari Formula One	\$32	Monopoly	Call
Indiana Jones Crusade	Call	Risk	Call
Action Game	\$26	Scrabble	\$26
Indiana Jones Crusade	Call	MANDARIN	
Graphic Adventure	\$32	Lombard Rally	\$25
Instant Music	\$14	MELBOURNE HOUSE	
Life & Death	\$32	Magic Johnson's B. Ball	\$32
Marble Madness	\$14	War in Middle Earth	\$32
Populous	\$32	World Trophy Soccer IMB	\$32
Powerdrome	\$26	MICHTRON	
Skyfox 2	\$36	HiSoft Pro Basic	\$99
Star Fleet 1	\$32	Talespin	\$32
Swords of Twilight	\$32	Time Bandit	\$25
Weaver Baseball	\$32	MICROILLUSIONS	
Weaver B.B. 88 Stats	\$14	Blackjack or Craps	Call
Zak McKracken	\$29	Academy	\$25 Ea
Zany Golf	\$14	Faery Tale Adventure	\$32
EPYX		Fire Power	\$16
Axe of Rage	\$24.88	Music X	\$193
Battleship	\$14.88	Photon Paint 2.0	\$95
California Games	\$14	Romantic Encounters	\$25
Death Sword	\$14.88	Turbo	\$19
Project Neptune	\$24	MICROPOSE/MEDALIST	
Purple Saturn Day	\$14.88	3-D Pool	\$23
Revenge of Defender	\$16.88	Gunship	\$35
Space Station Oblivion	\$9.88		

SIERRA

Who else but Larry could win the lottery, a dream date on "The Dating Connection" and a dream cruise on the "Lover's Boat."



LEISURE SUIT LARRY 2

Call For Price & Availability

Honda RVF	\$25	Gold Rush	\$25
Savage	\$23	King's Quest 1, 2 or 3	\$32 Ea
Silent Service	\$25	Leisure Suit Larry	\$25 Ea
MICROSYSTEMS		Leisure Suit Larry 2	Call
Excellence W.P.	\$159	Manhunter N.Y. or S.F.	\$32 Ea
The Works-Platinum	\$179	Mother Goose	\$19
Scribble Platinum	\$95	Police Quest	\$32
MINDSCAPE		Space Quest 1 or 2	\$32
Action Fighter	\$25	Space Quest 3	\$39
Alien Syndrome	\$25	Texder	\$23
Balance of Power 1990	\$32	SOFTWARE INSIGHT	
Captain Blood	\$32	Go-64 Emulator	\$19
Combat Course	\$25	SPECTRUM HOLOBYTE	
De Ja Vu 1 or 2	\$32	Counterstrike (RQ Falcon)	\$16
Fiendish Freddy's Big Top	\$32	Falcon	\$32
Gauntlet 2	\$32	Tetris	\$23
Harrier Combat Sim	\$32	SSI	
Hostage	\$29	Demon's Winter	\$26
Indiana Jones	\$25	Heroes of the Lance	\$32
Outrun	\$33	Hillsfar	\$32
PaperBoy	\$32	Red Lightning	\$39
Road Raider	\$25	SPOTLIGHT	
Shadowgate	\$32	Dark Side	\$26
Shinobi	\$29	Deathbringer	\$26
Space Harrier	\$32	Speedball	\$26
Super Star Ice Hockey	\$32	Total Eclipse	\$26
Thunder Blade	\$32	SUBLOGIC	
Uninvited	\$32	Flight Simulator	\$32
NEWTEK		Jet	\$32
Digi-Paint 3.0	\$65	Scenery Disks	Call
Digi-View Gold	\$139	TAITO	
OMNITREND		Bubble Bobble	\$23
Universe 3	\$32	Operation Wolf	\$23
ORIGIN		Qix	\$23
Omega	\$32	Rambo 3	\$23
Quest For Clues	\$32	Renegade	\$23
Book 1 or 2	\$19 Ea	Sky Shark	\$23
Times of Lore	\$25	UNICORN	
Ultima 4	\$39	Aesop's Fables	\$29
POLARWARE		Math Wizard	\$29
All Dogs Go to Heaven	\$32	Read & Rhyme	\$29
PRECISION		UNISON WORLD	
Superbase Personal 2	\$95	Art Gallery 1, 2 or 3	\$19 Ea
Superbase Profess. 3	\$189	Fonts & Borders	\$23
PSYGNOSIS		Print Master Plus	\$25
Baal	\$19	WORD PERFECT	
Ballistix	\$23	Word Perfect W.P.	Call
Blood Money	\$25	ACCESSORIES	
Shadow of the Beast	\$32	Air Drive Internal	\$119
READYSOFT		Air Drive External	\$149
A-Max (ROMS RQ)	Call	Bonus 3 1/2 DSD	\$11.99 Bx
Dragon's Lair	\$39	Sony 3 1/2 DSD	\$16.90 Bx
SEVERA HINT DISKS		Disk Case (Holds 45)	\$6.88
Bard's Tale (H. Disk)	\$14	Disk Drive Cleaner	\$6.88
Dungeonmaster (H. Disk)	\$14	Winner M4 Mouse	\$29
Heroes of Lance (H. Disk)	\$14	Mouse Pad 8 1/2 x 11	\$6.88
Shadowgate (H. Disk)	\$14	Wico Bat Handle	\$17
SIERRA		Wico Ergostick	\$19
Black Cauldron	\$25	Maxx Control Yoke	\$69

Speedy Delivery
Deep Discounts
Astronomical Selections



Send check or money orders to:
P.O. Box 111327-Dept. AMW
Blawnox, PA 15238

Ask your Salesperson
what's on sale
this month!

USA/CANADA orders
1-800-225-7638
PA Orders 1-800-223-7784
Customer Service (412) 361-5291
Fax Order Line (412) 361-4545

- Free shipping on orders over \$100 in continental USA.
- No surcharge for VISA/MasterCard.
- Your card is not charged until we ship.
- Purchase orders accepted.

Software
Discounters
Of 
America

Order Line Hours: Mon.-Thurs. 9:00 AM-9:00 PM, Fri. 9:00 AM-7:00 PM, Sat. 10:00 AM-4:00 PM Eastern Time

*Please Read The Following Ordering Terms & Conditions Carefully Before Placing Your Order: Orders with cashiers check or money order shipped immediately on in-stock items! Personal & Company checks, allow 3 weeks clearance. No C.O.D.'s! Shipping: Continental U.S.A.-Orders under \$100 add \$3; free shipping on orders over \$100. AK, HI, FPO, APO-add \$5 on all orders. Canada & Puerto Rico add \$7.50 on all orders. Sorry, no other international orders accepted! PA residents add 6% sales tax on the total amount of order including shipping charges. **CUSTOMER SERVICE HOURS:** Mon.-Fri. 9 AM-5:30 PM Eastern Time. **REASONS FOR CALLING CUSTOMER SERVICE-412-361-5291** (1) Status of order or back order (2) if any merchandise purchased within 60 days from SD of A is defective, please call for a return authorization number. We will not process a return without a return auth. #! Defective merchandise will be replaced with the same merchandise only. Other returns subject to a 20% restocking charge! After 60 days from your purchase date, please refer to the warranty included with the product purchased & return directly to the manufacturer. Customer service will not accept collect calls or calls on SD of A's. 800 # order lines! Prices & availability are subject to change! New titles are arriving daily! Please call for more information.

MODEM OWNERS You can order from our Amiga Shop via CompuServe, GENie and Q-Link electronic malls.



Great Prices! Shipping based on weight and zone.
For Information & Catalog Call:
Voice: **414-544-2066**
Pursuable BBS: **414-544-6567**

Spotlight on Software

Ami Alignment Kit	36.00
Archipelagos	27.50
ARexx	31.10
B.A.D.	33.00
Baud Bandit	33.99
Can Do	Call
Cross DOS	24.99
CygnusEd Professional	64.69
Deluxe Paint III	100.00
Design 3D	60.00
Digi Paint 3.0	61.99
Digi-View Gold	140.00
DigiWorks 3D	80.99
Director	43.00
Dungeon Master	25.52
Dunlap Utilities	51.99
Falcon	33.89
FinePrint	31.09
HillStar	36.69
HiSoft BASIC Professional	110.00
Lattice C 5.02	190.00
Mac 2 DOS	75.99
Page Render 3D	93.00
Pen Pal	90.00
Performer (Elan)	41.00
PIXmate	42.30
Populous	36.99
QuarterBack	43.00
Red Lightning	43.99
Shadow of the Beast	33.89

Spotlight on Hardware

68030 Board, GVP 25MHz	Call
8 Meg Board, SupraRAM 0K	160.00
8 Meg Board, SupraRAM 2Meg	Call
8-Up! Board 0K	179.00
501 Memory Clone 512K	115.00
Camera, Panasonic WV 1410	220.00
Color Splitter	90.00
Floppy Drive, Internal 2000	90.00
Floppy Drive, Unidrive	140.00
Future Sound 500	93.99
Ham-D-Scan, C Ltd.	295.00
HardFrame 2000	250.00
Joystick, Advanced Gravis	39.99
Memory Mod, Supra 500 2 Meg	269.00
Modem, Supra 2400	125.00
Optics	120.00
SCSI Controller, Supra 1000	215.00
SCSI Controller, Supra 500	170.00
SCSI Controller, Word/Sync	170.00
SCSI/Impact A2000-2/0 GVP	293.20
Spirit Boards 0K 500/1000	215.00
Tool Box 1000	222.00
Upper Deck, MicroBotics	51.28

Orders Only Please:
800-544-6599
Visa/MC/CODs

2414 Pendleton Place ■ Waukesha, WI 53188 ■ 9 AM to 5 PM M-F

Circle 275 on Reader Service card.

Finally...



The Way To Use XCad!

Summer 1989 marked the newest release of X-Shell. X-Shell is not a single program, but, as its name implies, it is a "shell". One purpose of a software shell is to surround a target program and replace its user interface with another, easier and more powerful presentation. The target program of X-Shell is X-Cad Professional from CadVision International. Another version of X-Shell is also available for the Taurus/Impex release of X-CAD.

X-Shell lists for \$199. It is available from GRAFX or your local Amiga dealer.

X-Cad is a powerful 2D drafting program. X-Cad manages the Amiga's resources well, making it fast. X-Cad zooms ten times faster than AutoCad Rev 2.62 on a NEC APC III (Intel 286) and four times faster than AutoCad Rev 10 on an AST 386. But, X-Cad is presented more as a syntactic language than a drafting system. X-Shell fixes that.

X-Shell is the result of an effort by GRAFX Computing, and a professional architect, to make the use of X-Cad as smooth, and productive as possible. X-Shell is easier to learn than X-Cad or AutoCAD. X-Shell uses a set of compact custom graphic menus that replace the X-Cad text menus. X-Shell provides a manual with over 100 pages describing the use of every button on every menu. Now it is easy to draw with precision on the Amiga. X-Shell. There is nothing else like it...

GRAFX Computing, 6680 Wiltzie Rd, Panama NY 14767, 716-782-2468

GAME REVIEWS

pace. If you create the proper set of circumstances (I never have), you can attempt a daring rescue of captured comrades. The background string music fits well with the feel of the game.

A detailed combat mode allows you to form and place units on the battlefield, then guide them during the fight. This mode is so detailed that the computer players aren't bright enough to manage it—instead they opt for a simpler summary mode. In fact the computer players aren't much competition at all. They have little sense of important positions and no long-range plans, much like teenagers.

The game comes with two copy-protected disks and a short manual that could use some serious revision. It will run on 512K but requires one megabyte to support detailed battles and the music.

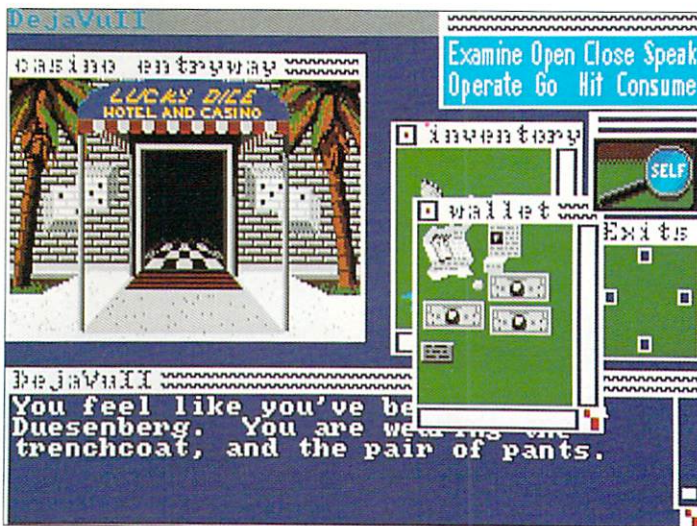
Kingdoms of England has its problems. It doesn't always recognize mouse clicks, for example, and huge battles can cause a nasty bug that makes the attacker nearly invincible. Generally, however, the game works smoothly and quickly, with little fuss and plenty to keep you interested. (\$44.95, Incognito Software, 34518 Warren, Suite 149, Westland, MI 48185, 313/937-1850. No special requirements.)

DÉJÀ VU II: LOST IN LAS VEGAS

By Bruce Jordan

BATHROOMS ARE QUITE popular in the Déjà Vu series of graphic adventures. In

this time in a disreputable hotel/casino called The Lucky Dice.



Trouble in a gambler's paradise.

Déjà Vu II: Lost in Las Vegas, as in the original, you find yourself soundly cudgeled and waking up in a bathroom—

As consciousness returns, you remember that the guy who got killed in the first game had dealings with a Vegas mobster named Malone. Now, someone has made off

with one hundred grand of Malone's money, and he thinks you have it. You have one week to come up with the dough, he says, "or else." Malone's henchman, Stogie Martin, is constantly watching you. Make one false move, and you're the target at the rifle range.

As with the previous game, *Déjà Vu II* is entirely mouse and gadget driven. By avoiding lengthy scripts and tedious typing, the game puts the action and graphics at center stage.

Déjà Vu II's plot is complex

and exciting enough to keep the best adventure-game player boggled for weeks. On the humorous side, there's more than one anachronism in this period piece. (Do your research, Mindscape.) See if you can spot them.

If you consider yourself smart enough to outwit the mob, or enjoy living on the edge, or fancy yourself a big-time gambler, check out *Déjà Vu II: Lost in Las Vegas*. (\$49.95, Mindscape, 3444 Dundee Rd., Northbrook, IL 60062, 312/480-7667, 800/221-9884. No special requirements.)

QIX

By Roger Goode

QIX INDUCES THE same white-knuckled, nerve-jangling frenzy in me that blast-fest games produce in my raster-eyed pals. I never shoot anything; however, I draw like a demon.

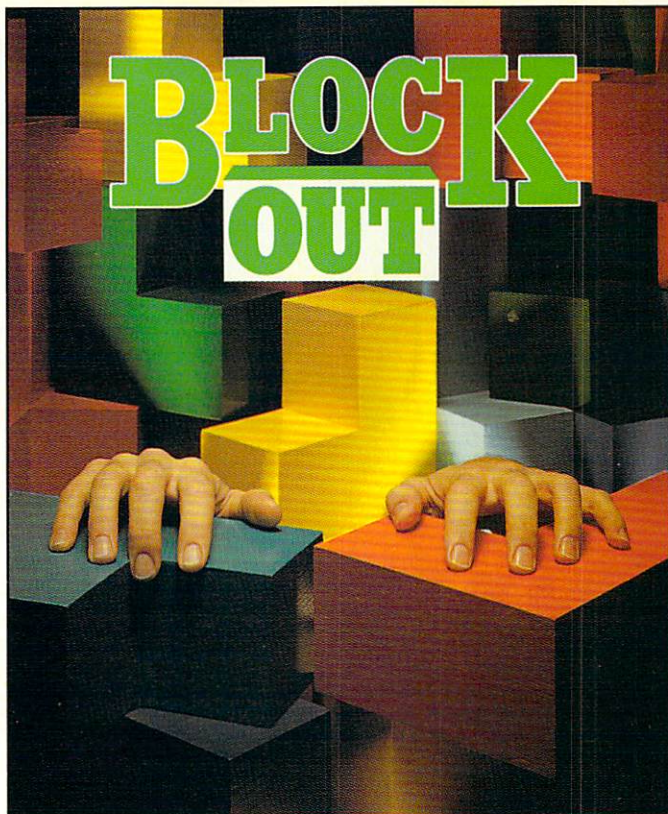
The game begins with a colorful, constantly moving helix (the Qix) bouncing inside the large, square playing area. With your joystick you move a diamond-shaped marker, drawing boxes inside the square until you trap the Qix in a confined area by boxing the rest of the screen. Control 65 percent of the screen with boxes and you win. For every controlled percentage over 65, you receive a bonus of 1000 points. Boxes completed entirely in slow-draw mode are worth twice as much as those using the fast-draw option. They are also twice as risky if the Qix is nearby.

You only have four lives, so be careful. If the Qix touches your marker or line, you get zapped. Sparx travel in ever increasing numbers around

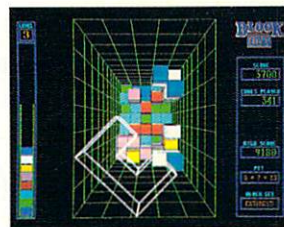
the perimeter of the screen, always following the lines of the boxes you've drawn and coming from both directions at once. The Fuse lives at the end of every line you start to draw. Once you begin a line, you are committed to finishing a new box. Should you stop or hesitate, the Fuse races down the line toward the marker. Your only hope is to complete the box before the Fuse catches you. Turn left into your box too many times and the Fuse will chase you down the Spiral Death Trap you created. That's your last life, Bunko, have you considered an easier game?

The pace gets faster and nastier on subsequent levels. Two Qix bounce around for starters. Close them into separate sections and your subsequent points are doubled. Level five brings Spritz, deadly snowflakes that float with the Qix. Capture one in a box and you get 500 points.

All in all, the game is an ac-



WATCH OUT FOR FALLING BLOCKS



Be Careful! You will be buried alive by the addictive 3-D challenge of BLOCKOUT™.

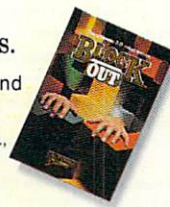
As the 3-D blocks appear, flip, rotate and maneuver them into position as they fall into the playing pit. Fit them together to complete layers, and you'll steadily clear your way out. But, make one false move, and you'll be buried in blocks.

Plus, with more and more complex sets of blocks, faster and faster action and hundreds and hundreds of pits, there's a version of BLOCKOUT for every player.

Contact your local dealer for details.

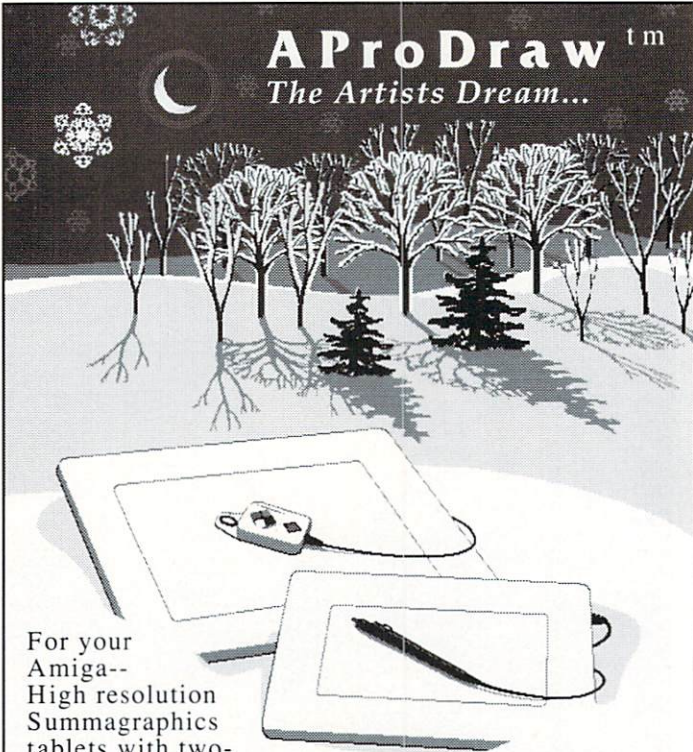
Available for IBM PC®, TANDY®, AMIGA™, and MACINTOSH™ computers.

BLOCKOUT is a trademark of Kadon Enterprises, Inc., and is used by permission. California Dreams. 780 Montague Expressway, #403, San Jose, CA 95131 (408) 435-1445 ©1989 Logical Design Works, Inc.,




CALIFORNIA
Dreams™

A ProDrawtm
The Artists Dream...



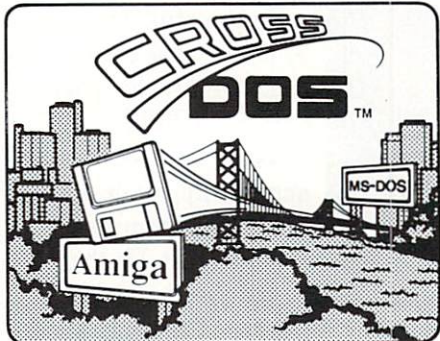
For your Amiga--
High resolution
Summagraphics
tablets with two-
button stylus.
12 x 12 - \$549
9 x 6 - \$449
Optional Cursor \$50



R & DL Productions
11-24 46th Avenue 2A
L.I.C. NY 11101
(718)392-4090

Circle 79 on Reader Service card.

CROSSTM DOSTM
the MS-DOS File System for the COMMODEORE AMIGATM



AVAILABLE NOW FOR THE LOW PRICE OF
\$30.00 (US)
\$36.00 (CDN)

CROSSDOSTM... MS-DOS[®] DISK ACCESS DONE RIGHT!

The first MS-DOS File System for the Amiga[®]


- Reads or writes any 360K or 720K MS-DOS or ATARI ST[®] disks (Version 2.0 or higher) with optional text file filters.
- Transparently accesses MS-DOS files from any utility or application (including file requesters).
- Fully integrates itself into the Amiga operating system.
- Automatically readjusts to different MS-DOS/ATARI ST formats.
- Can be removed after use to reclaim memory.
- Provides an easy installation program.
- Available in a READ-ONLY version from the Public Domain or directly from **CONSULTRON** for only \$5.00.

For orders placed through **CONSULTRON** add \$3.00 shipping and handling (\$8.00 outside the U.S. and Canada). Michigan residents must add the correct sales tax. C.O.D. add \$3.00

Send check or money order to:

Please allow up to 2 weeks to process your order.

Dealer inquiries welcome.



CONSULTRON
11280 Parkview
Plymouth, MI 48170
Technical Support
(313) 459-7271

Amiga is a registered trademark of Commodore-Amiga, Inc. MS-DOS is a registered trademark of Microsoft, Inc. Atari ST is a registered trademark of Atari Corp.

GAME REVIEWS

curate and exciting reproduction of the arcade original, complete with the rock score. Once you give it a try, you'll find that it's tough to Qix the

habit. (\$34.95, Taito Software Inc., 267 West Esplanade, North Vancouver, B.C., Canada, V7M 1A5, 604/984-3344. Joystick required.)

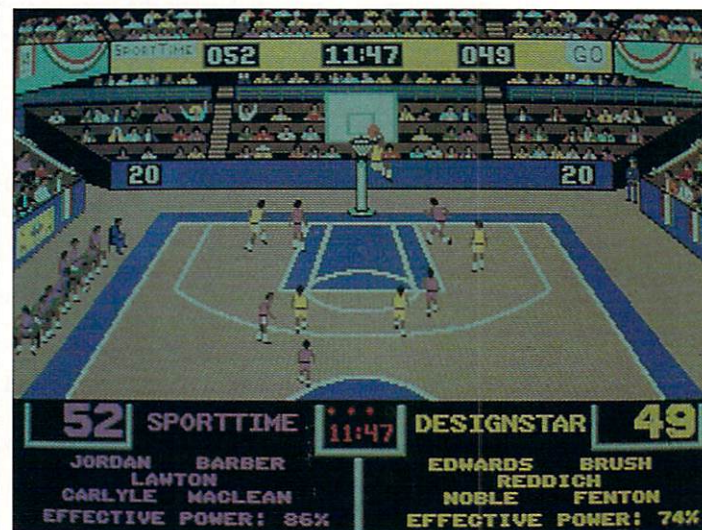
OMNI-PLAY BASKETBALL

By Rick Teverbaugh

IN OMNI-PLAY Basketball, the gravy takes precedence over the meat and potatoes. While you get the "Nick and Bob" pre-game show and half-time show for each game (you can fast forward past them), you must buy a separate module (\$19.95) to print out stats for your team at the end of games. The viewpoint for the game is from an end seat about halfway up in the gym. If you want a side view, you'll

You'll need to be general manager, coach, and player to get the job done.

As the GM, you must decide which players to draft and whether to spend the 250 trading points that come with the new team on recruiting, sending players to training camp or trading them with other computer-controlled or human-run teams. Seasons run 5, 8, 13, 16, or 21 games, and you can control how long



General manage, coach, and play your team to victory.

have to buy a side-view module (\$19.95). College and pro teams also come on separate modules.

What is included in the game is complex, detailed, and absorbing. You can take a team from expansion status to the World Championship.

each playoff series will be.

The game opens offering various strategy choices to offense and defense. You must make those decisions, control player substitution, pass, shoot, block shots, and double-team. The faint of heart can play three-, six-, or nine-minute quarters instead of the NBA 12. The game feels and sounds like the real sport.

Overall, Omni-Play Basketball rates high marks for the things it will do and very poor ones for the things for which it

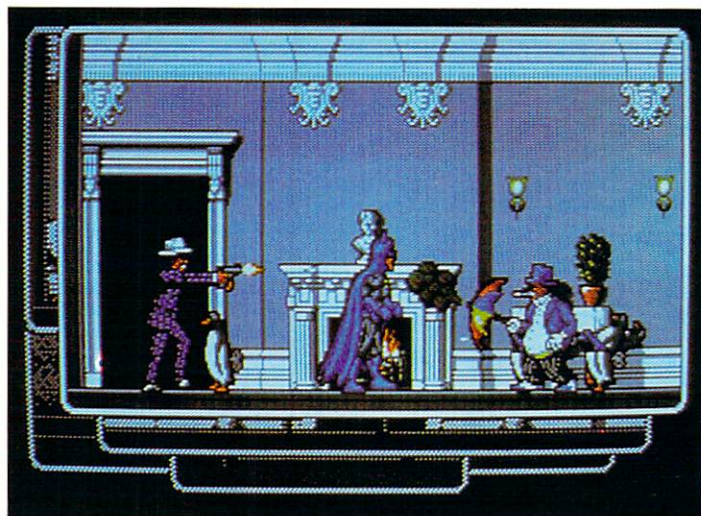
makes you pay extra. (\$49.95, SportTime, 3187-G Airway Ave., Costa Mesa, CA 92626, 714/966-1311. Joystick required.)

BATMAN, THE CAPED CRUSADER

By Dodson Yaple

YOU SIT IN front of the VCR watching tapes of the old Batman TV show, while perusing your collection of Batman comic books and munching on a snack from your Batman lunch box. But something is

These pallid virtues, however, do not offset the shortcomings of this careless port. Despite having four Amiga sound channels available, it cannot play its sound effects and theme music at the same time.



THWACK! BIFF! ZOWIE!

missing—you want a Batman computer game.

Data East's uninspired port barely qualifies. Batman is short on action and long on needless complication. Even simple object-grabbing requires you to shift to a cumbersome icon screen, where the only thrills are those of inventory management. Except for the costumes, there is no recognizable Batman ambience.

Batman does have an agreeably spare look, with decent, though unoriginal, graphics. Its two separate scenarios allow you to square off against the archvillain of your choice.

The obsolete interface is clumsy and unforgiving, and when you try to quit, the DOS-based copy-protection causes your drive to emit scary, unfamiliar noises that don't stop until you switch off your computer.

Worst of all, the game regularly requires you, as Batman, to pick things off the street and eat them—a nasty piece of business that young Bat-fans might imitate. Holy stomach-pump, Batman, warm up the Bat-ambulance! (\$44.95, Data East USA Inc., 470 Needles Ave., San Jose, CA 95112, 408/286-7074. Joystick required.) ■

"KARA FONTS" TAKE A QUANTUM LEAP... FONTS THAT MOVE!

NEW

For DPAINT III, DVIDEO III & other programs that use the Anim Brush format.



ANIMFONTS1

ChromeSCRIPT is an 8 color, formal, sophisticated roman style script in caps and lower case and comes both as a keyboarded and AnimFont. Each letter of the AnimFont appears to be hand written across the screen. A variety of looks can be achieved with the included optional palettes such as Chrome, reflective Gold, copper, bronze and other gold effects. One Disk - Suggested Retail \$ 49.95.

NEW

For DPAINT III, DVIDEO III & other programs that use the Anim Brush format.



ANIMFONTS2

BULLION is a dimensional, beveled, highlighted, uppercase gothic font and comes in a keyboarded and AnimFont. The AnimFont rotates onto the screen 90 degrees on the "Y" axis to the left while a glint of light travels across the face from left to right. When used as instructed, the glint will travel continuously across the whole word(s). Comes standard in Gold with additional palettes such as Metallic and Silver. One Disk - Suggested Retail \$ 49.95.

THE
ULTIMATE
FONTS:
3 Exciting
Professional
Titriling
Packages.



HEADLINES: 10 Hi-Res, up to 8 color, uppercase fonts in two sizes each (approx. 104 & 84 pts. high). Font styles in CHROME, MARBLE, BRICK and GRANITE are dragable for added 3-dimensional effects. Other styles are CHISEL, WOOD, BEVEL, CAST, CHISELserif and COLUMN. 3 Disk Set - Suggested Retail \$ 79.95.

SUBHEADS: The Same popular 10 fonts as in "HEADLINES", but in two smaller sizes each (as approx. 72 & 55 pts. high). Now possible to use in lower resolutions at a workable size. 2 Disk Set - Suggested Retail \$ 69.95.

HEADLINES2: 4 NEW 8 color fonts in 2 - 3 sizes each. ChiselSCRIPT: Italic script in upper and lower case. GLASS: Transparent uppercase gothic face. ENGRAVED: Dragable, uppercase two-plane shiny font. EMBOSSED: Raised or sunken letters on a surface. 2 Disk Set - Suggested Retail \$ 69.95.

1 MEG (Keyboard), 1.5 MEG (AnimFonts) Required / 2 Disk Drives Advised.

KARA COMPUTER GRAPHICS

6365 Green Valley Circle, Suite 317, Culver City, CA 90230 (213) 670-0493

from p. 16

sonalized documents, such as form letters. When it comes time to print, you can select draft or NLQ mode without having to go into the Workbench's Preferences screen. (Scribble! uses a pull-down menu for this option, while Protext uses typed commands.)

Finally, both programs can tally the word count in a document. Protext displays the total along with other statistical information on its Status line, located at the top of the screen. With Scribble! Platinum, you must select Info (equal to Status in the original Scribble!) from the Project menu, to see the word count, page length, margins, and other format information.

ONLY YOU, PROTEXT

While these programs share capabilities, each has a number of features that differentiate it from the other. One of Protext's strongest points is its time-saving macro capability, which lets you save a series of keystrokes and recall them by pressing one key. For example, you might design a macro that types your address and phone number at a designated place on the screen whenever you press ALT-R. Protext provides some predefined macros, as well, including one that swaps inverted characters. If you accidentally type "wya" instead of "way", simply place the cursor on the y and press CTRL-A to correct the mistake.

Protext's Place Markers, which you imbed in a document, allow you to move between sections of text with one keystroke. Multiple Markers insert text into a document at print time; other markers ignore the spelling of a particular word, or index specific words and phrases.

Foreign language accents and characters (umlaut, tilde, and so on) are available for characters supported by the IBM character set. A special Line Drawing Mode lets you produce Line Graphics with IBM compatible printers.

In addition to the regular Tab function, Protext lets you select Decimal Tab for aligning numbers to the left and right of a decimal point. The Decimal Tab function can be configured to accommodate the use of the comma in place of the decimal point.

Although Protext lacks a complete auto-hyphenation feature, it does supply

a Soft Hyphen. This you enter manually to show where the formatter may hyphenate a word if it is reformatted to appear at the end of a line. There are also provisions for Non-Break Spaces and Non-Break Hyphens.

JUST SCRIBBLING

A big plus in Scribble!'s corner is its Thesaurus. Invoking it brings up a screen displaying the word you want to replace, its part of speech (adjective, for instance), the first of its definitions, and a number of possible replacement words. Selecting Next lets you view the second definition (if there is one) and lists the possible substitutions for that meaning. The thesaurus can suggest replacements for each word on the substitution list as well, making your list of choices almost endless.

One of Scribble!'s handiest features is Quick Save, which allows you to update documents simply by pressing F4. Because Quick Save writes over the existing file, you'll still have to call up the Save screen if you wish to keep different versions of the same document.

Scribble! Platinum employs a typed Dot command to insert IFF images into documents. Graphics will not appear on screen, but will be included in your hard copy, provided you are using a graphics-compatible printer. If you spot an error, use the Abort Printing command (ESC) to stop your printer in its tracks.

You can customize Scribble! windows by selecting up to eight screen colors, horizontal or vertical overscan, or interlaced mode. Also, you can choose whether or not icons are generated for each document.

WHAT'LL IT BE?

Scribble! Platinum and Protext are two powerful word processors geared toward different audiences. If you prefer the CLI environment, the straight-forward, no-nonsense Protext is probably for you. MichTron states clearly that you will get more out of the program using it in Command Mode. Protext's 300+ page manual is very detailed, but it rarely refers to the pull-down menu commands. It also lacks diagrams of any type, and is often difficult to follow. With time, anyone could learn to use Protext, but it seems best suited for more experienced users.

Scribble! Platinum, on the other hand, is a good choice for less experienced and younger users. Operating in the Workbench environment, with point-and-click commands, it is easy to learn and use. Scribble!'s manual includes plenty of screen diagrams to complement the written explanations. The graphic elements—such as a camera for Copy mode and scissors for the Cut function—make it difficult to perform the wrong operation. Experienced typists will appreciate Scribble!'s many keyboard equivalents.

Both programs do their jobs quite well, and neither will let you down.

Scribble! Platinum Edition

Micro-Systems Software

12798 W. Forest Hill Blvd.
Suite 202

W. Palm Beach, FL 33414
407/790-0770

\$149.95

No special requirements.

Protext

MichTron

576 S. Telegraph
Pontiac, MI 48053

313/334-5700

\$199.95

No special requirements.

MINIGEN

Small size, puny price, big results.

