

Free 40 MEG Hard Drive Sweepstakes!



A.X. Magazine's

AMIGATM

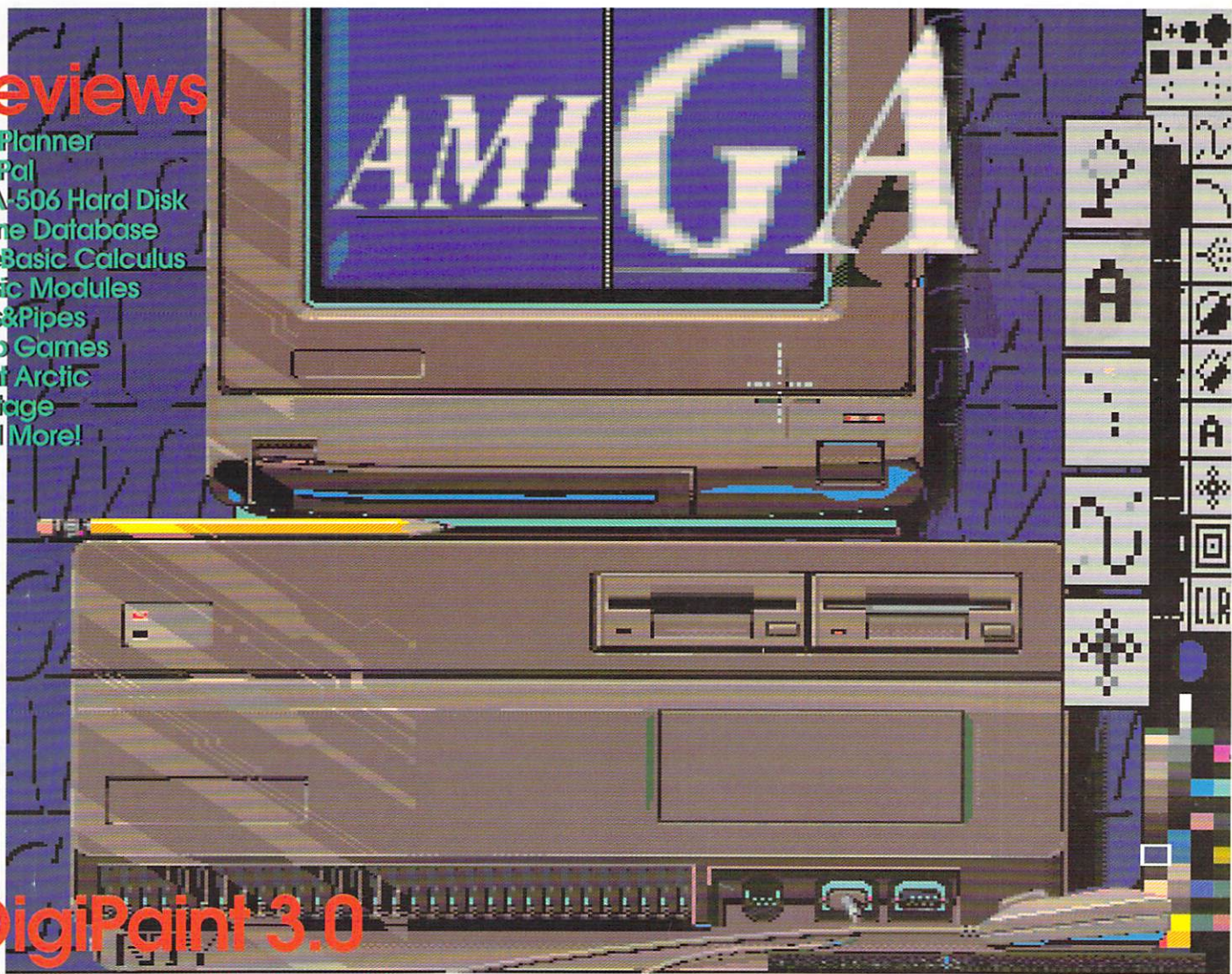
Software & Information

Volume 2, Number 5

\$3.95 U.S. / \$4.95 CAN.
November 1989

Reviews

Trip Planner
PenPal
HDA-506 Hard Disk
Home Database
TrueBasic Calculus
Music Modules
Bars&Pipes
Taito Games
Aunt Arctic
Hostage
And More!



DigiPaint 3.0

This new release has lots of powerful features, it's fast, smooth... and even has a few drawbacks.

Animation Tips & Tricks and
Turbo Silver Tutorial

SHOWS
Show Reports from
Chicago AmiExpo and
SIGGRAPH in Boston

PLUS
Lots of News, lots of
Gossip, and the latest
Commodore Report



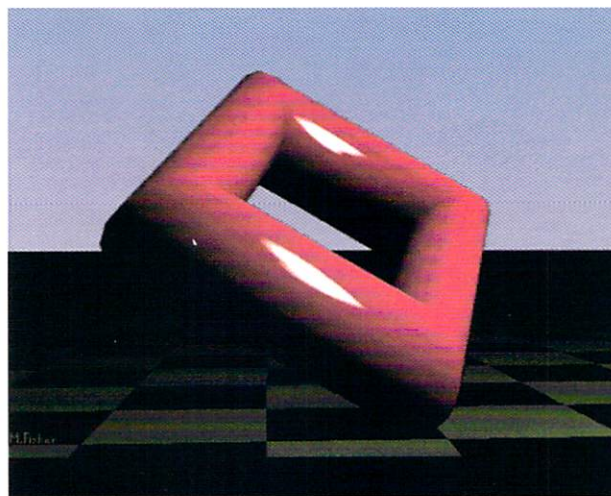
PREMIER ISSUE

The Complete Amiga Graphics Resource

Amiga

GRAF/x

Ray Tracing • Animation • Desktop Publishing • Video • Fine Art



Making It Work!

Tutorials and articles to make your software perform, and your life easier.

Ray Tracing Sparkle

Different parameters to make your ray tracings come alive!

Super Paint

Going beyond HAM!

Unlimited ClipArt

Moving "other" computer graphics to the Amiga

Monitors

Beyond the 1084. In search of: a better monitor.

The Complete Amiga Graphics Resource

For a graphics computer as powerful as the Amiga, you need a magazine that can help you reach its full potential.

Whether you are interested in Ray Tracing, Animation, Desktop Publishing, Video or Fine Art, GRAF/x can provide you with the ideas and information to make your Amiga sing, dance and perform up to its full potential.

Each issue you will get timely news features, product announcements, reviews, tutorials, and a solid editorial content. GRAF/x also offers a companion disk set with fonts, objects, clipart, artwork, animations, and so much more.

Subscription rate ~~\$19.95~~ for 6 issues.

Special Charter Rate \$14.95

Don't wait! Subscribe now and save 37% off of the cover price. Subscribe by using the order form, or for immediate service call toll free 1-800-284-3624.

CONTENTS

Volume 2, Number 5



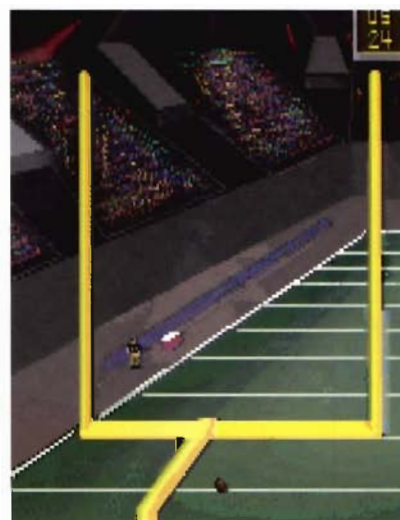
Auntie? Auntie? 45

Through thick and thin, the review is here of Aunt Arctic Adventure.



Christopher Roy 74

Christopher also was the artist of this issue's cover art. More in the Reader Gallery.



It's That Time Of Year

And this issue offers an animation to celebrate the occasion.

Features

16 The Show Reports

The wandering A.X. Show Reporter takes in Chicago AmiExpo and Boston's Siggraph, all in the same week! *Article by Jay Gross.*

10 The Commodore Report

A look at Commodore's ups and downs, some news on advertising, the demise of their dealers, new positions available at Commodore, and a buyout? Read on.

37 Painting With Digi-Paint 3.0

Skipping right along from 1.0 to 3.0, NewTek's new Digi-Paint program brings new features and new capabilities. *Review by R. Shamms Mortier, PhD.*

55 Arexx In A Paint Program?

Actually, with Arexx support, Digipaint 3.0 can do some unpromoted amazing things with animation!

58 Art Tips for Animators

Here are some tips and tricks on getting the screens you need for animation.
Article by R. Shamms Mortier, PhD.



Article Illustrations

Figures 1 - 3, on disk for your viewing pleasure. These are mentioned in the Art for Animators article.
By R. Shamms Mortier, PhD.

46 Planning A Trip?

Trip is a program that helps you plan trips.
Review by Jay Gross.

Graphics & Animation

31 PenPal Reviewed

This new graphically oriented program got a quick look last issue. Now for a closer examination.

36 Book Review: Using Deluxe Paint

This second edition book gets a close look by



Animation: Football.anim

This animation is by Winners Circle Productions. It's a big one, and it won't load entirely into a 512-K Amiga, but it will load partially, so you can see the smoothness of the HAM screens and get a feel for it, just the same. In a one-megabyte (or more) Amiga, you should be able to see the whole thing. It's neat!

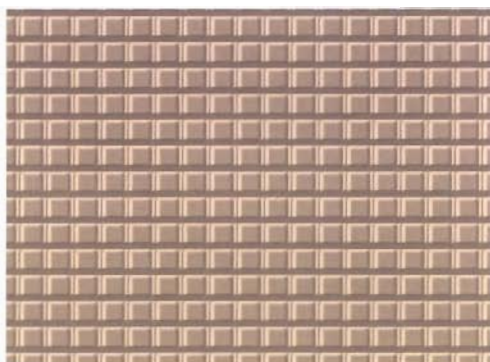
Continued...



Who? What? When? Where?
Yes a demo. A WWW Demo. This Issue. Here in this issue's disk set. An organizer/scheduler and more. Try it out!



Rambo III and More 64
Five Taito games available for the Amiga get reviewed. Some non-violent, and some... well. You know.



Textures and Tiles Clipart 14
IFF Clipart on this issue's disk set for your painting pleasure. Also suitable for Video backgrounds!

18 Step-by-Step

Turbo Silver isn't the easiest thing in the world to figure out, even if you do read the manual. So, here's a step-by-step walkthrough on creating an animation with the program. *Article by Bill Brown.*

Program: ToPP

ToPP brings files from wordprocessors that Professional Page doesn't support into a form that Pro Page can import, anyway.

Pictures: Tile.Backgrounds

Tile and Tile5 are full overscan, 704x480, high-resolution pictures of a tiled wall. Excellent stuff for making video titling backgrounds.

FONT: Crypt

Just in time for the Ghoul Season... Crypt is a-drip with gore. It's a standard Amiga font, size 27. Crypt.Font.Pic is a picture of Showfont's screen, so you can see what it looks like.

33 Film Recorders

If you can print to a slide directly from the computer, you don't need to photograph the screen. This technology is a-coming soon to an Amiga near you. *Article by Jay Gross.*

60 The Amiga Videot

The Videot Column, checking out videotape. *Column by R. Shamms Mortier, PhD.*

Columns

21 The Amiga NEWS

- ProWrite Ups Version Number
- Professional Page Gets An Update
- New Access! Planned
- Yet Another 3D Modeler
- Are You Looking For Calligrapher
- ColorFonts Update
- More 68030 Boards
- Next-best To A Laptop
- Help With The Director
- TIP: DeluxePaint Anims
- Another PageStream Update
- Time Code Reading
- Epyx Drops Back To Punt
- Remember Mandala
- Music-X Update Available
- TIP: PageStream Halftones
- X-Cad Changes Hands

Continued...




 **A Sneak View (Literally) On Disk** Screenshots of Workbench 1.4 to view with Fast, featurful, and sharp... It's here, your Amiga, on your Amiga.



DigiPaint 3.0 Reviewed



 **ClickDos 14** This powerful utility allows you to perform amazing feats of file manipulation... easily!

- *TIP: ProWrite's Colors*
- *Rainbird Rained Out*
- *A New SimCity*
- *A Tisket, A TASS Kit*
- *PeopleLink Re-Zoning*
- *PeopleLink Changes Rates (Again)*
- *WordPerfect Updates WordPerfect*
- *BridgeBoard's Two-faces Software Upgraded*

7 Jay's Way

Somebody, please do us loyal Amigoids a favor... by Jay Gross, editor.

8 The PD DISK Contents

Here's what's on the A.X. Magazine PD Disk for Issue 2.5. This issue's PD disk was edited and assembled by Jay Gross and Clyde Wallace.

54 The Gossip Fence

What's cooking, and what's cold. All the latest post-ings to the executive washrooms' walls.
Total fiction by Jay Gross.

56 Free information:

AmigaBASIC Tool Kit Volume I f rom Software Designs

Utilities and mergeable sourcode for screen making, maze drawing and a host of other things.

SPOC

A Collection of AmigaBasic games that are sure to provide hours of entertainment.

Take Stock, from East West Software

Having a look at the stock market's ups and downs, with the help of your Amiga.

Video Visions

From the Videographer to the Animator, there are plenty of backdrops, animations utilities and more from Charles Voner Designs.

74 Reader Gallery PinUps

This issue we are featuring Christopher Roy of Norwich, Connecticut. His experience in the graphic arts clearly shows in his works.

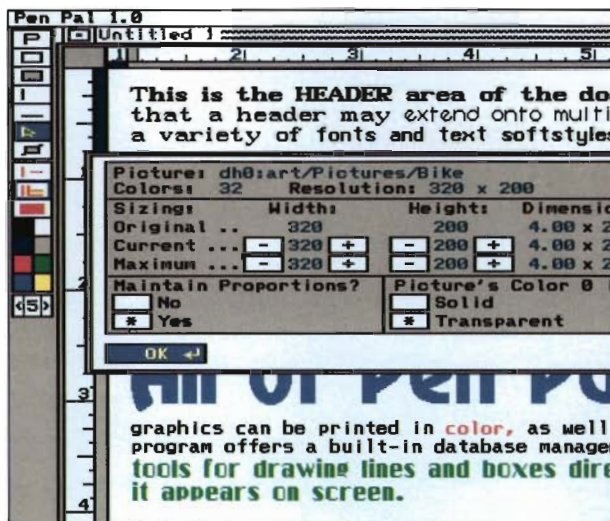
40 Spirit's HDA-506: Performance AND Price

A review of the HDA-506 harddisk drive adapter which connects MS-DOS-style drives to Amiga 500, 1000, 2000.
Review by Jay Gross

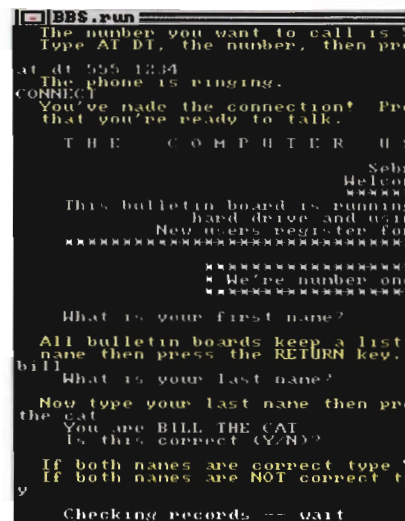
Continued...



Get Lost Often? 46
Maybe there is a solution!



PenPal 31
Last issue we gave it a quick look. This time it gets a deeper glance.



Ever Wonder What It's Like?
Now you can actually see what BBSing is like before you buy that modem!

47 Before You Call in a Repairperson. . .

A few simple tips and thought processes you should try before you spend money on computer (or peripherals) repairs. *Article by Melody Natcher.*

Productivity

18 Home Designer Databases

The Micrfiche Filers bring you Designer Databases. This is a review of the "Home" one. *Article by Mike Hubbart.*



DEMO: Who! What! When! Where!

This is a fully working (well, *almost!*) demo of Who! What! When! Where!, a calendar, appointments, to-do, etc., etc., etc., program by Blue Ribbon Bakery.



Workbench 1.4 Peek

Here's a look - that you can load up and look at on your Amiga - at the new look of Workbench 1.4. Two pictures that show some of the expected changes.

27 TrueBasic Calculus

Quick now, what's 2 and 2? And the derivative? TrueBASIC's math series might help you out. *Article by Mike Hubbart.*

62 Getting Started With Amiga C

Here's what you need to get going as an Amiga C programmer - some tools, some programs, some documentation. *Article by Mike Hubbart.*

15 BBS Tutor

Here's what to do, and how to do it, to get into telecommunications with your Amiga, as well as a practice session with a non-existent BBS Sysop using artificial intelligence algorithms. REAL artificial. *Program on disk by George Trepal.*



The REXX Department

ShoList.rexx is a neat Arexx program by R. L. Stockton, of NAG3.0 fame. It shows you a list of everything that's going on in your Amiga, including devices mounted, tasks loaded, and whatever else.

Music & MIDI

50 The Amiga Musician

The NAMM show, new Amiga music software, and a MIDI switcher hardware project to save you some money. Column by our resident music professional Glen Deskin.

51 The Modular Approach

Music Modules makes Amiga music with modules.

52 More Music Software: Bars&Pipes

Blue Ribbon Bakery is cooking up Bars&Pipes, for your MIDI and internal musical endeavors.

Continued...



Fonts, Fonts, Fonts
On disk. More fonts to add to your library, and to add a little flare to that wordprocessed letter you send to your Aunt.



Gettysburg 71
Muskets not included.



Jinx 72
This issue's Games Gallery guest.



MUSIC: The Boogie Woogie

Turn the sound WAAAAAYYYY up! Don't forget to check out those neat "scooped" instruments, too. They can be moved to your own disk and used to make your own boogie. *Music by John Thompson*



MUSIC: Frenetic_Round

Yep. Rather frenetic. Nice and round. *Music by John Thompson.*



MUSIC: Minuet In G

Music to dance by. Careful, don't soil the lady's train. *Music by John Thompson.*



MUSIC: Technopop

Something a little more contemporary. *Music by John Thompson.*

Amiga Style Entertainment

64 Taito Games

A look at some of the fanciest of the fancy arcade-style games from Taito. *Article by Mike Hubbartt*

45 Auntie, Oh, Auntie!

Mindware's Aunt Arctic Adventure doesn't blaze any new trails in computer gaming, but it's pretty nice. *Review by John Thompson.*

64 Sssssssssssnakes!

Incognito's Snake Pit. Review by John Thompson.

71 Hear The Cannon's Roar?

SSI's Gettysburg takes you back in time. *Review by Kevin C. Rohrer.*

25 Take No Prisoners!

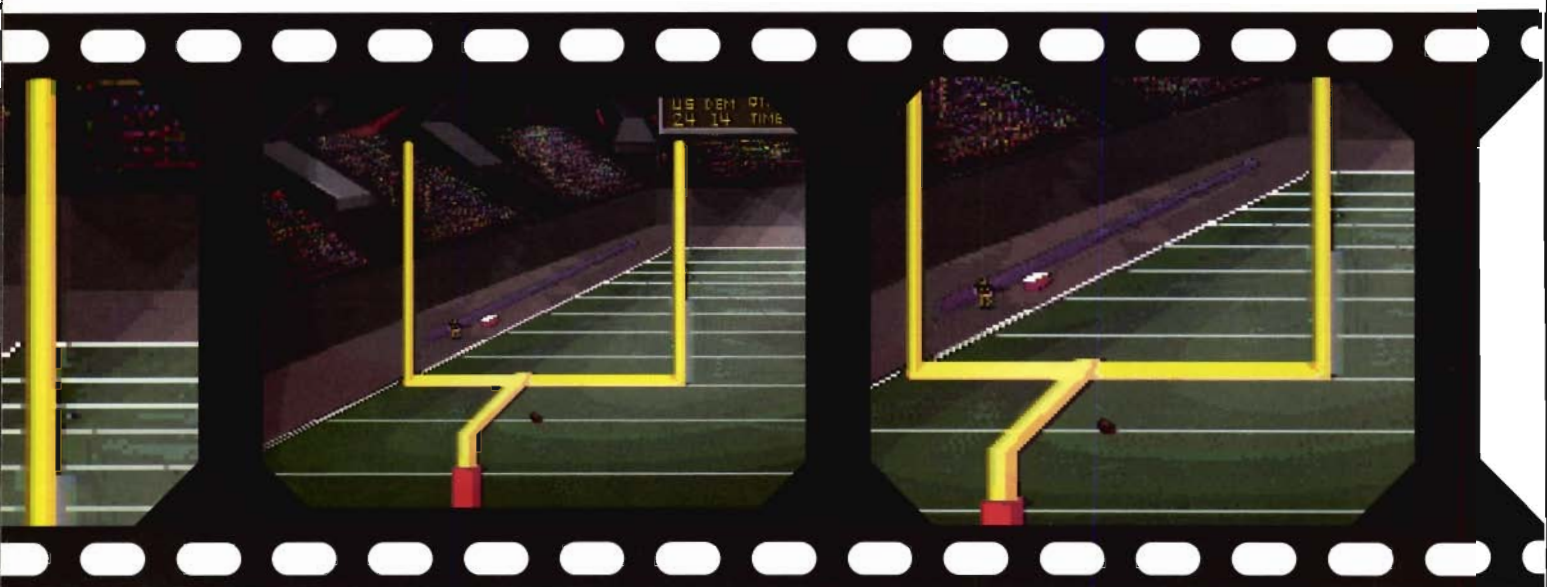
But rescue the hostages if you can. *Review of Mind-scape's Hostage by Kevin C. Rohrer.*

72 Games Gallery: Jinx

Plenty of graphics from the game Jinx by Hard Wired.

Note: Items in the table of contents that have a () icon next to them are items that are contained in this issue's disk set. This is a two disk set that is prepared especially for A.X. Magazine. If you did not purchase your magazine with the disk set, you can order them with the Reader Survey sheet, or simply call: 1-800-284-3624!

Animations



In This Issue

Animations, animations and more animations. In this issue, we are featuring a HAM animation by the Winners Circle.

About The Football Animation

Just in time to usher in the fall football season, the Amiga animation on this disk, "Football" is by Winners Circle Productions. It's a full-cell HAM animation of a football fieldgoal from a VERY interesting perspective.

This was a small sequence built for inclusion in a longer videotape animation, and it isn't designed to repeat (wouldn't a fieldgoal every 10 seconds be a bit silly, anyway?). However, you CAN make it repeat if you want to. Repeating will cause some HAM artifacting which can, in fact, be rather entertaining, and if you're up on the ANIM format's peculiarities, you can even figure out why it happens - assuming you also know something about the way the Amiga generates HAM pictures. Well, anyway, it's a very nice, very smooth animation. It's like getting a look through a glass wall into a real animation studio, which is what Winners Circle is.