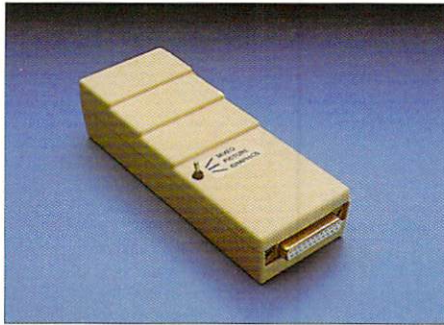
By Wayland Strickland

PROGRESSIVE PERIPHERALS AND Software, makers of ProGEN, now offer another genlock for the Amiga. MiniGEN, a tiny 6 $\frac{1}{4}$ × 1 $\frac{1}{2}$ × 2 $\frac{1}{4}$ -inch box, has only three connection points. On one end of the unit are two female RCA connectors through which the unit receives external video (from a camera, VCR, or some other source) and sends a composite video signal for use by a VCR or monitor. On the other end, a female 23-pin D connector joins the genlock directly with the Amiga's RGB port. This setup eliminates the need for cables, but may present problems in tight quarters,

REVIEWS

as it requires you have a seven-inch clearance space behind the computer. It can also make for somewhat awkward switching between output modes: A toggle on the top of the unit lets you select graphics only, external video only, or mixed (graphics overlayed on video).

The unit lacks the usual RGB port loop-through, which sends video directly



miniGEN is small but mighty.

from the Amiga to the monitor. While a loop-through (or a second video output) would probably increase miniGEN's cost, its absence renders the RGB monitor virtually useless. One way around this is to connect the genlock's composite video out to the monitor's composite video in. This allows you to see what you are doing, but is not a cure-all, as the Amiga monitor does not have a loop-through, either. To record under this arrangement, you must disconnect the video line and reconnect it to your VCR.

LASTING IMPRESSION

I had some doubts about miniGEN when I removed the unit from its package and the top half of the plastic shell came off in my hand. You cannot judge a genlock by its cover, though, and I am pleased to report that miniGEN performed remarkably well.

Without an external video source, miniGEN's output video is unusable, so you must connect a camera, VCR, tuner, or blackburst video signal to the external video input. This configuration will shorten the life of the tube in a tube-type video camera, but has no other detrimental effects. I tried miniGEN with all these sources and had no difficulty.

The results you get from a genlock depend greatly on the reference signal. If you use a videotape with oversaturated chroma, for example, the genlock will ►

SHARP ANNOUNCES ANOTHER BREAKTHROUGH IN COLOR SCANNING.



THE JX-100. COLOR AND GRAY-SCALE SCANNING FOR \$995.

The Sharp JX-100 personal scanner can be summed up in one word: versatility. This revolutionary scanner features three modes of operation—color, true grayscale and monochrome—at up to 200 dpi. Whether you're producing B&W newsletters, color overheads, slides, or picture databases, the JX-100 fits the bill without breaking the budget.

The JX-100's unique viewfinder system allows perfect alignment of originals. And its hands-free scanning action gives you accurate scanning the first time, every time. It comes complete with a cable and software for either the Macintosh®, IBM® PC/AT or Amiga®, giving you total control over the scanner including preview scanning and cropping.

To find out more, call the people with the outstanding track record in color scanning at 1-800-BE SHARP.

© 1989 Sharp Electronics Corp. \$995 manufacturer's suggested retail price.

SHARP
FROM SHARP MINDS
COME SHARP PRODUCTS™

AMIGA WORLD

A Great Gift . . . At The Right Price AMIGAWORLD

When you send someone a gift subscription to AmigaWorld, it says a lot about your style. You give AmigaWorld because it's unlike the other packages that will be opened this season. AmigaWorld offers excitement beyond the holidays, continually exploring a new frontier in computing . . . in-depth analyses of the Amiga's astounding graphics and stereo sound features, information on the very best hardware and software, a regular buyer's guide, user hints and tips, and much more. And that means you'll be remembered throughout the year for your discerning taste in quality gifts.

When it comes to quality, no system-specific computer magazine can match AmigaWorld for true-to-life color reproduction . . . superior printing materials that capture all 4,096 Amiga colors.

This season, why not share your good taste in magazines with a friend? Send an AmigaWorld gift subscription—1 year (12 issues) for only \$29.97, a 37% savings off the cover price.

CALL YOUR GIFT SUBSCRIPTION IN TODAY! Toll-Free 1-800-258-5473.

☐ **YES.** I want to send a great gift.

Please send an AmigaWorld gift subscription (12 issues) to the person listed below. I'll pay \$29.97—a 37% savings off the newsstand price, but I won't be billed until after the holidays.

Charge my: _____ VISA _____ MasterCard

Card # _____ Exp. Date _____

Signature _____

_____ Payment Enclosed _____ Bill Me

(PLEASE MAKE CHECKS PAYABLE TO AMIGAWORLD)

Name of Gift Recipient

My Name

Address

Address

City State Zip

City State Zip

Canada and Mexico \$38.97, Foreign Surface \$49.97, Foreign Airmail \$84.97 (U.S. Funds drawn on U.S. Bank). All rates are 1 year only. All gift subscriptions will begin with first available issue in 1990. Foreign Surface & Airmail orders must prepay.

AMIGAWORLD

P.O. BOX 58804

BOULDER, CO 80322-8804
20AD6

adjust the Amiga's graphic output accordingly. The same is true for video levels and sync. (To get the best reference signal from a videotape, record in the fastest speed possible.)

To test miniGEN, I input a blackburst video signal from a Grass Valley RS170A reference sync generator, which provides a stable video source. (Consumer cameras and videotape machines without time-based correctors tend to drift.) The input consisted of sync -40 IRE (a video-level measurement developed by the Institute of Radio Engineers), burst 20 to -20 IRE, setup 7.5 IRE, and chroma 40 to -40 IRE. I used two sets of color bars for the tests. With a waveform monitor and vectorscope, I created one set based on the composite video output of Super-Gen (Digital Creations). The other set came from the disk packaged with miniGEN.

The genlock's performance changed slightly depending on which output mode was selected. All modes reported sync (which sets the stability of the video signal) at -35 IRE. While sync should, as a rule, be -40, this is not too far off. According to FCC ruling, the setup level (similar to the brightness control on a television set) should be 7.5 IRE. Some situations may dictate that setup be higher (setup in both Picture and Mixed modes is 10), but the only time it should be lower is when a video signal is to be keyed via a switcher. This is not the case

here, although setup in Graphics mode comes in at 5 IRE.

The remaining levels were within tolerance. Graphics mode yielded burst at 23 to -23, white bar at 90, and chroma at 40 to -40. In Picture mode, a slight horizontal phase shift appeared and the reference blackburst video was altered a bit from input. I measured burst at 20 to -20, and chroma at 40 to -40. In Mixed mode, wherein the reference video becomes a background onto which Amiga graphics are overlayed, miniGEN produced these results: burst 20 to -20, white bar 90, and chroma 40 to -40 IRE.

SUPPORT CREW

The disk packaged with miniGEN contains several test IFF pictures, and a program called SetLace, which triggers interlaced mode when the genlock is attached. (A1000 models interlace automatically when you connect a genlock, but A500s and A2000s do not.) The 14-page manual describes how to connect and operate miniGEN, and includes some technical information and tips to help you deal with any problems you may encounter.

The output signal from miniGEN was surprisingly good, and ringing occurred around hard edges only when I used a second-generation VHS tape as reference video. MiniGEN does have drawbacks, the biggest being its lack of an RGB loop-through. Nevertheless, it is a

good deal for a very reasonable price.

miniGEN

Progressive Peripherals & Software

464 Kalamath St.

Denver, CO 80204

303/825-4144

\$199.95

No special requirements.

MYPAINT

DINOSAURS ARE FOREVER

Painting for pre-schoolers—

without a mess.

By Tim Walsh

AS THE FATHER of two not-ready-for-recess-time computerists, I am interested in packages such as MyPaint and Dinosaurs are Forever. Both are computerized coloring books, with MyPaint offering a drawing option, and Dinosaurs providing information on prehistoric beasts.

NO EXPERIENCE NECESSARY

Getting started with MyPaint (Prism Computer Products) is simple, and requires no reading skills or computer ►

"The Last Temptation"

Jimmy B. Moral - Oklahoma City, Ok.
Born again CA-880 owner



California Access™ All rights reserved.
780 Montague, #403, San Jose, CA 95131
Tel. (408) 435-1445, Fax (408) 435-7355
Jimmy B. Moral is a fictitious character,
however, Oklahoma City, Ok. does exist.

Here at California Access™ we believe Mr. Moral said it best. But don't take his word. Purchase your own CA-880 disk drive and let us know what you think of this heavenly drive.

Heavenly Features:

- Passthrough
- Power Disable Switch
- Low Power Consumption
- 880K Capacity



knowledge. Large, clearly-defined letters and icons make it easy for youngsters to be creative. The work area is bordered by animated icons that enhance the pro-



MyPaint's large icons are easy for youngsters.

gram's design. These include a moving eraser for clearing the screen, and a man's head shaking side to side representing the Oops! (undo) option. Unfortunately, though, the palette consists of only 12 non-adjustable colors.

You can start by either loading a black-and-white outline image from disk or by

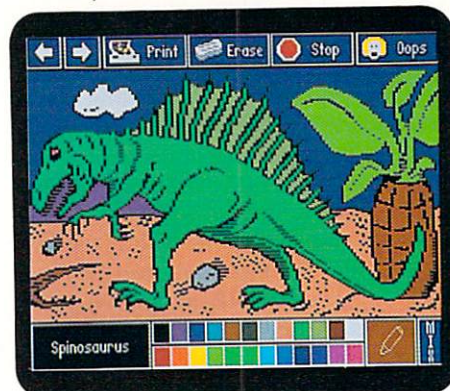
drawing on the blank screen. MyPaint contains 28 pictures on a variety of subjects, and Prism offers additional data disks (\$29.95 each) including one for the alphabet and another for numbers. Digitized voices and sound effects accompany each graphic image on disk; simply click the mouth icon to hear the current picture's sound.

Drawing and coloring is done with the mouse, which should not be a problem for any child able to draw with crayons. Children can draw and color with either the small brush, which draws a fine line, or with the big brush, which renders a thick line. The mirroring option mirrors whatever is drawn. The Fill-em-up tool fills a selected area with color and guarantees staying within the lines. Flashing colors cycles the palette colors on the picture. Kids can save their pictures in IFF format.

Pressing the Help key starts an arrow circling the screen, explaining the functions of each icon and object both verbally and in text form. Once the help process begins, however, there's no stopping until it is finished. Because the

voice uses Amiga speech, it is so difficult to understand that it is practically useless.

Four-year-old Timothy and five-year-



You can mix and change colors on the Dinosaur palette.

old Elizabeth experienced no problems with MyPaint, beyond arguing who would use it first. Both found the digitized sounds entertaining and the large icons easy to use. Elizabeth's biggest complaint was the lack of a bright orange color on the palette.

TxE^d PLUS[™]

The Text Editor for the Amiga,[™]
Plus a whole lot more.

BlitzDisk

Disk cache, speeds up floppy & hard disk reads up to 2000%.

FastFonts

Speeds up text display.

FunKeys

Hotkey window manipulator.

ARP

Latest versions of the AmigaDOS[™]

Replacement Programs.

AREXX

Demo version of the AREXX, the

macro processor used by TxE^d Plus, that is changing the way people think about computing.

Complete package:
\$79.95



MC + Visa
Mass Res. add 5%

Microsmiths, Inc

PO Box 561, Cambridge MA 02140
(617) 354-1224 BIX,PLink: cheath CIS: 76004,1766

Amiga and AmigaDOS are trademarks of Commodore-Amiga, Inc

East West Software

73 Lorna Lane, Suffern, NY 10901 (914) 496-1574

NOW SHIPPING!
V1.1

Managing your Investments
Just Got Easier

TAKE STOCK

Portfolio Management System

- Handles All Stock Transactions
 - Purchases
 - Splits
 - Sales
 - Dividends
 - Up to 100 Stocks Per Data Disk
 - Tracks Transactions by Type, Date & Certificate #
 - Collect up to 365 Daily Quotes Per Stock
 - Display 2 Graphs on Screen at the Same Time
 - Upgrade Policy
 - Built in Printer Support
 - 100% Compiled Code
 - Not Copy Protected
 - Intuition Interface
 - Suggested Retail Price \$49.95 + 1.50 (S&H)
- New York residents add 6 1/2% state tax. Dealer Inquiries Invited.

No function was particularly difficult for either child to master. Familiarizing myself with the program before turning it over to them was beneficial, though, and something I would recommend to other parents.

BEYOND EXTINCTION

By the same token, previewing Dinosaurs Are Forever will make a pleasant experience out of teaching your kids to use it. This educational coloring program contains images, names, and descriptions for 26 different beasts. Digitized sound, reminiscent of frenzied pigs being herded with cattle prods, accompanies the loading of each black-and-white low-resolution drawing.

The 24-color palette has provisions for mixing and adjusting individual colors, and coloring is done with the mouse. Each image is saved to disk as the next image is accessed, so when a previously colored image is loaded, the colors are applied once the image appears. Because of this rather odd procedure, it's an absolute necessity to work with a copy of the program disk to prevent unintentional coloring of the master images.

Dinosaurs Are Forever does not allow children to create images of their own design for coloring. Unlike MyPaint, there are no brushes available for detail work; the coloring function works in a delayed fill mode. Once the child selects an area to fill and a color and presses the mouse button, there's a brief delay. Then the selected area instantly fills with color.

A pull-down menu offers various print options. You can output an image by itself, above a calendar (stickers are provided to mark special days), accompanied by a personalized message or a description of the dinosaur, or as a banner (a variety of fonts are available for text). The program includes a transparent color printer driver for output to a color printer.

HERE COME THE JUDGES

Based on her expressions and level of attentiveness, Elizabeth found Dinosaurs Are Forever less exciting and more complicated than MyPaint. Its physically smaller palette and smaller pointer make the program more difficult to use, and without animation, there's not as much happening on the screen as in MyPaint.

Timothy, conversely, stated that he preferred Dinosaurs Are Forever. I think he based his opinion on subject matter and sound effects. As with Elizabeth, he experienced no major difficulty in using Dinosaurs Are Forever, but tended to ask for more assistance in accessing its features than he did with MyPaint.

While the packaging recommends Dinosaurs Are Forever for children ages three and up, the names of the animals and their descriptions are well beyond

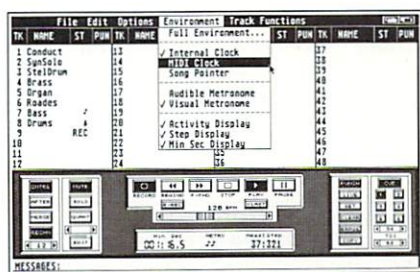
the reading abilities of most three-year-olds. Lacking the smooth, polished execution of MyPaint, the Dinosaurs interface seems like an afterthought (Dinosaurs is a port from other formats). Better programs exist for making calendars and banners and for painting, and I cannot recommend Dinosaurs Are Forever as an educational tool because the information on each animal is so brief. For fun and creativity, MyPaint is the better of the two programs. ►

Level II®

NEW V1.7

"Dr.T's KCS Level II still leads the pack in terms of sheer editing power."

KEYBOARD
MAGAZINE



- FULLY MULTITASKING with INTUITION support,
- COMPATIBLE with Copyist™ and MIDI Recording Studio™,
- PROGRAMMABLE VARIATIONS GENERATOR for the most powerful composition environment anywhere,
- MASTER EDITOR for total editing control,
- FAST SCREEN DISPLAY that never slows down you or your creative process,
- SMPTE SUPPORT through the Phantom™ synchronizer or MIDI Song Pointer,
- MIDI FILE compatibility.

Dr.T's

220 Boylston St.
Chestnut Hill, MA
02167
(617) 244-6954

- ✓ 48 Tracks
- ✓ 126 Sequences
- ✓ 16 Songs
- ✓ Tape Deck Controls
- ✓ Conductor Track
- ✓ Realtime Quantize
- ✓ Realtime "LIVE Edit"
- ✓ Loop Recording
- ✓ Pull Down Menus
- ✓ 6 Programmable Cues
- ✓ 384 PPQ Resolution
- ✓ Realtime Mute/Solo
- ✓ Fostex R8 Support
- ✓ Plays IFF Samples

Demo disk available for only \$5.

MyPaint

Prism Computer Products
Distributed by Centaur Software
 14040 Tahiti Way, Suite 528
 Marina Del Rey, CA 90202
 213/821-5995
 \$49.95
 No special requirements.

Dinosaurs Are Forever

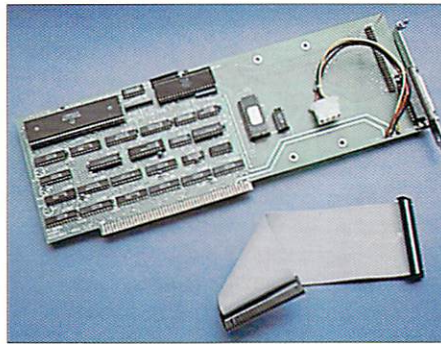
Merit Software
 13635 Gamma Rd.
 Dallas, TX 75244
 214/385-2353
 \$39.95
 No special requirements.

OVERDRIVE

Dashing through the data with an autobooting DMA controller...

By Louis R. Wallace

PACIFIC PERIPHERALS' OverDrive is



Shift to autoboot with OverDrive.

an internal SCSI hard-disk controller for A2000-series machines that allows daisy chaining of up to seven hard disks. The company sells OverDrive either by itself or in hard-card format with a hard disk attached (several configurations are available).

Based on the TrumpCard (Interactive Video Systems), OverDrive is enhanced by a faster Motorola 68440 DMA controller. Also, it now supports direct autobooting on Amigas equipped with 1.3 Kickstart ROMs. To update OverDrive models not equipped with the autoboot

feature, Pacific Peripherals sells a daughterboard (\$25) that mounts on the card without blocking the hard-drive space.

ON AND UP

If you buy an OverDrive hard card, installation is as simple as inserting it into a slot. Even if you buy the card separately (purchased this way it comes with mounting bolts and plastic standoffs), getting it together is fairly straightforward.

Once you have installed OverDrive, boot with the supplied floppy disk and specify the type of drive you are using and its device number via the menu on screen. Then format the drive, have the software check for bad blocks, and finally, write data to the drive.

The installation software, somewhat a hybrid of Workbench 1.2 and 1.3, modifies the mountlist automatically. While this is not the best hard-disk installation software I have used, it is not the worst either, and if you follow the documentation, the process is not difficult.

I tested a daughterboard-equipped OverDrive and found that it autoboots as

This ad was created at twice this size, printed by PixelScript v1.1 on an HP LaserJet, and reduced by half.

PixelScript

v1.1
 The PostScript interpreter for the Amiga

Use PostScript typefaces and Encapsulated PostScript art to create a professional quality page, then print it on your printer at your printer's best resolution with PixelScript. \$149US

Pixelations' PostScript Series™

PostScript typefaces, ornamentation, clip art and utilities for use with Amiga desktop publishing and word processing packages. Marlowe and Metropolitan typefaces from InType; Ornaments from The Underground Grammarian; both published for the Amiga by Pixelations, Inc. Pixelations' PostScript Series will be available Fall, 1989.

Pixelations, Inc.
 P.O. Box 547
 Northboro, MA 01532
 508-393-7866

For orders only call 1-800-225-5800 ext. 174.

All product names mentioned are the trademarks of their respective companies.

Circle 284 on Reader Service card.

Nothing is faster!

ALF 2

Amiga Loads Faster

Increased speed, safety, & efficiency on the Amiga.

- hard disk controller with software
- autobootable - 400 kB/sec
- safer with CheckDrive
- faster with FastFileSystem
- 50% more MB with RLL-controller
- uses any IBM-compatible HD—even defective hard disks
- SCSI-Bus, ST412/ST506-Bus

Pre'spect Technics Inc.
 P.O. Box 670, Station H
 Montreal, Quebec H3G 2M6
 Phone: (514) 954-1483
 Fax: (514) 876-2869

BSC Bureauautomation GmbH
 Postfach 400368
 8000 Munchen 40 West Germany
 Phone: (89) 308-4152
 Fax: (89) 307-1714

Circle 230 on Reader Service card.

AMIGA GOLFERS

Now available... 40 famous and challenging golf courses for your MEAN 18: Ultimate Golf™:

U.S. Open Courses I: Shinnecock Hills, Merion, Winged Foot, Bellerive & The Country Club (Brookline).

U.S. Open Courses II: Oak Hill, Medinah #3, Olympic Club, Baltusrol and Champions.

PGA Championship Courses: Oakmont, Firestone, Pinehurst #2, Oakland Hills & Southern Hills.

British Open Courses: Muirfield, Sandwich, Carnoustie, Royal Birkdale & Royal Lytham & St. Annes.

PGA Tour Courses I: Doral, Torrey Pines, TPC Sawgrass, Cypress Point & Indian Wells.

Famous European Courses: Sotogrande (Spain), Chantilly (France), Hoylake (England), Falsterbo (Sweden), and Club Zur Vahr (Germany).

Classic American Courses: Seminole, Pine Valley, Cherry Hills, Spyglass Hill and The National.

Great Resort Courses: Muirfield Village, Eagle Ridge, Mission Hills, Dorado Beach and Banff Springs.

Each of the 8 3 1/2" diskettes contains five exciting courses. Write for further information or send just \$20 each disk, US currency. (Shipping, handling, overseas mail included!) Send your check or money order to

MOONLIGHT DEVELOPMENT,
 329 Shoreline Place, Decatur, IL 62521. Please allow 2-3 weeks for delivery.

Mean 18: Ultimate Golf is a trademark of Accolade. AMIGA is a trademark of Commodore-Amiga, Inc.

Circle 292 on Reader Service card.



YOUR TURN!

OverDrive was rushed to market as a DMA hardcard. Design was not completed. I was never able to get either of two boards to work.

—John Boule
Chicago, IL

promised. It came mounted with a 40-meg Quantum hard disk.

I ran speed trials using DiskPerf 2.0 and PerfTest 1.1, two standard hard-drive testing programs. All results, clocked in seconds, were quite consistent. DiskPerf reported 342K read and 190K write times per second. On the standard PerfTest run, OverDrive turned in a read result of 332K and a write time of 186K. PerfTest can also test drive performance while an overscanned high-resolution 16-color interlaced screen is displayed, a condition under which SCSI controllers usually exhibit speed degradation. Not surprisingly, the OverDrive

slowed to times of 145K reading and 80K writing under these conditions.

OverDrive seems to offer a decent level of performance for a reasonable price. The hard-card configuration is very convenient, and while the installation software is not exciting, it gets the job done without requiring much effort.

OverDrive

Pacific Peripherals

46728 Fremont Blvd.

PO Box 14575

Fremont, CA 94538

415/651-1905

\$249.95

\$699.95 with 40-meg drive

No special requirements.

CITY DESK 2.0

Save some for laser.

By Nancy Devitt

BECAUSE IT OFFERED a level of con-

trol previously unavailable in Amiga desktop publishing, the original City Desk made a big splash. Its heyday was short, however, due to its lack of a word processor, its rudimentary graphics editor, and most importantly, the fact that it did not allow you to see on screen what your printed output would look like.

Now, City Desk is back with version 2.0. Like a friend you haven't seen in years, you will find that although it has been through some changes, it is still the same in many ways. The look is similar and some of the old faults are there, but City Desk 2.0 includes new tools that make it especially useful to owners of Hewlett Packard-compatible laser printers.

LASER LUCK

A shortcoming of most Amiga desktop-publishing software is difficulty in accessing either the Hewlett Packard cartridge fonts or the widely available and more economical "soft" (downloadable) fonts. Previously, to achieve the crisp 300 dot-per-inch (dpi) resolution of which their printers are capable, HP laser printer ►



Sensational Service With Sprite Technology

ORDERS: 800-634-9315

Customer service & order status: 404-535-8806

HOURS: 9-6 MON - FRI EST

HARDWARE

Amiga 500	CALL
Amiga 20M HD/500	\$649
Amiga 501 RAM Card	\$159
Amiga 520 Video Adapter	\$40
Amiga 1010 Ex. Drive	\$189
Amiga 1084 Monitor	\$309
Amiga 2000	CALL
Amiga 2500	CALL
Amiga 2010 In. Floppy	\$159
Amiga 2058/2M RAM	\$639
Amiga 2088 Bridgeboard	\$499
Amiga 2286 Bridgeboard	\$1125
Amiga 2090A SCSI Controller	\$299
3.5" In. Floppy/Internal	\$112
3.5" Ex. Floppy/C.A.	\$142
Amax Mac Emulator	\$125
Amax/Drive/Chips	\$499
CSA Turbo/500	CALL
Framebuffer w/Capture	CALL
GVP Hardcards	CALL
GVP 68030 Accelerator	CALL
Microbotics products	CALL
Phoenix 20M HD/500	\$579
Scanlock	\$895
SuperGen	\$699
SuperGen 2000s	CALL
Supra Interface Kit/2000	\$219

Supra 2400 Modem	\$124
Supra Internal Modem	\$144
Supra 2M/8M RAM 2000	\$450
SOFTWARE	
ANIMagic	\$63
A-Talk III	\$63
Aztec C Developer	\$199
Broadcast Titler	\$189
Deluxe Paint III	\$102
Desktop Budget	\$44
Digi-Paint 3	\$62
Draw 2000	\$169
Dunlap Utilities	\$50
Excellence	\$185
Fantavision	\$38
HiSoft BASIC Professional	\$106
Intro CAD	\$54
InterFont	\$75
Math Wizard	\$35
Maxiplan Plus	\$94
Modeller 3D	\$63
On Line Platinum	\$97
Pagestream	\$125
Pen Pal	\$94
Performer/Elan	\$38
Photon Paint 2.0	\$94
Pixil Script	\$94
Professional Draw	\$123

Professional Page	\$246
ProVideo Gold	\$195
Prowrite 2.0	\$78
Quarterback	\$44
Sculpt Animate 4D Jr.	\$94
Videoscape 3D	\$125
Videotitler	\$93
Word Perfect	\$185
Workbench 1.3 Update	\$19
Works Platinum	\$156

GAMES

Batman	\$32
Capone	\$25
Dragon's Lair	\$39
Dungeon Master	\$25
F/A-18 Interceptor	\$33
Falcon Mission Disk	\$19
Gunship	\$34
Heroes of the Lance	\$26
Indiana Jones/Last Crusade	\$25
Populous	\$38
Rocket Ranger	\$32
Star Wars	\$25
Test Drive II	\$28

MUSIC WARE

A.M.A.S. MIDI/Sampler	\$127
Audiomaster II	\$62
Deluxe Music	\$65
Dr.T's Copyist Pro	\$165
Dr.T's DX Heaven	\$94
Dr.T's Midi Rec Studio	\$44
Dr.T's KCS	\$156
Dr.T's KCS Level II	\$219

Music X	\$186
M for Amiga	\$152
Perfect Sound	\$64
Pro MIDI Studio	\$126
Sonix	\$50
Synthia	\$63
Texture	\$94

AMIGA ACCESSORIES

Golf Cap - grey or white	\$8
Golf Shirt - L or XL	\$20
Golf Umbrella - 48"	\$22
Sports Bag	\$19

SONY BLANK DISK SPECIAL

SONY DS DD (box of 10)	\$13.85
SONY HD (box of 10)	\$29.95
BULK DS DD (no labels)	.99 cents each

Starter Software Kit:

TV Text, Money Mentor, Text Craft Plus, Arkonoid, Graphics Studio.....\$79

Holiday Gift Pack:

Master Type, PHASAR 3.0, Who-What-Where-When, F-40, Hole in One Golf, a joystick, \$310 value\$89

JUST IN

Publishing System from ATARI
Mega 4 CPU, 30 meg Hard drive, High-res. B/W monitor, PostScript compatible laser printer, & ST Publisher, a complete system for only.....\$3780
ATARI 1040 ST\$699

VISA, MasterCard, AmExpress cards accepted. Defective returns must have a return authorization number. Shipping and handling are non-refundable. Returns subject to restocking fee. We cannot guarantee compatibility. All sales are final. Prices subject to change without notice. All stocked items not listed. Ask for our complete product listing.

Amiga is a registered trademark of Commodore Business Machines, INC.

owners had to either use PageStream's (Soft-Logik) proprietary fonts or save their output as a PostScript file and employ an additional page-description lan-



YOUR TURN!

City Desk 2.0 is fine for first-time users, and offers good improvements. Its manual is revised and expanded, but does not document the font-downloading utility thoroughly. A serious omission is lack of backward file compatibility—the ability to accept City Desk 1.0 files. MicroSearch provides good telephone support.

—Darryl Nicholas
Millersville, PA

guage like PixelScript (Pixelations) to interpret it for their printers.

City Desk 2.0, however, offers a direct route to PostScript. Not only does it recognize all HP Series I and II cartridge fonts, but it also includes a utility that lets you download fonts into your print-

er's memory. In addition, this utility generates PostScript fonts from fonts in your existing directory in different sizes, or in bold, italic, or bold italic.

One bad trait left over from its original incarnation is City Desk's non-WYSIWYG (What You See Is What You Get) screen display. All font selection and formatting is accomplished through embedded text commands, an awkward process that seems primitive compared with other methods.

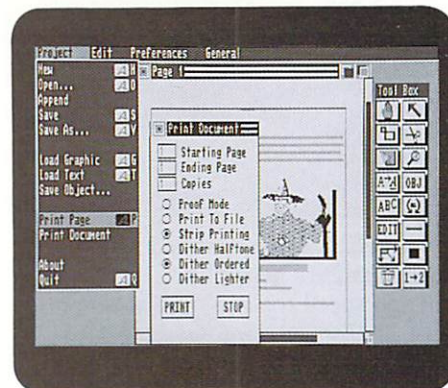
DOT-MATRIX MAYHEM

While City Desk solves problems for laser printer owners, it presents difficulties for dot-matrix owners.

PostScript and other laser fonts follow the typographical point-measurement system (one point equals $\frac{1}{72}$ of an inch). In the case of bitmapped Amiga fonts, however—which are your only option for printing on a dot-matrix device—a point refers to one on-screen pixel, whose height and width are not fixed but determined by screen resolution.

To produce the standard spacing of six print lines per inch using laser fonts, you

would select a 12-point font size. To achieve the same spacing with a dot-matrix device at a print resolution of 180 dpi, however, requires that you use a 30-



Print: on trial.

point bitmapped font. This presents a potential problem in terms of memory, as a 30-point font set occupies approximately 68K. The 90-point font required for a half-inch headline at this resolution would consume more than half a meg.

Another problem related to printing is that while most recent desktop-publishing software provides an easy means of scaling the printout relative to screen resolution, City Desk 2.0 does not. Font resizing must be done from within the body of the text using the Mag command, which can involve some fairly complicated mathematics. The results of this process are sometimes unpredictable, and because City Desk 2.0 does not show text on screen as it will output on paper, a number of trial printouts may be required.

NO IS ARP

City Desk 2.0 comes with a loose-leaf manual and four disks. A tutorial videotape, which comes packaged with two clip-art disks, is available for an extra \$29.95. The software is not copy-protected and a hard-disk installation file is included. Although the program requires the file arp.library, the manual warns that if you are already using ARP (the AmigaDOS Replacement Project) commands, the installation utility will not work. In spite of the widespread use of the ARP commands and the fact that this constraint could cause difficulty, no detailed instructions for manual installation are given. (Hard-disk owners with ARP installed can get around this problem by ▶

Case No. 05734

AMERICA'S MOST WANTED MOUSE

Wanted for over 200 counts per inch and operating without a cord. Also wanted for being the smoothest mouse available for all Amiga computers. Armed with features and dangerous to all other mice, it has eluded capture for even a mug shot. In the event that you come in contact with this mouse, be sure to purchase it immediately.

For further information, our agents are standing by.
Suggested retail \$129.95



(602) 322-6100

**The
Cordless
Mouse™**

Also available for ST and Macintosh computers.
©1989 Practical Solutions, Inc. All rights reserved.

1135 N. Jones Blvd.
Tucson, AZ 85716
Fax (602) 322-9271

Circle 9 on Reader Service card.



InterComputing, Inc.

2100 N. Hwy 360, Suite 2101
Grand Prairie, TX 75050-1015

*In business since 1984; Amiga support since 1985
Member of Dallas Better Business Bureau*

We are a service oriented business offering discount prices

FAX: 1-214-660-3695

Customer Service & Order Status: 1-214-988-3500

COMPLETE PRODUCT LISTING AVAILABLE

Order line: **1-800-622-9177**

In Germany call; In Deutschland erreichen Sie uns unter **0202/755239**

MEMORY

• M501 A500	129.95
• Starboard 1MB	399.95
• Starboard 2MB	549.95
• 2MB A2000	399.95
• 4MB A2000	599.95
• 6MB A2000	799.95
• 8MB A2000	999.95

DISK DRIVES

• Master 3A	139.95
• Air Drive	149.95
• Cal. Access	139.95
• FDATA-10	119.95
• FDATA-20	249.95
• Unidrive	124.95
• Twindrive	249.95

HARD DRIVES

EXTERNAL

	A500	A1000
20 MB	479.95	549.95
30 MB	599.95	649.95
45 MB	699.95	769.95
60 MB	849.95	899.95
80 MB	979.95	999.95

INTERNAL

Hard Card 20 MB	549.95
Hard Card 32 MB	599.95
Hard Card 40MB	699.95
Hard Card 80MB	999.95
Hard Card 105MB	1099.95

2 MB MEMORY CARD 299.95 (Use with Amiga 500 & Hard Drive)

SUPRA 44R

Removable Hard Drive

Internal or External

999.95

SUPRA WORDSYNC

SCSI Interface

169.95

AMAX Package

includes AMAX, ROM Set and

3.5" Mac-compatible drive

439.95

GVP 3001 PACKAGE

Including:

25 MHz 68030

25 MHz 68882

4 MB of 32-bit memory

2599.95

with 40 MB hard drive

2995.95

with 80 MB hard drive

3499.95

SOFTWARE?

Write for our *new* catalog.

To request a catalog, send your name & address to us at
2100 N. Hwy 360, Suite 2101, Grand Prairie, TX 75050-1015

*As always we have the most 'customer friendly' terms: SIH \$3.95 in cont. USA; \$30.00 min. order ;
MASTERCARD & VISA with NO credit card fee; in Texas add 7% Sales Tax. \$12.00 shipping to APO
addresses. RMA# required on all returns. 18% restocking charge. All prices subject to change.*

Circle 125 on Reader Service card.

WE'RE 5 YEARS OLD!

As the oldest mail order supplier of Amiga hardware & software, Intercomputing is happy to announce even lower prices as part of our 5 year anniversary celebration. We will continue to put customer service as our #1 priority, a commitment that has turned our customers into our friends.