Winners Circle, by the way, does all their animation productions on Amigas, and they have highly coveted recognition from the Association for Computing Machinery's Special Interest Group on Computer Graphics to show for their meticulous efforts.

"Football" is copyright 1988 by Winners Circle Productions, all rights reserved.

If you want to run this animation from the CLI, use:

```
ShowAnim +5 ax2:Football.anim
```

To make it play continuously (watch out!), use

```
ShowAnim -c +5 ax2:Football.anim
```

NOTE:

All of these animations are Copyright 1990 by The Winners Circle, and are not distributable. Permission is granted for the private use of these animations by our readers. You may move them onto your own disk, but please do not distribute them to networks, BBSs and the like. Thank you.

Jay's Way

Jay Gross, the editor of A.X.
Magazine, touches on some of what is going on in the Amiga
community. Or rather, perhaps what should be going on.

Oh, how unfair life is. First, there are these rumors, bandied about by reasonably trustworthy sources, that Commodore's about to get bought out by a real company. Wonderful news! Then, disappointment. Nobody has announced any buyout plans, and nobody seems even the vaguest bit interested in doing so. Still, Everything has pointed to a buyout being in the making. Everything? Consider these points:

1. Commodore is a miserable failure at marketing anything they sell in today's market, even the 8-bit machines which made their name a household word. Blunder after blunder after blunder heaps up, and lately, a heap of new-found profitability has gone down the tubes, too.

2. One of this new crop of execs comes from the investment banking business, in a roundabout sort of way.

3. Commodore is sitting on very powerful technology that could, in the hands of somebody competent to market it, make a potload of money. Indeed, the company is almost uniquely positioned to take advantage of this week's state-of-the-art in computer design, which just about requires the ability to make custom microchips to handle a variety of jobs, including reduce manufacturing cost.

3. The market is advancing, quickly, while Commodore's offerings have been sitting still, and this has been going on for a *long* time.

Now, doesn't that look like a buyout would help things to move along toward reality? It does, indeed. Alas,

there apparently is no buyout. Not even any sale of technology, any "joint venture", nothing. Is CBM *that* undesirable? Surely somebody would like to pick up the Amiga technology for a paltry few million, patch it up to today's computer standards, and make a tidy profit on a technology that will be very difficult to clone and nearly impossible to immitate, for the price.

Takers? Anyone? Well, not just anyone - check that. Somebody, please, with capital to invest in taking up the slack in the Amiga's development left by four years of CBM's neglect. And PLEASE, somebody with expertise in marketing, promotion, and customer support. It'd be nice if you've never made an empty promise, too, but the computer business is riddled with that sort of thing, and Amigoids are already accustomed to that treatment from CBM, so it won't be anything new.

Oh, another few requests. Somebody with a good name.

The reward, of course, is a rabidly loyal band of Amiga owners, and the finest computer hardware technology ever to strike the computer market. You don't have to worry about anybody having a bad opinion of the Amiga. Most people have still never heard of it, and those who have respect it, for the most part. As for Commodore, they can go away to someplace where the dollar exchange rates won't bother them any, and market their 8-bit toys.

A few words of caution, too. First, buy only the Amiga technology and anything associated with it. Forget the 8-bits. Forget any game boxes you find stashed around the old warehouses, and by all means forget

the clones. There are better marketed clones that aren't as nicely made, but then again, there are better marketed COMPUTERS that are dinosaurs compared to the Amiga. Clone sellers need not apply, in other words. The Amiga is (thank Heaven) Not A Clone. But do get the BridgeBoard technology. It'll come in handy for cinching the myopic

Blunder after blunder heaps up...

sheep who insist on Clone compatibility.

Second, be sure you get the Amiga Unix box. Clones are out, anyway, and Unix is in, and the Amiga will make a dandy platform on which to run Unix, particularly X-Windows, already available.

Sounds like a good deal from here. Buy a full-fledged, GENUINE multitasking computer that's already been de-

signed and already has a nice software base. Throw some money at it, to improve screen resolutions, increase buss width, etc., and do a good marketing job. Presto! Wealth and happiness. What could be simpler!

Why, if there were a few million smack-ers in a bank near hear, I might get a crowbar and. . .

j:



Ami Exchange's

AMIGA

Software & Information

More affectionately known as A.X. Magazine

Clyde R. Wallace - Publisher

Bonnifant Heeja Han - Publisher

Jay A. Gross - Editor

Sharon Fierstein - Production Director

Glenn D. Sabin - Advertising Director

Judith A. Channer - Subscriptions & Correspondence

Doug Smoak - Amiga engineering and technical consultant

Dwin Craig - Advisor

Stephen Miller - Legal Advisor

Authors, Artists and Contributors for Issue 2.5

Rich Bielak, Bill Brown, Mike Cooley, Glen Deskin, Michael Hubbart,
Everitt Mickey, Bill Miller, Shamms Mortier, Melody Natcher, John E.
Ramspott, Kevin C. Rohrer, Doug Smoak,
John Thompson, George Trepal

Special Thanks To

Anna & Vince of Faces & Fashions Photography, Rita K. Smith, Harv
Laser, Spencer Whetstone, Kevin Karlin, Tysone Liotta, Frank
Luncheon, Steven Miller, Mark Niedzielski, Jeff Pejisa, Kim Schaefer,
Chet Solace, Clyde R. Wallace Sr., Mal Hee Wallace

A.X. Magazine is not associated with Commodore Business Machines, Inc.
A.X. Magazine is published bi-monthly by A.X. Productions, 9276 Adelphi Rd.
Suite 102, Adelphi, MD 20783-2029. Phone: (301) 439-1151. Unless explicitly
stated otherwise, all contents of this magazine, both paper and disk are
copyright 1989 by A.X. Productions, Inc. No part of this magazine may be
reproduced, or distributed without the expressed written permission of the
publisher. **A.X. Magazine** makes every effort to insure the accuracy, and
functionality of this magazine. **A.X. Magazine** assumes no responsibility for
damages due to errors or omissions.

U.S. Subscription rate is \$69.95 per year (for 6 issues). Subscriptions outside the United
States please add \$24.95 for shipping. Canadian subscriptions should inquire with our
Canadian distributor.

Editorial Offices
134A Clearstream Valley
Lexington, SC 29072
(803) 957-1106

Canadian Operations
CompuArt
4855 DeMaisonueve
Montreal Quebec H3Z1M6
(514) 483-2080

Corporate Offices
6215 Greenbelt Rd.-101
Greenbelt, MD 20740
(301) 439-1151
FAX (301) 345-8998

Technical Support

If you have a problem operating part of your magazine, please give us
a call for help. Technical support is being handled by NewAge
Computers. When you call, state you are calling for A.X. Technical
Support, and please have the Issue number, and any other relevant
information ready. 301-230-1296 (10am to 5pm EST)

A.X. Magazine's PD Disk Contents For Issue 2.5

Available to A.X. Magazine readers for only \$2.50! See reader survey for details.

What's on the PD Disk?

Can you beat this? This game, that is. It's TTT, a three-dimensional Tic Tac Toe game by Ron Charlton. It's a four level matrix of squares, and the rules are same as regular old Tic Tac Toe, except that you have to worry about being beaten (or winning) by lines of occupied squares in the third dimension. The board is displayed in a perspective view.

Next stop, animation. Clerkpotato.anim is a Sculpt 4D animation that plays with the Movie program, also included.

You've no doubt heard of the Norton Utilities. It's a MS-DOS disk tinkering kit, for the most part, but it includes a few utilities for benchmarking the performance of IBM-PC clones against the real thing. Enter Kramden Utilities for the Amiga. The trivia buffs out there will be overjoyed to explain the significance of the name Kramden. The directory includes a number of neat utilities similar on the Amiga to Norton's products on MS-DOS.

Sketcher is an electronic Etch-A-Sketch. You use the cursor keys to move a pen around the screen. The Amiga one, of course, works in COLOR, not just grey and black.

Speaker tools will appeal to the tinkerers out there in Amiga land. If you're building your own speakers, there's some rather complicated computations involved in designing the "enclosure," a box by a classy name. Speaker tools does that for you.

The disk also contains some nice Amiga pictures for your viewing pleasures. Included are Einstein.Pic, OTemple.Pic, and a bonus collection of clipart gleaned from PeopleLink's new Desktop Publishing forum, "Depot". The clipart screens are Hairdress.clipart, Halloween.clipart, SkeletonHand.clipart, and Skull.clipart.

Also on the disk is an Amiga implementation of the Logo programming language. Refer to the documentation on the disk for details. Logo is a language that gained a lot of attention among educators a few years back, and it's still high up on education's want list for Amiga development. Well, here it is!

If you do a lot of telecommunication, or even a little bit, you'll bump heads with a blue million "compression" schemes for putting a collection of disk files into one big file, data compressing them to make transmitting them more efficient, and then, of course, uncompressing them on the receiving station. The usual utilities for this are ARC and ZOO, but a new one has reared its head. It's Lharc, currently in version .5 (not quite ready for prime time, apparently, but it works). If you don't have Lharc, you can't undo compression inflicted by Lharc. So, here it is, in case you need it.

Mathematicians, musicians, biologists, shirt pressers, and computerists alike are fascinated with Chaos. It's like Mandelbrot's sets, only the pictures aren't as regular. Here's a new one, and it does a nice job of drawing a chaos function to the Amiga screen. The C sourcecode is included, so you can have at it. Actually, even if you don't program, read the sourcecode. The comments are quite comical.

There's been a lot of discussion of the unhappy behavior of sprites in some games, on account of the overscan adjustment set in Preferences. If you're losing sprites, use Rob Peck's new SpriteAdjust program to put the Preferences screen centering where it won't interfere with them.

This issue's PD Disk was edited and assembled by Jay Gross and Clyde Wallace. Many thanks to the kind folks who have placed their work, that's contained on this disk, as well as all the other vast Amiga PD resources, into the Shareware or otherwise freely distributable category for all to enjoy.

Snake Pit

Have you ever noticed how many, many computer games are derived from just a few basic themes?

by John Thompson

Have you ever noticed how many, many computer games are derived from just a few basic themes? There is the old 'blast everything that moves' theme; the 'dig through dirt and collect jewels' theme; the 'climb ladders and collect keys/gold/bananas' theme, and of course the classic 'run around the maze and eat dots' theme. Snake Pit, a new game from Incognito Software, is based on an equally hoary concept: guide your snake about the screen, eating red dots that make your snake grow. All you have to do is avoid trapping yourself and don't bite your own tail.

This is just a bit more difficult than it sounds. Many of Snake Pit's fifty levels are filled with brick mazes. Dead ends are exactly that: if your snake stops crawling, he's dead. Things get harder as your snake grows. Steering a long and unwieldy snake around twists and turns requires quite a bit of planning. You will have to look ahead and make sure that your tail doesn't block your path; unfortunately, your snake sometimes fills so much of the screen that it blocks EVERYTHING.

Like most new, improved versions of 'classic games', Snake Pit adds a couple of new features. Along with red growth dots, there are purple dots that cause your snake to shrink. These may be handy at times, but don't let your snake eat too many. He might disappear altogether. Another Snake Pit innovation is the addition of movable pink bricks. Your snake can push a single pink block aside, but only if there is free space on the other side. Many of the logic puzzles involve how and where to move these bricks.

Snake Pit has one of the most original sound tracks I have heard lately. Drums, soft, subtle jungle drums, pulse rhythmically. As you progress through the level, the drums pound faster and faster, louder and louder. This is a very effective way to add excitement and tension. Most game music gets on my nerves after a few hundred repetitions, but not this. It adds a mysterious, exotic feel to the game.

*Drums,
soft,
subtle
jungle
drums,
pulse
rhythmically*

The joystick controls in Snake Pit work smoothly; too smoothly, in fact. I am simply unable to blame my snake's death on slow or inaccurate response; it is always clearly my own fault. I hate that in a game.

Snake Pit also joins the growing list of games featuring construction sets. This is a trend which should be encouraged; sometimes it's more fun to create new levels than it is to

play the game! Snake Pit's construction set is self-explanatory and easy to use. This is good; the documentation isn't that great. If the game actually NEEDED documentation it might be a problem.

I wish the graphics were up to the level of the rest of the game. Actually, the graphics are not that bad; they might even be considered quite nice - on an Apple II or a Commodore 64. Compared to the high standard Amiga owners consider normal, however, they look pretty crude. The figures are small; each brick is about the size of a screen character. Everything looks very rectangular and blocky. This is emphasized by the way the snake moves; instead of smoothly slithering, he jerk, jerk, jerks along in a most unsnake-like manner.

In conclusion, Snake Pit is a competent and amusing variation on the classic 'snake' or 'worm' theme. There's nothing really new here, but if you've never played a 'snake' game you wouldn't notice that. If you are interested in Snake Pit, you might want to take a look at Tracers, which features a similar theme.

THE BOTTOM LINE

'Price' and 'worth' are not the same, but they are easy to confuse. A public domain game must not be any good, or it wouldn't be free, right? (Check out Tetris) A fifty dollar game must be really good, right? Wrong! I have a couple that are so dull it's hard to stay awake long enough to play. What about Snake Pit? Not great, but not bad, either. •

PRICE: \$39.95

WORTH: \$30.00

--

Commodore

What's Up At CBM

by Jay Gross

What's up, indeed. First, a look at what's down. CBM's stock, "Comdre" on the New York Stock Exchange has been on Blue Light Special for half off the recent high point. The stock market apparently doesn't cotton well to bad news. Bad news like the recent quarter's loss of several mil. CBM's apology department (one of their hardest working divisions) blamed dollar exchange rates for digging into all those Pounds and Marks and Lira, Rubles, and whatever else they're raking in across the pond. American sales (mirroring their American marketing efforts) were termed "lackluster."

Well, us Amigoids have been harping at them for lo these past four years, and somebody up there finally listened. Have you seen the ads yet? Ads. You know, A-D-V-E-R-T-I-S-I-N-G. It's been a foreign concept in West Chester, but it's here, finally, though three years late. The people who worry about such things have got their statistics calculators going, and they claim that between now and December 24 (when the ads stop cold), most of the American public will have seen an Amiga ad around 20 times (insert 120-point exclamation point!).

If the promises are fulfilled (CBM?), the Amiga will be advertised in a really big way from here on out, right up until it's time to return those orange-spotted teapots, plaid undies four sizes too small, and those "some assembly required" items that somehow required parts not included in the box. Indeed, plans are to have not just prime time (i.e., football game) TV advertising, but ads in magazines, newspapers, and on the major cable music channels, as well.

The interesting thing about the TV ads, though you've probably seen and heard for yourself by now, is that George Lucas did 'em. You remember George. He's kinda heavy into the movie business, one could say, but this is his first commercial. Word is, he even has an Amiga, which likely is more than you can say for most of the people who run Commodore. The ad campaign starts with a bang, too, with the Entertainment Tonight television show running nightly segments on how the commercial was made.

The tab for all this is around \$14 million. Actually, considering the cost of major TV advertising campaigns, that's a piddly sum, but - as they say - it's a far sight better than nothing. The Amiga featured in these ads is, of course, the 500. That's the one that's now available through the mailorder catalogue from Sears. You remember Sears. They nearly *invented* mailorder. Another interesting point.

Effective this month, Commodore has, in their infinite wisdom, cancelled all Amiga dealership agreements. Excellent timing, don't you think? Right in the middle of THE selling season of the year. Their new minimum qualifying sales figures will also eliminate many of the loyal mom-and-pop computer shops that have held in there as Amiga dealerships over the years. Looks from here like this past quarter isn't going to be the only one for which the CBM Department of Whining Excuses and Apologies has to concoct some reason for losing money.

The new "qualification" forms sent out to the old dealers some time ago make a big deal about what percentage of the dealer's sales are mailorder. Indeed, a top CBM executive (Name? Who bothers trying to keep up with their rotating titles anymore?) sent out a memo to dealers insisting that sales be made only in person, and suggesting that list prices are good ones to be charging. Next stop, Sears mailorder, and NOT at list pricing, either. There's a word for this sort of behavior, and many Amiga dealers will be using it - those who don't employ "goodbye" instead. "Two-faced". Yep. That's the word, although "dishonest" comes to mind, too.

Obviously, there would never have been any advertising if there hadn't been the Sears mailorder deal, so Amigoids have to look at this in a good light, even if it does smack of being another in a long line of CBM dealer alienation plans.

Oh, there's one more thing about all this advertising. It isn't "all this" advertising. The agency is playing the numbers on it, as ad agencies are highly skilled at doing. If you don't live in one of the "targeted" areas, you might not see *any* Amiga advertising. The fact is, though, that by playing the statistics game skillfully, you can reach a high percentage of the US population by targeting only a small (40 percent) chunk of the coun-

try. This is what's going on, so don't be discouraged if you don't see any Amiga ads, even after all this hoopla.

What else is new?

Aside from going to great pains to alienate their dealers, CBM has been going to some pains to help them out, too. Can you say "confused?" The ad campaign was announced and described at a big dealer pow-wow in New Jersey a few weeks ago. incidentally, at that meeting, the Sears deal was already a known fact, but not generally well known, and CBM's own people were under strict orders NOT to bring up the subject, thereby to ensure their continued paychecks.

Who said "two-faced" again?

Well, when the dealers got home, what should greet them but a joyous announcement sent out to let them know the latest news from Commodore. The company signed up another chain of competitors for them. Wonderful news! Well, unless you're an Amiga dealer, it is wonderful news, actually. The Connecting Point computer franchising operation has agreed to warehouse Amiga products for their chain of franchisee stores. Connecting Points are respected, business-oriented computer stores, for the most part. CBM made a public relations blunder (as usual) by sending the announcement to the wrong people, but they pulled off a very important coup in bringing Amigas to business markets.

CBM Is Hiring, Too.

Commodore is accepting applications for positions with Commodore-Amiga Technical Support. Those are the folks affectionately known as CATS, and by most accounts they, unlike the "marketing" departments' nincompoops, have been doing a conscientious job in a difficult situation.

Here's the official advertisement, slightly abbreviated:

We are currently accepting applicants for a variety of technical and non-technical positions. . . The CATS group provides technical support to third party developers of software and hardware for the Amiga. . . Inside Commodore, this group provides a link between the development community and the hardware and [Operating System] designers, and offers valued input during the design and testing of new software and hardware. The administrative side of this group handles all non-

Report

technical aspects of developer support including the developer database, orders, developer's conferences, and marketing support.

The CATS applications group will take an active role in determining the key areas where third party products are needed, and in evangelizing third parties to produce new and enhanced products for Commodore's proprietary hardware and software. In addition, this group will work to insure that key products are localized and sold in all countries.

CATS offers a varied and challenging work environment, high visibility and growth potential, and also some interesting travel opportunities.

CATS Positions Available:

Technical Support Group:

Technical:

Support Programmer I - entry-level Amiga support

Support Programmer II - focus on Amiga standards (Arexx, IFF, other)

Support Programmer II - focus on standards (user interface, other)

...

Support Engineer II - Amiga hardware design support

Asst. Technical Editor - compile/edit/typeset tech support materials

Administrative:

Administrative Manager - responsible for all non-technical aspects of the developer support program

Applications Support Group:

Software Development Coordinator - work with developers under contract . . . Involves testing, administration and evaluation of applications projects.

Authoring System Support Specialist - to support developers writing products using The C= authoring system.

Evangelists - (education, productivity, recreation, video, scientific/engineering, UNIX, LANS, etc.) work to strengthen the Amiga applications base in their area of specialization.

Developer Marketing Support Specialist - Advise developers on Marketing issues and distribute info about C= marketing plans/programs to developers.

If you feel you meet the requirements for any of these CATS positions, we would like to hear from you. If you have previously applied for a position and are still interested, please apply again to be considered for the current openings.

End quote.

If you want to apply for any of the positions, the company requests a resumé, along with information on which job(s) you're interested in, salary requirements, a thorough de-

scription of your Commodore-specific experience, and samples of your programming code and technical writing (for technical positions). Send this stuff to:

*CBM - Personnel Department
1200 Wilson Drive
West Chester, PA 19380
ATTN - CATS applications*

The people there can also provide more thorough job descriptions for the available positions and tell you whether, in the time it's taken for this to make it through the magazine's lead time, the positions are indeed still open.

Buyout? What Buyout?

The rumor mills were replete with news of a pending buyout at CBM a while back. More recently, in fact, Commodore was the

target of Yet Another Takeover Rumor, this time from none other than AT&T. Well, who knows where these rumors originate, and who cares, anyway? The fact is, though, that CBM hasn't yet had the good fortune to be bought out by anybody real, and if anybody real is really interested, CBM's erratic behavior (small samples having been previously mentioned in this column) has apparently scared them off. The Hewlett-Packard buyout? Frankly, H-P has better taste. However, there were some migrations of folks from H-P to CBM's employ recently. Perhaps that activity was the source of the rumors.

On Wall Street, where the Amiga is respectfully known as "the computer that Commodore couldn't kill", rumors of a takeover

Continued On Page 67

**Amigas
For Sale
At
Sears
Everyday
Low Prices**

Turbo Silver Tutorial

A well organized walk-through for beginners. Step by step to making an animation.

by Bill Brown

F(Creating an animation in Turbo Silver is really easy, after you make a few mistakes, waste some time, and of course, REad the manual. Reread the manual. Then have it translated, and read it again. To help you get started, here is a step by step walk-through that will get you going strong.

Each step is followed by a collection of comments, and this is all in more-or-less outline format, so it'll be easy to follow.)

-ed

A. Load Turbo Silver

1. This opens the ANIMATION EDITOR screen.
2. The "filmstrip" across the center of the screen has numbers under FRAMES, but not yet under CELLS
3. Titlebar says SILVER

B. Set the "ENVIRONMENT" (MODES menu selection)

1. This must be done BEFORE selecting NEW or OPEN in FILE menu.
2. Once a file is created or loaded, MODES is greyed out.
3. For this walk-through, just accept the defaults.

C. CREATE a new file

1. FILE / NEW, from menu. A file requester appears.
2. Select desired device, any subdirectories, etc.
3. Type in a filename, <RETURN> (or click close gadget)
4. Title bar changes from SILVER to <filename> - the one you just typed in.

D. Set up a "KEY" cell

1. The Key Cell will be used to define object(s) and motion from which Turbo Silver will automatically generate the movements in as many OTHER cells as you request. The KEY cell is NOT included

in the animation.

2. Select "KEY" CELL at the bottom of the screen, but positioning the mousepointer over it and doubleclicking the left mousebutton.
3. You're moved into the CELL EDITOR
4. Only a camera (that's the white object) is present.