B A C K T A L K

CANDID RESPONSES TO AMIGAWORLD REVIEWS

PlotPrint (Hi-Tech Graphics)

I agree that the documentation for PlotPrint (reviewed by Stephen El-lerin in the July '89 issue) is very hard to understand, but feel that the program itself is excellent. After much reading of the manual and quite a bit of experimenting, I can now produce an excellent plot of any drawing with virtually no distortion.

—Edward H. Haskell
Escondido, CA

PlotPrint provides far better print resolution than what appears on screen: It can deliver up to nearly 5000 dots across on a wide-carriage printer at 360 dpi, and 3120 dots on an Epson-type printer. While it is true that you must experiment with scaling factors, it is impossible to automatically scale HPGL output for printers. Furthermore, when PlotPrint takes 12 minutes to output the same drawing Draw 2000 (Aegis) prints in 10, Plot-

Print is outputting at least twice as many dots.

—Michael J. Keryan
Hi-Tech Graphics

PageStream (Soft-Logik Publishing)

PageStream (reviewed by Chris Dickman in the July '89 issue) has been designed to support the complete range of printers from 9-pin dot-matrix to downloadable and built-in PostScript fonts. Our font disk A (\$39.95) contains screen fonts, font metrics, and PostScript header files to support all 35 Apple Laserwriter + fonts at the maximum resolution of the printer. ►

assigning SYS: to the drive in which the City Desk main program disk resides.)

City Desk 2.0 is Intuition-based and offers both pull-down menus and key commands for all functions. Because it still includes only minimal word-processing and graphics support, the publisher

recommends multitasking with a dedicated word processor and a paint program at a resolution of 640 × 2 in two colors. Given the program's memory requirements, however, multitasking is not always feasible. City Desk 2.0 would not load on my three-meg A2500 with

WordPerfect running, for instance, and I was unable to print the one-page tutorial example in dot-matrix mode without rebooting—even though no other programs were in memory. On my one-meg A500, attempts at dot-matrix printing caused repeated guru visits (with my HP compatible, however, the program worked fine).

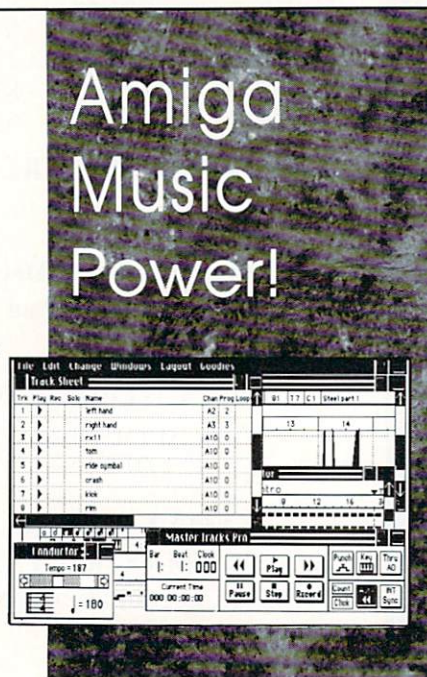
Pages are limited to standard letter size, and the program does not support color printers. A utility is included to convert any color IFF graphic with 64 or fewer colors to 16 shades of gray. The manual recommends processing pictures of more than 64 colors with various commercial programs.

MicroSearch is to be complimented for being the first to recognize the popular and affordable Hewlett Packard lasers and their compatibles. Let's hope this is the beginning of a trend. Compared with other Amiga desktop-publishing programs, however, and with those available for other computers, City Desk's embedded formatting, its lack of color capability, its non-WYSIWYG text, and the limitations regarding page size are unacceptable. Unless you need its laser utilities, I'd pass it by.

The world's most powerful MIDI sequencing software is available for Amiga!

Master Tracks Pro™ for Amiga features 64 tracks of real time and step recording, our exclusive Song Editor™ and legendary graphic editing. Professional features include controller chasing, fit time, 16 MIDI channels, a built-in Sysex Librarian, a cue sheet for keeping track of hits and the ability to lock up to SMPTE via MIDI Time Code with the MIDI Transport.™

For more information see a Passport dealer near you or call (415) 726-0280 for details on the Next Generation of Music Software™.



PASSPORT

Passport, 625 Miramontes Street, Half Moon Bay, CA 94019 (415)726-0280

City Desk 2.0 MicroSearch Inc.

9896 S.W. Freeway
Houston, TX 77074
713/988-2818
\$199.95

One megabyte required. ■

ANIMATION AND TITLING

3-Demon	69.47
Animapack 3D	104.22
Animator w/ Images	42.00
Animator: Apprentice	182.00
Animator: Jr.	54.91
Broadcast Titrer	193.00
Deluxe Video 1.2	90.32
Director, The	48.82
Director's Toolkit	24.33
Easy Titrer	31.88
Fantavision	41.67
Forms in Flight II	83.37
Movie Setter	69.47
Page Flipper Plus P.K.	102.00
Pro Video Plus (Gold)	193.00
Sculpt-Animate 4D	391.00
Sculpt-Animate Jr.	CALL
TV Text	55.00
VideoScope 3D	109.00
V.I.V.A.	109.00
Zoetrope	88.00

BUSINESS & HOME MANAGEMENT

2-2 Home Management	69.47
Accountant, The	186.50
Acquisition	193.00
Analyst 2.0	69.47



"Getting Started with Your Amiga"
(VHS only)—**\$29.95**
The Video Tape all about your Amiga!

Excellence	159.00
File II	69.47
Financial Plus	193.00
Haicall	41.67
Investor's Advantage	64.47
Logistix	103.56
Macroplan 500	93.25
Microfiche Filer Plus	115.99
Money Mentor	58.00
Organize	55.57
Paymaster Plus	104.22
Phasor 3.0	62.29
Rollabase Plus	62.52
Superbase Personal II	98.00
Superbase Pro 2.0	243.22
Superplan	98.00
Tax Break	55.57
VIP Professional	104.22
Works Platinum, The	205.69
Write N File	69.47

CAD & MODELING

Argis Draw	50.00
Argis Draw 2000	169.00
Design 3D	69.47
HomeBuilders CAD	138.31
IntroCAD	51.00
Logic Works 2.0	189.00
Modeler 3D	69.47
Super 3D XL	125.07
Ultra CAD	173.72

WORD PROCESSING

Beckertext	104.22
Calligrapher 1.05	90.32
Critic's Choice (3 in 1)	173.72
Dynamic Word	104.22
Gold Spell II	31.24
Interwords 2.0	69.47
Pen Pal	104.22
ProScript	31.88
ProWrite 2.0	77.00
Scribble! Platinum	104.22
Text Pro	55.57
TextEd Plus	55.57
Word Perfect 4.1	179.00
Write n File	69.47
Zing! Spell	55.57

We'll meet or beat any advertised price in this issue of this magazine!*

EDUCATIONAL

AB Zoo	24.00
Algebra 1	32.25
All About America	38.95
Birds & Bees ea.	41.67
Calculus	31.88
Chicken Little	18.82
Decimal Dungeon	32.25
Designasaurus	32.25
Dinosaur Discovery Kit	25.77
Dinosaur Data Disk	14.00
Discrete Math	31.88
Doug's Color Commander	24.25
Doug's Math Aquarium	55.57
First Letters & Words	33.00
Capsons	32.00
Fraction Action	32.25
Galileo 2.0	45.00
Ghostly Grammar	31.88
Grade Manager	58.95
Great States II	25.00
Kiddak	32.57
Kinderama	32.57
Learning Curve	51.95
Linework Languages ea.	20.50
Little Red Hen	20.82
Match-It	25.99

Math Talk/Fractions ea.	26.99
Math-A-Motion	64.95
Mavis Beacon Teaches Typing	31.24
Pre Calculus	31.88
Quiz Master	49.90
Read-A-Rama	31.88
Social Studies	13.87
Space Math	25.99
Spellbound	25.50
Talking Animator	39.00
Talking Coloring Book	24.25
Three Little Pigs	20.82
Trigonometry	36.88
Word Master	32.50
World Atlas	41.67

Fonts & Clip Art

Arch. Design Disk/Script/VScape	23.00
Art Gallery Disk	23.00
Asha's CalligraFont	62.52
Broadway Font	34.75
Business Set	55.60
CAD Parts for Intro/AD/Draw	48.65
Clip Art #18 ea.	13.84
ComicSetter-Funny/SciFi/Heros ea.	23.00
Design Disks/Script/VScape ea.	23.00

"Getting Started with Your Amiga"
(VHS only)—**\$29.95**
The Video Tape all about your Amiga!

Designer Databases-Bus./Home ea.	48.62
Fonts & Borders	24.25
Future Design Disk/Script/VScape ea.	23.00
Helvetica Font	34.75
Homebuilders ea.	56.30
Human Design Disk/Script/VScape ea.	23.00
Interchange Objects #1	15.59
Kara Fonts-Headlines	51.00
Kara Fonts-Headlines 2/Subheads ea.	48.62
Lion's CalligraFont	41.67
NTP Fonts-Comic/Fancy/Roman/Sans ea.	55.57
P.S. Dot Matrix Font	25.77
P.S. Postscript Font	25.77
Disk A/C ea.	25.77
ProFonts Vol. I/II ea.	23.00
Studio Fonts	30.00
Times Roman Font	34.75
Zuma Fonts 1-4 ea.	23.00

GAMES

4th and Inches	29.00
Aaargh!	23.00
Adventures of Sinbad	32.00
Afterburner	CALL
Alien Syndrome	33.00
Android Decision	24.33
Andromeda Mission	25.75
Apple 18	31.24
Arctic Fox	25.77
Arkadoid	19.99
Art of Chess	22.29
Autoduel	27.00
Axe of Rage	31.88
Baal	23.00
Bad Dude	31.24
Balance of Power II 1990	31.88
Ballyho	25.77
Bards Tale	35.99
Bards Tale II	31.24
Destiny Knight	41.50
Batman	31.00
Battle Chess	32.25
BattleDroids	23.00

BattleTech	32.50
Berzerk 3	23.00
Better Dead Than Alien	21.89
Black Jack Academy	25.77
Black Shadow	25.29
Blastroids	CALL
Blitzkrieg Ardennes Imb	38.95
Blockout	CALL
Bomb Busters	20.82
Borrowed Time	31.24
Bowling	13.84
Breach	25.77
Bridge 5.0	23.00
Bubble Bobble	22.77
California Challenge	16.99
California Games	25.77
Capsons	32.00
Captain Blood	32.32
Carrier Command	30.24
Casino Fever	25.77
Champ Baseball/Golf ea.	25.77
Champ Basketball/Football ea.	31.24
Charon 5	25.77
Chessmaster 2000	32.25
Chrono-Quest	33.72
City Defense	13.84
Combat Course	25.77

Gridiron	41.67
Guild of Thieves, The	31.24
Gunsling	36.97
Harrier II	25.77
Harpoon	CALL
Harrier Combat Sim.	31.88
Heavy Metal Land Comb.	CALL
Heroes of the Lance	25.77
Hitchhiker's Guide	20.82
Hole-In-One Golf	23.00
Hollywood Hijinx	25.77
Hostage	31.24
Hunt for Red October	31.88
Hybris	25.77
Ice Hockey	31.88
Ikard Warrior	25.77
Indiana Jones Temp Dm	25.77
Sim City	31.88
Sinbad	31.88
International Soccer	25.00

Craps Academy	25.77
Crash Garrett	25.77
Crazy Cars	25.77
Creator	25.77
Crossword Creator	31.88
Cyber Complex	23.00
Deathbringer	25.77
Deep Space	20.82
Defcon 5	25.77
Defender of the Crown	31.88
Deja Vu I/II ea.	31.88
Descartes	23.00
Destroyer	25.77
Deven Aire Hidden Dia	31.88
Dominos	17.34
Double Dribble	25.77
Downhill Challenge	23.00
Dragon's Lair	41.67
Dragon Force	CALL
Dream Zone	32.00
Edgar Allan Poe	31.88
Earl Weaver Baseball	31.88
EbonStar	25.77
Echelon	31.24
Elite	31.24
Empire	31.88
F-15 Strike Eagle	CALL
F/A-18 Interceptor	31.88
Faery Tale Adventure	31.88
Falcon P-16	31.88
Federation	31.88
Ferrari Formula One	31.88
Neuroman	31.88
Final Assault	25.77
Final Mission	23.00
Fire and Forget	25.77
Fire Power	17.34
Foundation's Waste	23.00
Flight Path 737	17.34
Flight Sim-Scenery	17.34
Disks ea.	17.34
Flight Simulator II	31.88
Fortress Underground	13.87
Gold Miner's Waste	23.00
Fright Night	25.77
Galactic Conqueror	31.24
Galactic Invasion	17.34
Galaxy Flight	17.34
Ganymedes	20.82
Gauntlet	31.88
GBA Basketball on 2	31.24
Gee Bee Air Rally	25.77
GFL Champ Football	13.87
Gladiator	CALL
Global Commander	25.77
Gnomes	13.87
GO for the Amiga	25.77
Gold Medal Volleyball	CALL
Gold of the Realm	25.77
Gold Rush	25.77
Golden Pyramid, The	13.87
Goldrunner I/II ea.	25.77
Grand Slam Tennis	31.88
Grid Start	17.34

SUPRA SPECIALS!

Hard card for Amiga 2000 (with Wordsync™ interface - includes 2 disks of software, compatible with Bridgeboard™)

A500 SCSI Interface	- 30 MEGS	499
	- 45 MEGS	599
	- 80 MEGS	899

Above with 2 Megs RAM	690
Supra Modem 2400 baud internal	99
A2000 RAM boards	
(exp. to 8 MEGS) - 2 MEGS	299

SupraRam™ 500	88
512K w/clock	88

OTHER SPECIALS

A.I.R. internal 3.5" drive	125
Master 3A external drive	118
A.S.D.G. dual serial port board	222

Gridiron	41.67
Guild of Thieves, The	31.24
Gunsling	36.97
Harrier II	25.77
Harpoon	CALL
Harrier Combat Sim.	31.88
Heavy Metal Land Comb.	CALL
Heroes of the Lance	25.77
Hitchhiker's Guide	20.82
Hole-In-One Golf	23.00
Hollywood Hijinx	25.77
Hostage	31.24
Hunt for Red October	31.88
Hybris	25.77
Ice Hockey	31.88
Ikard Warrior	25.77
Indiana Jones Temp Dm	25.77
Sim City	31.88
Sinbad	31.88
International Soccer	25.00

Gridiron	41.67
Road Raider	31.88
Roadwar 2000	25.77
Robbery	17.00
Robocop	32.25
Rocket Ranger	24.00
Roger Rabbit	31.24
Rogue	25.77
Romantic Enc./Dome	25.77
Rush'n Attack	25.77
S.D.I.	31.88
Disk Mechanic	58.00
Shadowgate	31.88
Shanghai	25.77
Sherlock: Crown Jewels	25.77
Shogun	41.67
Silent Service	25.77
Sim City	31.88
Sinbad	31.88
Skyblaster	23.00

Into the Eagle's Nest	25.77
It Came From The Desert	CALL
Jack Nicklaus' Golf	31.88
Jett	25.77
Jinxter	25.77
Joker Poker	24.72
Journey to Center Earth	25.77
Kampfgruppe	41.67
Karate Kid II	25.77
Karting Grandprix	17.34
Kikng	18.00
King of Chicago	31.88
King's Quest ALL ea.	31.88
Lancelot	28.00
Land of Legends	CALL
LeatherNeck	25.77
Leisure Suit Larry ea.	25.77
Letters to You	CALL
Lord of the Rising Sun	31.88
Lottery Magic	17.34
Lurking Horror	25.77
Mad Libs	18.84
Magic Johnson's Bktball	CALL
Maniax	17.34
Marble Madness	32.25
Master Ninja: Shad. War.	31.00
Mean 18	31.24
Mega Pinball	25.77
Metal Gear	25.77
Mind Shynder	31.24
Mind Walker	31.88
Moebius	41.67
Neuroman	31.88
New York Subway	25.77
Ninja Mission	13.87
Obsession	20.82
Offshore Warrior	25.77
Ogre	13.87
On Top	13.87
On Topos	13.87
Out Run	31.88
P.O.W.	25.77
Paladin	25.77
Parachutes of Kane	25.77
Phantasia III	25.77
Phantasm	23.00
Pinball Wizard	CALL
Pioneer Plague	25.77
Platoon	31.24
Police Quest I	31.88
Populous	31.88
Ports of Call	16.99
Powderdome	25.77
Pub Games	23.00
Q-Ball	20.82
Qix	13.87
Queston II	31.88
Racter	31.24
Rambo III	CALL
Rastan	25.77
Realm of the Warlock	23.00
Remegade	25.77
Return to Atlantis	32.00
Ringside	CALL

UTILITIES

AmigaDOS Express	20.82
AmigaDOS Toolbox	41.67
B.A.D. Accelerator	31.88
Benchmark IFF Library	64.47
Butcher 2.0	24.00
C.A.P.E. 68K Assem. 2.0	58.52
CLI Mate	25.77
Custom Screens	43.00
Cygnus Ed Pro	64.47
DePak Amiga 2.0	99.47
Disk Mechanic	58.00
Disk Recovery Toolkit	25.77
DiskWick	31.88
DOS-2 DOS-2	37.23
Enhancer 1.2	10.39
Express Copy	32.25
My Paint	25.00
EXT Backup	31.88
F.I.F. Module	13.87

AmigaDOS Express	20.82
AmigaDOS Toolbox	41.67
B.A.D. Accelerator	31.88
Benchmark IFF Library	64.47
Butcher 2.0	24.00
C.A.P.E. 68K Assem. 2.0	58.52
CLI Mate	25.77
Custom Screens	43.00
Cygnus Ed Pro	64.47
DePak Amiga 2.0	99.47
Disk Mechanic	58.00
Disk Recovery Toolkit	25.77
DiskWick	31.88
DOS-2 DOS-2	37.23
Enhancer 1.2	10.39
Express Copy	32.25
My Paint	25.00
EXT Backup	31.88
F.I.F. Module	13.87

AmigaDOS Express	20.82
AmigaDOS Toolbox	41.67
B.A.D. Accelerator	31.88
Benchmark IFF Library	64.47
Butcher 2.0	24.00
C.A.P.E. 68K Assem. 2.0	58.52
CLI Mate	25.77
Custom Screens	43.00
Cygnus Ed Pro	64.47
DePak Amiga 2.0	99.47
Disk Mechanic	58.00
Disk Recovery Toolkit	25.77
DiskWick	31.88
DOS-2 DOS-2	37.23
Enhancer 1.2	10.39
Express Copy	32.25
My Paint	25.00
EXT Backup	31.88
F.I.F. Module	13.87



Amiga SOFTWARE
P.O. BOX 1619, AGOURA HILLS, CA 91376-1619

B A C K T A L K c o n t i n u e d

In the writer's opinion, "PageStream's text import capability is weak" because only two import modules exist at this time. More modules can be added without rewriting the program, and these will be distributed free when completed. In our opinion, PageStream's import capability is limited only by the modules available.

—M.W. Kazmaier
Soft-Logik Publishing

While PostScript does not rate a mention in the PageStream manual's index, the documentation does state that "You must use screen and printer fonts specifically designed for use with PageStream (or those converted for it)." There is no further mention of this, but a Soft-Logik technical support representative told me the program supports the resident Times-Roman and Helvetica fonts of PostScript printers. To test this support, I created a PageStream document with Times-Roman type and wrote a PostScript program to output the same string of type. The results reveal PageStream's approach to driving a PostScript printer is non-standard.

There is apparently also an optional font disk that provides support for other resident PostScript printer fonts, but again, there is no mention in the manual. The Soft-Logik representative said there was no support for industry-standard downloadable fonts—you must buy Soft-

Logik's own versions of these fonts. The conversion program reportedly under development will add greatly to PageStream's functionality.

—Chris Dickman

M2Sprint (M2S Inc.)

I was disappointed in David McClellan's review of M2Sprint in the September '89 issue. It is inappropriate for Mr. McClellan to run benchmarks on a system with M2Sprint's minimum configuration. That he included a disk swap is unforgivable! His comparisons were one-sided. The difference between M2Sprint and its competitors, and the cause of the disk swap, is that M2Sprint is a development system, not just a compiler. The reviewer is silent about the fact that we supply over 170 library modules, in source form, with M2Sprint.

Mr. McClellan's primary attack was on our post-mortem debugger, which is standard with our package and not available from our Modula-2 competitors. It was unfair then to compare it to a debugging product for another language.

—Jeff V. Range
M2S Inc.

In response to David T. McClellan's review of M2Sprint, Mr. McClellan failed to list the configuration of the Amiga on which the tests were performed. To criticize that M2Sprint's compiler and module definitions and libraries are sizable is not realistic. I feel the timing comparison was poorly done. How can the compile and link times represent a true comparison when one includes an unavoidable disk swap? His comparison to Lattice C's debugger was also unfair.

—Bob Lockie
Burlington, Ontario, Canada

I did not mention every feature of M2Sprint, but concentrated on things that matter to me as a developer, including size, speed, and quality of the tools, and problems that occurred when bringing up programs that run under other compilers without major hitches. Most readers who write to me have no more than 1½ megs of memory and two floppy drives (this was the configuration of the test system). The fact that a compiler running on such a system requires a disk swap does matter. Comparing a Modula-2 package to a C compiler is not unfair because C, and every other language, is competition for Modula-2! For a major project I worked on, we chose C over Modula-2 and Pascal on the basis of tools available for each.

—David T. McClellan □

HIGHER PERFORMANCE...AND CHEAPER TO BOOT!

FDData-10\$149.95

Single 3.5" External Drive

FDData-20 249.95

Dual 3.5" External Drive w/Power Supply

- Fully 1010 Compatible
- Amiga® Color Coordinated
- Extra Long Drive Cable
- Ultra Compact Design
- Ultra Low Power Consumption
- No Annoying "Clicking" Noise
- Acoustically Quiet
- Daisy Chainable
- Diskette "Dust Protection" Door



FREE Shipping Via Federal Express!*

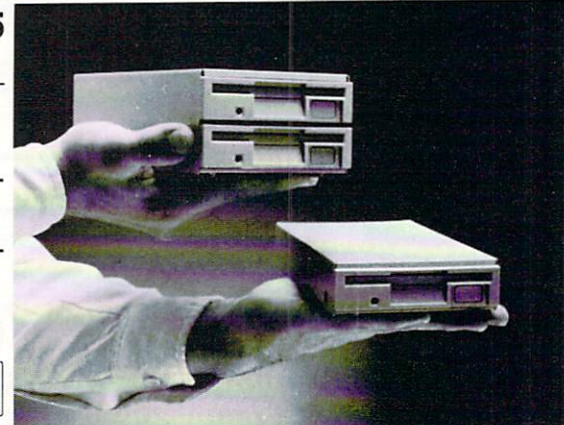


Toll Free Order Line: 1-800-562-3539

Info & Technical Support: 214-669-3999

FAX: 214-669-0021

10503 FOREST LANE • SUITE 148 • DALLAS, TX 75243



POLICY: Shipping and handling extra. Personal checks must clear before shipment. For faster service use credit card, cashier's check or bank money order. Credit cards are not charged until we ship. All prices are U.S.A. prices and are subject to change, and all items are subject to availability. These prices reflect a 5% cash discount. For all credit card purchases there will be an additional 5% charge. COD orders add \$5.00. Texas residents add sales tax. All sales are final and returned shipments are subject to a restocking fee. ***SHIPPING:** FREE shipping by Federal Express Standard Air or UPS (if within 1-day service zone) on orders paid by credit card, cashier's check or bank money order. In Hawaii, Alaska, and outside Continental US, call for information. Amiga® is a registered trademark of Commodore-Amiga, Inc.

ESTABLISHED
1968

MONTGOMERY GRANT

AMIGA
WORLD
12 89

**OUTSIDE USA & CANADA CALL
(718) 692-0790**

FOR CUSTOMER SERVICE
Call: Mon-Thurs 9:30-4:30/Fri 9-3:30
(718) 692-1148

Retail Outlet, Penn Station, Main Concourse
(Beneath Madison Square Garden) NYC, N.Y., 10001
Store Hours Mon-Thurs 8:30-8/Fri 8:30-2:45/Sat CLOSED
Sun 9:30AM-7PM

FOR ORDERS & INFORMATION IN USA & CANADA CALL TOLL FREE

1-800-759-6565

OR WRITE TO:

Montgomery Grant
Mail Order Department
P.O. Box 58, Brooklyn N.Y., 11230

**FAX NO. #7186923372
TELEX 422132 MGRANT**

EXTENDED HOLIDAY SEASON ORDER HOURS: Mon-Thurs 8:30am-8pm/Fri 8:30am-4pm/Sat CLOSED/Sun 9:30am-6:00pm
NO SURCHARGE FOR CREDIT CARD ORDERS / WE INVITE CORPORATE AND EDUCATIONAL CUSTOMERS
RUSH SERVICE AVAILABLE / TOLL-FREE TECHNICAL SUPPORT

<p>COMMODORE AMIGA 500</p> <ul style="list-style-type: none"> • Amiga 500 w/512K RAM • Built-in 3.5" Disk Drive • Mouse • FREE Software • Amiga Basic <p>\$549</p> <p>AMIGA 500 w/1084 & 1010 DISK DRIVE.....\$999</p>	<p>COMMODORE AMIGA 500</p> <ul style="list-style-type: none"> • Amiga 500 w/512K RAM • Built-in 3.5" Disk Drive • Mouse • Software • Amiga Basic <p>COMPLETE WITH: 1084 RGB COLOR MONITOR</p> <p>\$829</p>	<p>COMMODORE AMIGA 2000</p> <ul style="list-style-type: none"> • Keyboard • 1MB Expandable to 9MB • Built-in 3.5" Disk Drive • Mouse • FREE Software • Amiga Basic <p>\$1459</p> <p>AMIGA 2000 w/SEAGATE 40MB HARD DRIVE \$1949</p>	<p>COMMODORE AMIGA 2000</p> <ul style="list-style-type: none"> • Keyboard • 1MB Expandable to 9MB • Built-in 3.5" Disk Drive • Mouse • FREE Software • Amiga Basic <p>COMPLETE WITH: 1084 RGB COLOR MONITOR</p> <p>\$1739</p>
<p>AMIGA 500 RGB COLOR PACKAGE</p> <ul style="list-style-type: none"> • Amiga 500 w/512K RAM • Built-in 3.5" Disk Drive • Mouse • RGB Color Monitor • FREE Software <p>\$749</p>	<p>AMIGA 2500</p> <ul style="list-style-type: none"> • 3MB RAM • Built-in 3.5" Disk Drive • 40MB Hard Drive • Keyboard • Mouse • Amiga Basic • System Software <p>\$3199</p>	<p>AMIGA 2000 RGB COLOR PACKAGE</p> <ul style="list-style-type: none"> • A-2000 Computer w/Keyboard • 3.5" Disk Drive • RGB Color Monitor • FREE Mouse & Software <p>\$1659</p>	<p>AMIGA 2000 HD</p> <ul style="list-style-type: none"> • 1MB RAM • Built-in 3.5" Disk Drive • 40MB Hard Drive • Keyboard • Mouse • Amiga Basic • System Software <p>\$2099</p>

Seagate XETEC

3.5" & 5.25" HARD DRIVES FOR AMIGA 2000

THESE SEAGATE HARD DRIVE PACKAGES INCLUDE XETEC FC20 HARD DRIVE CONTROLLER CARDS

ST-125N (20MB).....\$419	ST-225N (20MB).....\$439
ST-138N (30MB).....\$449	ST-251N (40MB).....\$499
ST-157N (49MB).....\$499	ST-277N (60MB).....\$569
ST-177N (60MB).....\$699	ST-296N (80MB).....\$629

GREAT VALLEY PRODUCTS

IMPACT A-2000-2/0.....\$269
IMPACT 25MHz 68030 Accelerator for A-2000.....IN STOCK!

A-2000 HARD CARDS

IMPACT A-2000 HC/30.....\$629
IMPACT A-2000 HC/40Q.....\$739
IMPACT A-2000 HC-43M.....\$629
IMPACT A-2000 HC/80Q.....\$1049

A-500 HARD DRIVES

IMPACT A-500 HD/20M.....\$629
IMPACT A-500 HD/43M 40MB For A-500.....\$849
IMPACT A-500 HD/402.....\$889

ALL OTHER GVP PRODUCTS IN STOCK!

AMIGA HARD DRIVES FOR AMIGA 500

XETEC FASTTRAK

FASTTRAK JR. w/20MB.....\$579
FASTTRAK Q40 w/42MB.....\$869
XETEC Q80 M150.....IN STOCK!

TRUMP CARD 500

EXTERNAL CHASSIS ENABLES ANY SCSI HARD DRIVE TO OPERATE WITH AMIGA 500

AMIGA PERIPHERALS

A-1010 DISK DRIVE.....\$179	A-501 EXPANSION MODULE.....\$149
A-2286D AT BRIDGE BOARD.....\$1149	A-1084 RGB.....\$289

ALL OTHER AMIGA PERIPHERALS & ACCESSORIES IN STOCK

SUPRA 2400 Zi International Modem.....\$129	GEN ONE.....\$499
SUPRA RAM 2000 (Equivalent to 2058 RAM Expander).....\$399	PROGEN.....\$339
FLICKER FIXER.....\$439	SUPERGEN.....\$599
C.LTD AMIGA HAND SCANNER.....\$439	AMIGEN.....\$144

A-2088-D BRIDGE BOARD.....\$499
A-2058 RAM EXPANSION.....\$699
A-2300 GENLOCK.....\$269
A-1680 MODEM.....\$99.95
A-2010 3.5" DRIVE.....\$149
A-2090.....\$329
A-2620/2-A-2640/4 Accelerator Boards.....IN STOCK
A-MAX MAC Emulator for Amiga.....\$119
MAC Compatible Drives for A-MAX.....\$169
SOUNDSCAPE Complete.....\$249
Midi Music System.....\$249
FRAME GRABBER.....\$519

TRUMP CARD 500 & SEAGATE Hard Drives Pkgs. For AMIGA 500

ST-138N w/30MB.....\$519
ST-157N w/49MB.....\$559
ST-177N w/60MB.....\$749

SAME PKG. AS ABOVE W/XETEC FASTTRAK EXTERNAL CHASSIS CAN BE EXPANDED TO 8MB RAM...ADD \$149

COMMODORE

64C w/GEOS.....\$119
128 D COMPUTER.....\$429
1541 II DISK DRIVE.....\$159
1571 DISK DRIVE.....CALL
1750 EXPANSION MODULE.....CALL

PANASONIC	OKIDATA	STAR
KXP-1180.....\$177.95	OKIMATE 20.....\$139.95	NX-1000.....\$154.95
KXP-1191.....\$229.95	OKIDATA 180+.....\$219.95	NX-1000 RAINBOW.....\$209.95
KXP-1092L.....\$269.95	OKIDATA 183.....\$249.95	NX-1000C.....\$159.95
KXP-3131.....\$269.95	OKIDATA 320.....\$279.95	NX-1000C RAINBOW.....\$209.95
KXP-1124.....\$299.95	OKIDATA 390.....\$439.95	XR-1000.....\$339.95
KXP-1595.....\$419.95	OKIDATA 321.....\$439.95	XR-1500.....\$429.95
KXP-1524.....\$519.95	OKIDATA 391.....\$599.95	XR-2410.....\$429.95
KXP-4450 LASER.....\$1349.95		XR-2415.....\$549.95
		NX-2400.....\$277.95

TOSHIBA 301.....\$329.95

PRINTERS

HEWLETT PACKARD	HP PAINTJET.....\$959.95
LASERJET SERIES II \$1629	1MB EXPANDER.....\$279.95
SANYO PR-3000 \$59.95	2MB EXPANDER.....\$399.95
DAISY WHEEL PRINTER	4MB EXPANDER.....\$699.95
	HP DESKJET.....\$569.95
	HP LASERJET IID.....\$2799
	DESKJET.....\$679.95

EPSON

FX-850.....\$329.95
LQ-510.....\$329.95
FX-1050.....\$429.95
LQ-850.....\$509.95
LQ-950.....\$569.95
LQ-1050.....\$719.95
LQ-2550.....\$899.95

NEC

P2200.....\$319.95
P5200.....\$489.95
P5300.....\$649.95

Certified check, bank check, money orders, approved P.O.'s, Visa, Mastercard, Diner's Club, Am-Ex, Cart, American Express, C.O.D.'s accepted. Please call before submitting P.O.'s. No additional surcharge for credit card orders. Non-certified checks must wait 4-6 weeks for clearance. N.Y. residents add applicable sales tax. Prices and availability subject to change without notice. Not responsible for typographical errors. Return of defective merchandise must have prior return authorization number, or returns will not be accepted. Please add 5% shipping & handling (min. \$6). Volume orders over \$2000 are discounted to 3% shipping & handling (Canadian orders please add additional 5%). APO FPO orders please add 10% shipping & handling. All APO FPO orders are shipped first class priority air. All orders can be shipped Air Express-call for details. D.C.A. #800233



Top Quality Bulk Brand Name Disks

3.5" DS/DD	Quantities (Price per disk)			
	25	50	100	500
BASF97	.92	.87	.82
KAO94	.89	.85	.79
SONY	1.05	.99	.95	.89

Other Products

Diskette Holders

CA633—Holds 45 3.5" diskettes \$4.75
CA462—Holds 110 3.5" diskettes \$6.99

Disk Drive Cleaning Kit

CA239—Up to 12 cleanings \$3.25

Diskette User Labels

PL3—50 labels for 3.5" disks \$2.00

Call us for the lowest prices on diskettes and all your computer supply and accessory needs!

Order Info:

All orders shipped same or next business day. There is an order processing/packaging charge of \$3 per order. Please add additional shipping charges of \$1.50 per 50 disks (or fraction), \$1 per disk holder, and 25¢ per disk drive cleaner. Orders sent UPS ground (UPS 2nd Day Air and Federal Express available—please call for details).

American Micro Supplies



6473 Crater Lake Hwy.
Central Point, OR 97502



800-678-5576

AW12

Circle 194 on Reader Service card.