E. Put objects in the KEY CELL

1. For this simple example, not much has to be done, but it'll show

you how to operate the program

2. Add a GROUND object. You can take it out later, but it'll help you stay oriented in the three-dimensional space represented.

EDIT / ADD / GROUND (this is how you add a ground!)

- a. Name requester appears; either leave as ground or change its name and <RETURN> or click the close gadget
- b. Click the object, when it appears on the OBJECT EDITOR screen. This turns it BLUE.
- c. Select SETTINGS / ATTRIBUTES from the menu, and set a color (click color box, and adjust sliders); leave all other defaults alone.

3. Add an OBJECT

- a. EDIT / ADD / SPHERE (from the menu)
- b. Go through the naming procedure, same as for the GROUND object. For good measure, don't name two things the same.
- c. "SELECT" it by clicking it once with the mousepointer.
- d. Select SETTINGS / ATTRIBUTES from the menu, and set a color (click color box, and adjust sliders); leave all other defaults alone.

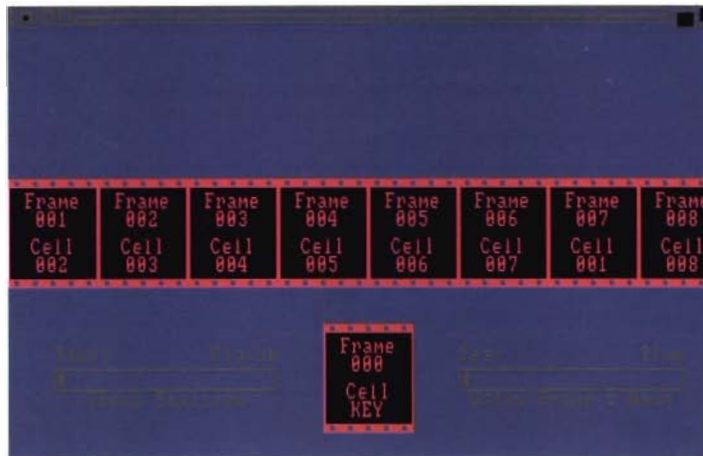
4. Define a PATH - A bit less simple than the above, but here's how:

Add an "axis" (everything has an axis, but you can add an axis that has no shape, and put things onto it). Connect the points with edges to form the path.

- a. EDIT / ADD / AXIS - from the menu - and name it, as above. Name it "PATH" or something similar.
- b. PICK the axis. The axis MUST be "SELECTED" to be able to add points to it.
- c. EDIT / ADD / POINTS - from the menu
- d. Click in a set of points - a small circular arrangement will do nicely.
- e. EDIT / ADD / EDGE - from the menu
- f. Click the points in succession, and they'll be connected by edges
- g. PICK / OBJECT - this is the only way to get out of the ADD / POINT / EDGE mode.

5. Put in a light source

- a. EDIT / ADD / AXIS - do the name game, as usual
- b. "PICK" it



- c. SETTINGS / ATTRIBUTES, and set color (white light is simplest)
- d. Click SUN and SHADED, and leave the other defaults alone.

6. Sky! Do this if you don't want a black sky.

- a. SETTINGS / GLOBALS
- b. Click on ZENITH and HORIZON, and set a color for each.
- c. Set BLENDING to 255 (the maximum) and leave everything else at the default setting.

3. Associate the object with the path

- a. PICK the object (it turns blue)
- b. SETTINGS / STORY from menu
 1. A requester appears, with the object's name in the titlebar
 2. Enter the name of your path ("PATH") in the FOLLOW PATH box.
 3. Click on the close gadget to exit

4. Set a camera viewing angle

1. Pick the object you want the camera to look at
2. SPECIAL / TRACK from the menu will make the program "follow" this object
3. In order for you to be able to SEE motion if there is only one object, the camera has to look at some fixed point, while the object moves. If you TRACK the object, you won't see any motion unless there are other objects around to measure motion against. Have the camera look at an axis installed for the purpose, if you need to, while the objects move around in its field of view.

5. EXIT the CELL EDITOR.

Click the close gadget. Notice that the 000 number in the KEY frame will now be WHITE, meaning the KEY CELL is still selected.

E. GENERATE the Animation

CELLS - Turbo Silver does this for you, moving the object(s) you have defined in the path you have set, and generating the number of frames you ask for.

1. CELLS / SOURCE from menu
 - a. The currently selected CELL becomes the SOURCE, which will be copied or moved, or whatever.
 - b. In this case, FRAME 000 is now the SOURCE cell.

2. CELLS / USE STORY from menu

- a. Generate movement along the path ("Story") you defined during editing.
- b. A check mark appears at the menu item

3. CELLS / MAKE from menu

- a. Requester should appear (select the menu item again if it doesn't; it sometimes forgets.)
- b. Type in the number of frames you want Turbo Silver to create, and hit <RETURN>.
- c. After a bit of BUSY pointer and disk activity, FRAMES 1 - (whatever number you selected) will show. Animations look good and smooth starting about ten frames per second, so that's a good number of frames to pick for this walkthrough.

4. EDIT / ALL - selects all frames - all frame numbers become white

5. CELS / TARGET - Turbo Silver generates movement through all selected cells FRAME / CELL numbers revert to orange from white

F. GENERATE the Animation

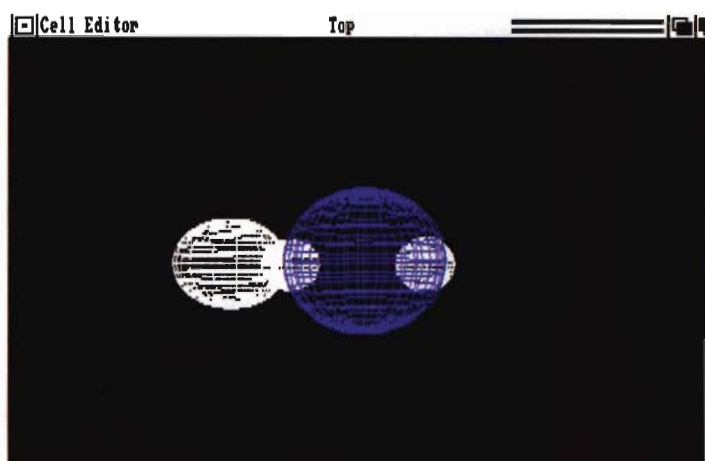
1. Select the "Type" of rendering
 - DISPLAY / OPTIONS / WIREFRAME (this is the fastest!)
 - DISPLAY / OPTIONS / SOLID MODEL
 - DISPLAY / OPTIONS / FULL TRACE

Your choice. The full trace is what it says. The solid model is useful for quickly checking positioning, motion, etc., before doing a full trace.

2. EDIT / ALL numbers turn white

3. SCENE / MAKE SCENE

- a. If you haven't previously rendered the cells (in SOLID or TRACE mode), no asterisk is displayed by the CELL numbers. The program will render them now. (This might take a while!)
- b. The rendered cells are combined into a "MOVIE" script. Messages announce "DRAWING CELL" and "BUILDING ANIM".
- c. If you need to interrupt, click the left mousebutton, answer YES to the requester question "KILL TRACE?" and "DELETE PIC".



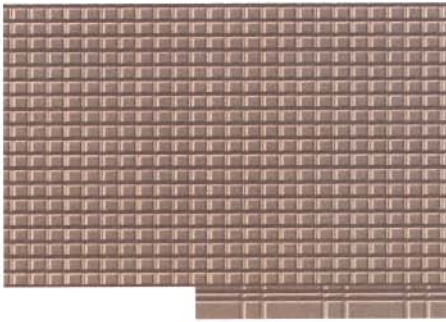
The ever useful wireframe mode, allows you to view the object locations.

G. (Okay, here's the REALLY fun part) Watch the RESULT!

1. SCENE / LOAD MOVIE
2. SCENE / PLAY MOVIE (select once or loop)
3. Use the F(unction) keys to vary playback speed. F1 is fastest, F10 is slowest.
4. <ESC> to end playback.

--

On Disk This Issue



Tiles Clipart

These tiles are provided as IFF images on Disk #1 of this issue. You may load them into any paint program and use them as a background. They also make an excellent background for video and titling. They are contained in the directory called "Tiles.Backgrounds" and do have icons. If you like you may copy these icons to other disks. But please use them for your own personal use and do not distribute them.



Workbench 1.4 - Sneak View

Workbench 1.4 - in Pictures • by David Czaya

For everyone who would like to catch a glimpse of what 1.4 may look like. This is a rendering of the 1.4 Alpha Workbench.

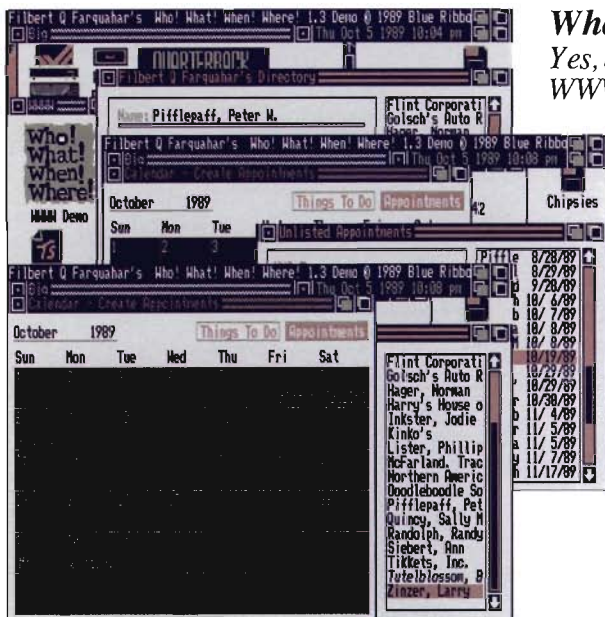
There are two IFF's. One is of the Workbench with a couple of icons and an opened window. The other is the Workbench with all the menus dropped down. Some spacing liberties were taken here in order to show all the menus and sub-menus on one screen.



ClickDos II - Reference

This is the reference picture for ClickDos (an extremely useful utility if all those dos commands and CLI have you down.) There are more extensive instructions on disk (you can use the ICON, or use CLickDos!). Enjoy, and cheer up, ClickDos is here!

With ClickDos, you can copy, delete, display, read, move, rename, protect, label files to your hearts delight. And all this is done by clicking gadgets, as opposed to typing in the CLI.



Who? What? When? Where? Why? Demo?

Yes, demo! And working too! To run the demo, simply click on the WWW Demo icon.

If you have questions about this product, please contact your friendly neighborhood Amiga software dealer or the folks at Blue Ribbon Bakery.

Blue Ribbon Bakery
1248 Clairmont Road, Suite 3D
Atlanta, GA 30030
(404) 377-1514

More Fonts

This font is included on Disk #1 of your magazine disk. You can access it using any point programs that allow you to load and use other fonts. It is located in the FONTS directory of Disk #1 (AX1:). This particular font is more of a "fun" font in light of the season.

BBS Tutor

GETTING STARTED IN TELECOMMUNICATIONS
by George Trepal

Electronic bulletin boards, called BBSs, are fun. You can leave messages, get or give information and programs or just chat. Connect your modem, load a telecommunication program, and you're set to go. Provided you know the jargon of telecommunication, that is.

Just as there are many natural languages, English and Chinese for example, there are many telecommunication languages. For two computers to talk to each other they must speak the same language. That means the two must agree on baud, bit number, parity, stop bits and duplex.

These terms are probably all new to you. To understand them you need to know what a modem does. The word modem is short for MOdulator-DEModulator. Your modem, actually a little computer, takes information from your computer and converts it to a form that telephone lines can transmit. At the other end of the line, another modem picks up your modem's signal and changes it back to computer usable form.

Computers work by turning tiny electronic switches on or off. Each switch holds one BIT of information. If a switch is off it's said to be zero. If it's on it's said to be one. Single bits aren't too useful but if you use eight bits, called a BYTE, you can represent any character of the keyboard (and some that aren't on the keyboard.) A modem sends information one bit at a time so it's called a SERIAL device.

BAUD translates as bits per seconds and is how fast the information is sent. (If you want people to laugh at you say "Bauds per second." You'll never live it down. Never.) 300 baud is 300 bits per second and 1200 baud is 1200 per second. To find the number of letters that can be sent every second divide the baud rate by ten. Wondering why it's ten rather than eight? Isn't it eight bits to the byte? There are bits you don't know about yet.

The higher the baud rate the faster you get information from another computer and the more your modem costs. At rates above 2400 the normal phone lines may not work reliably. 1200 baud is what most computers use but 2400 is getting more and more popular.

Back to phone lines. The normal phone lines may not work reliably at ANY rate. Some sort of checking is needed. That's where an extra bit comes in. Enter PARITY checking.

We say "one egg" and "two eggs" but never "one eggs". The "S" on egg means that the number is greater than one. This is a kind of parity check. So are subject-verb agreement and the gender of words that some languages use.

Suppose I used my modem to send you a list of numbers, and then sent the sum of these numbers. If you added the numbers and got my sum you'd know that the transmission was perfect. If our sums didn't agree then you'd know something was wrong. Remember that a byte is made of ones and zeroes. Let's transmit a byte then add all the ones and see if we get an odd or an even number. If we get an even number let's send a one bit and if we get an odd number let's send a zero bit. These are parity bits. On the receiving end the computer adds the incoming bits then waits for our parity bit. If the sum and parity bit agree, it asks for the next byte. If it disagrees it asks for retransmission. Foolproof? No, but the chances of two bits in a byte going bad and fooling the system are very small.

In the above example we could just as well have agreed to use zero for an even number and one for an odd. Therefore parity can be even, odd, or none. (When it's none, no parity checking is done.)

Now to BIT NUMBER (also called WORD LENGTH.) Any character on the keyboard can be sent using eight bits. Also with eight bits any picture, digitized sound, or program can be sent. If you just stick to letters and numbers you only need seven bits. Obviously transmission goes faster with seven rather than eight bits but your range is limited. Most

computers use eight- rather than seven-bit transmission. By the way, seven bit transmission is also called ASCII transmission.

That covers it all except for duplex and start and stop bits. The START BIT is transmitted before the byte. It's like one computer saying to another, "Yo! I'm getting ready to send a byte. Listen up!" The STOP BITS follow the parity bit (if there is one) and indicate the end of the byte has been reached. There can be zero, one or even two stop bits depending on the computer you're talking to.

Now to duplex. I've stressed that time is money but sometimes you have lots of spare time. When you're typing in a message, unless you can type at 1200 baud (about 12 characters a second), there's lots of spare time between keystrokes. The computers use this time to do a full echo of what's being typed. When you type the letter B, the B that appears on your screen is not the B you typed. That B went to the other computer and the B it sent back to you is what appears on your screen.

This echoing is called DUPLEX and you can have half duplex and full duplex. As long as both computers use the same duplex everything is fine. If they use different duplexes one of two weird things happens. 1) No matter what you type no words appear on the screen even though you get words from the other computer. 2) You get doubled letters (ddooouublleedd lleettteerrss) on the screen. If either of these happens to you, change duplex to its other setting.

Suppose you're calling a computer three states away. How will you know what settings to use? You can't talk to the computer without the right settings and the computer can't tell you what settings to use unless you can talk to it.

Simple. Start with these settings:

Baud = 1200 (or 300 if your modem won't handle 1200)
Number of bits = 8
Parity = none
Number of stop bits = 1
Duplex = Full

Most computers can use these settings, and most modern communication programs can figure out your settings and match them. So much for settings. DOWNLOAD means to get something (picture, program, text file, etc.) from another computer. UPLOAD means to give something to another computer. Downloading or uploading are easy. The computer you're talking to will tell you the protocol it wants to use (usually Xmodem). Use the pulldown menu in your telecommunication program to select the correct protocol.

Use the pulldown menus to tell the computer whether you're uploading or downloading. Now tell your computer the full path and name of the file you want to upload or download. If you wanted to upload a picture called Anne in a directory called pics on a disk in drive d0: then the full path and name would be d0:\pics\Anne. To download a file don't worry about what disk a file is on (you have no way to know.)

Where will you put the file you're downloading? You must tell the computer what you want to call the file and where it will go. Storing it in the crashproof ASDG ram disk VD0: (available on Fred Fish's public domain disk #58) is the best choice. Saving files directly to a floppy disk, and especially to a hard disk is suicide. A hard disk is a bad idea. An abort during a file save could cost you valuable data.

How long will it take to get a file? To find the approximate time in minutes at 1200 baud divide the file's number of bytes by 7000.

There are clever programs to compress and uncompress files. Obviously a compressed file is shorter so it takes less time and money to transmit. The most popular compression programs are ARC, ZOO, ZIP, WARP AND PKAX. All are available on most bulletin boards and come with instructions. Which programs uncompress which files? The file names tell you. For example, Anne.arc or Anne.zoo.

A few more definitions and we're done.

LOGON (pronounced LOG ON) is what you do when you contact a bulletin board. Your name is entered into the board's userlog.

CARRIER means that you have a clear connection with an-

other computer. NO CARRIER means that the other computer hung up or that you never made connection to start with.

The person who maintains and operates an electronic bulletin board is called the SYSOP. This is short for SYSTEM OPERATOR. Boards tend to mirror the sysop's personality and interests. One board may be devoted almost entirely to programming techniques while another will lean heavily toward video games.

Most modems are what's called HAYES COMPATIBLE. This means that they recognize the AT commands introduced by Hayes. AT means ATTENTION and when you use it the modem pays attention to your commands. Your modem's manual will list the AT commands.

How do you get the numbers of local free bulletin boards? Usually it's as easy as calling your local computer store and asking. Once you get on one board you'll find that it probably has a list of numbers for other boards. No two boards are the same. Call around until you find one you like.

Some boards are free and some aren't. PeopleLink, Genie, and Compuserve networks are commercial pay boards. At the local level also, sysops may charge either money or information for the right to use the board. An example of charging information is to require that you upload a new program for every x-number of programs you download. The best place to get new programs is from out-of-town boards which are, of course, long distance.

Pay boards will tell you they are pay boards as soon as you contact them. There are no hidden surprises here. A surprising number of boards are completely free.

Hints:

When you're a beginner, it's a good idea to capture everything that comes over the line then sort it all out later.

A kitchen timer is the best investment you can make. Playing the boards is addictive and it's easy to run up whopping long distance bills. Set the timer's alarm for the number of minutes you can afford.

Make sure your computer and modem are both off when you connect them together. Having both live might burn both of them out. Connecting live microchips is always risky.

If you have Call Waiting service, then if anyone calls while you're on a board you'll either lose data or be completely blown off the line. Turn off call waiting by preceding a board's number with #70. The front pages of your phone book will tell you more about this. This code is different in some phone systems, and not honored in others.

If you get a screen full of garbage it's likely that you need to reset your baud, parity, or duplex settings. You can also get garbage if an extension phone is off the hook.

If the text on your screen either is double spaced or overwrites itself, the linefeed function should be either on or off. Use the pulldown menu to set the linefeed to its other setting.

Time to get your feet wet. I've given you a bulletin board training program. It doesn't make contact with a real bulletin board so don't bother to connect your modem. After playing with it for half an hour you should be able to find your way around real boards with no trouble.

The program assumes that you've preset your baud rate, parity bits, etc., so don't look for any way to set them. Most telecommunication programs have electronic phone books but I've only allowed the AT commands.

Normal bulletin board messages will appear in white letters. An explanation of them will appear in yellow letters. Start by typing AT DT and the phone number the program gives you.

--

**See the Table Of Contents for
listings of more items on disk!**

Show Tours

SIGGRAPH & Chicago AmiExpo

by Jay Gross

It was a festive tour. London, again, and it was foggy, even in the summertime. Paris, raining. Big time. Edinburgh, too, but I missed Athens this year. Well, maybe next summer it can fit back into the schedule. Oh, but taking Athens' place on the itinerary was the Back Bay City itself, Boston, an appropriate place to hold the teapot convention.

First things first. Chicago. Having learned a hard lesson about Lower Wacker, Chicago's permanent demolition derby, I made it to AmiExpo in the middle of the aptly-named Chicago Loop with most of my dignity intact. In the fourth or fifth sub-basement below the Hyatt Regency Hotel, Amigoids from all over the Midwest gathered. They came, they saw, and the left, not much better off than they were beforehand. Unlike last year's Midwest expo, there wasn't much new. A few gems, gleaming here and there, but not much earthshaking.

If you count the number of people deep in the booth as a measure of the importance of the items being shown, then the chief attraction was the unusual, and rather confusing Transputer board being shown by Digital Animation Resources. The board is shipping now. Unlike Commodore's own Transputer-based Amiga add-on, ballyhooed over a year ago, Digital Animation Resources' product is not vapor at this writing.

What's a Transputer? Glad you asked. It's a chip. Just as a Motorola 68000 is a chip, so is an Inmos Transputer. Inmos is the name of the company that makes 'em. Transputers' claim to fame, of which they really haven't gained much, yet, is that they heavily support parallel processing. It's like building a house. If you have one carpenter, it takes him a year to build one. Two carpenters, working in parallel - both working on the same project - can do a house in six months. Four carpenters might be able to hammer one out in three months. Same with computer chips. A really big computing job, like calculating all the complex geometric functions required for raytracing or rendering takes one computer chip a long, long time. Two of them, however, can turn

the job out twice as fast (in theory, anyway), and four or eight or sixteen could get it done quick as a wink.

Most computer microprocessors don't parallel process all that well. Some of it can be imitated in software, and some of the workload can be off-loaded to dedicated hardware (as in the Amiga's custom chip set, or math and graphics coprocessors), but generally, truly parallel processing is currently limited to a very few, very expensive computers like AT&T Pixel Machines, or Paragon's magic boxes. Transputers hold out the promise of being able to implement that kind of technology on the desktop, and without as much of the hardware, or software, complexity.

And now you know the rest of the story. No, actually, the rest of the story is at the same stopping point as the Amiga was in the beginning. Transputer boards don't do much without software. Nothing, in fact. So, until Digital Animation Resources convinces some Amiga developers to support their board - which also offers a very high resolution, blindingly fast, 16-million-color display - with software, it's a nice, pretty island, all to itself. Large firms with the ability and money to write their own software will surely notice that for \$5000 plus the cost of an Amiga, they can have performance greatly exceeding that of \$40,000 workstations. Us normal people have to wait for the software folks to accommodate to the product.

The company says it has commitments from many of the major Amiga developers to add support for the board to existing products, and it even provides sample code and programming support to help out.