DF1

DATA FLEET 1

NOW IN STOCK FOR AMIGA

Robo Cop	\$33	Conflict: Europe	\$32
Targhan	\$28	Shadow of the Beast	\$35
Savage	\$22	Rick Dangerous	\$28
Red Heat	\$32	Lights Camera Action	\$49
Vigilante	\$25	Sleeping Gods Lie	\$32
Shinobi	\$33	Running Man	\$32
Predator	\$31	Vindicators	\$26
XYBots	\$27	Barbarian II	\$26
Omega	\$33	Shuffle Puck Cafe	\$26
Espionage	\$27	Populous Data	\$19
License to Kill	\$31	Trivial Pursuit	\$26
Beach Volley	\$30	Power Drome	\$28
BloodWych	\$32	Falcon Data	\$19
Hillsfar	\$32	Star Command	\$33
Paperboy	\$31	Swords of Twilight	\$32
Gauntlet II	\$32	Fiendish Freddy's	\$32
Super Hang-on	\$31	Beyond Dark Castle	\$22
ANIMagic	\$59	Jack Nicklaus Courses	\$15
Blood Money	\$27	Amiga Alignment Sys	\$33
Night Dawn	\$21	Virus Toolbox	\$39
Pro Page V1.3	\$239	AmigaDOS Toolbox	\$39
Epyx 500 XJ	\$12	3.5" Blank Disks	\$79 ^{ea}

Amiga 2000 8meg Board W/2meg populated \$425.95
Amiga 500 512k Memory board \$125.95

A2000 49 Meg Seagate Drive + Trumpcard \$519.95
A2000 80 Meg Quantum Drive + Trumpcard \$949.95
A500 49 Meg Seagate + Trumpcard & Case \$579.95
A500 80 Meg Quantum + Trumpcard & Case \$995.95

24 HOUR ORDER LINE

1-800-46-AMIGA

CUSTOMER SERVICE 1-517-337-0040
CALL FOR COMPLETE CATALOG
AND SHIPPING RATES

3036 LAKE LANSING RD SUITE 302 E. LANSING MI 48823

Circle 120 on Reader Service card.

AMIGA

Programmers Wanted!

The AmigaWorld Tool Chest has created a fantastic opportunity to publish new, uncirculated Amiga programs. If you've written something special for the Amiga, and would like to earn some extra money, please contact us for our Tool Chest Author Guidelines. Perhaps you'll be the next Tool Chest Star!

AmigaWorld Tool Chest
Submissions Dept.
AmigaWorld Magazine
80 Elm St.
Peterborough, NH 03458

UTILITIES UNLIMITED, Inc.

P.O. Box 532

North Plains, OR 97133

If you wish to place your order by phone

CALL (503) 647-5611 24 Hrs A Day!

SUPER CARD AMI

"... You have the right to make an archival backup of software you own..."; Public Law 117 - December 3, 1980.

Why be frustrated with the headaches of backing up your valuable software? Now, with Super-Card AMI, you can easily backup every program created on a 3.5" format! That includes Amiga, Atari ST, Mac, etc.! A brilliantly designed hardware unit plugs in between your internal & external disk drives (two drives are required for use). A simple software driver turns on the unit and makes the magic happen. "Long & short tracks" are easily copied because Super-Card doesn't copy the data on the disk, it copies the changes in the magnetic flux. This process gives you an exact copy in about 45 seconds! Super-Card AMI will work in all Amiga computers; A500, A1000, A2000, A2500. Please specify if you have two internal drives when ordering. So why wait for updates and parameters when you can copy it today!?!?

\$99⁹⁵

SUPER-TRACKER AMI

Have you ever wanted to know where problem tracks are located? Now, with Super-Tracker AMI, you can tell! This beautiful digital track display simply plugs into the last drive in your Amiga System (all Amiga computers will work.) The head location (track), side (top or bottom head), and write protect position are all displayed.

\$79⁹⁵

AMIGA 500 REPAIRABLE POWER SUPPLY

Providing the luxury of many add-ons and extras, runs a minimum of four disk drives. 3 AC outlets, surge and spike protection, passive crowbar protection, one year warranty.

\$109⁹⁵

Add \$4.00 shipping and handling • Add \$3.00 C.O.D. in USA only.
VISA and MasterCard accepted • Allow 3 to 4 weeks for delivery.
All sales are final unless authorized by management
SOFTWARE AND HARDWARE SUBMISSIONS WANTED.

Circle 74 on Reader Service card.

MOVING?

Subscription Problem?

Get help with your subscription by calling our new toll free number:

1-800-365-1364

In Colorado: 1-447-9330

between 9 a.m. and

5 p.m. EST

Monday-Friday

If possible, please have your mailing label in front of you as well as your cancelled check or credit card statement if you are having problems with payment.

If moving, please give both your old address and new address.

AmigaWorld
P.O. Box 58804
Boulder, CO 80322-8804

AmiEXPO Presents **THE 1990 AMIGA ART CALENDAR**



***A Complete 1990 Calendar • 13 Pieces of Original Amiga Art
Produced Exclusively On The Amiga
Each work 9" x 13" • Suitable for Framing***

***ORDER NOW AND SAVE \$5.00
The 1990 Amiga Art Calendar is only \$14.95
Coupon Worth \$5 Savings On Any AmiEXPO***

To place an order for your 1990 Amiga Art Calendar, either complete the included form and return to our offices or call us at 1-800-32-AMIGA. To place a telephone order, you must have a valid Visa or MasterCard. Please allow 6-8 weeks for delivery.

ORDER TODAY!

*Order by Mail or Call 800-32-AMIGA Nationwide (or 212-867-4663)
For Your All Amiga Art Calendar!*

☐ ***Yes, I want my 1990 Amiga Art Calendar***

_____ Calendars @ \$14.95

Shipping & Handling

Please add \$2 per calendar

TOTAL

Make Check or Money Order Payable to:
**AmiEXPO 211 E. 43rd St., Suite 301
New York, NY 10017**

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

For _____ MasterCard or _____ VISA Payment

Expiration Date _____

Account Number _____

Name as it appears on card: _____

Signature _____

AmiEXPO™ is a registered trademark of AmiEXPO, Inc. © 1989 AmiEXPO, Inc.

ACCELERATE...

FREE 2ND DAY SHIPPING ON SOFTWARE ORDERS OVER \$100!

Via UPS 2nd Day Air. US Only
(Alaska & Hawaii excluded). COD add \$3.00

TELECOMMUNICATIONS

A-Talk III	\$65
Atredes BBS Professional	\$99
Baud Bandit	\$32
BBS-PC!	\$99
Online! Platinum	\$65
Tele-Tutor	\$21

THE LIGHTSPEED ADVANTAGE:

- Three years Amiga market experience.
- Our team is comprised entirely of Amiga owners and enthusiasts.
- Excellent Technical Support from experienced Amiga users.
- Up-front policies.
- Competitive prices.
- Toll-Free Customer Service!

Amiga is a trademark of Commodore-Amiga.

ProWrite 2.5	\$85
Scribble! Platinum	\$99
Superbase Personal 2	\$99
Superbase Professional	\$199
Superplan	\$99
The Advantage	\$129
Transcript	\$45
Word Perfect	\$165
Word Perfect Library	\$85

POLICIES:

Shipping Info: Software is \$2.50/item (\$5 max) via UPS Ground. For UPS 2nd Day Air add \$1.50 to the Ground rate. COD add \$3.00. Next Day Service available. Other carriers, Hardware, and Foreign rates may be extra.

Other Policies: No charge to Credit Card until shipping date, and no surcharges. Exchanges only for defective items, and for same item only. We cannot guarantee product satisfaction.

DESKTOP PUBLISHING

Award Maker Plus	\$32	PixelScript	\$99
ComicSetter	\$65	Professional Page	\$225
Fine Print	\$32	Professional Templates	\$39
PageStream	\$129	Structured Clip Art	\$39
PageStream Fonts (ea)	\$27	Pro Fonts 1 or 2 (ea)	\$23

PRODUCTIVITY

Analyze	\$65
Desktop Budget	\$45
Excellence!	\$175
Formation	\$45
Kind Words	\$65
Microfiche Filer Plus	\$119
MFF Business DBases	\$39
MFF Home DBases	\$27
Momentum Check	\$21
Nimbus	\$105
Norgen	\$65
Phasar	\$59
Plan/II	\$99

MFF Business DBases	\$39
MFF Home DBases	\$27
Momentum Check	\$21
Nimbus	\$105
Norgen	\$65
Phasar	\$59
Plan/II	\$99
Dungeon Master Hints	\$9
Eliminator	\$27
Elite	\$32
Faery Tale Adventure	\$32
Falcon	\$32
Falcon Mission Disk #1	\$17
Federation	\$32
Flight Simulator II	\$32
FS-II Scenery (ea)	\$19

ENTERTAINMENT

Afterburner	\$32	F-40 Pursuit	\$29
Aquaventure	\$27	Gauntlet II	\$35
Archipelagos	\$27	Gold of the Realm	\$27
Arthur - Excalibur	\$32	Gunship	\$35
Artura	\$27	Harpoon	\$27
Aunt Arctic Adventure	\$27	Hole in One Mini Golf	\$27
Axe of Rage	\$32	Hostage	\$29
Baal	\$21	Ikari Warriors	\$27
Bad Dudes	\$29	Jack Nicklaus Golf	\$32
Balance of Power 1990	\$32	Journey	\$32
Ballistix	\$23	Magic Johnson (1 MB)	\$32
Batman	\$29	Manhunter	\$32
Battle Chess	\$32	Mean 18	\$29
BattleTech: Crescent Hawk	\$32	Millenium 2.2	\$32
Blood Money	\$27	Neuromancer	\$29
Breach	\$27	Never Mind	\$23
Captain Blood	\$32	Omega	\$35
Carrier Command	\$29	Operation Wolf	\$23
DataStorm	\$27	Paladin	\$27
Deja Vu II	\$32	Qix	\$23
Denaris	\$27	Renegade	\$23
Dragon's Lair	\$39	Rick Dangerous	\$32
Dungeon Master	\$27	Rick Davis Soccer	\$32
Dungeon Master Hints	\$9	Robocop	\$32
Eliminator	\$27	Running Man	\$32
Elite	\$32	RVF Honda	\$27
Faery Tale Adventure	\$32	Savage	\$27
Falcon	\$32	Shadow of the Beast	\$32
Falcon Mission Disk #1	\$17	Shanghai	\$15
Federation	\$32	Shogun	\$39
Flight Simulator II	\$32	Sim City	\$32
FS-II Scenery (ea)	\$19	Speedball	\$27
		Starglider II	\$29
		Stryx	\$23
		Super Hang-On	\$32
		Sword of Sodan	\$32
		Targhen	\$27
		Technocop	\$32
		Test Drive II: The Duel	\$29
		Supercars	\$14
		California Challenge	\$14
		3D Pool	\$23
		Times of Lore	\$29
		Universal Military Sim	\$32
		UMS Scenarios 1 or 2	\$14
		Vindicators	\$27
		Vortex	\$27
		War in Middle Earth	\$35
		Wayne Gretzky Hockey	\$32
		Zork Zero	\$39

ELECTRONIC ARTS

AD&D Heroes of the Lance	\$2
Bard's Tale	\$15
Bard's Tale Clue Book	\$10
Bard's Tale II	\$39
Bard's Tale II Clue Book	\$10
Battle of Britain	\$39
Battlehawks 1942	\$32
Chessmaster 2100	\$32
Cribbage/Gin King	\$39
Deluxe Music	\$65
It's Only Rock & Roll	\$15
Hot & Cool Jazz	\$15
Deluxe Paint III	\$95
Deluxe PhotoLab	\$95
Demon's Winter	\$27
Dragon Force	\$32
Earl Weaver Baseball	\$32
Commissioner Disk	\$15
MLBPA 1988 Stats	\$15
Empire	\$32
Halls of Montezuma	\$27
Interceptor	\$32
It Came From The Desert	\$32
Keef The Thief	\$32
Last Crusade - Action	\$27
Last Crusade - Adventure	\$32
Life and Death	\$32
Maniac Mansion	\$29
Marble Madness	\$15
Mavis Beacon Typing	\$32
Nuclear War	\$32
Populous	\$32
Reach for the Stars	\$27
Rebel Charge	\$39
Red Lightning	\$32
Reel Fish'n	\$32
Star Command	\$32
Stellar Crusade	\$35
TV Sports Basketball	\$32
TV Sports Football	\$32
World Tour Golf	\$15
Zany Golf	\$15

Supra Corporation

2400 Baud Modem	\$115
2400 Baud Modem with cable	\$119
2400zi A2000 Internal Modem	\$125
2MB/8MB A2000 RAM card	\$349
512K A500 RAM expansion	\$95

UTILITIES

Amiga Alignment Kit	\$32	GOMF!	\$27
B.A.D.	\$32	Project D	\$32
Cross-DOS	\$21	Quarterback	\$45
Cygnus Ed Professional	\$65	Raw Copy	\$39
Disk Master	\$32	The Reaper	\$29

ORDERS & CUSTOMER SERVICE
1-800-735-4428

TO LIGHTSPEED

MUSIC & MIDI

Dr. T's Copyist Pro	\$179	Midi Magic	\$115
Dr. T's KCS	\$165	Music-X	\$199
Dr. T's Level II	\$229	Pro Sound Designer	\$119
Dr. T's Midi Studio	\$45	Sound Oasis	\$65
Dr. T's Editors (ea)	\$99	Synthia	\$65
Dynamic Studio	\$129	Texture Quest I	\$99
M	\$129	Texture Quest II	\$169

GRAPHICS & ANIMATION

Butcher	\$25
Caligari	\$169
Digi-Paint III	\$65
Director	\$45
Director Toolkit	\$27
Elan Performer	\$39
Fantavision	\$45
Grabbit!	\$21
Homebuilder's CAD	\$129
MovieSetter	\$65
MovieClips	\$23
Opticks	\$129
Photon Paint II	\$99
Pro Video GOLD	\$199
Pro Video Fonts (ea)	\$85
Sculpt 3D-XL	\$129
Sculpt-Animate 4D	\$439
Turbo Silver	\$129
Turbo Silver Terrain	\$27
Ultra Design	\$249
Video Effects 3D	\$129
X-CAD Designer	\$99
X-CAD Professional	\$329

THIS MONTH'S SPECIALS!

Oceanic Master 3A-1	\$119
MAST Enhanced Unidrive	\$149
A2000 Internal Drive	\$99
Sony Bulk Diskettes	ea. \$1.00

SPOTLIGHT ON ...

Electronic Arts

Deluxe Print II	\$55
Deluxe Video III	\$95

FREE Limited Edition SSI T-Shirt

(while quantities last) with purchase of either:

AD&D Hillstar	\$32
AD&D Pools of Radiance	\$32

PROGRAMMING

AC BASIC	\$129	Lattice C 5.0	\$199
AREXX	\$32	Lattice C++	\$259
Benchmark Modula-2	\$129	M2Amiga Modula-2	\$165
C Library	\$65	M2Amiga Source Debugger	\$85
IFF Library	\$65	Magellan	\$129
Simplified Library	\$65	Manx Aztec C Devel	\$199
C.A.R.E. 68K Assembler	\$59	Manx Aztec C Pro	\$129
DSM (Disassembler)	\$45	Manx Library Source	\$199
DevPac Amiga (HiSoft)	\$65	Manx Source Debugger	\$79
G.F.A. BASIC	\$89	Powerwindows	\$59
HiSoft BASIC	\$105	Software From Hell	\$55
Innovatools I or II	\$55		
J-Forth	\$129		

If you don't see it listed ...
...Just ask!

HARDWARE & ACCESSORIES

RAM EXPANSION

8-Up! DIP	\$175
8-Up! SIMM	\$149
8-Up! PopSIMMs (4)	\$65
MegaBoard OK 2000	\$199
Spirit Inboard 1000/500	\$229
Starboard II OK	\$249
Supra 2MB/8MB 2000	\$349
Supra 512K 500	\$95

GRAPHICS HARDWARE

AProDraw 12x12 Tablet	\$465
12x12 w/Cursor	\$499
Color Splitter	\$89
Digi-View GOLD	\$139
flickerFixer	\$479
FrameBuffer/Catcher	\$629
Panasonic Camera w/Lens	\$249

SCSI HARD DRIVES

Quantum 40MB 3.5"	\$529
Quantum 80MB 3.5"	\$849
Quantum 105MB 3.5"	\$949
Seagate 48MB 3.5"	\$399
Seagate 80MB 5.25"	\$559
Syquest 44MB 5.25"	\$999
44MB Cartridges	\$129

MUSIC HARDWARE

AMAS MIDI/Sampler	\$119
CMI MIDI External	\$59
ECE MIDI	\$49
MIDI Gold 500	\$59
MIDI Gold 2000	\$65
MIDI Star 2*6	\$225
Perfect Sound 500	\$69
Perfect Sound 1000	\$79

A2000 CONTROLLERS

GVP Impact 2MB/OK	\$319
HardFrame	\$229
Kronos	\$239
Overdrive	\$165
Supra WordSync	\$169
Trump Card	\$175

SUPRA DRIVES

SCSI Controller 500	\$169
SCSI Controller 1000	\$209
Supra 20MB A500	\$569
Supra 30MB A500	\$639
Supra 45MB A500	\$729
Supra 60MB A500	\$849
Supra 80MB A500	\$1219
A1000 versions, add	\$80

GENLOCKS

Gen One	\$599
Magni 4004 or 4004S	\$1495
MiniGen	\$219
ProGen	\$379
SuperGen	\$649
VidTech ScanLock	\$875

MISC. HARDWARE

A-MAX Mac Emulator	\$129
A-MAX 128K ROMs	\$139
A-MAX Cutting Edge Drive	\$189
A-MAX Package	\$429
Boing! Optical Mouse	\$99
CMI Multipoint 2000	\$185
CMI Proc Accel 1000	\$199
CMI Proc Accel 500/2000	\$185
GVP 030/882 25MHz	\$1249
GVP 030/882/4MB 25MHz	\$2949
M-4 Mouse	\$39
Ronin 28Mhz 030/882	\$1795
Toolbox 1000	\$225
UniDrive	\$129

Call for hardware
shipping rates.

ORDERS & CUSTOMER SERVICE

1-800-735-4428

Hours: Monday-Friday 9-6 (PST)

INTERNATIONAL TOLL-FREE ORDERING!

AUSTRALIA:

Overseas Freephone Toll-Free: 0014-800-12-5632

CANADA:

Toll-Free Service Call: 1-800-869-2555

■ Australia & Canada: Please use Toll-Free lines
for Orders Only! (Minimum Order \$100 US)

For info, or Orders under \$100 US, call 503-777-1008.
Thank You!

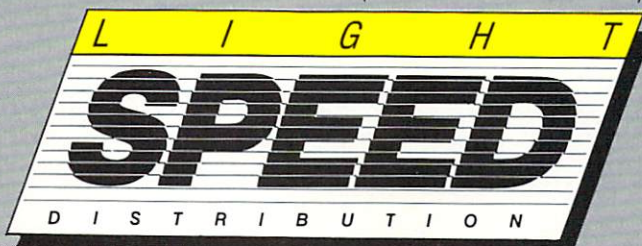
ACCESSORIES

Camera Stand w/Lights	\$59
Epyx 500XJ Joystick	\$15
GOMFI Button	\$55
Infra-Red Joystick	\$12
Mouse Master	\$27
Power Player Joystick	\$21
Trackball Mouse	\$42
X-Specs 3D Glasses	\$89

BOOKS

AmigaBASIC Inside & Out	\$19
AmigaDOS Inside & Out	\$16
Amiga Graphics In & Out	\$26
C for Beginners	\$16
C for Advanced	\$26
Programmer's Guide (Peck)	\$19
Quick Reference Guide	\$8
Sybox Handbook 1 or 2	\$19

Notice: We aid Law
Enforcement agencies
in the prosecution of
Credit Card fraud!



6335 SE 82nd, Portland, OR 97266, (503) 777-1008, FAX: (503) 777-1252

A Division of Dosis Systems, Inc.



Circle 122 on Reader Service card.

WHAT'S NEW?

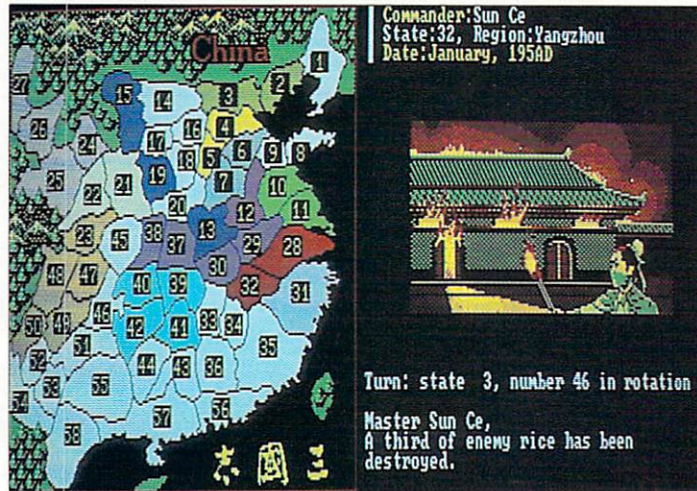
Sail the salty seas, increase your investment returns, or create a business presentation that'll make your boss sit up and take notice.

Compiled by Barbara Tyson and Jan Jackson

BACK EAST

GET A TASTE of the old east with two new games from Koei. To become **Genghis Khan** (\$59.95), you must build an empire by defeating opponents and managing territories. Play conquerer alone or with up to three friends. Two scenarios and five levels of difficulty provide flexibility.

Romance of the Three Kingdoms (\$69.95) takes you back in time even further—to second-century China. In each of the game's five scenarios, the government has collapsed, leaving you to struggle with other warlords (up to eight can play) for supremacy. Whether you choose to negotiate, build alliances and barter, or to attack and pillage, you



Survival choices: build or destroy.

must strategize. Both games include historical notes in the documentation. Get on the Orient express by calling Koei

Corp., One Bay Plaza, Suite 540, 1350 Bayshore Highway, Burlingame, CA 94010, 415/348-0200. RS #513.

WORDS ON THE WING

WHAT'S THE LATEST in fonts? Motion! Both new additions to the Kara Fonts lineup offer an eight-color hi-res font in standard and animated versions. **AnimFonts1** contains a formal script font that in animation mode appears to write itself across the screen. On the **AnimFonts2** disk is a dimensional, beveled font that, when animated, rotates onto the screen passing a glint of light from letter to letter. The pack-

ages support Electronic Arts' Anim Brush format and retail for \$49.95 each. For variation, they offer additional color palettes tested on a vectorscope and waveform monitor. To get your words moving, call Kara Computer Graphics, 6365 Green Valley Circle, Suite 317, Culver City, CA 90230, 213/670-0493. RS: #510.

FREE ASSOCIATION

IN CREATING **Interactor** (\$99), Very Vivid combined the hypertext concept with desktop video. The result is a presentation system that lets you incorporate IFF graphics of any resolution, text, and IFF sound into interactive, randomly accessible databases. The mouse is your primary tool for putting together Interactor creations. To access all of the details, contact Very Vivid, PO Box 127, Station B, Toronto, Ontario, Canada M5T 2T3, 416/686-7850. RS #512.

IN THE GROOVE

SYNCHRONIZE DELAY times to song tempos with **MIDI Delay**. The program processes MIDI data set in one-millisecond increments up to eight seconds on an internal timer. The delay can also be driven by an external MIDI clock source. All types of MIDI data, including continuous controllers, can be delayed up to 15 times. You can send out each repeat on the same or consecutive channels, with or without programmable transposition. MIDI Delay features real-time MIDI control options. Presets are provided to let you program and call up your favorite delay settings.

Peggy takes incoming MIDI note data and plays chord notes in succession rather than simultaneously. Available patterns are up, down, up and down, random, forward, backward, and forward and backward. You can change the pattern via mouse, keyboard, or via MIDI program changes. You can set the speed with an internal timer or you can synchronize Peggy with an external MIDI clock to the tempo of a song. Both MIDI Delay and Peggy retail for \$50. For more information about either product, contact Triangle Audio Inc., PO Box 1108, Sterling, VA 22170, 301/526-6224. RS #507. ►

AMIGA WORLD

STEP INTO THE WORLD OF AMIGA...



The Pathway To Your Imagination

For a computer as extraordinary as the Amiga™, you need a magazine that can match its excellence, AmigaWorld.

AmigaWorld is the only magazine which provides you with ideas and information to get maximum performance from the Amiga's tremendous power and versatility.

Each issue gives you valuable insights to boost your productivity and enhance your creativity.

Whether you choose the Amiga as a serious business tool for its speed and multitasking capabilities... or for its superb graphics, drawing, color (over 4,000 colors), and animation... or for its state-of-the-art music and speech... or for its scientific and CAD abilities, AmigaWorld can help you achieve superior results.

With its timely news features, product announcements and reviews, useful operating tips and stunning graphics, AmigaWorld is as dynamic as the market it covers.

Don't wait! Become a subscriber and save nearly 37% off the cover price. Return the coupon, or for immediate service, call toll-free 1-800-258-5473. In U.S.A.

Save 37% ☐ YES!

I want to discover the full potential of this powerful machine. And save 37% off the cover price. Enter my one year subscription to AmigaWorld for the low price of \$29.97. If I'm not satisfied at any time, I will receive a full refund—no questions asked.

☐ Payment Enclosed ☐ Bill Me

Name _____

Address _____

City _____

State _____ Zip _____

Canada & Mexico \$38.97, Foreign Surface \$49.97, Foreign Airmail \$84.97 (U.S. Funds drawn on U.S. Bank). Prepayment is required on foreign orders. All rates are 1 year only. Please allow 6-8 weeks for delivery.

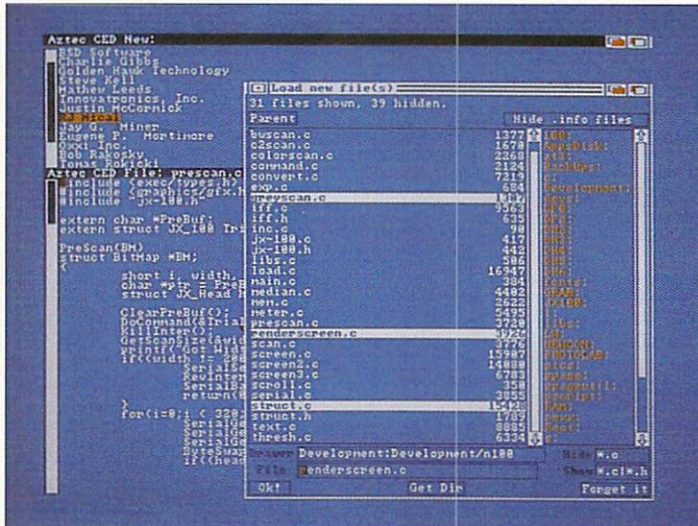
AmigaWorld 4ADZ1
PO Box 58804, Boulder, CO 80322-8804

Amiga is a trademark of Commodore-Amiga, Inc.

REVAMPING

ASDG HAS finally rolled **CygnusEd Professional 2.0** out of the shop. Tuned up features include speedier and more powerful macros, unlimited undo/redo, and a turbo search-and-replace function that's 100 times faster than that in the original version. ARexx support is expanded in

2.0, alternate screen fonts are standard, and a new feature helps locate and correct Modula-2 syntax errors. The new model is \$99.50, but you can recharge your original CygnusEd disk by sending it and \$16 to ASDG Inc., 925 Stewart St., Madison, WI 53713, 608/273-6585. **RS #514.**



A text processor with new lines.

PERIPHERAL CONTROL

TAKE CHARGE OF video decks, laser and compact disk players, and other infrared-controllable devices from your Amiga with the **MediaPhile Programmer's Toolkit**. With simple calls to library routines, you can direct any number of devices simultaneously. The software includes an ARexx query entry point that allows

full access to Toolkit library functions from ARexx programs, and can host programs such as TxEd or XShell. A set of example ARexx programs let you control decks from the CLI. For pricing and more information, contact Interactive MicroSystems Inc., PO Box 1446, Haverhill, MA 01831, 508/372-0400. **RS #506.**

WINDOW SHADES

THANKS TO **Color Windows** (\$29.95), you can change the palette of multitasking programs with custom screens simply by pressing three keys simultaneously. Then, you can save the values for instant recall later. To put shades on

your windows, contact Kimbersoft, 13281 72nd Ave., Suite 201, Surrey, BC, Canada V3W 2N5 604/534-7098. **RS #508.**

HOURS:

8 AM to 7 PM Monday - Friday

8 AM to 4 PM Saturday

Call on Sunday

YOUR

Wrap Up Your

ACCESSORIES

A-B Switch cable	\$35.00
A/B/C/D Switchbox	63.00
Boing optical mouse	109.00
Copy Stand	65.00
Ece Midi 1000	52.00
Ece Midi 500/2000	52.00
Ergo Joystick	17.00
Epyx 500JX	15.00
Freedom stick	65.00
Gravis Joystick	37.00
Infrared mouse	176.00
Mac Rom Chip	155.00
MD120 3.5 Disk holder	33.00
MD64 disk holder	31.00
MD60 disk holder	28.00
Modem cable A1000	15.00
Modem cable A2000/500	15.00
M4 mouse	42.00
Mouse master	29.00
Mouse holder	6.50
Mouse pad	9.00
Okimate color ribbon	7.50
Okimate black ribbon	5.00
Phaser gun	49.00
Power strip 6 outlets	17.00
Printer cable A1000	15.00
Printer cable 2000/500	15.00
Quick shot Joystick	15.00
Ribbon panasonic all	11.00
Star NX color ribbon	12.00
Star NX black ribbon	8.00
Stick stick	8.00
Time saver	55.00
Trackball 2button/mouse	40.00
Trackball 1button	39.00

CREATIVEPRODUCTIVITY

Analytic art	\$39.00
Intellitype	35.00
Gizmoz enhanced	45.00
Master type	25.00
Mavis beacon typing	33.00
Magellan	129.00
Project Master	129.00
The big picture	20.00
Typing Tutor	29.00
Ultra card	35.00
Your family tree	32.00

EDUCATION

Adventure of sinbad	\$32.00
Aesop's fables	32.00
All about America	35.00
Animal kingdom	32.00
Decimal dungeon	32.00
Discovery game math	25.00
Discovery game spell	25.00
First letters and words	35.00
First shapes	35.00
Fraction action	35.00
Grade manager	59.00
Great states	25.00
Kid Talk	35.00
Kinderama	32.00
Learning curve	52.00
Link word French	22.00
Link word German	22.00
Link word Italian	22.00
Link word Russian	22.00
Link word Spanish	22.00
Math talk	35.00
Math talk fraction	35.00
Math wizard	35.00
Perfect score	51.00
Quiz master	51.00
Read & rhyme	32.00
Read-a-rama	32.00
Speller bee	35.00
Tales from Arabia	32.00
Wordmaster	32.00
Where in World C S	32.00

DATABASE MANAGEMENT

Acquisition	\$189.00
Data retrieve	51.00
Data Retrieve Prof	189.00
Microfiche filer plus	115.00
Organize	49.00
Softwood file II gs	79.00
Super base	52.00
Superbase professional	189.00
Superbase Pro. 3.0	229.00
Superbase pers. II	99.00

ACCOUNTING

Easy ledger	\$195.00
Financial plus	189.00
Investor advantage	63.00
Miamiga ledger	63.00
Micro lawyer	39.00
Nimbus record keeper	95.00

CAD SYSTEM

Draw 2000	\$183.00
Home builder cad	129.00
Home builder choice	53.00
Intro cad	51.00
Logic works	65.00
Pro-Net	399.00
Pro-Board	399.00
X-Cad system	385.00

DISKETTES

Centech 3.5" ds/dd disks	\$19.00
Centech 5.25" ds/hd disks	29.00
Sony 3.5" ds/dd	19.00
Fuji 3.5" ds/dd color disks	\$19.00
TDK 3.5" ds/dd disks	19.00

DESKTOP PUBLISHING

Citydesk	\$97.00
Citydesk 2.0	135.00
Citydesk companion	15.00
Citydesk companion II	15.00
Page stream	129.00
Page setter	97.00
Professional Draw	129.00
Professional page 1.2	249.00
Pro-page template	42.00
Pro-draw clip art	42.00
Publisher plus	69.00
Shakespeare	89.00
Who. What. When	69.00

PRINTERS

1091i Panasonic printer	\$224.00
Alps Allegro 24 PIN	425.00
NEC LC890 laser PS	3395.00
Okimate 20 color prt	145.00
Plug'n print	85.00
Star nx rainbow	259.00

HOME ACCOUNTING

Desktop budget	\$46.00
Money mentor	\$65.00
Phaser	65.00
Tax Break	53.00

SPREADSHEETS

Analyze! 2.0	\$95.00
Haicalc	32.00
Maxiplan 500	95.00
Maxiplan plus	126.00
Super plan	97.00
VIP Professional	65.00

ENTERTAINMENT SOFTWARE

We have them all! Over 300 games

in stock. Call for your favorite game,

and check our *Christmas Specials.*

THE SOFTWARE SHOP

MIGA SOFTWARE AND HARDWARE MARKETPLACE

Computer Gifts Here

GRAPHICS & VIDEO

mon	\$55.00
ptions	35.00
agic	62.00
ate 4-d	99.00
ate 3-d	439.00
ation editor	39.00
ation effects	32.00
ation Flipper	32.00
ation multiplane	58.00
ation stand	32.00
ation w/images	89.00
ator apprentices	185.00
otion	65.00
techtural design	23.00
allery I	20.00
allery II	20.00
arts I	20.00
arts II	20.00
d maker plus	32.00
dcast Titler	189.00
her	27.00
ht 3d editor	39.00
ari	169.00
rapher help	28.00
ma Paint	48.00
r splitters	79.00
icsetter	65.00
ve paint II	89.00
ve paint III	102.00
ve print II	59.00
ve photo lab	102.00
ve production	137.00
ve video II	89.00
gn 3d	67.00
gnasaurus	32.00
aint 3	69.00
aint help	24.00
view	131.00
orks 3d	89.00
tor's Toolkit	26.00
nt help	24.00
Performer	41.00
ess paint	65.00
ess paint III	89.00
vision	42.00
ns in Flight II	77.00
re design 3-d	23.00
an design 3-d	23.00
Paint	34.00
ect	55.00
on des. sculpt 3d	23.00
on	109.00
ts Camera Action	49.00
obot design 3-d	23.00
eler 3d	64.00
ie Clips	29.00
ie setter	65.00
ie flipper fx	95.00
reducer 3d	108.00
ect vision	175.00
on expansion disk	20.00
on paint	65.00
on paint 2.0	97.00
on paint help	22.00
on video cell anim	97.00
ate	43.00
master plus	33.00
ideo Gold	205.00
ideo plus set I	83.00
ideo plus set II	83.00
ideo plus	193.00
pt 3-d	64.00
pt animate 4d Jr	95.00
Director	46.00
o silver	129.00
ow	64.00
xt	64.00
ffects 3d	121.00
scape 3-d	120.00
o titler	95.00
rope	91.00

MONITORS

ek multisync 12" mon.	\$512.00
3D multisync	699.00
sonic 8cm515	249.00
cm1430 monitor	699.00
multi-scan mon	535.00
n 1000 20" multisync	2899.00
th 14" Flat screen mon.	720.00

HARDWARES

Accelerator A500	\$140.00
Air drive 3.5" external	169.00
Amag	135.00
Amigen	153.00
Digi-Droid	79.00
Easy! A1000	349.00
Easy! A2000	379.00
Easy! A500	345.00
Flacker fixer	495.00
Framegrabber	599.00
Future sound	129.00
Gen One	689.00
Internal 3.5drive A2000	99.00
Live A2000	349.00
Live framegrabber A1000	279.00
Live framegrabber A500	305.00
Mac 3.5 Drive	229.00
My-T-Mouse	39.00
Perfect sound A1000	69.00
Perfect sound A500/A2000	69.00
Progen	359.00
Scanlock	929.00
Subsystem 500	269.00
Super Gen	695.00
Supra 2400bd internal	149.00
Supra modem 2400bd	135.00
Synergy 500	199.00
Toolbox A500	232.00
WV1410 Panasonic Camera w/lens	210.00

HARDDISKS

32mg 3.5 SCSI drv. 40ms A2000	\$332.00
48mg 3.5 SCSI drv. 40ms A2000	419.00
42mg 5.25 SCSI drv. 40ms A2000	479.00
42mg ST506 5.25 drv. 40ms A2000	415.00
65mg SCSI 5.25 drv. 40ms A2000	499.00
Fastcard A2000	159.00
GVP-Controller1mg Ok	275.00
GVP-Controller2mg Ok	299.00
Hardframe 2000	249.00
Overdrive Controller A2000	199.00
Quantum drive 80mg 11ms acc.	799.00
Quantum drive 40mg 11ms acc.	499.00
Quantum drive 105mg	899.00
Supra 2000 HD Controller	229.00
Supra SCSI interface	195.00

PROGRAMMING LANGUAGES

A/C basic	\$129.00
A/C fortran	195.00
Algebra II	33.00
Arxiv	33.00
Assem pro	65.00
Aztec C developer	195.00
Aztec C professional	129.00
Benchmark C library	62.00
Benchmark iff library	62.00
Benchmark modula 2	128.00
Benchmark simplified	62.00
Cape 68k	59.00
Devpac Ed/Assem/link/dbg.	66.00
Dissassembler	45.00
GFA basic 3.0	95.00
HiSoft Basic Pro.	118.00
Inovaools #1	54.00
J-Forth pro 2.0	133.00
Lattice C + +	379.00
Lattice development system 5.0	199.00
Library's source	197.00
Macro assembler	65.00
Metacomco pascal	95.00
Metacomco shell	40.00
Metascope debugger	65.00
Power windows v2.5	58.00
Pro Basic	124.00
Source level debugger	50.00
Tci modula 2 comm	199.00
Tci modula 2 developer	99.00
Tci modula 2 regular	42.00
The power sys. pecan	93.00
The professional pecan	89.00
True basic	65.00
W shell	33.00

SOUND & MUSICS

4-op deluxe	\$97.00
Audio master	37.00
Audio master II	67.00
Back songbook	27.00
Copyist II	179.00
D-50	99.00
Deluxe music	69.00
Dr drums	28.00
Dr keys	28.00
Dr T's Keyboard	160.00
Dr T's Midi Rec. Studio	47.00
Dx heaver	97.00
Dynamic drums	52.00
Dynamic studio	129.00
Future sound A500/A2000	92.00
Instant music	32.00
Kcs Level II	225.00
Matrix 6	97.00
Midi Magic	97.00
Mt-32	97.00
Music student	38.00
Music-X	205.00
Pro sound designer	125.00
Promidi studio	129.00
Rock & roll	21.00
Sonix	51.00
Sound Oasis	69.00
Sound sampler	78.00
Sound Track Vol. 1	35.00
Studio magic	65.00
Synthia	59.00
Texture	97.00
Utilities 2(mimatics)	43.00

UTILITIES

B A D disk optimizer	\$32.00
C.B. Tree	65.00
Celebrity cook book	20.00
Cygnused Professional	65.00
Disk 2 disk	33.00
Disk master	33.00
Disk mechanic	59.00
Dos 1.3	24.00
Dos 2 dos	35.00
Doug's math aquarium	52.00
Dunlap Utilities	55.00
Encore	45.00
Ez backup	33.00
Facc II	22.00
Fine print	33.00
Fleet check	33.00
Flip side	37.00
Formation	47.00
Gold spell	32.00
Gomf	29.00
Grabbit	19.00
Laser scripts	28.00
Laser up. fonts	26.00
Laser up. plot	33.00
Laser up. print	58.00
Laser up. utilities	28.00
Momentum Mail	22.00
Multi preferences	20.00
Nag Plus Sched. Assist.	52.00
Pixel Script	104.00
Pro script	32.00
Project D	32.00
Promis spelling	33.00
Quarterback	45.00
Raw copy 1.3	39.00
Superback	52.00
Tdi editor sources	15.00
Tdi examples	10.00
Tdi kermi	22.00
Text ed plus	52.00
V.I.P.	32.00
X-Copy	30.00

WORDPROCESSORS

Becker text	\$92.00
Critic's Choice	159.00
Excellence	179.00
Flow idea processors	63.00
Gold spell II	30.00
Kindwords	65.00
Pen Pal	80.00
Prowrite v2.0	80.00
Text pro	50.00
The Works Platinum	164.00
Transcript	47.00
Word perfect	159.00
Vp library	79.00

Christmas Spectaculars!

Drives w/Hardframe 2000

Quantum 40mg	\$721.00
Quantum 80mg	1,029.00
Quantum 105mg	1,119.00
138N 32mg	629.00
157N 48mg	689.00
277N 63mg	779.00

Drives w/Fastcard

Quantum 40mg	\$639.00
Quantum 80mg	979.00
Quantum 105mg	1,039.00
138N 32mg	539.00
157N 48mg	595.00
277N 63mg	699.00

FastTrack Sys. A500/A1000

Quantum 40mg	\$869.00
Quantum 80mg	1,199.00
Quantum 105mg	1,279.00
138N 32mg	759.00
157N 48mg	829.00
277N 63mg	929.00

Floppy Drives

Chinon Internal 3 1/2	85.00
Chinon External 3 1/2	115.00
Chinon Internal 5 1/4	95.00
Chinon External 5 1/4	149.00

FastTrack Sys. w/2mg Fast ram A500/A1000

Quantum 40mg	\$1,233.00
Quantum 80mg	1,563.00
Quantum 105mg	1,643.00
138N 32mg	1,123.00
157N 48mg	1,193.00
277N 63mg	1,293.00

Memory Expansion A500/A1000/A2000/A2500

8Up 2mg	399.00
8Up 4mg	615.00
8Up 6mg	839.00
8Up 8mg	1,079.00
Minimeg 512k	349.00
Minimeg 1mg	399.00
Minimeg 2mg	529.00
Starboard 512k	329.00
Starboard 1mg	369.00
Starboard 2mg	499.00
Spirit 512k	289.00
Spirit 1mg	339.00
Spirit 1.5mg	389.00
Spirit 2mg	499.00
501 Clone 512k	99.00

1-800-752-0050
In Mass. Call.....
1-508-756-6452

SALES AND QUOTES (outside Mass.): 1-800-752-0050
SHIPPING AND TECHNICAL SERVICE: 1-508-756-6452
QUOTE-A-FAX: 1-508-799-9354
• Corporate and volume purchases invited. Call Moe.
• Allow 10 days for personal checks to clear.
• Minimum \$5.00 Shipping/handling charge.
• Returns subject to restocking charge
• Software defects-call the Manufacturer
• For faster delivery send cashiers check
• Wire transfer accepted.
• Add \$3.50 for COD.

SHOWROOM
22 Front Street
Worcester, MA 01614



Visa and MasterCard Accepted

RAWCOPY V1.3

The ULTRA-POWERFUL Backup tool for your Amiga™

This utility interprets just about every aspect of the Amiga system; from standard to non-standard DOS. RawCopy V1.3 is both a standard and a parameter copier. Finally, you will be able to expand your protection to new software releases without buying a totally new back-up program.

Micro Systems International has an update policy unmatched by other copiers. MSI guarantees at least four updates per year, each packed with new parameters that require only the click of the start key.

RawCopy V1.3 is simple to use and has special features to allow the user to back-up copy protected software. A program such as RawCopy V1.3 is necessary for today's user. All too often a favorite game or utility will develop a read-write error after extensive use. RawCopy V1.3 allows you to make archival back-up copies of your software to protect your masters.

The #1 Back-up Utility

RawCopy V1.3... Setting the Standard For The Competition to Follow.

- Eliminates wheel, dongle, and manual protected software.
- Friendly and Helpful Customer and Technical Support.
- Upgrades offered every 3 months (at least 30 new parameters).
- Error Checker, Ram Buffer, Extended Cylinder, and much more.
- Copies software that no others will.

WHY SETTLE FOR JUST A COPIER... WHEN YOU CAN HAVE

RAW POWER

NOW SHIPPING
\$59.95
US Dollars



Call Today or visit your favorite dealer

(313) 654-8402 Orders and Information

(313) 654-8405 Technical Support

MSI

Micro
Systems
International

1143 Monroe St.
Carleton, MI 48117

Circle 227 on Reader Service card.

AC/BASIC™ V1.3 — NEW

Easy to use compiler is **very fast** with great **graphics**. Plus, AC/BASIC is the only BASIC compiler for Amiga that is **compatible** with the AmigaBASIC interpreter so your existing programs can be compiled with no changes and run up to **50x faster**.

Easy to use documentation is indexed and includes over **200 examples** on disk; plus a full **spreadsheet** written in AC/BASIC and **HAM graphics** examples

Extensions include: **SELECT CASE**, **BLOCK IF**, **STATIC** arrays. **Recursive** subprograms. Create stand-alone applications (no redistribution fee) NCP \$195.

AC/FORTRAN™

Mainframe quality, full feature ANSI FORTRAN 77 compiler includes: **Debugger**, **Linker**, **Library Manager**, **Runtime Library**, **IEEE math**, and **C interface**. Supports **Complex** numbers, **Virtual** arrays, **Overlays** and **Linking**. Not copy protected. \$295.

68020/68881 version also available \$495.

abs:ft

Scientific/Engineering Software

2781 Bond Street, Auburn Hills, MI 48057/(313) 853-0050

Amiga trademark of Commodore/Amiga. Microsoft trademark of Microsoft Corp.



Telephone orders welcome

WHAT'S NEW?

STELLAR POSITION

LEAD A CREW of eight star troopers to save the galaxy's remaining inhabitants from pirates and aliens. You will travel through space in starships, exploring planets and space stations in search of objects, allies, and enemies. **Star Command** (\$49.95) sets you in the deepest reaches of the galaxy, where Earth, now non-existent, is nothing but a memory.

Arriving in the city of Hillsfar, you are compelled to set out on a series of quests involving archery, maze exploration, arena combat, lockpicking, and equestrian-ship. In **Hillsfar** (\$49.95), an adventure and action-style game, victors receive gold, experience, or magical items. To embark on either of these Strategic Simulations adventures, contact Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171. **RS #505.**

LET'S TALK

TURN YOUR AMIGA into an Ethernet network system with **AmigaNet**. Available in versions for both the A2000 and A500, the hardware consists of a card for A2000-series machines, and a plug-in module with its own power supply for the A500. AmigaNet's operating system includes Amiga File Service and TCP/IP support. It runs at 10M baud and offers Amiga-to-Amiga communication and Amiga File Servers. To fit into the network mainstream, AmigaNet complies with IEEE Standards 802.5 types A and B (Ethernet and Cheapernet), and is compatible with Ethernet Version 2. Get hooked by contacting Hydra Systems, Red Lane, Kenilworth, England 203/471111. **RS #509.**

BUY LOW

ENLIST YOUR AMIGA to help you record, review, and track your stock portfolio activity—including purchases, sales, splits, and dividends. With **Take Stock**, you can generate a variety of printed reports, and graph a year's worth of daily quotes for each stock. Your broker, East-West Software (73 Lorna Lane, Suffern, NY 10901), charges a \$49.95 commission for the product. **RS #516.**

ON COURSE

SAILORS AND boaters, **Scan-Ahead Navigator** can help steer you straight. The program translates loran inputs into a position mark so you can follow your location on a color-coded electronic chart. A single command line displays instructions, latitude and longitude coordinates, course-to-steer, ETA, range and bearing, depth, buoy location and more. The **Scan-Ahead Map Generator** lets you make your own electronic charts for use with Navigator.

The **MarineLAN/Integrator**, a 16-port hardware interface, can group your Amiga with NMEA standard devices such as loran, SatNav, autopilot or instruments, much as Local Area Networks connect multiple computers into a single, unified system. Entire navigation packages from \$777 are available from Phoenix Engineering Systems, 4240 Lakeshore Rd., Deckerville, MI 48427, 313/376-4843.

RS #501. ■

Order Toll Free *Since 1982* **ComputAbility** Order Toll Free **800-558-0003** *Consumer Electronics* **800-558-0003** AMW 12-89

IVS Trumpcard Hard Drive Packages for A2000 Series

Seagate	
ST-157N 49 MEG	519 DEL
ST-177N 60 MEG	749 DEL
ST-277N 160 MEG	619 DEL
ST-296N 80 MEG	629 DEL
Quantum Pro Drive	
40 MEG SCSI Pro Drive	619 DEL
80 MEG SCSI Pro Drive	869 DEL
100 MEG SCSI Pro Drive	949 DEL

These kits include IVS Trumpcard SCSI hard drive ctrl, cable, software and FREE delivery in the contiguous USA. This is not assembly kit! It is a package.

Hard Drive Cards (A-2000)

Seagate	
ST-157N 49 MEG	539 DEL
ST-177N 60 MEG	769 DEL
Quantum Pro Drive	
40 MEG SCSI Pro Drive	639 DEL
80 MEG SCSI Pro Drive	889 DEL
100 MEG SCSI Pro Drive	969 DEL

these cards include IVS Trumpcard ctrl, mounting brkt, cbl, software, and FREE delivery in the contiguous USA.

IVS INFINIT 40

Removable Media Cartridge Drive Packages

INFINIT40/L	1199
INFINIT40S *	1299
INFINIT40D *	1399

* Requires Trumpcard or Trumpcard 500

Trumpcard 500 Hard Drive Packages for Amiga 500

Seagate	
ST-157N-49 Meg	579 Delivered
ST-177N-60 Meg	799 Delivered
Quantum Pro Drive	
40 Meg SCSI Pro Drive	679 DELIVERED
80 Meg SCSI Pro Drive	929 DELIVERED
100 Meg SCSI Pro Drive	999 DELIVERED

These Packages include Trumpcard 500 enclosure, IVS Trumpcard SCSI hd drive Ctrl, Software & free delivery in the contiguous USA

Trumpcard 500 Ram Expander available: 512k • 1 MEG • 2 MEG • 4 MEG

Seagate SUPER SALE

ST-125N 20 Meg - SCSI	269
ST-157N 49 Meg - SCSI	349
ST-177N 60 Meg - SCSI	569
ST-225N 20 Meg - SCSI	250
ST-251N 40 Meg - SCSI	375
ST-277N-1 60 Meg - SCSI	449
ST-296N 80 Meg - SCSI	465

Quantum

Pro Drives

40 Meg SCSI Pro Drive	449
80 Meg SCSI Pro Drive	699
100 Meg SCSI Pro Drive	779

XETEC Fast Card Hard Drive Packages for Amiga 2000

Seagate	
ST-157N-49 Meg	519 Del
ST-177N-60 Meg	749 Del
Quantum Pro Drive	
40 Meg SCSI Pro Drive	619 DEL
80 Meg SCSI Pro Drive	869 DEL
100 Meg SCSI Pro Drive	949 DEL

Card features Xetec's DMAx hard, outboard ROM, auto-formatting circuitry, 25 pin SCSI conn., disk utility manual. FREE DELIVERY IN THE CONTIGUOUS 48 STATES

XETEC Fast Card System

Hard Drive Packages for Amiga 500

Seagate	
ST-157N-49 Meg	699 Del
ST-177N-60 Meg	919 Del
Quantum Pro Drive	
40 Meg SCSI Pro Drive	799 DEL
80 Meg SCSI Pro Drive	1049 DEL
100 Meg SCSI Pro Drive	1129 DEL

System includes Xetec's DMAx hard, outboard ROM, enclosure, manual, Fast Track disk with utilities & shielded SCSI cable. With power supply and fan. FREE DELIVERY IN THE CONTIGUOUS 48 STATES

CALL US
FOR ALL YOUR
COMMODORE
AMIGA™
NEEDS

VIDEO PACKAGE

PANASONIC 1410 CAMERA
16MM LENS WITH VARIABLE IRIS
COPYSTAND WITH LIGHTS
DIGIVIEW GOLD
\$419 DELIVERED!

MASTER 3A Disk Drive

1010 Compatible **\$125**

*Free Delivery to the Contiguous States

PRINTERS

Panasonic 1180 NEW NEW NEW	185
Panasonic 1191 NEW NEW NEW	219
Panasonic 1124 NEW 24 Pin	299
Panasonic 1624 NEW	CALL
Sbr NX-1000	159
Sbr NX-1000 Multi Font 2 NEW NEW NEW	179
Sbr NX-1000 Rainbow (color)	219
Sbr NX-24M	275

Modems

Amiga 1680 Modem	99
Avatech 1200E	67
Avatech 2400 HC	129
Avatech 2400E	109
Avatech 9600 External NEW!	839
Supra 2400i Internal (A2000)	139

Supra 2400 Ext. Modem & Cable

•\$119•
FREE DELIVERY
to the 48 Contiguous States

AMIGA SOFTWARE

1943	25.95	Conquest of Camelot	37.95	Focus Video	107.95	Kristof, The	31.95	Over Run	32.95	Ring Side	24.95	Targhan	24.95
3D Options	31.95	Contra	24.95	Forgotten Worlds	24.95	Lancelot	31.95	Page Renderer 3-D	94.95	Ringling Bro's Circus	24.95	Temple of Doom	31.95
3D Pool	21.95	Cribbage/Gin King	37.95	Fright Night	24.95	Last Duel	24.95	Page Setter	69.95	Risk	24.95	Totals	20.95
688 Attack Sub	31.95	Curse / Azure Bonds	26.95	Future Sound 500	89.95	Last Inca, The	24.95	Page Stream	127.95	Road Challenge	24.95	Text Ed Plus	48.95
A-Talk 3	64.95	Data Storm	25.95	Gauntlet II	30.95	Laffice C	199.95	Dot Matrix Font 1-500	24.95	Robocop	28.95	Test Drive 2 - The Duel	27.95
Action Fighter	24.95	Deathbringer	25.95	GFA Basic 3.0	87.95	Leisure Suit Larry	25.95	Page Thicker	59.95	Rocket Ranger	31.95	California Choll.	14.95
Advantage, The	CALL	Defender / Crown	31.95	Gold of the Realm	24.95	Leisure Suit Larry II	30.95	PageTipper Plus/FX	87.95	Roger Rabbit	28.95	European Choll.	14.95
After Burner	30.95	Deja Vu: 1 or 2	30.95	Gold of the Amer	25.95	Leisure Suit Larry III	37.95	Paperboy	30.95	Rubicon Alliance	20.95	Muscle Cars	14.95
Alien Syndrome	24.95	Deluxe Music Cont.2.0	61.95	Gold Rush	24.95	License to Kill	21.95	Pen Pal	84.95	RVF Honda	25.95	Supercars	14.95
AmigaDOS Toolbox	38.95	Deluxe Paint III	97.95	Gore	24.95	Life and Death	31.95	Phaser	84.95	Savage	21.95	Thexdor	21.95
Animagic	58.95	Deluxe PhotoLab	97.95	Graball	18.95	Logworks	184.95	Phonon Paint 2.0	87.95	Scavenger	CALL	Their Finest Hour	37.95
Anim 4-D Jr.	87.95	Deluxe Print II	51.95	Grand Prix Circuit	27.95	Logic of the Rising Sun	31.95	Pipe Dream	25.95	Schuffepuck Cafe	24.95	Thinker	57.95
Aqua Blast	23.95	Deluxe Productions	128.95	Guerrilla Wars	24.95	Luxor	19.95	Pixel Script	92.95	Scrabble	24.95	Third Courier	28.95
Aquaventure	24.95	Deluxe Video III	94.95	Gunsnip	34.95	Magekhan 1.1	118.95	Planet of Lust	24.95	Scribble Platinum	87.95	Thud Ridge	28.95
Archipelago	23.95	Deluxe Video V1.2	84.95	Halls of Montezuma	28.95	Magic Johnson 512	24.95	Pocket Rockets	24.95	Sex Vixens-Out of Sp	22.95	Thunder Blade	29.95
Arx	28.95	Denaris	24.95	Hardball II	28.95	Manhunter - N. York	30.95	Police Quest 1 or 2	30.95	Shadow of the Beast	30.95	Times of Lore	24.95
Aunt Artie Advan.	24.95	Design 3D	59.95	Harrier Combat Sim	30.95	Manhunter-Sanfran	30.95	Pool of Radiance	31.95	Shark Attack	24.95	TKO	24.95
Artura	25.95	Designasaurus	30.95	Heat Wave	28.95	Maniac Mansion	28.95	Populous	32.95	Shinobi	30.95	Turbo Silver 3.0 1 Mg	112.95
Awesome Arcade Pk	31.95	Digidroid	59.95	Heavy Barrel	24.95	Maniac Marauder	21.95	Postscript Fits A.B.C. ed24.95	64.95	Shogun	31.95	TV Show	64.95
B.A.D.	29.95	Digipoint 3.0	64.95	Heavy Metal	28.95	Movie Beacon Typing 31.95	24.95	Power Windows 2.5	64.95	Shufflepuck Cafe	24.95	TV Text Professional	99.95
Bad	19.95	DigMow Gold	124.95	Heroes of the Lance	25.95	Mean 18	27.95	Powerdrome	25.95	Slim City	28.95	Twilight Zone	24.95
Bad Dudes	28.95	DigWorld	82.95	Heroes Quest	37.95	Menace	19.95	Precedo	48.95	Skate Wars	31.95	Twilight's Ransom	19.95
Balance of Power	30.95	Dinosaur Discovery	25.95	Hilltop	31.95	Miami Vice	24.95	Print Master Plus	24.95	Snake	19.95	Typoon of Steel	31.95
Battlstry	21.95	Disk 2 Disk	28.95	Hole in One	21.95	Micro Fite Disk #1	30.95	Pro Script	28.95	Solitaire Royale	22.95	Ultima 4	38.95
Bar Games	28.95	Disk Master	28.95	Hostage	29.95	Mid Rec Studio V1.1	39.95	Pro Soccer	21.95	Sons of Liberty	22.95	Ultima II	24.95
Barbarian II	24.95	Disk Mechanic	54.95	Hostage	29.95	Might and Magic II	37.95	Pro Sound Design	96.95	Sorcerer	30.95	Ultimate 3	31.95
Batman	28.95	Dos 2 Dos	30.95	Hostage	29.95	Modeler 3D	56.95	Pro Video Gold	174.95	Sorcerer Lord	22.95	Video Effects 3-D	113.95
Battle Chess	29.95	Double Dragon	24.95	Hostage	29.95	Monopoly	24.95	Pro Video 2.5	69.95	Space Harrier	30.95	Video Font	28.95
Battle Hawks 1942	31.95	Double Dragon II	24.95	Hostage	29.95	Movie Sifter	59.95	Pro Draw	112.95	Space Quest 1 or 2	30.95	Videoplate	21.95
Battles of Napoleon	31.95	Doug's Mith Aquar	46.95	Hostage	29.95	Music 2.0	49.95	Professional Page	228.95	Space Quest 3	37.95	Vigilante	21.95
BattleTech	30.95	Dr. Doom's Revenge	28.95	Hostage	29.95	Netherworld	169.95	Project D+ Backup	30.95	Space Racer	19.95	Vindicator	CALL
Boud Bonaldi	30.95	Dragon's Lair	33.95	Hostage	29.95	Nevermind	21.95	Prospector Mazes/Zor	24.95	Specifical	25.95	VP Professional	59.95
Berzerk 3	22.95	Dragon's Lair II	CALL	Hostage	29.95	N.Y. Warriors 1 Mg	30.95	Pub Games	25.95	Star Command	31.95	Virus Infection Prot	28.95
Block Caddion	24.95	Dungeon Master	24.95	Hostage	29.95	Quick Silver	41.95	Puzzle Storybook	25.95	Star Flight	29.95	Viva 3-D	87.95
Blosteroids	CALL	Dungeon Mas Ast	20.95	Hostage	29.95	Quik	22.95	Star Trek	34.95	Star Wars	24.95	Vivo Amiga	122.95
Blood Money	25.95	Dungeon Quest	31.95	Hostage	29.95	Quarter Back	41.95	Star Wars	24.95	Starship 2050/Sept 3D	31.95	Vivo Online	51.95
Blue Angels	28.95	Dunlop Utilities	47.95	Hostage	29.95	Quarterm II	31.95	Star Wars	24.95	Starship 2050/T. Silver	31.95	War Game Conf Set	19.95
Boardmaster	67.95	Earl Weaver Baseball	31.95	Hostage	29.95	Rambo II	24.95	Star Wars	24.95	Stellar Crusade	36.95	War in Middle East	30.95
Boomerang	24.95	Eliminator	22.95	Hostage	29.95	Rampage	24.95	Star Wars	24.95	Strip Poker II	23.95	War of the Lance	25.95
Bride of the Robot	24.95	Empire	31.95	Hostage	29.95	Rastan	24.95	Star Wars	24.95	Stryx	21.95	Warlock	22.95
Broadcast Tiller	184.95	Excellence 1 Meg	158.95	Hostage	29.95	Raw Copy	34.95	Star Wars	24.95	Super Back	48.95	Ward Drums	25.95
Can Do	84.95	Eye of Horus	24.95	Hostage	29.95	Red Lightning	37.95	Star Wars	24.95	Super Hang On	28.95	Who, What, When	64.95
Carthage	24.95	F-16 Combat Pilot	31.95	Hostage	29.95	Renegade	22.95	Star Wars	24.95	Super Star Basketball	CALL	Willow	25.95
Chesmaster 2000	24.95	F-40 Pursuit Sim.	28.95	Hostage	29.95	Rhythming Notebook	31.95	Star Wars	24.95	Superbase Personal	46.95	Wind Walker	25.95
Chesmaster 2100	31.95	FA/18 Interceptor	31.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95	Superbase Personal 2	87.95	Wings of Fury	25.95
Chronoquest	30.95	Falcon	30.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95	SuperBase Pro 3.0	189.95	Wizard's Crown	25.95
City Desk 2.0	112.95	Flash Dragon	21.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95	Superman	87.95	World Platform, The	CALL
Clue Master Defeat	24.95	Flight Simulator II	30.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95	Superstar Ice Hockey	30.95	World Atlas	35.95
Codename: Icarman	37.95	European Scenery	19.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95	Stunt Car	25.95	X-Specs	84.95
Colonel's Boquest	37.95	Fast Track	25.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95	Sword of Sodan	28.95	Xenophobe	25.95
Colony	30.95	Fendish Freddy	30.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95	Swords of Twilight	31.95	Zak McKracken	28.95
Combat Course	25.95	Firestone	21.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95	T.V. Sports Basketball	31.95	Zoetrope	82.95
Comic Strip	69.95	Flash Dragon	21.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95	T.V. Sports Football	31.95	Zork Zork	38.95
Comic Art Disk (set)	20.95	Flight Simulator II	30.95	Hostage	29.95	Rick Dangerous	21.95	Star Wars	24.95				

MISCELLANEOUS HARDWARE

AMI GEN	1150	CHRONO F1 34K INT. DL	899
SUPER GEN	1640	COLOR SPLITTER	549
SUPER GEN 2000S INT GENLOCK	11449	GOLD DISC SCANNER	1899
MAGNI 400A GEN LOCK	11399	IMG SCAN	8108
FLICKER FIXER	1488	SCAN LOCK	8819
PERFECT SOUND	149	GVP 48030 ACC. 80	CALL

NO CREDIT CARD SURCHARGE

WI ORDERS AND INFORMATION
 414-357-8181 FAX 414-357-7814
 P.O. BOX 17882 Milwaukee, WI 53217

ORDERING INFORMATION: Security system. For fast delivery send cashiers check or money order. Personal and company checks allow 14 business days to clear. School P.O.'s welcome. C.O.D. charges are \$4.00. In Continental U.S.A. include \$3.00 for software orders 2% shipping for hardware, minimum \$5.00. MasterCard and Visa orders please include card #, expiration date and signature. WI residents please include 5% sales tax. H.K. A.K. F.P.O. APO/FPO orders and Canadian orders, please add 1% shipping, minimum \$6.00. All other foreign orders add 10% shipping, minimum \$15.00. All orders shipped outside the Continental U.S.A. are shipped first class insured U.S. mail. If foreign shipping charges exceed the minimum amount, you will be charged the additional amount. All goods are new and include factory warranty. We do not guarantee compatibility & version #s. Due to our low prices at sales are final. All defective returns must have a return authorization number. Please call (414) 357-8181 to obtain an R.A. # or your return will not be accepted. Prices and availability subject to change without notice. Shipping and handling are non-refundable. We ship the latest versions available to us. Updates must be handled by and user directly with the manufacturer.

HORS D'OEUVRES

Hints, tips and Fred Fish strikes back!

Compiled by Tim Walsh

CLOSING TROUBLESOME WINDOWS

WHEN ACTIVATING public-domain utilities such as GOMF1.0 (Fred Fish disk #95), from a startup-sequence or CLI, the CLI window from which you started it can't be closed. Consequently, you end up opening another CLI or Shell because the original window no longer recognizes or responds to any commands.

The easiest solution involves activating the unfriendly utility from a CLI using the following command:

```
Run >nil: <nil: Gomf1.0
```

As an equally effective alternative, include the following commands in your startup-sequence:

```
Run >nil: Gomf1.0
```

Either method will redirect the output to NIL: and close the CLI window. (Incidentally, this process also works well with higher versions of Gomf, such as Gomf3.0.) Those troublesome CLI windows will now become a thing of the past!

*Ernie Millan
Downey, CA*

HARD-DRIVE WOES

AS A NEW owner of a hard-disk drive, I had a problem where no matter what I did, I simply could not drag icons from my floppies into the hard-disk drive windows. Faced with a lifetime of intensive CLI file-copying activity to transfer files to my hard disk, I knew there had to be an easy solution.

Sure enough, there was. Poised in my startup-sequence was a call to Mach (Fred Fish disk #130). A public-domain mouse enhancer, Mach instantly activates the window that the pointer is currently positioned in, without a press of the left mouse button. While this is otherwise a time-saving feature, it prevents dragging a file or drawer icon into the hard-disk window. When the icon reached the destination window, it transferred control from the source disk and over to the hard disk, thus losing the source icon.

By removing the startup-sequence call to Mach, dragging icons to my hard-disk drive worked flawlessly. If other Amiga users experience similar problems, always check for the presence of Mach or similar step-saving utilities on your disks before placing the blame on the hardware.

*Gary Ludwick
Huntersville, NC*

KEEPING TABS VIA FREEMAP

GRAPHICS PROGRAMS, such as NewTek's Digi-Paint 3, MicroIllusion's Photon Paint 2.0, and Electronic Arts' Deluxe-Paint III, all devour enormous amounts of Chip RAM. For instance, with Digi-Paint 3, Workbench, and a typical word processor running simultaneously, you'll usually have only about 200K of Chip RAM available on an Amiga equipped with 512K of Chip RAM. Open several windows or start some serious multitasking and without a doubt, the infamous "You are getting low on Chip memory" messages will start to appear. When you least expect it, you might suffer a non-recoverable system crash and possibly lose whatever you're working on.

There's an easy way to keep track of how much free Chip RAM is available at all times. In the Tools drawer of the Extras 1.3 disk, there's a utility called FreeMap. Activate it by double-clicking its icon and it will reveal how much Chip and Fast RAM is available. Toggling the front/back gadget will hide it from sight when you don't need it. By keeping you informed of how much Chip RAM you're using, FreeMap can help you to avoid disaster.

*Ronald J. Elliott
Washington, DC*

FASTER FILE ACCESS

IF YOU HAVE one or more megabytes of RAM and no hard-disk drive, you probably think you're out of luck trying to save data to RAM if there's a RAM: option missing in the application software's file requester. Just include a statement in your startup-sequence, such as Assign DH0: RAM:. Then, when saving data to the RAM disk, select the DH0: option as the destination drive. Your files will then be saved to RAM and can be retrieved for later use. For permanent storage, though, just be sure to copy them to floppy disk before powering down.

*Denis Barsalo
Dorval, Quebec, Canada*

If you have an idea you'd like to share with our readers, send it to Hors d'oeuvres, AmigaWorld Editorial, 80 Elm St., Peterborough, NH 03458. If your idea gets published, you'll receive an AmigaWorld surprise gift. ■

LET'S FACE IT—MAIL ORDER HOUSES ARE NOT ALL THE SAME!