Busy booths. Great Valley Products nailed down a large chunk of Expo real estate, but it was chock full of folks, eyeballing the latest gadget in GVP's line. The 68030-based, plug-in CPU card for the Amiga 2000/2500. Actually, plugging one into a 2500 would be a waste of money, 'cause the GVP '030 card goes where the 2500's A2620 CPU card sits. If you put one inside the computer, though, what you get is a 68030-based machine running 25 MHz clockspeed asynchronously (the Amiga's clockspeed is not entirely indicative of system performance, on account of the presence of dedicated hardware coprocessors). The Asynchronous part of that description means the CPU card runs at one speed, and the regular Amiga runs at its normal clip. That means things that can be done entirely on

the card will run at the card's nearly double clockspeed.

GVP's favorite demo was a Sculpt 4D raytracing. They had an Amiga 2500 (stock machine, nothing added or subtracted) and an Amiga 2000 with their '030 card in it, sitting side by side on one of the front tables. They also had identical object files loaded into identical software - Sculpt. Starting them both at the same time (by hitting the TRACE buttons on both), the GVP-equipped Amiga finished its job TWO AND A HALF TIMES, while the stock 2500 did it just once.

Fully configured, and with enough of the higher-priced, high-speed chips to pull off this trick, a GVP '030 card lists for a little over \$3000. That price has to be approximated, at this writing, on account of the recent memory chip price drop, since a major chunk of that money is for memory. Don't rule this baby out on its price, 'cause it's bound to come way down from there on account of the chip prices. Call them up and ask the current price.

Another busy booth was Blue Ribbon Bakery, where Melissa Jordan Grey was passing out homemade chocolate chip cookies and raving (between puns) about Blue Ribbon Bakery's Bars & Pipes. It's a music program. Does MIDI. And Blue Ribbon Bakery is a software vendor, not really a bakery, although they wore chef's hats and blue (what else) aprons to the show.

The Zuma Group is newly divorced from Brown-Wagh's knowing tutelage. Their new product is TV*Text Professional, a major rewrite of TV*Text that incorporates TV*Show and adds some of Zuma's nice fonts to the package. The new package adds many new, and impressive features to the old one, including some that are not available (yet) in Amiga paint programs. Real Soon Now.

Dale Luck was beside himself with glee, announcing the availability of his X11, X Window System for the Amiga. X11 is \$395, and - with Ethernet networking hardware - makes the Amiga into an X Window System terminal. X-Windows is a "standard" graphical protocol which allows computers connected to a network to display to their own limits what the host computer is doing.

The Amiga X11 uses TCP/IP over Ethernet hardware to allow the Amiga to display what, for example, a Vax or a Sun workstation is doing at the other end of the network

connection.

Currently, X11 is not color. However, Dale was showing off pictures of his color X Window System (he's working on it), running Motif, an "emerging industry standard graphical user interface".

Did I lose you back in the X11 department? Sorry. Computer networking is sufficiently complicated that it can never be explained in print. You have to just osmose the information into your brain through non-tactile vibes exchange with someone who's heavily into it. All it really is is pure hocus-pocus, but since nobody knows that, it works fine.

The MicroTech booth was right much of a puzzle. They were pushing a thing called (I think) Scannery, which is a software and hardware interface to the Hewlett-Packard Scanjet Plus scanner. The thing works at resolutions up to 1200 dots per inch in up to 256 shades of grey. The software saves Amiga IFF format pictures, HP PCL, and FAX format. The list price for the scanner and software is about \$2250. If you already have the scanner itself, the software is available for \$250. The software is by Inset Systems.

The Chicago Loop is the hub of business activity in Chicago. They have to do a lot of business there, 'cause that's the only way they can get away with double- and triple-parking in tow-away zones and at fire hydrants. However, until recently, the center of business in Chicago had no Amiga store. The suburbs are supplied, but all those big-time, serious businesses in the Loop had to buy Clones, instead of Amigas. Oddly, that has now changed. MicroEd Enterprises has opened an Amiga store in the heart of Chicago. It has a selection of Amiga hardware, and specializes in promoting the Amiga to (brace yourself) big-time, serious businesses.

Don't believe it. Okay, I'll indulge in a bit of namedropping. Ready? American Airlines. So there! Micro Ed's push is for desktop publishing, desktop video, graphics production, serious music and MIDI, education and business productivity. The store stocks hundreds of Amiga software titles, too.

So, now, there's no excuse for the Chicago Loop, where there is a computer store on almost every corner, to buy anything but Amiga.

Moving right along.

It's a little bit over a thousand miles from Chicago to Boston. There's a long ride through the tip end of Ohio, a lengthy, and very enjoyable tour through the central, mountainous section of Pennsylvania, and a short hop around the spreading megalopolis to Boston's portside hospitality. What's in Boston? This year's Siggraph, of course! Siggraph is shorthand for:

The Association for Computer Manufacturing Special Interest Group Computer Graphics. Now you see why there's a need for a short form of the thing. Siggraph is, traditionally, the reigning royalty of computer shows. If it plots, traces, paints, calculates, shows, manipulates, stores, uses, or points to computer graphics, it's at Siggraph. And it was. Aisles upon aisles, row after row, room after room of the world's most exquisite toys. Prices from a few thou to multiple millions, capabilities from a MIP or three to multiple MEGA-mips. Micros to supercomputers.

Well, this was my second Siggraph, so I wasn't quite as awed by all the stuff as previously, but it was quite an awesome collection. The most incredible thing that happened, though, was the very first experience I had on walking into the blinking, beeping hall. I started off on the top floor of the convention center. The first thing in the door was Silicone Graphics, makers of the Iris series of computers and a new baby Iris called the "Personal Iris." Iris computers hit a hundred MIPS (that's million instructions per second) with only a little coaxing from a finance company, and the Personal Iris puts a sizeable chunk of that power on a desk. A well-guarded, heavily insured desk, one would hope, but a desk, just the same.

So there, operating on one of the mid-sized Silicon Graphics computers, listing in the \$130,000 range, was the most glorious piece of animation software I had ever seen. (Before I left the hall, I saw some others that were about as nice, but this was the first thing in the door.) This software had everything you could hope to imagine. It rendered its images in a flash, displayed them in any sequence, smooth as silk, while the operator simply pushed the mouse along the table. All of this, I might add, in a full color palette (24 bitplanes) and at a resolution four times that of an Amiga high-resolution screen.

The software is Thompson Digital Images.

Nice stuff. So, as I stood flabbergasted, watching it being demonstrated, the person doing the demo noticed my badge.

"Amiga," he said. "I've got one of those."

Flabbergasted? That took the cake. "What," asked I "in the world do you do with an Amiga, having one of... of... THE-SE?"

His answer will gladden your Amigoid heart. "I bought one a while back, and got interested in animation while playing around with the Amiga, and so I wrote this."

Well, well. Wonders never cease.

With nearly everything in the \$30,000 and-way-up category, you'd think the Amiga would be resented at Siggraph, but it isn't. It's appreciated for what it is, a promise of things to come (if Commodore ever gets its act together). Fact is, the Amiga has already had a profound effect on the high-end graphics business. Namely, the high end is not so high anymore. This is particularly true in the video end, where the Amiga has captured a major - some say majority! - share of the video titling market. A lot of Siggraph's high-end toys are aimed at the video markets, too, since broadcast television is the biggest consumer of computer-generated animations and graphics.

Over in the Commodore booth, everything was about normal. With Apple claiming a few aisles away to have invented animation and desktop video and miraculously patching them onto the Macintosh, Commodore took their usual Ostrich approach to the competitive threat. While Apple's displays were mostly in the mortgage-your-house pricing category (and gorgeous displays to show for it), Commodore was trying to peddle the Amiga as a desktop publishing workstation using a mushy, low resolution 1084 monitor. To their credit, though, the rest of the monitors in the booth were decent Sony, Mitsubishi, NEC, and Monitorm ones - a lesson they might have learned from me, if they listened, 'cause I told them to get rid of the mushy monitors at LAST year's Siggraph.

Oh, there were a couple of interesting developments in the Amiga booth. Film recorders, for one thing. To print your

Microfiche Filer Business Database

BUSINESS I, another of Software Visions Designer Database's to help manage the vast amounts of information that collects around the house.

by Mike Hubbart

Microfiche Filer Plus - Home I Designer Database

You use a filing cabinet to store papers in different files, and then these files are stored in turn in different drawers. So how do you store blocks of information on a computer? With a type of software called a database manager. A database manager uses *databases*, which are files containing information specifically defined and formatted by a person. With most database managers, the user designs a database to meet his specific needs. Some database managers can use auxiliary programs called a database *template*, which are predefined databases ready for a user to insert data without needing to define any data fields. Although purchased separately, these templates augment the database manager program since they help people with general database needs, or help inexperienced people learn how to setup a database by displaying fields requiring only minor modifications to function properly.

Microfiche Filer and Microfiche Filer Plus are Amiga database managers which can load templates, and the company, Software Visions, markets some of them as their Designer Databases. One of these is the Home I Designer Database. The group of templates in this package covers: Videotapes, CDs & Records, Stamps, Coins, Wines, Home Budget, Books, Personal Inventory, Recipes, and Fish Disks.

To use any designer databases from the Home I package, you must already own either Microfiche Filer or Microfiche Filer Plus, the ARexx-compatible version of MFF (with some other improvements and features as well).

Which is Which

Home I has templates for both programs. All version 1 templates are for Microfiche Filer, and version 2 are used with the Microfiche Filer Plus program. Only the version 2 templates may contain calculated fields, formatted number fields, and macros, since only the Plus version of Microfiche is capable of handling those elements.

To test this product, I worked with the databases using my own data for about six weeks.

The Videotape database provides a fast and efficient way of storing and sorting a large tape library. This template would even work well in a small video rental store! The data fields for this template are: Program Name, Cast, Director, Category, Copyright Date, Rating, Tape Number, Tape Counter Number, Program Length, and Description.

I entered information for all of our videotapes and videodisks, and tested the sorting and printouts of this database. For our library, I used the copyright date to store the record or purchase dates - more important to us than copyright information. I was glad I spent the time with data entry of this subject, but do not think I'll do it again for another database test - it takes too long with a large library, unless you spend a great deal of time recording and need to select an unseen but previously recorded movie to view some quiet evening at home with family or friends.

Books

The Books database is a great way to store information on your personal library. Even use it to generate a want list to carry around in your wallet. The data fields for this template are: Author, Title, Category, Loaned To, and Notes. A nice touch to this database was adding a 'Loaned To' column.

I entered all our books, paperbacks, hardbacks, and quality paperbacks (larger-than-normal paperbacks). I changed the 'Loaned To' field to Book Type, so I could categorize our library by paperbacks, hardbacks, and qualities. This database took a while to enter, but was well worth the time since we both are avid readers. We make it a point to keep a list of our books in the car so we don't buy duplicates from used book stores, and the list generated from this database saved me from duplicating two books in our library already!

The Home Budget database helps you keep track of expenditures and income, on a daily/weekly/monthly basis. The data fields for this template are: Expense, Amount, Date, and Notes. There are two ARexx macros for the Microfiche Filer Plus version with ARexx. These macros make it much easier to add or modify records.

Home Budget Database

For Home Budget, I entered all of our monthly bills - rent, credit cards, utilities, phone bill, groceries, gas, and insurance. I next entered our income for each payday for the both of us. From what this database showed me, we spend way too much money eating out, and could save enough for extra peripherals (hard drive, laserprinter, etc) if we cut back! Let me assure you that this was not a popular suggestion with my wife. Her suggestion was cutting back on software purchases, to allow additional outings to the theater! No way. Now I'm sorry I even tried this database - *just kidding*.

The Fish disk library database is a comprehensive list of the first 162 Fred Fish disk library of public domain/freely redistributable/shareware programs. There is a minimum memory requirement of a megabyte to use this database. The data fields in this template are: Disk Number, Author, Function, Name, and Description.