SOFTWARE SUPPORT INTERNATIONAL

CONVENIENCE—FAST SERVICE—RELIABILITY—SUPPORT

AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA AMIGA

ABACUS

Amiga DOS Toolbox	36.00
AssemPro	60.00
BackupText	90.00
DataRetrieve	48.00
TextPro	48.00

ABACUS BOOKS

Amiga Basic In & Out	19.00
Amiga DOS In & Out	16.00
Amiga For Beginners	14.00
Amiga Graphics In & Out	24.00
Amiga Machine Language	16.00
Amiga Tricks & Tips	16.00
Amiga Programmers Guide	25.00
Amiga Drives In & Out	22.00
Comp Disks all books	ea 13.00

ACADEMY SOFTWARE

Typing Tutor	21.00
--------------	-------

ACCESS

World Class F.C. #1	15.00
Leaderboard Dual Pak	21.00
W.C. Leaderboard	27.00

ACCOLADE

Bubble Ghost	21.00
California Challenge	15.00
Fast Break	27.00
Fourth & Inches	27.00
Fourth & Inches Team	12.00
Hardball	27.00
Mean 18	27.00
Mean 18 F.C. vol2	15.00
Super Cars Disk	15.00
Test Drive	27.00
Test Drive-II	27.00

ACTIONWARE

Actionware Phasar Gun	39.00
Capone	24.00
P.O.W.	24.00
Prison	24.00

ACTIVISION

Rampage	24.00
---------	-------

AGS DEVELOPEMENT

Aegis Starter Kit	29.95
Arazok's Tomb	10.00
Audio Master 2	60.00
Impact	54.00
Lights, Camera, Action	48.00
Modeler 3D	30.00
Ports of Call	13.00
Sons	48.00
Video Titled	90.00

AMERICAN COVERS

Amiga 500 Dust Cover	10.00
Amiga 1000 Dust Cover	15.00
Amiga 2000 2500 Dust C.	15.00
1010 Drive Dust Cover	8.00
1020 Drive Dust Cover	8.00

ANCO

Highway Hawks	21.00
---------------	-------

ANTIC

GFA Basic 3.0	84.00
Phasar V3	54.00
Pioneer Plague	24.00
Zootrope	84.00

ARTWORX

Bridge 5.0	21.00
Centerfold Squares	18.00
Linkword Spanish, French, Italian, German	ea 18.00
or Greek	ea 18.00
Strip Poker-II	24.00
S.P. Data #4 & #5	ea 15.00

ASDG

Cygnus Ed Pro	60.00
FACC-II	21.00

BAUDVILLE

Award Maker Plus	30.00
Award Maker Sports	18.00
Dream Zone	30.00
Video Vegas	21.00

BETHESDA SOFTWARE

Gridron	18.00
Wayne Gretzky Hockey	30.00

BRODERBUND

Carmen World	30.00
Fantavision	36.00
Sim City	27.00
Sky Chase	27.00
Space Racer	20.00
Stars Wars	27.00

BYTE BY BYTE

Script 4D Jr	90.00
--------------	-------

CENTAUR

B A D	30.00
-------	-------

CENTRAL COAST

Disk 2 Disk	30.00
Dos 2 Dos	33.00
Quarterback	42.00

CINEMAWARE

Darkside	24.00
Deathbringer	24.00
Defender of The Crown	30.00
King of Chicago	15.00
Lords of The Rising Sun	32.00
Rocket Ranger	32.00
S.D.I.	15.00
Sinbad	15.00
Speedball	26.00
The Krystal	30.00
Three Stooges	32.00
Total Eclipse	24.00
TV Sports Football	32.00

COMPUTE! BOOKS

1st Book of the Amiga	14.00
2nd Book of the Amiga	14.00
Advanced Amiga Basic	14.00
Amiga Applications	14.00
Amiga Programmers Guide	16.00
Beginners Guide Amiga	14.00
Elementary Amiga Basic	13.00
Inside Amiga Graphics	15.00
Kids & the Amiga	13.00
ML Programming Guide	16.00
Using Amiga DOS	14.00

CREATIVE MICROSYSTEMS

Mid-I Interface	61.00
Processor Accelerator	148.00
V-I 500 Interface	47.00
V-I 500RF Interface	54.00

DATA EAST

Bad Dudes	27.00
Batman	27.00
Robocop	30.00

DATASHARE

Modern Cable (1000)	13.00
Modern Cable (500 2000)	14.00
Printer Cable (1000)	13.00
Printer Cable (500 2000)	14.00

DESIGN LAB

Fine Print	30.00
------------	-------

DESIGNWARE

Designasaurus	30.00
---------------	-------

DIGITEK

Hole in One Min. Golf	21.00
Hole in One Data #3	15.00
Hollywood Poker	21.00

DISC COMPANY

Kind Words v2	60.00
---------------	-------

DISCOVERY

Arkanoid	18.00
Grabbit	16.00
Hydra	24.00
Sword of Sodan	30.00
V.I.P.	30.00
Zoom!	18.00

EAGLE THREE

Butcher	24.00
Distant Armies	27.00

ELECTRA

Better Dead Than Alien	21.00
------------------------	-------

ELECTRONIC ARTS

Bards Tale-II	38.00
Bards Tale-II Hints	10.00
Chessmaster 2000	29.00
Deluxe Photolab	95.00
Deluxe Paint-III	95.00
Deluxe Music Construction	63.00
Double Dragon	26.00
Earl Weaver Baseball	30.00
Earl Weaver Comm. Disk	15.00
Empire	32.00
F A-18 Interceptor	32.00
Ferrari Formula I	30.00
Mavis Beacon	32.00
Populus	32.00
Zany Golf	16.00

EPYX

4x4 Off Road	15.00
Axe of Rage	30.00
BattleShip	18.00
California Games	30.00
Death Sword	18.00
Destroyer	15.00
Final Assault	15.00
Impossible Mission-II	15.00
Space Station Oblivion	15.00
Street Sports Basketball	15.00
Street Cat	18.00
Sub Battle Simulator	15.00
Techno Cop	30.00
The Games Winter Edition	30.00
Tower Toppler	30.00

ETHOS

Casino Fever	24.00
Poker Solitaire	21.00

FIREBIRD

Carnier Command	27.00
Elite	30.00
Rick Dangerous	30.00

FIRST ROW

Prime Time	24.00
Twilight Zone	24.00

FREE SPIRIT

Amikit Drive Align	30.00
--------------------	-------

FTL

Dungeon Master	12.00
Dungeon Master Hints	24.00

GAMESTAR

GFL Championship F.B.	15.00
-----------------------	-------

GOLD DISK

ComicSetter	60.00
ComicSetter Art Superheroes	21.00
ComicSetter Art Science Fic.	21.00
ComicSetter Art Funny Figures	21.00
Desktop Budget	42.00
Denaris	24.00
Font Set-I	21.00
Gold Spell-II	27.00
LayoutScript	27.00
MasterSetter	60.00
PageSetter	90.00
Professional Draw	120.00
Transcript	42.00

IMPULSE

Evil Garden	24.00
Turbo Silver	120.00

INCOGNITO SOFTWARE

Footman	24.00
Kingdoms of England	27.00

INFOCOM

Arthur Quest for Excalibur	30.00
BattleTech	30.00
Journey	30.00
Shogun	30.00
Zork Zero	36.00

INTERPLAY

Battle Chess	30.00
--------------	-------

LUCASFILM

Battlehawks 1942	30.00
Indy Jones Crusade (Arcade)	25.00
Zak McKracken	27.00

MAGNETIC IMAGES

Gold of the Realm	24.00
-------------------	-------

MASTERTRONICS

War in Middle Earth	30.00
---------------------	-------

MICRODEAL

Devpac v2	60.00
Fright Night	24.00
Hiscot Basic Pro	96.00
Major Motion	24.00
Slip Stream	18.00
Time Bandit	24.00

MICROILLUSIONS

Black Jack Academy	24.00
Craps Academy	24.00
Faerytale Adventure	30.00
Faerytale Hints	9.00
FirePower	18.00
Photon Paint v2	90.00
Romantic Encounters	24.00
Turbo	15.00

MICROPROSE

Gunship	33.00
Silent Service	24.00

MINDSCAPE

Action Fighter	24.00
Alien Syndrome	24.00
Balance of Power 1990	30.00
Captain Blood	30.00
Deja Vu	30.00
Deja Vu II	30.00
Gauntlet II	30.00
Harner Combat Sim	30.00
Hostage	27.00
Indoor Sports	30.00
Indy Jones Temple of Doom	24.00
Out Run	30.00
Road Raider	24.00
Shadowgate	30.00
Space Harrier	30.00
Supersar Ice Hockey	30.00
Thunder Blade	30.00
Uninvited	30.00

MINDWARE

Aunt Arctic Adventure	24.00
-----------------------	-------

NEW HORIZONS

Pro write 2.5	75.00
---------------	-------

NEWTEK

DigiPaint 1	30.00
DigiPaint 3	60.00
Digiview Gold	138.00

OMNITREND

Breach	24.00
Breach Scenario Disk 1	18.00
Paladin	24.00
Paladin Quest Disk 1	18.00
Universe 3	30.00

ORIGIN

Autoduel	33.00
Moebius	33.00
Times of Lore	24.00
Ultima-III	27.00
Ultima-IV	39.00

PRACTICAL SOLUTIONS

Mouse Master	27.00
--------------	-------

PRECISION

Superbase Personal-I	48.00
Superbase Personal-II	90.00
Superpan	90.00

PROGRESSIVE PERIPHERALS

Baud Bandit	30.00
CLI-Mate	24.00
Diskmaster v1.3	30.00
DR Term Pro	60.00
Dunlap Utilities	48.00
Intro CAD	48.00
PIX-Mate	42.00

PSYGNOSIS

Baal	18.00
Balistyx	21.00
Barbarian	24.00
Blood Money	24.00
Captain Fizz	18.00
Menace	18.00
Obolator	24.00
Terrorpods	24.00

READYSOFT

64 Emulator-II(500-2000)	48.00
64 Emulator-II(1000)	48.00
Dragons Lair	36.00
Scary Mutant Space Aliens Mar	24.00

SIERRA

Gold Rush	24.00
Manhunter	30.00

SOFT LOGIK

Page Stream	120.00
-------------	--------

SPECTRUM HOLOBYTE

Falcon	30.00
Falcon Missions	15.00
Solitaire Royale	18.00
Tetris	21.00

STRATEGIC SIMULATIONS

Demons Winter	26.00
Heroes of the Lance	26.00
Heroes of the Lance Hints	8.00
Phantasee-III	26.00
Queston-II	32.00

SUBLOGIC

Flight Simulator-II	30
Scenery Disk #7	20
Scenery Disk #9	20
Scenery Disk #11	20
Scenery Disk Western Europe	20
Scenery Disk Japan	20

Our Fifth Year
In Business!
We Know How
To Service
Our Customers!

BRIWALL

SOLID PRODUCTS & SOLID SUPPORT

P.O. Box 129 / 58 Noble Street
Kutztown, PA 19530

24 HOURS -- TOLL FREE
1-800-638-5757
Outside USA Call 1-215-683-5433

**SATISFACTION
GUARANTEED**

No Surcharge On
Charge Orders

Friendly Service

Customer Service
Business Hours
M-F 9-5 EST

ACCESSORIES

64 Emulator 2 w/cable-A500	\$52
Cables	call
Camera Panasonic WV1410	189
Covers	call
Flicker Master	14
Inks	call
Joysticks	call
Maxx Yoke Flight Cntrl	79
Mouse Master	29
Paper	call
Ribbons	call
Switch Box A/B (Serial)	40
Switch Box A/B/C/D (Serial)	49

BOOKS

1001 Things to do with Amiga	\$11
Amiga C for Beginners +	15
Advanced Amiga BASIC Book	12
Amiga 3D Graphics Prog +	17
Amiga BASIC Inside & Out +	20
Amiga C for Advanced Prog +	22
Amiga DOS Inside & Out +	17
Amiga DOS Manual	20
Amiga DOS Quick Ref Manual	8
Amiga DOS Reference Manual	19
Amiga Drives Inside & Out +	24
Amiga Graphics Inside & Out +	27
Amiga Hardware Ref Review	18
Amiga Machine Language +	17
Amiga Prog Guide	15
Amiga Prog's Handbook Vol 1	20
Amiga Prog's Handbook Vol 2	20
Amiga Systems Prog's Gde +	27
Amiga Tricks and Tips +	17
Amiga for Beginners	15
Elementary Amiga BASIC Book	13
Inside Amiga Graphics	15
Inside the Amiga With C	21
Kickstart Guide to Amiga	19
MORE Amiga Tips & Tricks	17
Prog Guide C Language disk	12
Programmer's Guide to the Amiga	22
ROM Kernal: Exec, Lib & Devices	28
ROM Kernal: Includes & Auto Doc	27
+ means that disk is available	12

GENERAL BUSINESS

Advantage (The)	129
Citydesk v 2.0	129
Data Retrieve (Not Professional)	52
Desktop Budget	52
Excellence - 1 Mb min Version	157
Excellence - 512K min Version	157
Family Tree (Your)	35
Haicall	39
Kindwords	69
MaxiPlan Plus	125
Microfiche Filer Plus	119
Nag Plus 3.0	54
Nimbus Accounting V1.3	109
P.H.A.S.A.R. V3.0	69
Page Stream	129
Page Stream Fonts each	27
Pen Pal	99
Professional Draw	139
Professional Draw Structures	42
Professional Page V1.2	249
Professional Page Template	42
Prowrite V2.5	75
Publisher Plus	64
Scribble - Platinum Edition	99
TX ED Plus	59
Word Perfect	215
Works - Platinum	140

EDUCATION

Aesop's Fables	\$32
Dinosaur Discovery Kit	29
First Letters & Words (3-8)	30
Fraction Action	32
Kindergarten	32
Linkword:French	24
Linkword:German	24
Linkword:Spanish	24

Math Talk (5 - 13)	30
Math-amation (Collage)	55
Mavis Beacon Typing	36
Mother Goose	25
Mypaint	36
Puzzle Storybook (The)	29
Read A Rama	32
Rhyming Notebook*	29

ENTERTAINMENT

AD&D - Hillsfar	\$35
AD&D - Pool of Radiance	35
Alien Syndrome	29
Artic Fox	17
Artura*	29
Aunt Artic Adventure	29
Baal	24
Bad Dudes	32
Balance of Power 1390	36
Bard's II:Destiny Knight	39
Bard's Tale I	33
Bard's II:Clue Book	12
Batman	32
Battle Chess	36
Battlehawks 1942	36
Battle Squadron*	35
Battletech	36
Blitzkrieg Ardennes 1MB	42
Blood Money	29
Bride of the Robot*	29
Bubble Bobble	27
California Games	32
Carrier Command	29
Centerfold Squares	34
Chrono Quest	26
Clue: Master Detective*	39
Craps Academy	32

Qix	29
Reach for the Stars	29
Red Lightning*	39
Romantic Encounters at Dome	27
Sex Vixens from Space	25
Shadow Gate	33
Shanghai	16
Silent Service	29
Sim City	32
Solitaire Royale	25
Star Fleet 1	39
Star Wars	27
Strip Poker II	29
Sword of Sodan	34
Swords of Twilight	35
Targhan	29
TV Sports Football	35
Test Drive 2: The Duel	17
Test Drive 2:Calif Scenery	37
Time & Magic	29
Tom & Jerry	20
Ultima IV	39
Universal Military - Vietnam Disk	15
Universal Military Simulator	35
Virus	25
War In Middle Earth	36
Where World-Carmen SanDiego	27

CREATIVITY/GRAPHICS

Analytic Art	\$40
AniMagic	69
Award Maker Plus	35
Broadcast Titler	199
Business Card Maker	37
Celebrity Cookbook	27
Comic Setter	69
Comic Setter Clip Art each	25

SOUND & MUSIC

Deluxe Music Construction	\$65
Dr T KCS V1 6a	165
Dr T Midi Recording Studio	49
Future Sound Samp A500/2000	139
M Intelligent Music	139
Perfect Sound A1000	65
Perfect Sound A500	65
Sonix: Soundtrax Vol1	15
Sonix: Soundtrax Vol2	15
Sound Oasis	69
Soundscape Pro Midi Studio	129
Synthia	65

UTILITIES/LANGUAGES

A Talk III	\$65
Amx - Macintosh Emulator	135
Ami...Alignment	39
Amiga Workbench 1.3	24
Amikit	34
Arex V1.0	35
Assempro	64
Aztec C Developer Compiler	195
Aztec C Prof. Compiler	129
B.A.D Disk Optimizer	32
Benchmark Modula 2	129
Benchmark Modula 2: C language	69
Butcher 2.0	25
C.A.P.E. 68K v2.0	59
CLi Mate	27
Can Do	105
Cynes Ed Prof Text Editor	69
DOS-2:DOS	39
DSM	39
Diskmaster	49

CHECK YOUR CURRENT MAILORDER HOUSE! DO THEY

- ☐ Advertise their shipping policy?
- ☐ Offer fast, friendly and reliable service?
- ☐ Have a fair return/exchange program?
- ☐ Have 24 hour toll-free ordering?
- ☐ Have in-house technical support?
- ☐ Treat you with respect and value?

IS PRICE YOUR ONLY CONCERN? CALL US AND SEE HOW EASY MAILORDER CAN BE!

Cribbage & Gin King*	35
Defender of the Crown	33
Dragon Force*	35
Dragon's Lair	39
Earl Weaver's Commissioner's Desk	17
Empire	36
Faery Tale Clue Book	9
Falcon	35
Falcon Scenery: Oper Cnt Strike	19
Fiendish Freddy's Big Top O' Fun	19
Fire Power	19
Galileo V3.0	49
Gauntlet 2	36
Gone Fish'n - (Reel'n Fish'n)	35
Gunshoot	22
Halls of Montezuma*	19
Hole In One - Course Disk	27
Hole In One - Miniature Golf	26
Ice Hockey: Wayne Gretsky	35
Indy Jones:Last Crusade (Action)	29
Indy Jones:Last Crusade (Grphic)	35
It Came From the Desert	15
Jack Nicklaus - Champ 89 Course	35
Jet	32
Kingdom of England	32
Kings Quest 4*	36
Leaderboard Dual Pak	26
Lord of the Rising Sun	35
Lost Dutchman Mine*	35
Magi Johnson's Basketball	36
Marble Madness	19
Mean 18 Golf	27
Might & Magic 2*	42
Nuclear War*	35
Operation Wolf	27
Out Run	37
Paperboy	35
Planet of Lust	29
Populus	35
Power Dome	29
Purple Saturn*	24

Deluxe Paint II	72
Deluxe Paint III	109
Deluxe Photo Lab	99
Deluxe Productions	139
Design 3D	69
Digipaint V3	69
Digiview 3.0	139
Digiview Gold A500/A2000	139
Director	49
Express Paint V3	49
Fantavision	89
Forms in Flight 2	89
Home Builder's CAD	135
Icon Paint	29
Kara Color Fonts	55
Kara Fonts Headlines 2	49
Media Line Anim Backgrds	29
Media Line Clip Art Disk	24
Media Line Font Disk #1	24
Movie Setter	69
Opticks	69
Page Flipper Plus FX	99
Page Render 3D	99
Performer	42
Photon Paint	44
Photon Paint V2.0	109
Photon Video Cel Animator	99
Photon Video Trans Cont	195
Pixmate	45
Printmaster Art Gallery 2	22
Printmaster Fonts&Borders	25
Printmaster Plus	33
Pro Video Gold (formerly Plus)	199
Sculpt/Animate 4D	389
Sculpt/Animate 4D Jr.	105
TV Show	65
TV Text	65
Turbo Silver	139
Video Effects 3D	139
Video Scape 3D 2.0	125
Video Titler 1.1	99

FACC II	25
GOMF V3.0	27
Grabbit	20
Lattice C ++	219
Lattice V5.02 C Dev Package	205
Online - Platinum Edition	69
Pixelscript v1.1	109
Power Windows 2.5	59
Project D v1.1	35
Quarterback v2.2	49
Raw Copy 1.3	42
Virus Protection Toolbox	42

BRIWALL WANTS TO BE YOUR CHRISTMAS MAILORDER SOURCE!

Free
CHRISTMAS
CLASSICS Disk
(A \$10 Value)
shipped with any
order over \$100

Gift Cards Available
Upon Request!

Gift Certificates
Available in any
\$ amount.

We maintain an enormous inventory of Amiga software.
If you don't see what you want, CALL!

Titles marked with * were not yet available when the ad
was prepared. Please call for firm price and availability.

Australian Customers can order locally from Briwall
Australia at: (062) 88 0131, or FAX (062) 98 0337

DYNAMIC DUO!



DIGIPAIN V3
THE ULTIMATE PAINT
PROGRAM!
\$69



DIGIVIEW GOLD
SIMPLY THE BEST!
\$139

Combine the best video
digitizer and the hottest
HAM paint program with a
Panasonic WV1410
camera, variable lens and a
CS-1 copy stand for the
most complete graphics
workstation ever!

Package List Price \$779

OUR PRICE \$479

offer expires 12/31/89



AMI ALIGNMENT SYSTEM
This Amiga drive evaluation and
alignment program from Free
Spirit Software has received rave
reviews from all the major Amiga
magazines. Get your copy now!
\$39

PACKAGES

8-Up 2MB	399
8-Up 4MB	615
8-Up 6MB	819
8-Up 8MB	1019
HardFrame 32MB	559
HardFrame 48MB	595
HardFrame 64MB	739
HardFrame 82MB	779
HardFrame 40MB Quantum	739
HardFrame 80MB Quantum	989
HardFrame 100MB Quantum	1035
HardFrame 135MB Imprimis15ms	1399
Kronos 32MB	549
Kronos 48MB	585
Kronos 64MB	749
Kronos 82MB	769
Kronos 40MB Quantum	729
Kronos 80MB Quantum	979
Kronos 100MB Quantum	1025
Kronos 135MB Imprimis 15ms	1389
Hurricane 030 882/25 4MB	2629
Hurricane080 882/25 4MB 400	3159
Hurricane030 882/25 4MB 800	3259
Impact A2000-2/0 40MB Q	799
Impact A2000-2/0 42MB SyQuest	1199
Impact A2000-2/0 80MB Q	649
Impact A2000-2/0 100MB Q	1049
Impact 2000-2/2	1095
Impact 2000-2/2 40MB Q	549
Impact 2000-2/2 42MB SyQuest	899
Impact 2000-2/2 48MB	1449
Impact 2000-2/2 80MB Q	899
Impact 2000-2/2 100MB Q	1299
Impact 2000-2/2 100MB Q	1339
FastCard 32MB	499
FastCard 48MB	529
FastCard 64MB	649
FastCard 82MB	699
FastCard 158MB	1449
FastCard 40MB Qntm	699
FastCard 80MB Qntm	1069
FastCard 100MB Qntm	1245
FastTrack 32MB	710
FastTrack 40MB Qntm	899
FastTrack 48MB	739
FastTrack 64MB	879
FastTrack 80MB Qntm	1279
FastTrack 82MB	910
FastTrack 100MB Q	1449
FastTrack 158MB	1499
FrameBuffer FrameCapture 1MB	769
Meta4 2MB	475
Meta4 4MB	749
OverDrive 40Q	725
OverDrive 80Q	999
RC4 2000 512K (4MB max)	269
RC4 500 512K (4MB max)	349
Spirit Inboard 512K (1.5MB max)	319
Spirit Inboard 1MB	410
Spirit Inboard 1.5MB	499
Spirit SIN 500 512K(2MB max)	379
StarBoard II 512K	359
StarBoard II 1MB	449
StarBoard II 2MB	669
SupraRam A2000 4MB	529
SupraRam A2000 6MB	709
SupraRam A2000 8MB	888
Synergy 500 Case 64MB	829

Synergy 500 Case 158MB	call
Trumpcard 32MB	499
Trumpcard 48MB	529
Trumpcard 64MB	649
Trumpcard 84MB	699
Trumpcard 158MB	
Trumpcard 40MB Qntm	659
Trumpcard 80MB Qntm	910
Trumpcard 100MB Qntm	955
Trumpcard 500 32MB	559
Trumpcard 500 48MB (28MS)	579
Trumpcard 500 40MB Qntm	719
Trumpcard 500 80MB Qntm	969
Trumpcard 500 100MB Qntm	1015
Trumpcard SyQuest & 1 cartridge	959
WordSync 32MB	499
WordSync 48MB	529
WordSync 64MB	679
WordSync 82MB	719
WordSync 40MB Quantum	679
WordSync 80MB Quantum	929
WordSync 100MB Quantum	975
WordSync135MB Imprimis15ms	1339

Quantum & SyQuest Sale! Check Out Our Prices!

HARDWARE

Hard Drive Case for 2.5 25" HH w/	
60w power supply & fan	79
Mounting Bracket 35" in 5.25" bay	11
Supra Internal Modem (A2000)	135
Supra External Modem	125
USR HST Courier 9600 extl modem	659

ACCELERATOR BOARDS

A3001-4MB/Q	2799
A3001-4MB/400	3149
A3001-4MB/800	3599
Hurricane 68030	see packages
Impact A2000-030/25	929
Impact A2000-030/25-882/25	1449
Impact A2000-030RAM/4	1799
Impact A2000-030RAM/8	3299
Infinity Machine	call
Midget Racer w/68020	349
Midget Racer w/68020/68881-16	519

DRAM

1 Mbx1 80ns	16
1 Mbx1 100ns	15
256Kbx1 150ns	4
256Kbx4 100ns	16
256Kbx4 120ns	16
256Kbx4 120ns ZIP	19
256Kbx4 100ns ZIP	19

DRAW TABLETS

Kurta	call
A Pro Draw 12x12 w/cursor	499
Easy! 500	329

DRIVES (FLOPPY)

Amiga-a-tosh	195
Amiga-a-tosh Plus	245
Chinon A2000 Internal 3.5" floppy	99
FlexData FD-10	139
FlexData FD-20	249
Twin Drive	259
UniDrive	145
UniDrive Enhanced	159

DRIVES (HARD)

570MB Read/Write Optical Drive	
67ms w/built-in power control center	
Briwall Price	\$3999
Cartridge for above drive	\$299

20MB Seagate ST-125N 3.5" 40ms call	
32MB Seagate ST-138N 3.5" 40ms 319	
32MB Seagate ST-138N-1 3.5" 28ms call	
40MB Quantum 3.5" 19/12ms 499	
42MB SyQuest Removable 25" 25ms 699	
42MB SyQuest Cartridge 109	
48MB Seagate ST-157N 3.5" 349	
48MB Seagate ST-157N-1 3.5" 28ms 380	
62MB Seagate ST-177N 3.5" call	
62MB Seagate ST-277N 5.25" 40ms 515	
80MB Quantum 3.5" 19/12ms 749	
84MB Seagate ST-1096N 3.5" call	
84MB Seagate ST-296N 5.25" 28ms 615	
90MB 3.5" Fujitsu SCSI 999	
100MB Quantum 3.5" 19/12ms 795	
135MB 3.5" Imprimis 15ms 1159	
136MB 3.5" Fujitsu 1259	
182MB 3.5" Fujitsu 1489	
200MB 3.5" Imprimis call	

EXP CHASSIS

Exp. Chassis A500	159
Exp. Chassis A1000	179
Exp. Chassis A500 or A1000 w/pwr	239
Subsystem 500	249
Subsystem 1000	call

GENLOCKS

Amigen	149
Gen/One	595
ProGen	369
Magn 4004	1389
MiniGen	call
ScanLock	895
SuperGen	669
SuperGen 2000s	call

MEMORY

8 Up! DIP (OK)	185
Meta4 2-4MB RamCard A2000 OK	call
Meta4 2-4MB Trumpcard 500 OK	call
MicroMega (A501 substitute)	159
MiniMega 1000 512K	310
MiniMega 1000 1MG	439
MiniMega 1000 2MG	624

MiniMega 500 512K	299
MiniMega 500 1MG	399
MiniMega 500 2MG	599
MaxiMega	call
RC4 RamCard A2000 (OK)	199
RC4 w/case, pwr & A500 adpt (OK)	280
StarBoard II	269
StarBoard II Upper Deck	49
SupraRam A500	149
SupraRam A2000 2MB	169
ProRam A2000 2MB (8MB max)	639
Spirit Inboard A500 or A1000 (OK)	229
Spirit A500 SIN	269

A.M.A.S.	135
Golden Hawk A2000 Int Midi	75

MONITORS

Magnavox 515	call
Mitsubishi Diamond Scan 14	529
Monitorm Viking 1	call
NEC 3D	649

PRINTERS

Abaton Quickstep Postscript	
Compatible Laser	3349
(uses Weitek RiSC chip - FAST)	
Canon P11080A Color Ink Jet	519
Canon BubbleJet 360dpi/132clm	799
Everex Laser HP compat	call
Fujitsu LED Postscript	call
HP PaintJet	call
Laser Express	2199
Okimate 20	155
Panasonic 1124	359
Sharp JX-730 "13.5" Color Ink Jet	
(180x180 dpi)	call
Star NX-1000R Rainbow Color	259
Xerox 4020 Color Ink Jet	1139

SCANNERS

100, 200, 300, or 400 DPI	
Up to 16 grey levels	
Includes Diamond Paint Program	
Scan Width 4.13"	
Cannon Scanner	call
Prof Scan & Sharp 8.5x11 color	call

SCSI

Fireball Hard Card 90MB	1159
Fireball H.C. 136MB	1449
Fireball H.C. 182MB	1689
Fireball H.C. 0MB	219
HardFrame 2000	249
Impact A2000-2/0	299
Impact A2000-HC/30	call
Impact A2000-HC/400	789

Impact A2000-HC/800	1159
Impact A2000-HC/1000	1495
Impact S044-RHD	call
Advanced Autoboot EPROMS	110
Impact WT-150 Streaming Tape	849
Impact A500-HD/20m	599
Impact A500-HD/30	759
Impact A500-HD/40Q	949
Impact A500-HD/45	899
Impact A500-HD/80Q	1399
Impact A500-HD/100Q	call
Impact A500-2/0	70
Impact A500-2/2	299
Infinity Machine	call



Kronos 229
Supports removable media
Non DMA CLTD reports up to
891K transfers using Imprimis
Connect up to 7 computers to one drive

C ltd reports 891KB/sec with Imprimis	
OverDrive	199
StarBoard II SCSI Module	99
Supra 500/1000 HardDrives	call
Synergy 500	219
Trumpcard	159
Trumpcard 500	219
Tiny Tiger II 90MB	1149
Tiny Tiger II 136MB	1429
Tiny Tiger II 182MB	1679
Tiny Tiger II Host Adapter	125

WORD SYNC \$175

New from Supra - Best Brackets
16-bit Interface, non-DMA
Quick Perf 2 test:
508K read, 289K write
with Quantum 80s

VIDEO

Color Splitter	89
Flicker Fixer	479
FlickOff	389
Frame Buffer Frame Capture (OK)	599
FrameGrabber	529
Level 1000	249
Level 500	285
Level 2000	319
Panasonic WV1410 Camera	189
Rainbow 16mm Lens w/variable iris	49

Actual shipping costs on hardware

Palette Printer \$25 with purchase of
any color printer

LET US PUT A CUSTOM PACKAGE DEAL TOGETHER FOR YOU!

Mix-N-Match Components To Get
The System You Really Want!

We have qualified technicians ready to answer
questions and assemble the package for you!

Please Call -- M-F, 9-5 EST

Assemble the package yourself and save money!

AMIGA

1084 Monitor	call
Amiga 68020/68881 w/2MB	call
Amiga 500	call
520 RF Video Adapter	call
Amiga 2000, 2000HD, 2500	call
2088XT Bridgeboard	call
2286AT Bridgeboard	call
Kickstart 1.3 ROM chip	call

BRIWALL

SOLID PRODUCTS & SOLID SUPPORT
PO Box 129/58 Noble Street
Kutztown, PA 19530

Toll Free 24 Hour Order Line: 1-800-638-5757

24 Hour Order Line Outside USA
1-215-683-5433

24 Hour FAX Line: 1-215-683-8567

Customer Service: 1-215-683-5433

Technical Support: 1-215-683-5699

PLEASE COME VISIT US!

Monday - Friday 9 am-6 pm EST

Saturday 9 am-12 Noon EST



'We Have Gift Certificates'

FREE NEWSLETTER SUBSCRIPTION WITH EVERY ORDER

Supra Corporation

Supra RAM 2000 w/2MB	\$349
Supra External Modem	\$125
Supra RAM 500	\$105
20MB Supra Drive A500	\$495
30MB Supra Drive A500	\$629
45MB Supra Drive A500	\$739
60MB Supra Drive A500	\$859
80MB-Q Supra Drive A500	\$999

2MB RAM for above Drives \$299

For A1000 Drives add \$90 to the A500 prices

Word Sync + SyQuest + Cartridge \$939

SHIPPING POLICY: All ORDERS received before 3PM EST will normally be shipped within 2 business days. Out of stock items will be shipped by the same shipping method as original order, normally within 3 or 4 business days. All UPS shipments are sent SIGNATURE REQUIRED/DNO DRIVER RELEASE. ADD the following shipping charges to your TOTAL software order:

UPS: Ground \$4.00 (cont USA ONLY). Air/Rush \$7.00 (includes Puerto Rico/Hawaii). Overnight \$12.00 + \$2.50 per item (must be received by 12 NOON)

PRIORITY MAIL: USA \$4.00 (includes APD/FPO). Canada/Mexico \$6.00. Other Foreign \$4.00 Handling + Actual Shipping + Insurance

ORDERING INSTRUCTIONS: For your convenience, you can place a phone order 24 HOURS/ 7 DAYS A WEEK on our TOLL-FREE LINE 1-800-638-5757. Outside the USA, please use (215) 683-5433. Price, availability and compatibility checks are also welcome on our order line. Monday thru Friday, 9:30AM-4:30PM EST. AFTER HOURS, Orders Only. Please! When placing an order, please specify your computer model, home & daytime phone number, shipping address, charge card number, expiration date & name of bank.

ACCEPTED PAYMENT METHODS: We welcome payment by PREPAID (by Personal Check or Money Order), MASTERCARD, VISA, SCHOOL PURCHASE ORDERS. COD orders are welcome for established Briwall Customers Only (\$4.00 additional). All payments must be in USA DOLLARS. There is no Surcharge for Credit Cards and your card is NOT charged until we ship!

RETURN POLICY (for software and accessories ONLY): We have a liberal return policy to better service your needs. If within 15 days from the time you receive an item, you are not satisfied with it for any reason, you may return it to us for either a refund, exchange or open credit. REFUNDS ARE SUBJECT TO A 10% RESTOCKING FEE PER ITEM RETURNED (\$5.00 MINIMUM PER ITEM). EXCHANGES/OPEN CREDITS will gladly be issued for the full purchase price of the item. DEFECTIVE items, Hardware items and Special Order items will be replaced with the same item only.

TECHNICAL SUPPORT (M-F - 9:30AM-5PM EST) We do our very best to help you with your product selections, before you order and after you receive your product. General questions, price, compatibility with your computer, etc. will be handled by our order staff at the time you place your order. BUT, if you have specific, detailed questions about a product, printer, compatibility questions, etc., you will get the most help from our TECHNICAL SUPPORT LINE 215 683 5699.

HELP KEY

*Tidings of comfort and joy for troubled
Amiga users.*

By Louis R. Wallace

WRONG DIMENSION

Q: When I dimension 2-D Amiga Basic arrays with more than 70 elements each—`DIM A%(80,80)`, for example—I get an “out of memory” error message. I assume this must be the limit of Amiga Basic’s memory, because my Amiga has over three megs of RAM. Is there any way to get around this? Do other BASICs allow larger arrays?

B. Cozad
Ann Arbor, MI

A: The limitation you mention is caused by Amiga Basic’s default memory configuration. When Amiga Basic first starts it only allows 25K of RAM for programs. To access more, you must begin your programs with the `CLEAR` command followed by the amount of memory you want Amiga Basic to use. In the following example I allocated 200,000 bytes and was able to dimension an array of 90,000 elements. If you need more, just clear a larger amount. A good practice is to free that memory when the program is finished by issuing the `CLEAR` command again.

```
'allocate memory
CLEAR,200000&
'declare large array
```

```
DIM A%(300,300)
'your program's body
'would be here
'restore memory on exit
CLEAR,25000
END
```

As for other BASICs offering large arrays, both the AC-BASIC (Absoft) and Hi-Soft BASIC (distributed in the U.S. by MichTron) compilers allow you to use very large amounts of memory in your compiled programs.

32-BIT FUTURE

Q: I want to add memory to my Amiga, but I want it to be compatible with future hardware upgrades. Should I buy 32-bit memory?

J. Williams
Mannford, OK

A: Unless you already have a 32-bit CPU (a 68020 or a 68030), 32-bit memory makes no sense. For now, install a conventional memory board. Although it will not be 32-bit wide memory, the RAM will still be usable if you upgrade to a 32-bit CPU. You can decide then whether to add a 32-bit RAM board. Currently, the Commodore A2620 68020 board comes with two megabytes of 32-bit memory and is expandable to four. Other boards (such as Great Valley

Product’s impressive 68030 accelerator card) can contain up to eight megabytes of 32-bit RAM.

RAMDOS RESCUE

Q: I am having trouble with my file RAMDOS. The listing is:

```
makedir ram:c
copy df0:c/copy ram:c
ram:c/copy df0:c/cd ram:c
ram:c/copy df0:c/delete ram:c
ram:c/copy df0:c/info ram:c
ram:c/copy df0:c/dir ram:c
assign c: ram:c
df0:c/path df0:c
```

After executing this, all the files I need are in RAM: and work perfectly. When I leave the CLI by executing an `ENDCLI` command, I can no longer return to the CLI. I point and click on the CLI icon and nothing happens. According to Workbench’s Last Error option, no error seems to occur. Help!

C. Abbate
Oak Park, IL

A: The simplest solution is to replace the last two lines of your RAMDOS batch file with:

```
df0:c/path ram:c
```

This command will give you high-speed access to the above commands from the RAM disk, and will allow you to exit the CLI via an `ENDCLI` command and return by clicking the CLI’s icon.

A far better method is to use AmigaDOS 1.3’s Shell instead of the CLI. With the Shell you can make the above

commands resident, available to all the Shells you open. Try adding the following to your Startup-Sequence in the S: directory of your boot disk:

```
resident df0:c/info
resident df0:c/cd
resident df0:c/delete
resident df0:c/dir
```

MAKE A LIST

Q: I am a new Amiga owner and want to use this wonderful machine for some very large databases. As owner/manager of an international toy distribution facility, I need to keep a record of all the possible recipients of my products. The database would contain important information such as the person’s name and address, what kind of products they requested, and, most importantly, meaningful information describing the individual’s behavioral patterns during this calendar year. It would be nice if I could keep a picture of the person in the file too. I also need to keep track of such things as the amount of reindeer chow I buy, as well as a small-employee personnel file. What do you think would work?

S. Nicholas
North of Canada

A: I suggest either Superbase Professional (Precision Incorporated) or DataRetrieve Professional (Abacus). Both should be able to do what you need. ■

M.C.S. WE DON'T CLAIM TO HAVE THE LOWEST PRICES ON AMIGA...

**WE PROVE IT!
NOBODY BEATS US!**

THINK YOU FOUND A GOOD DEAL? OURS WILL BE BETTER!

**3.5
DS/DD
59¢
100 LOT QTY
69¢ (10)**

SUPRA \$99
2400 LTD. QTY.
EXTERNAL

- Supra 2400i 98
 - Supra 2400ZI 125
 - Avatex 2400 E 108
 - Avatex 2400 130*
- *W/Cable Purchase-Add \$10 Alone

512 K RAM
A 500
\$99 LTD. QTY.
FROM
Or Lower To Beat Competition

CONTROLLERS
★ Hardframe ★ Supra ★ GVP
★ Xetec ★ IVS ★ C Ltd
New Low Prices!

HARD DRIVES Or Lower To Beat All Competition!

Drive Type	Trump 2000	Drive Only	Xetec FC 2000	Xetec FC 500	Trump 500	GVP 2000	GVP 500
3.5 DRIVES							
30MG ST-138N	475 DEL	310	465 DEL	655 DEL	545 DEL	625	750
49MG ST-157N	518 DEL	348	515 DEL	695 DEL	575 DEL	—	—
60MG ST-177N	755 DEL	568	748 DEL	915 DEL	795 DEL	—	—
QUANTUM 40MG	625 DEL	525	625 DEL	825 DEL	675 DEL	780	995
QUANTUM 80MG	945 DEL	895	945 DEL	1135 DEL	995 DEL	1050	1375
QUANTUM 100MG	1025 DEL	925	1025 DEL	1215 DEL	1075 DEL	1150	1475

MISC.

- Gen One 499
- Processor Accelerator Call
- Panasonic 1410 185
- Super Gen 670
- CSA Midget racer Call
- Sony 3.5 DS/DD 12(10) 220
- Subsystem 500/1000 238
- Hardframe 128
- Digiview Gold 62
- Digidroid 128
- Copystand 55
- Mini Gen 190
- Image Scanner Call
- GVP Systems Call
- Frame Grabber 520
- Gold Disk Scanner Call
- Amiga Mouse \$42
- V1500 Video Interface 59
- Easy! 500/1000/2000 from 299
- Flicker Fixer 440
- Scanlock \$800
- Elec Color Spltr 90
- Live 500/1000/2000 Call
- Syquest 44 mg Call

AMIGA 3.5 \$99
EXTERNAL DRIVES LTD. QTY.
FROM
OR LOWER!
● Master 3A ● Flex Data
● Unidrive & More!

STAR \$219*
RAINBOW
● NX1000 II 175*
● Okimate 20 Call
● Panasonic 1180 179*
● Panasonic 1124 300*
*W/2 Ribbon Purch-Add \$10 alone
OR LOWER!

AMIGA 20MG HD
FROM \$499
COMPLETE
● Phoenix ● C Ltd
● Vault ● Xetec ● Supra
● Many More! Call!
PRICED TO MOVE
OR LOWER!
● Megaboard 2000 (2mg)
● Starboard 2.0K
● Pro Ram 2000
● 8-Up Board
● Inboard O.K.
WE BEAT ALL COMPETITION

SPECTRUM HOLOBITE

ABACUS		Strip Poker 2	\$24	Hole 1 Mini Golf	\$24	Kid Talk	\$32	Amas	\$Special	Sound Oasis	\$60	ORIGIN SYSTEMS		Vette	\$30
Amiga Dos Tool Box		\$36	ASDG	FACC II	\$21	Arkanoid	\$20	Math Talk Fractions	\$26	Windwalker	\$24	Falcon Mission Disks		\$15	
Disk Drives Inside/Out		\$27	AVANTE GARDE	Grabbit	\$18	Smoothtalker	\$26	Speller Bee	\$26	Omega	\$30	Solitaire Royal		\$21	
Amiga Tricks & Tips		\$18		Hybris	\$24	Sword of Sodan	\$30	FREE SPIRIT		Times of Lore	\$24	Falcon		\$30	
Amiga C Adv		\$33	BAUDVILLE	VI P	\$30	Planet of Lust	\$24	Ami-Alignment	\$30	Ultima IV	\$36	Tetris		\$21	
Amiga Dos Inside/Out		\$18		Zeom	\$18	Securities Analyst	\$48	Craps Academy	\$24	OTHER GUYS		SSI			
Amiga Machine Lang		\$18		Wayne Gretzky Hockey	\$30	Sex Vixens from Space	\$24	Data Disks	\$12	Synthia Professional	237	Hillsfar		\$32	
Amiga C for Beginners		\$33	BETHSDA	KCS Level II	\$210	FTL		Discovery Math or Spell	\$30	Nimbus 2.0	\$96	Star Command		\$32	
Amiga Sys prog Guide		\$33	BRITANNICA	Copyst Pro 2	\$168	K.C.S.	\$150	Faery Tale	\$30	A-talk 3	\$60	Heroes of the Lance		\$26	
Amiga Basic Inside/Out		\$23		Mid Recording Studio	\$42	FULLER COMPUTER		Photo Vid Cel Animator	\$90	Maxiplan 500	\$90	Kamplutrie		\$38	
Amiga for Beginners		\$15	BRODERBUND	Home Builders Cad	\$120	Project D	\$30	Music X	\$180	Maxiplan Plus	\$120	Questron 2		\$32	
Amiga 3D Graphics		\$18		Home Builders Ch	\$49	GOLD DISK		Photon Paint II	\$90	PARAGON		SUBLOGIC			
More Tricks & Tips		\$18		License to Kill	21	Prof. Page 1.3	\$210	MICROMASTER		Dr. Dooms Revenge	\$27	Flight Simulator II		\$32	
ABSOFT				Joan of Arc	27	Advantage	\$120	Your Family Tree	\$30	PRECISION SOFTWARE		Jet		from \$18	
AC/Basic 1.3		\$117		Shufflepuck Cafe	24	Movie Clips	\$21	MICROPROSE (Microplay)		SuperBase Personal	\$48	SUNRISE INDUSTRIES			
AC/Format		\$180		Archipelagos	\$24	Come Setter Data Disks	\$21	Savage	\$24	SuperBase Personal II	\$90	Image Scan		Call	
ACCESB				Omniplay Basketball	30	Structured Clip Art	\$CAll	K VanEron Pro Soccer	\$21	SuperBase Pro 3.0	\$210	Electr Color Splitter		\$94	
Leader Board Dual Pk		\$21		Carmen San Diego World	\$27	Transcript	\$42	Silent Service	\$24	Super Plan	\$90	TAITO			
World Cls Ldr Board		\$27		Sim City	\$27	Pro Page Templates	\$36	MINDSCAPE		Super Plan Designer	\$96	On		\$24	
ACTIONWARE				Fantavision	\$36	Pro Draw Clip Art	\$36	Paperboy	\$30	PROGRESSIVE		Rampage		\$24	
Prison		\$24		Star Wars	\$24	Design 3D	\$60	Gauntlet II	\$30	Dunlap Utilities	\$48	Bubble Bobble		\$21	
Capone		\$24	BROWN WAGH	Easyedger	\$180	Populus Data Disk	\$20	Thunderblade	\$30	Baud Bandit	\$30	Operation Wolf		\$21	
Phaser Gun		\$46		Demons Winter	\$26	Movie Setter	\$60	Action Fighter	\$24	CLI-mate	\$24	Renegade		\$21	
P.O.W.		\$24		Roger Rabbit	\$14	Prof Draw	\$120	Indiana Jones	\$24	Desk Top Budget	\$42	THREE SIXTY INC.			
ACCOLADE				MI BPA Stats	\$20	IMPLUSE		Balance/Power 1990	\$30	Design 3D	\$60	Dark Castle		\$27	
Jack Nicklaus Chp Crs		\$12		Time and Magic	\$26	INCOGNITO		Captain Blood	\$30	Indiana Jones	\$24	Thunder Ridge		\$24	
Shootem-up Const Kit		\$15		AAARGH	\$23	Optics	Special	Combat Course	\$24	IntroCad	\$48	TITUS			
Heavy Metal		\$27		Kingdoms of Englan	\$27	INFOCOM		Hostage	\$27	Mathamation	\$48	Night Force		\$27	
California Challenge		\$14		ChessMaster 2000	\$29	Journey	\$30	Indoor Sports	\$30	Pxmame	\$42	UNICORN			
Bubble Ghost		\$21		Commissioners Disk	\$14	Shogun	\$36	Outrun	\$30	PSYGNOSIS		All About America		\$36	
Famous Cars Vol 2		\$12		Deluxe Paint III	\$92	Zork Zero	\$36	Shadowgate	\$30	Styri	\$21	All other titles		\$30	
Hard Ball		\$27		Deluxe Photo Lab	\$92	Battle Chess	\$30	Space Harrier	\$30	NeuMind	\$21	UNISON WORLD			
Jack Nicholas Golf		\$30		Deluxe Productions	\$122	Neuromancer	\$24	Superstar Ice Hockey	\$30	Shadow of the Beast	\$30	Art Gfry 1 & 2 Combo		\$24	
Mean 18		\$27		Interplay	\$80	Battle Chess	\$30	Uninvited	\$30	Blood Money	\$24	Fantasy		\$18	
Test Drive II		\$27		Interplay	\$80	Battle Chess	\$30	Alien Syndrome	\$24	Baal	\$18	Fonts & Borders		\$21	
ACTIVISION				Interplay	\$80	Battle Chess	\$30	RoadRaider	\$30	Ballistix	\$21	Printmaster Plus		\$30	
Battle Hawks 1942		\$30		Interplay	\$80	Battle Chess	\$30	Deja Vu II	\$30	Barbarian	\$24	VISIONARY DESIGN			
ADDISON-WESLEY				Interplay	\$80	Battle Chess	\$30	Aunt Alice Adventure	\$24	Captain Fizz	\$18	Vortex		\$24	
Includes & Auto Docs		Call		Interplay	\$80	Battle Chess	\$30	Pg Frapper Plus F/X	\$96	Chrono-Quest	\$30	Datastorm		\$24	
AEGIS				Interplay	\$80	Battle Chess	\$30	MINDWARE		Menace	\$18	WILLIAM HAWES			
AmiMagic		\$60		Interplay	\$80	Battle Chess	\$30	Aunt Alice Adventure	\$24	Obliterator	\$24	Arxex		\$30	
Audiomaster 2.0		\$60		Interplay	\$80	Battle Chess	\$30	Pg Frapper Plus F/X	\$96	Reedy Soft	\$24	W-Shell		\$30	
Draw 2000		\$168		Interplay	\$80	Battle Chess	\$30	MSI		A-Max Roms	\$230	WORD PERFECT INC.			
Lights Camera Action		\$48		Interplay	\$80	Battle Chess	\$30	Raw Copy	\$36	Amiga-Tosh Drive	\$190	Library		\$78	
Modeler 3D		\$60		Interplay	\$80	Battle Chess	\$30	M.S.S.		A-Max Pkg Price	\$Special	Word Perfect		\$150	
Sonix		\$48		Interplay	\$80	Battle Chess	\$30	Online! Platinum	\$60	A-Max	\$120	IMPORTS			
Video Titrer		\$90		Interplay	\$80	Battle Chess	\$30	Excellence	\$150	Dragon's Lair	\$36	Bloodwych		\$33	
AMIGA				Interplay	\$80	Battle Chess	\$30	Scribble Platinum Ed	\$90	RGB		Postman Pat		\$24	
13 Enhancer		\$20		Interplay	\$80	Battle Chess	\$30	Works Platinum Ed	\$177	Deluxe Help	from \$21	Targham		\$30	
ANTIC				Interplay	\$80	Battle Chess	\$30	NEW HORIZONS		RIGHT ANSWERS GROUP		Rick Dangerous		\$30	
Design Disks		\$21		Interplay	\$80	Battle Chess	\$30	Flow	\$60	Director	\$42	Roll Out		\$21	
Phaser 3.0		\$60		Interplay	\$80	Battle Chess	\$30	Postscript	\$30	Director Tool Kit	\$24	Black Magic		\$21	
Zetropoe		\$84		Interplay	\$80	Battle Chess	\$30	Pro Fonts 1 or 2	\$21	SIERRA		Kennedy Approach		\$30	
ARCADIA				Interplay	\$80	Battle Chess	\$30	Pro Write 2.5	\$75	Spacequest III	Call	Airborn Ranger		\$30	
Artura		\$24		Interplay	\$80	Battle Chess	\$30	NEWTEK		Leisure Suit Larry II	\$30	Leonardo		\$27	
AROCK COMPUTER				Interplay	\$80	Battle Chess	\$30	Digi Paint II	\$60	Page Stream	\$120	F-16		\$30	
Software				Interplay	\$80	Battle Chess	\$30	A500 Adapter	\$20	Page Stream Fonts	\$24	Too Many to List		Call	
Masterpiece Pro Fonts		\$150		Interplay	\$80	Battle Chess	\$30	Digidroid	\$62	SOFTWARE VISIONS		IF YOU DON'T SEE IT...CALL			
ARTWORK				Interplay	\$80	Battle Chess	\$30	Digiview 3.0 Upgrade	\$12	Business Designer	\$36				
World Snooker		\$21		Interplay	\$80	Battle Chess	\$30	Digiview Gold	\$128	Home Designer	\$24				
Bridge 5.0		\$21		Interplay	\$80	Battle Chess	\$30	NEWBIE SOFTWARE		MicroFiche Filer Plus	\$108				
Centerfold Squares		\$18		Interplay	\$80	Battle Chess	\$30	Dynamic Drums	\$48						
Linkword Languages		\$18		Interplay	\$80	Battle Chess	\$30	Dynamic Studio	\$120						

Orders Only: M-F 10-8 Sat 10-6

800-433-7756

No Surcharge for MC/VISA/DISCOVER

In Michigan **313-427-7713**

Customer Service
10-5PM EST (M-F)
313-427-0267

FAX
313-427-7766

M.C.S.

Send Mail Orders To: MCS, 12668 Farmington Rd., Livonia, MI 48150

Sorry no walk in traffic!
All returns must have RA #. Merchandise found defective will be repaired or replaced.
We do not offer refunds for defective products or for products that do not perform satisfactorily. We make no guarantees for product performance. Any money back guarantee must be handled directly with the manufacturer. Call for shipping & handling info. Prices subject to change without notice. Shipping & Handling are not refundable.
Returned products subject to a 20% restocking fee.
12668 FARMINGTON ROAD, LIVONIA, MI 48150
We cannot guarantee compatibility.

DEALER INQUIRIES INVITED

Public Domain by DevWare

Only \$5.95 Each

Each disk contains 7 - 10 of the best Public Domain programs available. The first two letters of each disk indicate the orientation of the disk; DD# intermediate to advanced user - often contains source code, WB# general interest - all programs can be run from the workbench, and FD# games and entertainment. * Order our disk catalog and receive a coupon good for a free volume.

DD17: Raytracing - Learn about raytracing the inexpensive way: DBWRender - Ray tracing, RayTracedPics, C source included.

DD44: ARP and DiskSalv - On this disk you will find the complete ArpRe3.0. This is the official AmigaDOS Resource Project (ARP) release 1.3. ARP makes many improvements to AmigaDOS and makes your system easier to use from the CLI (See also dd45), and DiskSalv 1.3 - By far the best disk and file recovery program available.

DD45: Arexx Programs - Several useful arexx programs and examples included

DD46: JazzyWorkBench - Several well done utilities to jazz up and improve your Amiga Workbench environment. Includes: JazzBench, MyMenu, SimGen, Tapestry, UserMenu

DD47: Pascal Compiler - This disk contains a Pascal compiler, 68k assembler, and linker.

WB1: Graphics and Plotting - Plot - A 3D mathematical function plotter. Plots any user defined function, Scenery - This generates fractal landscapes, Surf-BezSurf is a program for producing bezier surfaces of revolution. It produces awesome pictures of objects one could turn on a lathe

WB5: Fonts #1 - Several fonts (35) for the Amiga, also some PageStream fonts, and ShowFont - a font display program.

WB6: Fonts #2 - Several more fonts (35) up to 56 pts.

WB7: Clipart - Animals, trees, tools, clocks, states and more

FD5: Tactical Games - BattleForce(3.0); A game that simulates combat between two or more giant, robot-like machines BullRun - a Civil war battle game, Metro - you play the role of a city planner. Very good Amiga version of Kingdom, Golden Empire, Etc. Very very habit forming.

FD6: Games! - This disk is chalked full of games including: Checkers, Clue, Gold - A new slide the pieces puzzle, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.

FD7: PACMAN - Contains several pacman type games including: PacMan67, and others.

FD8: Games! - This disk is full of games, game hints and a few game editors (cheat programs) also including: Antepenult - The best PD Ultima type going, **FD9: Morla** - Dungeon Adventure game similar to Larn and Hack. Excellent. Play time several weeks!



Anti-Virus

Now only \$19.95

INFO magazine gives it 4 STARS, Sep 89
Computer! AR gave it 4 CHECKS, Oct 89

Anyone with an Amiga computer can have virus or trojan horse infections and not know about it! Anti-Virus will stop them ALL. At this special price, you too can have the best virus protection money can buy. Satisfaction guaranteed!

Anti-Virus(c) is not Public Domain

To Order: Send check or money order to the address below (or call). Credit card users include Account number, Expiration date, Signature, and Phone number. A minimum of \$19.95 on all credit card orders please. CA residents add 5.5% sales tax. Send \$2.50 for disk based catalog.

DevWare, PO Box 215, La Jolla, CA 92038, (619)673-0759

Next day shipping in most cases. Orders outside North America, add \$50 per disk. Payment in US Funds.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

1A. Title of publication: AmigaWorld. 1B. Publication no.: 08832390. 2. Date of filing: Sept. 25, 1989. 3. Frequency of issue: monthly. 3A. No. of issues published annually: 12. 3B. Annual subscription price: \$29.97. 4. Complete mailing address of known office of publication: 80 Elm Street, Peterborough, Hillsborough County, New Hampshire 03458. 5. Complete mailing address of the headquarters of general business offices of the publisher: 80 Elm Street, Peterborough, Hillsborough County, New Hampshire 03458. 6. Full names and complete mailing address of publisher, editor, and managing editor: Publisher: Stephen Robbins, 80 Elm Street, Peterborough, NH 03458. Editor: Douglas Barney, 80 Elm Street, Peterborough, NH 03458. Managing Editor: Shawn Laflamme, 80 Elm Street, Peterborough, NH 03458. 7. Owner: International Data Group, PO Box 1450, 5 Speen Street, Framingham, MA 01701. 8. Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities: Patrick J. McGovern, PO Box 1450, 5 Speen Street, Framingham, MA 01701. 9. For completion by nonprofit organizations authorized to mail at special rates: not applicable. 10. Extent and nature of circulation: (X) Average no. copies each issue during preceding 12 months; (Y) Actual no. copies of single issue published nearest to filing date; A. Total no. copies (X) 181,616 (Y) 178,688. B. Paid and/or requested circulation: 1. Sales through dealers and carriers, street vendors and counter sales: (X) 44,666 (Y) 42,703. 2. Mail subscription: (X) 49,107 (Y) 49,525. C. Total paid and/or requested circulation: (X) 93,773 (Y) 92,228. D. Free distribution by mail, carrier or other means (samples, complimentary, and other free copies): (X) 3,785 (Y) 4,442. E. Total distribution: (X) 97,558 (Y) 96,670. F. Copies not distributed: 1. Office use, left over, unaccounted, spoiled after printing: (X) 1,666 (Y) 3,013. 2. Return from news agents: (X) 82,392 (Y) 79,005. G. Total: (X) 181,616 (Y) 178,688.

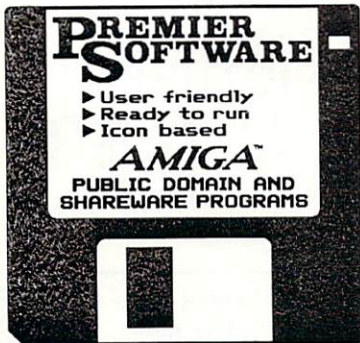
Circle 398 on Reader Service card.

\$50 REWARD! \$500 GRAND PRIZE! FAME!

You could be \$50 richer and lots more famous. All it takes is an Amiga (we trust you've got one), a bit of talent, and a hankering for the big time. Just send us your best animation. If judged worthy for the AmigaWorld Animation Video, we'll send you \$50, and stick you in our new (it ain't even finished yet!) video. And if we think your animation is the best, why, we'll mail you off a check for \$500.

You must be the creator, and must have created the work on an Amiga. Send it off to us on standard 880K-byte floppies, and become a part of the coolest group of Amiga animators ever assembled. We will assume the right to put your animation on our video, but you retain all other rights. Please include on disk an IFF screen specifying names of involved parties as well as products used. Then blast your stuff off to:

AmigaWorld Animation Contest
80 Elm Street
Peterborough, NH 03458



Public Domain like you've never seen.
Disks organized by topic. Buy only the software you want. Games, Demos, Tools, Utilities, Pictures, Icons and more...

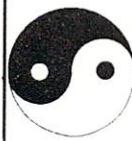
Send \$3.00 for catalog on disk to:
Premier Software
PO Box 3782, Redwood City, CA 94064
or call: (415) 364-4696

Circle 272 on Reader Service card.

PIC-MAGIC™ PROFESSIONAL CLIP ART



PACKAGE ONE:
GENERAL IMAGES.



LOOK FOR:
Package Two: International Symbols.

FOR MORE INFORMATION CALL THE HOTLINE
1-800-387-8967



Joe's First Company Inc.
P.O. Box 579 Station Z
Toronto, Ontario.
M5N 2Z6 Canada

Tel: (416) 322-6119
Fax: (416) 489-1620

Circle 277 on Reader Service card.

Christmas is coming - give your children the gift of learning.

Educational and loads of fun.

They will never know they are learning.

Very easy to use.

Ages 4 to adult.

Digitized and synthetic sound.

Children find it challenging - Adults find it impossible.

Fifteen games total.

Thirteen stretch your memory to the limits,

one challenges your organizational skills,

and one provides you with the music to calm the savage beast.



Tracker's

Your job, as the tracker, is to follow the elusive and dangerous wild computer beast where ever it may go.

Just be sure to stay on the path.

Quest

Can you follow the trail?
\$34.95

Also - Tumbling Geometries Gravity, friction, and fun. \$34.95 or both for \$49.95.

Circle 286 on Reader Service card.

ICONLAB 1.3 by HERMES

- All Icon/Brush Options (I→B, B→I, etc.)
- All Icon Data Options (Split, Join, etc.)
- Shows/Draws/Paints Icons in 2-16 colors.
- Shows and Loads all Disk Fonts.
- Reduces IFF Pictures to Icon Sizes.
- Reduces IFF Pictures to WorkBench Ones.
- Cuts/Shows/Saves IFF Pictures/Brushes.
- More! Amiga 500/1000/2000.

Send \$35.00 (US) to:

A.G. KARTSATOS
8524 Caladesi Drive
Temple Terrace, FL 33637-7310, USA

Circle 273 on Reader Service card.



That's Right! The FCC has recently permitted US Citizens, 18 years or older, to license and operate independently owned community TV stations on available channels 2 through 69! Operational Cost (24 hrs/day) is less than 25¢/HOUR!

We can assist you in getting your station completely on the air for LESS THAN THE COST OF A NEW CAR!

There has never been an opportunity like this before!



Get started today! Complete info course & audio cassette with 30 day money back guarantee! Send \$33.00 (plus \$7.50 s/h)

To: Tootlevision / Tulsa TV 33
2606 S. Sheridan, Suite B
Tulsa OK 74129



Call 1 (800) 332-LPTV
(OKLA) (918) 836-1120

For more information send us a self-addressed, stamped envelope or check reader service card (OKLA Res add 7%) Allow 5-7 days

Circle 295 on Reader Service card.



Don't let those finger aerobics get you down! There's an easier way to change between your mouse and joystick, instantly with just a touch of a button. It's the handiest switchbox around.

MOUSE MASTER

(602) 322-6100

\$39.95

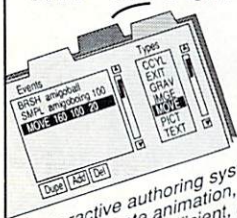
plus shipping & handling.
MC, Visa, COD's welcome



1135 N. Jones Blvd. • Tucson, AZ 85716

Circle 293 on Reader Service card.

TRY "IA" FOR *Hyper* SPEED!



the
INTERACTOR
File Folder
Interface

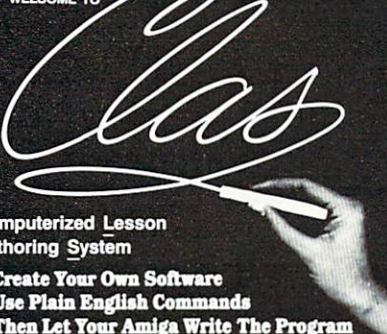
Interactive authoring systems should do more than integrate animation, sound and text. IA does. They should be efficient, intuitive and FAST. IA is. And with collision detection, scorekeeping, and laserdisk support, INTERACTOR has all the features! You'll need to create visual databases or videogames! For \$99, that's a package that pays for itself, FAST.

Very Vivid
INTERACTOR

INTERACTIVE GRAPHICS PRESENTATION SYSTEM
Very Vivid Inc. POB 127, Stn B, Toronto, Canada M5T 2T3 tel: (416) 686-7850

Circle 291 on Reader Service card.

AMIGA
WELCOME TO



Computerized Lesson
Authoring System

- Create Your Own Software
- Use Plain English Commands
- Then Let Your Amiga Write The Program

For use in homes, schools and businesses
For more information, call or write:

MicroEd

PO Box 24750
Edina, MN 55424 (612) 929-2242

TOUCH TECHNOLOGIES

MEMORY FOR LESS

D RAM BLOWOUT!

D RAM BLOWOUT

256 x 1 150n.s.	\$4.00 ea.
256 x 1 120n.s.	5.00 ea.
256 x 1 80n.s.	6.00 ea.
1 meg x 1 100n.s.	
	14.00 ea.
1 meg x 1 80n.s.	
	15.00 ea.
256 x 4 80n.s.	
	14.00 ea.

CPUs for Repair or Accelerators

68010	8 Mhz	\$ 35.00
68020	16 Mhz	.72.00
	20 Mhz	.109.00
	25 Mhz	.139.00
	33 Mhz	.145.00
Math Co's		
68881	12 Mhz	.72.00
	16 Mhz	.81.00
	20 Mhz	.109.00
68882	16 Mhz	.109.00
	25 Mhz	.189.00

MEMORY WORLD
219 MARKET ST.
PHILADELPHIA, PA 19106



215-238-1015

VISA / MC / CHECK / COD

Circle 287 on Reader Service card.

InfoMarket

MCP

Associates, Inc.

AUTHORIZED AMIGA DEALER
REPAIRS — SERVICE

Computer Systems Hardware Software
A500 A2000 A2000HD A2500
Installations Competitive Pricing Applications
SPECIAL: 2MB Memory Boards, from \$449.95
S/H: Min \$7.50: Write/Call for AMIGA Product Lists
Visit Our Retail Store—Convenient Parking—Deliveries Arranged
28-21 Astoria Boulevard, Astoria, NY 11102-1933
Tel: 1-718-956-9000 Fax: 1-718-956-9028



Fred Fish Disks \$2.00!

\$2.00 each for five or more. \$2.50 each for less than five.

We also carry a wide selection of other Public Domain, bulk disks, and hardware.

For a free disk catalog or to place an order call or write to:
Amy Today, 640 Willow Glen Rd. Santa Barbara, CA. 93105. 805-687-5643

AMIGA

500 repair \$64.00

Prices include parts/labor.
Discount for dealers & schools
Trade your dead 64 for a New 64C
for \$105.00 (incl. GEOS)

AUTHORIZED COMMODORE SERVICE CENTER

100% Compatible statistics for EARL WEAVER BASEBALL

YES, someone has finally done their homework and researched the past and present years in Baseball. Using statistics from many sources makes this a very thorough and complete compiled statistic source. We also feature updated ballfields, a yearly schedule and a play calendar so you can play the games as they really were. We now have in stock 1919, 1949, 1952, 1959, 1961, 1969, 1975, 1976, 1978, 1985, 1987, 1988 and soon to be released 1989.

For more info. or to place an order, write:

GMCP SOFTWARE
Suite 52-217
4095 US Route 1
Monmouth Junc., NJ 08852

or call
(201) 329-0136

Disks are \$19.95 each
Add \$2.50 shipping
Visa/MC add 4%
NJ residents add 6% tax

EARL WEAVER BASEBALL trademark of Electronic Arts

Video Visions

For Amiga Video or Color DTP

Volumes 2-7 Sold Separate at \$24.95
THE TITLER SET = \$79.95 = 11 Disks = VV1, 4, 5, & 7 - BT Scripts, WEDDING, Colorfont included!
THE ANIMATOR SET = \$59.95 = 6 Disks = VV2, 3, & 6 - 3D objects or Cel Animated Parts!
THE STUDIO SET = \$199.95 = 19 Disks, complete Video collection plus VHS Tape.

Mini-Volumes = Cool Colorfont, Borders, Animated Intros, Backdrops - Only \$16.95 each.

"NOW UTILIZED IN
MANY VIDEO BUSINESSES"

CV Designs

Video Slides
Transfer Service

CV Designs, 61 Clewley Rd. Medford MA 02155, 617-396-8354

2 Disks per Volume - for IFF Display Programs
See Buyers' Guide for Vol. 1-7 Listings

VV1 = \$34.95 - Now 4 Disks!

Slide Service - 16M color or Amiga Hi-Res

Desktop Publishing - Manuals or Design Work

Video Animated - Logos at Affordable rates.

SERVICES INCLUDE: (Custom to Your Specs)

Slide Service - 16M color or Amiga Hi-Res

Desktop Publishing - Manuals or Design Work

Video Animated - Logos at Affordable rates.

SERVICES INCLUDE: (Custom to Your Specs)

Slide Service - 16M color or Amiga Hi-Res

Desktop Publishing - Manuals or Design Work

Video Animated - Logos at Affordable rates.

SERVICES INCLUDE: (Custom to Your Specs)

Slide Service - 16M color or Amiga Hi-Res

Desktop Publishing - Manuals or Design Work

Video Animated - Logos at Affordable rates.

SERVICES INCLUDE: (Custom to Your Specs)

Slide Service - 16M color or Amiga Hi-Res

Desktop Publishing - Manuals or Design Work

Video Animated - Logos at Affordable rates.

SERVICES INCLUDE: (Custom to Your Specs)

Slide Service - 16M color or Amiga Hi-Res

Desktop Publishing - Manuals or Design Work

Video Animated - Logos at Affordable rates.

SERVICES INCLUDE: (Custom to Your Specs)

Slide Service - 16M color or Amiga Hi-Res

Desktop Publishing - Manuals or Design Work

Video Animated - Logos at Affordable rates.

SERVICES INCLUDE: (Custom to Your Specs)

Slide Service - 16M color or Amiga Hi-Res

Desktop Publishing - Manuals or Design Work

Video Animated - Logos at Affordable rates.

NEW! Colorful IFF-HAM Pictures

Two Disk Set "ADULT PICTURES"

WITH PLAYER

The Digital Pub/257 **\$35**

1033 Peachtree St. NE, Atlanta, GA 30309

You must sign a statement that you are 18 or older!



Professional Quality
Fractal Art Cryptography
Scientific Software



NEW! HAMandel3.8 The Premier Amiga Fractal Art System
256 Color Mandelbrot/Julia & MORE! \$49.95

NEW! FractalPro Fractal Animation - Includes HAMandel3.8
Zoom - Pan - UnZoom - Interactive \$89.95

MegageM 1903 Adria Santa Maria CA 93454

Free Catalog - Shipping \$2.00 - 6% Tax in California

State-of-the-Art Add On Hardware

AM512 (A501) 512K/Real Time Clock, Int. Trap Door, 5 year \$129.95
Lithium Battery (socketed for easy replacement) Ø k 69.95
AmFLY1 880K External Floppy, Pass Through, Select Switch 129.95

Clickless, +5v Only, Low Power, 28" Cable
Optional External Power Plug, Small Size
AmSCM5 SCSI/2-8 Meg Memory Board for the A500, 68882 @ Call
20MHz, Internal, SCSI Full Auto Boot, Mem. Auto Config.

Money Back Guarantee Visa/MasterCard/COD/Check
1 yr. Warranty All Products Orders/Information Call: 1-800-735-6661
AmTek, PO Box 575713, SLC, UT 84157 (801) 261-1115

MASTERPIECE PROFESSIONAL FONT COLLECTION® 20 DISK SET

The Largest Collection Of Fonts And Clip Art
Available In A Single Package For The AMIGA.

100 DIFFERENT FONT STYLES
This doesn't mean 10 sizes of 11 fonts. It means
110 DIFFERENT Fonts.

LARGES SIZES • HI-RES
Specially Designed For Video Work. 95% of the
fonts are over 100 pt. tall. Easily resized smaller.

PATTERN CLIP ART
141 hi-res DPaint II pages. There are thousands
of objects and examples.

BRUSHES

2 Disks Full Of Color Brushes

COLORFONTS

4 Disks Full Of Colorfont

100 PAGE MANUAL

Full Size Font Printouts

20 DISK SET - ONLY \$199.00

VISA / MC • COD • Company Check

Contact your local AMIGA dealer or order
direct from AROCK Computer Software
PO Box 731, Springfield, MO 65801
1-800-288-AROK

AUTHORIZED AMIGA SALES & SERVICE

AMIGA

A500 REPAIR \$65.00

WE HONOR WARRANTY WORK. WE

RESERVE THE RIGHT TO REFUSE

WORK ON DAMAGED UNITS.

PRICES SUBJECT TO CHANGE.

UPGRADE YOUR AMIGA

8372A (Fatter Agnus) \$ 99.95

1.3 ROM (315093-02) 29.95

M501 (512K) 129.95

8UP w/2 MEG 425.95

CALL FOR OTHERS

WE CARRY PARTS, CHIPS, POWER SUPPLIES &
ALL OTHER ACCESSORIES FOR YOUR COMMODORE & AMIGA

(800) 962-4489 AMPEX SYSTEMS, INC. (404) 263-9190

5344 Jimmy Carter Blvd., Norcross, GA 30093

Hypertext for the Amiga

Thinker
\$80
Version 1.03
New
COD \$5

30 day guarantee
No credit cards

HyperText/HyperMedia word processor for the
creation and organization of information.

"...stunning capabilities...simple to operate" "power and grace..."

"...superbly crafted..." - Gary Gehman, Amiga Sentry, June 1989

The latest technology combines outline processing and word processing with a

multimedia Hypertext engine. Link words, pictures, animations and spreadsheets.

Thinker combines database concepts with word processing for maximum creativity.

Poor Person Software, Dept 10, 3721 Starr King Circle
Palo Alto, CA 94306 (415) 493-7234



JUST RELEASED



AMIGA UPGRADE #1... New 1 MEGABYTE, FATTER AGNUS (#8372) hi-res chip allows user more "chip" memory for use in GRAPHICS, MUSIC or VIDEO. This "plug in" upgrade is an absolute must for present AMIGA owners. Price is \$109.50 with instructions.

AMIGA UPGRADE #2... A501/801. 512K/CLOCK RAM BOARD UPGRADE FOR THE AMIGA 500. (Plugs directly into trap door.) Super price of \$114.95 with instructions.

AMIGA UPGRADE #3... NEW 1.3 KICKSTART. ROM UPGRADE \$27.95/INSTRUCTIONS.

AMIGA UPGRADE #4... 68020/16-\$74.95, 68881/12-\$72.50, 68881/16-\$79.95, 68882/12-\$105.00

WE STOCK ALL AMIGA (AND COMMODORE) CHIPS AT SUPER LOW PRICES

* SEND FOR CATALOG ON EXCLUSIVE PRODUCTS *

THE GRAPEVINE GROUP, INC.

35 CHARLOTTE DRIVE

WESLEY HILLS, NY 10977

Commodore is a registered trademark

(914) 354-4448

FAX (914) 354-6696

Dealer pricing available

1-800-292-7445 (toll free)

Prices subject to change

Tensor Tech

Your Gateway To This Economy Booming Country—TAIWAN

Tensor Technologies Co., Ltd.
3F, # 32, Roosevelt Rd, Sec. 1
Taipei, Taiwan, R.O.C
Tel: 8862-3214291 Fax: 8862-3931121

The only authorized **AMIGA** distributor in TAIWAN

Circle 281 on Reader Service card.

AMIGA P.D. GAMES

Some of the finest Public Domain Games available on the Amiga. Disks include:

CC-702 Graphics Hack: Adventure

Dungeons and Dragons-like game.

CC-703 Entertainment #2

A disk full of games including Monopoly, Life, Gravity, and more.

CC-708 Entertainment #6

More games including 3D Tic-Tac-Toe, Super Breakout, to Lander, Stoneage!, Boulderdash, done with sound, more.

CC-709 AMI Arcade #3

Games include Battle Mech, Bullrun, Hearts, Cycles: Tron cycle game, much more.

CC-710 AMI Arcade #4

Great games like Wheel-of-Fortune, Backgammon, Checkers, Orbit 3D, Adventure: Care adventure game, more.

CC-711 Fun & Games

Yet more games: Battleship, Duel 2.0, Lotto 3.0, Lotto database, Bowling: Bowling database.

CC-712 Star Trek:

The Game

Two disk graphic version with sound. Requires 1 Meg of RAM and 2 drives.

CC-713 Battle Fort II & More Games

Battlefort: Robotic combat simulation, Video Poker, Tiles: Shanghai-like game, more.

All Disks ONLY \$5.00 Each!

Send check or money order to:

Chiron Conceptions, Inc.

PO Box 19474

Jacksonville, FL 32245

Foreign orders add \$2.00 per disk for Air Mail delivery.
Free catalog of over 160 P.D. disks available upon request!

Circle 294 on Reader Service card.

LOCATE HARD-TO-FIND SOFTWARE!

ECONOMETRICS - SALES & MARKET FORECASTING
- FORECASTING & TIME-SERIES - QUALITY CONTROL - EXPERIMENTAL STATISTICS - BUSINESS STATISTICS - MARKETING STATISTICS - DESCRIPTIVE STATISTICS - MULTIVARIATE ANALYSIS - CLUSTER ANALYSIS - PROJECT PLANNING - DECISION ANALYSIS TECHNIQUES - OPTIMIZATION - BIOMETRICS - REGRESSION - DECISION ANALYSIS TECHNIQUES - LINEAR AND NON-LINEAR PROGRAMMING - RISK & BUSINESS SIMULATIONS - INVENTORY - PARAMETER & TOLERANCE DESIGN - ANOVA - AND MANY OTHERS!

Lionheart produces numerical analysis software of the finest quality. Turn your personal computer into your personal M.B.A. - a keen new employee at the right price! Gain an edge on the competition!

Prices range from \$125 to \$145 per title
SEND FOR FREE PRODUCT GUIDE!

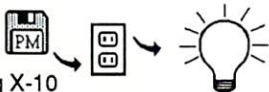
Lionheart Press, Inc
PO Box 379, Alburg, VT, 05440
Tel: (514)-933-4918 Fax: (514)-939-3087

Circle 283 on Reader Service card.

PowerMaster X-10 Home Control

Programmed Remote Control Of Lights & Appliances!

- Adds Convenience, Increases Security
- Uses X-10 PowerHouse System
- AREXX Interface
- Amiga Not Required After Programming X-10
- PowerMaster & Amiga X-10 Interface: \$79 + \$3 s/h



Complications • 1727 Parkview • Redlands, CA • 92374 • (714)794-5311

35mm COLOR SLIDES

from your IFF or HAM files

- Brilliant Color • No Curvature Distortion
- as low as \$1/slide

Call or Write for order form, price list & sample

HAMMOND
PHOTOGRAPHIC
SERVICES

11280 Washington Place
Culver City, Ca. 90230
(213) 390-3010

norgen - THE GENEALOGY DATABASE

- Dozens of report formats (including Calendars) to printer, screen, or text file
- All variable length fields except for dates
- Repeatable spouse, child, and note fields as needed, plus automatic duplication of sibling fields
- On-screen mouse record searching to 18 generations
- Only one data-entry form required
- Access to Workbench 1.3 via program interface
- Reliable and timely technical support

\$99.95 postpaid. For more info call (612) 827-2766 or write to
Norris Software Ltd. • 3208 W. Lake St., Ste. 65 • Mpls., MN 55416



Norris
Software Ltd.

MicroEd

Educational Software K thru Adult

ALL CURRICULAR AREAS • INCLUDES RELIGIOUS PROGRAMS
ALSO ENGLISH FOR SPANISH SPEAKERS

MicroEd, Incorporated
PO Box 24750
Edina, MN 55424
612-929-2242

FEMME FATALE

THE DIGITAL JIGSAW PUZZLE FOR ADULTS
Only \$34.95 p.p.d. Cont. US

Features 10 full screen digitized images as well as digitized sound. 5 challenging difficulty levels along with hints, full image, status and load & save game options. Use your own low, medium, interlace & hi-resolution IFF images or choose from our stunning library of digitized data disks.

Demonstration disk and discount coupon available for only \$2.00.
(Include a signed statement that you're 18+ years old).

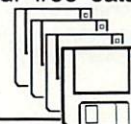
GRAPHIC EXPRESSIONS Box 110028 Nutley NJ 07110 - (201)661-0408
NY & NJ add tax. Canadian/Foreign orders add \$5.00 for shipping. All prices are in USA Dollars.

Public Domain Software Resource

The New Amiga Public Domain Service that lets you
Choose only the programs you want! Hundreds of programs available. Send now for our free catalog!

PDSResource

PO Box 7175, Loma Linda, CA 92354



Only \$6.00
per Disk.

PELICAN WARE

PO Box 680, South Street, Plattekill, NY 12568

1-800-637-4286

RAM IT!!!

Microbotics Starboard II for the Amiga 500 and Amiga 1000
512K \$329.00 1 Meg \$409.00 2 Meg \$639.00
Call for prices on 8-Up Ram card for Amiga 2000.

\$97,500 A YEAR "HIDDEN IN YOUR COMPUTER?"

Find out! (9 years success.) FREE report.

Write: Ed Simpson

Dept. 771AW, Battle Ground, WA 98604-0771

AmigaWorld is a publication of IDG Communications, the world's largest publisher of computer-related information. IDG Communications publishes over 90 computer publications in 33 countries. Fourteen million people read one or more IDG Communications publications each month. IDG Communications publications contribute to the IDG News Service offering the latest on domestic and international computer news. IDG Communications publications include: ARGENTINA'S *Computerworld Argentina*; ASIA'S *Communications World*, *Computerworld Hong Kong*, *Computerworld Malaysia*, *Computerworld Singapore*, *Computerworld Southeast Asia*, *PC Review*; AUSTRALIA'S *Computerworld Australia*, *Communications World*, *Australian PC World*, *Australian Macworld*; AUSTRIA'S *Computerwelt Oesterreich*; BRAZIL'S *DataNews*, *PC Mundo*, *Micro Mundo*; CANADA'S *Computer Data*; CHILE'S *Informatica*, *Computacion Personal*; DENMARK'S *Computerworld Danmark*, *PC World Danmark*; FINLAND'S *Mikro*, *Tietoviikko*; FRANCE'S *Le Monde Informatique*, *Distributive*, *InfoPC*, *Telecoms International*; GREECE'S *Micro and Computer Age*; HUNGARY'S *Computerworld SZT*, *PC Mikrovilage*; INDIA'S *Dataquest*; ISRAEL'S *People & Computers Weekly*, *People & Computers Bi-Weekly*; ITALY'S *Computerworld Italia*; JAPAN'S *Computerworld Japan*; MEXICO'S *Computerworld Mexico*; THE NETHERLANDS' *Computerworld Netherlands*, *PC World Benelux*; NEW ZEALAND'S *Computerworld New Zealand*; NORWAY'S *Computerworld Norge*, *PC World Norge*; PEOPLE'S REPUBLIC OF CHINA'S *China Computerworld*, *China Computerworld Monthly*; SAUDI ARABIA'S *Arabian Computer News*; SOUTH KOREA'S *Computerworld Korea*, *PC World Korea*; SPAIN'S *CIMWORLD*, *Computerworld Espana*, *Commodore World*, *PC World Espana*, *Comunicaciones World*, *Informatica Industrial*; SWEDEN'S *Computer Sweden*, *Mikrodatorn*, *Svenska PC World*; SWITZERLAND'S *Computerworld Schweiz*; UNITED KINGDOM'S *Computer News*, *DEC Today*, *ICL Today*, *LOTUS*, *PC Business World*; UNITED STATES' *AmigaWorld*, *CD-ROM Review*, *CIO*, *Computer Currents*, *Computerworld*, *Digital News*, *Federal Computer Week*, *FOCUS Publications*, *inCider*, *InfoWorld*, *Macintosh Today*, *MacWorld*, *Computer + Software News*, (*Micro Marketworld/Lebhar-Friedman*), *Network World*, *PC World*, *Portable Computer Review*, *Publish!*, *PC Resource*, *PCGames*, *RUN*, *Windows*; VENEZUELA'S *Computerworld Venezuela*; WEST GERMANY'S *Computerwoche*, *Information Management*, *PC Welt*, *Run*, *PC Woche*, *RUN*.

Manuscripts: Contributions in the form of manuscripts with drawings and/or photographs are welcome and will be considered for possible publication. *AmigaWorld* assumes no responsibility for loss or damage to any material. Please enclose a self-addressed, stamped envelope with each submission. Payment for the use of any unsolicited material will be made upon publication. All contributions and editorial correspondence (typed and double-spaced, please) should be directed to *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458; telephone: 603-924-9471. **Advertising Inquiries** should be directed to Advertising Offices, IDG Communications/Peterborough, Inc., 80 Elm St., Peterborough, NH 03458; telephone: 800-441-4403. **Subscription problems or address changes:** Call 1-800-525-0643 (in CO, 1-303-447-9330) or write to *AmigaWorld*, Subscription Dept., PO Box 58804, Boulder, CO 80322-8804. **Problems with advertisers:** Send a description of the problem and your current address to: *AmigaWorld*, 80 Elm St., Peterborough, NH 03458, ATTN.: Sue Kaniwec, Customer Service Representative.

List of Advertisers

RS #	273	A.G. Kartsatos, 145	RS #	*	Mindscape, Inc., 72, 73
124	Abacus Software, 57		*	Montgomery Grant, 127	
175	AbSoft, 136		292	Moonlight Development, 120	
7	Actionware, Inc., 43		38	New Horizons Software, 33	
194	American Micro Supplies, 128		102	NewTek, Inc., CII	
72	AmiEXPO, 129		119	NewTek, Inc., CIV	
*	AmigaWorld,		21	Origin Systems, 45	
	Amiga Companion, 81		75	Oxxi, Inc., 89	
	Amiga Tool Chest, 68		84	Passport Designs, 124	
	InfoMarket, 145-147		284	Pixelations, 120	
	Special Issue, 90		9	Practical Solutions, Inc., 122	
	Subscription Ad, 116, 133		293	Practical Solutions, Inc., 145	
286	Backwoods Software, 145		187	Precision, Inc., 99	
132	Briwall, 140, 141		272	Premier Software, 145	
165	Brown-Wagh Publishing, 41		230	Pre'spect Technics, Inc., 120	
73	California Access, 117		79	R & DL Productions, Inc., 112	
116	California Dreams, 111		87	ReadySoft, Inc., 2	
12	CAPCOM USA, Inc., 37		110	7-Day Software, 125	
86	CAPCOM USA, Inc., 35		275	Safe Harbor, 110	
200, 239	Centaur Software, Inc., 18, 19		336	Saxman Systems, 100	
294	Chiron Conceptions, Inc., 147		250	Sharp Electronics Corp., 115	
148	Computability, 137		128	Software Discounters, 109	
41	Computer Mail Order, 82, 83		226	Software Support Int'l, 139	
69	Computer Mart, 107		19	Spirit Technology Corp., 101	
52	Computers Etc!, 105		206	Sprite Technology, 121	
39	Consultron, 112		228	SubLogic Corp., 14	
199	Creative Computers, 102, 103		157	SunRize Industries, 16	
120	Data Fleet-1, 128		208	Supra Corp., 47	
398	DevWare, Inc., 144		88	Supra Corp., 49	
30	Digital Animation Productions, 79		56	Taito Software, Inc., 15	
28	Digital Creations, 39		112	Taito Software, Inc., 9	
35	Dr. T's Music Software, 119		32	Tangent 270, 4	
49	East West Software, 118		288	Telegraphics Int'l, 100	
232	Elite Systems, Ltd., 51		281	Tensor Technologies, 147	
262	Flexible Data Systems, Inc., 126		61	The AAmiga Center, 97	
183	Fuller Computer Systems, Inc., 97		134	The Software Shop, 134, 135	
	Gainstar, 59		17	Titus Software Corp., 55	
	Go Amigo, 64-67		295	Tootle Vision Broadcasting, 145	
	GrafX Computing, 110		74	Utilities Unlimited, Inc., 128	
36, 265	Great Valley Products, Inc., 1		291	Very Vivid, 145	
62, 145	Great Valley Products, Inc., 5				
127, 245	Great Valley Products, Inc., 7				
142	Innerprise Software, 20				
54	Interactive Video Systems, 87				
125	InterComputing, Inc., 123				
277	Joe's First Company, 145				
14	Kara Computer Graphics, 113				
105	Koei Corp., 29				
25	Konami, Inc., 31				
117	Konyo Int'l, Inc., CIII				
171	Lee Software, 69				
122	Lightspeed Distribution, 130, 131				
283	Lionheart Press, Inc., 147				
104	Melbourne House, 63				
287	Memory World, 145				
44	Micro Computer Services, 143				
227	Micro Systems Int'l, 136				
95	Micro-Systems Software, Inc., 27				
129	Micro-Systems Software, Inc., 17				
*	MicroEd, Inc., 145				
186	Microsmiths, Inc., 118				
78	Microway, 71				
*	Mindscape, Inc., 53				

* This advertiser prefers to be contacted directly

This index is provided as an additional service. The publisher does not assume liability for errors or omissions.

NOTICE TO ADVERTISERS

All advertising is subject to the approval of the Publisher and AmigaWorld reserves the right to refuse advertising without notice. The advertising herein that has been typeset and/or designed by AmigaWorld is the property of AmigaWorld, and not that of the advertiser. The advertiser has purchased the right of reproduction in AmigaWorld only, and does not have the right to reproduce the ad in any other publication, without the expressed written consent of AmigaWorld.

Advertisers and/or their agencies assume the responsibility for the condition of the contents of the advertising printed herein and agree to indemnify the Publisher of AmigaWorld for any claims and/or expenses incurred therefrom.

AmigaWorld is not responsible for changes to artwork after the given advertising deadlines, nor assumes responsibility for mistakes, misprints, or typographical errors, and will not issue credits of any kind for such errors.

AmigaWorld advises advertisers that statements regarding shipping and handling charges, warranties and/or money-back guarantees should be included within all forms of advertising in AmigaWorld.

The opinions expressed in the articles and advertising appearing herein are those of the authors and/or advertisers and are not necessarily those of AmigaWorld.

FYI

If you have any questions or concerns about advertisers in *AmigaWorld*, please contact: Susan Kaniwec, Customer Service Representative, *AmigaWorld Magazine*, 80 Elm Street, Peterborough, NH 03458. As a service to its readers, *AmigaWorld* will periodically publish the names of companies who are having difficulties meeting their customer obligations or who have gone out of business. Through our customer service representative, *AmigaWorld* assists readers with problems they may have with advertisers. Readers are advised to contact *AmigaWorld* before dealing with these companies: **Computer Best**, **FutureSoft Applications**. However, *AmigaWorld* does not assume any liability for advertiser's claims.

To Receive FREE Product Information



TEAR

out the perforated card.
Please print or type your
name and address where
indicated.

CIRCLE

the numbers on the card
that correspond to the
reader service numbers on
the advertisements that
interest you.

ORDER

a one year subscription to
AmigaWorld by circling 500
on the card.

MAIL

the card with your check,
money order or U.S.
currency to:
AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170
Or, you may request billing.

LOOK FOR

your subscription in 10 to
12 weeks.

REMEMBER

to put the proper postage
on the card.

READER SERVICE

December card valid until February 28, 1990.

☐ Mr.
☐ Mrs.
☐ Ms. Name _____
Company _____
Title _____
Address _____
City/State/Zip _____
Telephone _____

- A. Do you own an Amiga?
☐ 1. Yes ☐ 2. No
- B. If no, will you purchase one of the following?
☐ 3. Amiga 500 ☐ 6. Other (please specify)
☐ 4. Amiga 2000 ☐ 7. I currently have no purchasing plans.
☐ 5. Amiga 2500
- C. Would you purchase an Amiga magazine which had a bound-in disk of demo programs, tutorials, etc.?
☐ 8. Yes ☐ 9. No
- D. Which software packages will you purchase in the next 12 months? (Please choose all that apply.)
☐ 10. Entertainment ☐ 17. Database Management
☐ 11. Word Processing ☐ 18. Financial Management
☐ 12. Communications ☐ 19. Graphics
☐ 13. Spreadsheets ☐ 20. Education
☐ 14. Home Productivity ☐ 21. Music
☐ 15. Programming
- E. Which peripherals will you purchase in the next 12 months? (Please choose all that apply.)
☐ 22. Animation ☐ 24. CAD/CAM
☐ 23. Sound/Speech ☐ 25. Other
☐ 26. Monitor ☐ 32. Gen Lock or Frame Grabber
☐ 27. Dot Matrix Printer ☐ 33. Music Hardware
☐ 28. Modem ☐ 34. Color Printer
☐ 29. Memory Expansion ☐ 35. Laser Printer
☐ 30. 3 1/2" Floppy Drive
☐ 31. Hard Disk Drive
- F. If you are not a subscriber, please circle 499 on this card.
- G. If you would like a one year subscription to AmigaWorld (12 issues), please circle 500 on this card. Each subscription is \$29.97. Canada and Mexico \$38.97. Foreign Surface, \$49.97. Foreign Airmail \$84.97 (U.S. Funds Drawn on U.S. Bank). Orders from outside of North America must be prepaid. Please allow 10-12 weeks for delivery.

1	6	11	16	21	201	206	211	216	221	401	406	411	416	421
2	7	12	17	22	202	207	212	217	222	402	407	412	417	422
3	8	13	18	23	203	208	213	218	223	403	408	413	418	423
4	9	14	19	24	204	209	214	219	224	404	409	414	419	424
5	10	15	20	25	205	210	215	220	225	405	410	415	420	425
26	31	36	41	46	226	231	236	241	246	426	431	436	441	446
27	32	37	42	47	227	232	237	242	247	427	432	437	442	447
28	33	38	43	48	228	233	238	243	248	428	433	438	443	448
29	34	39	44	49	229	234	239	244	249	429	434	439	444	449
30	35	40	45	50	230	235	240	245	250	430	435	440	445	450
51	56	61	66	71	251	256	261	266	271	451	456	461	466	471
52	57	62	67	72	252	257	262	267	272	452	457	462	467	472
53	58	63	68	73	253	258	263	268	273	453	458	463	468	473
54	59	64	69	74	254	259	264	269	274	454	459	464	469	474
55	60	65	70	75	255	260	265	270	275	455	460	465	470	475
76	81	86	91	96	276	281	286	291	296	476	481	486	491	496
77	82	87	92	97	277	282	287	292	297	477	482	487	492	497
78	83	88	93	98	278	283	288	293	298	478	483	488	493	498
79	84	89	94	99	279	284	289	294	299	479	484	489	494	499
80	85	90	95	100	280	285	290	295	300	480	485	490	495	500
101	106	111	116	121	301	306	311	316	321	501	506	511	516	521
102	107	112	117	122	302	307	312	317	322	502	507	512	517	522
103	108	113	118	123	303	308	313	318	323	503	508	513	518	523
104	109	114	119	124	304	309	314	319	324	504	509	514	519	524
105	110	115	120	125	305	310	315	320	325	505	510	515	520	525
126	131	136	141	146	326	331	336	341	346	526	531	536	541	546
127	132	137	142	147	327	332	337	342	347	527	532	537	542	547
128	133	138	143	148	328	333	338	343	348	528	533	538	543	548
129	134	139	144	149	329	334	339	344	349	529	534	539	544	549
130	135	140	145	150	330	335	340	345	350	530	535	540	545	550
151	156	161	166	171	351	356	361	366	371	551	556	561	566	571
152	157	162	167	172	352	357	362	367	372	552	557	562	567	572
153	158	163	168	173	353	358	363	368	373	553	558	563	568	573
154	159	164	169	174	354	359	364	369	374	554	559	564	569	574
155	160	165	170	175	355	360	365	370	375	555	560	565	570	575
176	181	186	191	196	376	381	386	391	396	576	581	586	591	596
177	182	187	192	197	377	382	387	392	397	577	582	587	592	597
178	183	188	193	198	378	383	388	393	398	578	583	588	593	598
179	184	189	194	199	379	384	389	394	399	579	584	589	594	599
180	185	190	195	200	380	385	390	395	400	580	585	590	595	600

December card valid until February 28, 1990.

☐ Mr.
☐ Mrs.
☐ Ms. Name _____
Title _____
Address _____
City/State/Zip _____
Telephone _____

- A. Do you own an Amiga?
☐ 1. Yes ☐ 2. No
- B. If no, will you purchase one of the following?
☐ 3. Amiga 500 ☐ 6. Other (please specify)
☐ 4. Amiga 2000 ☐ 7. I currently have no purchasing plans.
☐ 5. Amiga 2500
- C. Would you purchase an Amiga magazine which had a bound-in disk of demo programs, tutorials, etc.?
☐ 8. Yes ☐ 9. No
- D. Which software packages will you purchase in the next 12 months? (Please choose all that apply.)
☐ 10. Entertainment ☐ 17. Database Management
☐ 11. Word Processing ☐ 18. Financial Management
☐ 12. Communications ☐ 19. Graphics
☐ 13. Spreadsheets ☐ 20. Education
☐ 14. Home Productivity ☐ 21. Music
☐ 15. Programming
- E. Which peripherals will you purchase in the next 12 months? (Please choose all that apply.)
☐ 22. Animation ☐ 24. CAD/CAM
☐ 23. Sound/Speech ☐ 25. Other
☐ 26. Monitor ☐ 32. Gen Lock or Frame Grabber
☐ 27. Dot Matrix Printer ☐ 33. Music Hardware
☐ 28. Modem ☐ 34. Color Printer
☐ 29. Memory Expansion ☐ 35. Laser Printer
☐ 30. 3 1/2" Floppy Drive
☐ 31. Hard Disk Drive
- F. If you are not a subscriber, please circle 499 on this card.
- G. If you would like a one year subscription to AmigaWorld (12 issues), please circle 500 on this card. Each subscription is \$29.97. Canada and Mexico \$38.97. Foreign Surface, \$49.97. Foreign Airmail \$84.97 (U.S. Funds Drawn on U.S. Bank). Orders from outside of North America must be prepaid. Please allow 10-12 weeks for delivery.

1	6	11	16	21	201	206	211	216	221	401	406	411	416	421
2	7	12	17	22	202	207	212	217	222	402	407	412	417	422
3	8	13	18	23	203	208	213	218	223	403	408	413	418	423
4	9	14	19	24	204	209	214	219	224	404	409	414	419	424
5	10	15	20	25	205	210	215	220	225	405	410	415	420	425
26	31	36	41	46	226	231	236	241	246	426	431	436	441	446
27	32	37	42	47	227	232	237	242	247	427	432	437	442	447
28	33	38	43	48	228	233	238	243	248	428	433	438	443	448
29	34	39	44	49	229	234	239	244	249	429	434	439	444	449
30	35	40	45	50	230	235	240	245	250	430	435	440	445	450
51	56	61	66	71	251	256	261	266	271	451	456	461	466	471
52	57	62	67	72	252	257	262	267	272	452	457	462	467	472
53	58	63	68	73	253	258	263	268	273	453	458	463	468	473
54	59	64	69	74	254	259	264	269	274	454	459	464	469	474
55	60	65	70	75	255	260	265	270	275	455	460	465	470	475
76	81	86	91	96	276	281	286	291	296	476	481	486	491	496
77	82	87	92	97	277	282	287	292	297	477	482	487	492	497
78	83	88	93	98	278	283	288	293	298	478	483	488	493	498
79	84	89	94	99	279	284	289	294	299	479	484	489	494	499
80	85	90	95	100	280	285	290	295	300	480	485	490	495	500
101	106	111	116	121	301	306	311	316	321	501	506	511	516	521
102	107	112	117	122	302	307	312	317	322	502	507	512	517	522
103	108	113	118	123	303	308	313	318	323	503	508	513	518	523
104	109	114	119	124	304	309	314	319	324	504	509	514	519	524
105	110	115	120	125	305	310	315	320	325	505	510	515	520	525
126	131	136	141	146	326	331	336	341	346	526	531	536	541	546
127	132	137	142	147	327	332	337	342	347	527	532	537	542	547
128	133	138	143	148	328	333	338	343	348	528	533	538	543	548
129	134	139	144	149	329	334	339	344	349	529	534	539	544	549
130	135	140	145	150	330	335	340	345	350	530	535	540	545	550
151	156	161	166	171	351	356	361	366	371	551	556	561	566	571
152	157	162	167	172	352	357	362	367	372	552	557	562	567	572
153	158	163	168	173	353	358	363	368	373	553	558	563	568	573
154	159	164	169	174	354	359	364	369	374	554	559	564	569	574
155	160	165	170	175	355	360	365	370	375	555	560	565	570	575
176	181	186	191	196	376	381	386	391	396	576	581	586	591	596
177	182	187	192	197	377	382	387	392	397	577	582	587	592	597
178	183	188	193	198	378	383	388	393	398	578	583	588	593	598
179	184	189	194	199	379	384	389	394	399	579	584	589	594	599
180	185	190	195	200	380	385	390	395	400	580	585	590	595	600

READER SERVICE

To Receive FREE Product Information



TEAR

out the perforated card.
Please print or type your
name and address where
indicated.

CIRCLE

the numbers on the card
that correspond to the
reader service numbers on
the advertisements that
interest you.

ORDER

a one year subscription to
AmigaWorld by circling 500
on the card.

MAIL

the card with your check,
money order or U.S.
currency to:
AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170
Or, you may request billing.

LOOK FOR

your subscription in 10 to
12 weeks.

READER SERVICE

REMEMBER

to put the proper postage
on the card.



PLEASE USE
FIRST CLASS
LETTER
POSTAGE

AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170



PLEASE USE
FIRST CLASS
LETTER
POSTAGE

AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170



Take a Close Look at the Master-3A



Introducing the

MASTER-3A

100% **AMIGA**® COMPATIBLE 3½" Compatible Disk Drive

Inside the incredibly small Master-3A is a powerhouse
of advanced technology for your *Amiga*®.

- ☐ Full 1 Year Warranty
- ☐ Extremely quiet operation
- ☐ Double sided/double density 1 MB capacity
- ☐ Durable metal case eliminates radio frequency interference and drive noise
- ☐ Pass through connector lets you easily add additional drives
- ☐ Extra long shielded input cable (28") lets you position drive where you want it
- ☐ Spring loaded door keeps out dust
- ☐ Smaller, slimmer design (4" w X 1¼" h X 9" d)
- ☐ Consumes less power

For an even closer look at the *Amiga*® compatible Master-3A,
phone your nearest dealer:

Computer Direct (IL)
(312) 382-6811
(800) 289-9473

ComputAbility (WI)
(414) 357-8181
(800) 558-0003

TENEX Computer Express (IN)
(219) 259-7051
(800) PROMPT 1



Distributed by

Konyo International, Inc. Outside CA 800-356-5178 / Inside CA 714-633-1026 / FAX 714-633-5339

DIGI-VIEW GOLD

4.0

Attention
All Digi-View
Owners: Upgrade
to Digi-View 4.0 by
phone today
See Below

This image was photographed directly from an Amiga 1080 Monitor and shows the new 4096 color Dynamic HiRes Mode available with Digi-View 4.0.

4096 Colors in High Resolution

Digi-View Gold, the best video digitizer for the Amiga, just got one hell of a lot better. With the all new Digi-View 4.0 software you can do the one thing most people thought was impossible—digitize and display all 4096 colors in high resolution! We call this revolutionary new graphics mode Dynamic HiRes and you will have to see it on your own screen to believe it. But that's just the start of what makes Digi-View 4.0 a breakthrough. Other new features include: Dynamic HAM (fringe free HAM), Noise Reduction (for the sharpest images ever), ARexx support, super bitmap digitizing (directly into Digi-Paint 3), 24 bit color support, 68020 compatibility and dozens of other new features making Digi-View Gold the hottest Amiga graphics product ever.

It's still just as easy to use as before. Simply focus your video camera on any object or picture, and in seconds Digi-View Gold turns it into Amiga graphics that glow with vibrant color and stunning clarity. Whether you are creating graphics for desktop publishing, presentations, video, or just for fun, Digi-View Gold gives you dazzling images with amazing simplicity.

Digi-View Gold is designed specifically for the Amiga 500, 2000, and 2500, and plugs directly into the parallel port. With complete software control of color saturation, brightness, sharpness, hue, resolution, and palette, advanced image processing is as easy as adjusting the

controls on your television.

If you want the best graphics possible for your Amiga, then you need the best selling video digitizer of all time: Digi-View Gold.

Only Digi-View Gold:

- Can digitize in all Amiga resolution modes from 320x200 up to 768x480 (full-HiRes overscan)
- Uses 2 to 4096 colors (including extra halfbrite)
- Uses exclusive Dynamic modes for 4096 colors in HiRes
- Is 100% IFF compatible and works with any graphics software
- Can digitize in 21 bits per pixel (2.1 million colors) for the highest quality images possible
- Has advanced dithering routines that give an apparent 100,000 colors on screen simultaneously
- Has powerful image processing controls for complete IFF picture manipulation

Digi-View and Digi-View Gold owners easy upgrade: Upgrade to the incredible new Digi-View 4.0 software just by sending your name, address and \$24.95 + \$6.00 for shipping and handling (\$30.95 total) to NewTek Digi-View 4.0 upgrade, 115 West Crane St., Topeka, KS 66603. If you have a Visa or Mastercard call our toll free order line at 1-800-843-8934 and we'll rush your upgrade to you immediately.

Only \$199.95

Digi-View Gold is available now at your local Amiga dealer.
Or call 1-800-843-8934.

NeWTeK
INCORPORATED

*Requires standard gender changer for use with Amiga 1000. Digi-View Gold, Digi-Paint 3 and Video Toaster are trademarks of NewTek, Inc. Give a man a VCR and he can watch reruns, give him a Video Toaster and he can make his own!