I initially printed a list of the 162 fish disks; then, I entered the next 38 fish disks to bring the total up to 200 in the database. I then sorted and printed again a complete list by disk number, which I keep by my desk for reference. I can selectively search the database for specific strings, which saves me time looking up this information via the disk labels.

The CDs and Records database is useful for tracking a cd/record/tape library - for those with a lot of them. The Coins and Wines databases are specialty items that will have a limited appeal. I like good quality wines and did try a few the template author recommended, although I completely disagree with his evaluation of Blue Nun!

Personal Inventory is ideal for those with enough possessions to warrant insurance protection of their valuables, and most insurance companies

will appreciate a complete list - *just in case*, you understand. The Recipes database could be useful when generating shopping lists, using the ingredients field as a guide, although few people will move their Amiga into the kitchen for on-screen display of the recipe directions.

The Stamps database is fairly detailed stamp collectors' dream. I helped a friend set up his stamp collection on another database (and a different machine) a few years ago, and this database would have saved me at least a dozen trips over to his house to explain various aspects of the software.

These templates are handy, and a \$39.95 price tag for them won't put too much of a dent in anyone's budget. Although you can certainly design your own database, this product saves a lot of time and effort.

Home I Designer Databases

Price: \$39.95

Software Visions, Inc

PO Box 3319

Framingham, Mass 01701

617-875-1238

East West Software

73 Lorna Lane, Suffern, NY 10901 (914) 496-1574

Makes Circuit Design Easy!

With

CAD PARTS

Electronic Symbol Library

- Over 150 Electronic Symbols in 4 Libraries
 - Transistor Transistor Logic
 - Solid State Devices
 - Passive Components
 - Switches, Relays, and Others
- Available In *IntroCAD* or *Aegis Draw 2000* Formats
 - Specify Format When Ordering
- Comprehensive Manual
- Not Copy Protected

- Suggested Retail Price \$24.95 + \$1.50 (S&H)
New York residents add 7% state tax.

IntroCAD is a registered trademark of Progressive Peripherals & Software Inc.
Aegis and Draw 2000 are registered trademarks of Aegis Inc.

Portfolio Management Just

Got Easier

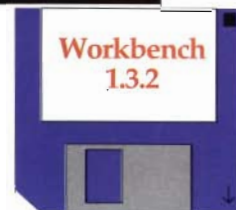
TAKE STOCK

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 7% state tax.

The Latest Real WB Update

by Jay Gross



1.3.2 now; 1.4 Later

1 By all accounts and most estimates and CBM's own admission, for the most part, the much-touted AmigaDOS 1.4 is a long, long way from being released to Amiga enthusiasts' public view. Some sources are saying August of 1990; others are predicting "spring" or "summer." Never fear, the programmer is hard at work on it, for sure, but at this writing, it hasn't even made it to Beta-test stage. A product that's in Beta has been frozen as to features and functionality, and undergoes testing to get rid of bugs. As long as a product is in Alpha state, its final look, feel, and functionality is still subject to change, and it's at least six months (in the case of AmigaDOS versions) from being shippable.

So, what you do in the meantime is wait. Read the magazines' articles on what 1.4 might maybe do, and what new promises it holds this week, and all that kind of stuff. Drop by your Amiga dealer now and then to see if it's out (magazine lead times being what they are), and be satisfied with what you've got. AmigaDOS 1.3.2.

"Point TWO"? Yes indeed. The "current" state of the Amiga's operating system is 1.3.2. This is the one being shipped with new machines. If you have an older version of the operating system than 1.2, you're REALLY missing out, but you can upgrade directly, without having to add them one level at a time (not like arcade games, at least, where you have start over with each quarter invested).

An upgrade to 1.3.2, not as complicated, nor as well documented as the AmigaDOS 1.3 Enhancer package, is being distributed electronically - for the first time - with Commodore's blessing. The new version is extensive, but not major. That means, there are lots of things that are different, but there aren't any really earth-shaking differences.

Except for any costs incurred in the downloading process (and some of the networks are expensive to access!), the upgrade is free. Commodore embargoed its distribution to prohibit posting to BBS's, perhaps fearing that some discourteous BBS operators would install viruses, or delete their licensing legalese, or some other no-no. Anyway, in addition to the networks, such as PeopleLink and Genie, authorized Amiga dealers are also empowered to make it available to owners of the AmigaDOS 1.3 "Enhancer".

How to get it

If you call a network, looking for this upgrade, you should look for a file named "1.3.2.zoo." That's its name on PeopleLink, and it should be either that name or something similar on the other nets. The file, 1.3.2.zoo, is a 111,488-byte "archive" file which itself contains a number of smaller files, the actual ones that have been changed to make the upgrade. What you do is un-Zoo the file (Zoo is one of several "standard" file compression and library utilities), using a program called Zoo. The Zoo program is available, too, on the nets, if you don't have one. If you don't have one, you should try to get one that isn't itself compressed in any way. This situation could get to be a serious runaround if you're not watching out.

If you don't know what a zoo is, and you're not blessed with a Zoo program, never fear! The current version of Zoo is 2.0, and it is included, in a pristine, uncompressed, ready-to-wear state on this magazine. Older versions of Zoo will not decompress the 1.3.2.zoo file with paths preserved, which is what you need to do, if you want to make your life easy.

What does it do?

AmigaDOS 1.3.2 fixes some bugs, most notably in the program

SetPatch, which patches Kickstart. No, you do not need a new version of Kickstart to make the 1.3.2 switchover. You do need Kickstart 1.2 or 1.3, however. Kickstart is a ROM chip in Amiga 500's and 2000's, but it's a DISK in the older Amiga 1000's.

If you're running your Amiga 1000 under a version of the operating system earlier than 1.2, you're putting up with a LOT of crashes that you don't have to do. Run, don't walk, to your nearest emporium of Amiga software, and get the upgraded version 1.3.x. Indeed is your version of AmigaDOS is lower than 1.3.1, you'd get some benefits by swapping, too. The new version of SetPatch patches some system bugs that might be grabbing you without your knowing exactly what's causing problems.

Here is an explanation of what has been changed in each of the programs in the update, with comments, where appropriate.

The C directory files

The Amiga's "C" directory is a "command" file location. You'll find a directory named, simply, "C" on most any AmigaDOS Workbench disk. The machine maintains at all times a roadmap to where its commands are located, and by default (though you can change it), that's in the "C" directory on the Workbench disk. The new 1.3.2 software includes a new SetPatch program. SetPatch lives in the C directory, and it should be executed FIRST in your machine's startup-sequence, in order to "patch" the system slightly. SetPatch's function in life is patching bugs in the operating system. Techies will groove on this listing of what it does, but people who don't program won't care much. Suffice it to say, SetPatch makes for fewer gunns.

For techies, who probably already know this anyway, the new doodads in SetPatch are:

- a) Alert code fixed to work with 1 meg chip ram machines.
- b) TrackDisk GetUnit patch added.
- c) DOS Execute() patched that uses RUN from the resident list.
- d) UserState patch for 68010.

The Amiga Workbench doesn't necessarily come up in the bootstrap sequence. You can, if you prefer (and lots of people do), use the machine from a system command line interface, and never click on any icons. If you want to use the Amiga Workbench, though, you have to tell the machine to load it. The default startup-sequence does just this, with the command, "LoadWB". It turns out that LoadWB is actually a little program, conveniently located in the C directory.

LoadWB's only change is that it now closes icon.library under 1.3.2. Big deal. Well, closing those libraries is important in the Amiga operating system, and it now does it.

Eval is 1.3's command-line calculator. The Workbench one is much better, but if you need to add or subtract, or whatever, in an AmigaDOS script file, the Workbench calculator won't do at all. The new update adds the ability to handle parentheses - () - and, according to CBM's official documentation, "also parses strings in a more relaxed manner."

"Read/Write Error": next worst thing to a guru meditation. If an error gets cranked up on a disk, harddisk or floppy, you've got a problem. The machine's requester box will happily suggest that you use a program called DiskDoctor to fix any problem. It'll fix it, all right. It'll format anything it can't read, and leave you with nothing, where once there MIGHT have been recoverable information. In short, the DiskDoctor is a quack. You should scare up Dave Haynie's DiskSalv (included on A.X. issue 2.2, for example), which is readily available in the freely distributable Amiga software channels. DiskSalv will usually actually recover the information you have lost. Nevertheless, DiskQuack - er, DiskDoctor gets some technical improvements in 1.3.2. Brace yourself, these are rather technical. a) incorrect error message (out of memory) changed. and b) uses BufMemType enabling it to work

with large hard drives.

As supplied with new machines, AmigaDOS 1.3.2 includes FF, a text speeder-upper from MicroSmiths. FF is normally executed in the Amiga startup-sequence to speed up text printing speed for as long as the computer is running. Even though there is a new version of FF, it is not being included in the 1.3.2 electronic distribution. However, the change to it is to fix the program's incorrect use of font flags, an undocumented FF feature in 1.3. FF, by the way, stands for FastFonts, under which the FF program was sold by MicroSmiths as a commercial program before Commodore started selling it with 1.3.

Only Amiga 500's with the A501 expansion module and all A2000's have need of the program SetClock, which sets the system time from the battery backed-up clock. In 1.3.2, the reset option now skips clock validity check.

The Mount command "mounts" an external (or even internal) device so that AmigaDOS and the Amiga can talk to it.

- a) BAUD and CONTROL mountlist keywords added for multi-serial use.
- b) full option added to startup to create handler entries with full environment support.

System

Before your Amiga can use a floppy disk for its purposes, the disk has to have electronic timing information installed. This information tells the disk drive unit itself what is going on. The process of installing that timing information is instigated by the Format command, which lives in the "System" subdirectory on the standard Workbench disk. You can move it, if you wish, but that's where the computer and most of its available software expect to find it. Format works pretty much okay through all of the revisions of AmigaDOS, so far, but 1.3 inflicted a new wrinkle on it: Fast-FileSystem, for harddisk drives. The changes for 1.3.2 give you better error messages, so you'll have a better idea what went wrong if something did, during a format operation. The keyword NOFFS (for No FastFileSystem) has been removed, too. It didn't serve any purpose, so good riddance to it. Other changes: Format now works with large hard drives, using the "bufmemtype" specifier in the drive's mountlist to do its job properly. Also, the "inhibit logic" is fixed (yes, it was broken), and secondary results (this is for techies, of course, and they'll be thrilled no end) are properly set. Format also opens the icon.library only if it actually needs to use it. Whether you copy a disk by dragging icons over each other, or typing the command into a CLI window, or pulling down "DUPLICATE" from the menu bar, the same Format program is called. Same with Diskcopy, the next item on the list.

For the paranoiacs among us (guilty!), the program now has a verify step, and it verifies each track by default. You can, however, turn verify off with the NOVERIFY option. Verifying adds about 50 percent more time to the diskcopy process. However, it makes us paranoiacs really happy.

Like Format, Diskcopy opens icon.library only if it's needed, and if the Diskcopy program fails for some reason, the cylinder (track) on which the failure occurs is left showing - so you can tell where what went wrong. It too sets secondary results properly, and boasts better error messages. A new keyword, MULTI, allows multiple copies of single disk.

FastMemFirst is the little program that swaps the Amiga's memory chunks around. For most people, its function is completely transparent, and there isn't much that's different about it in 1.3.2. The big deal is, it tests for chip memory properly. CBM says it worked fine before, but was incorrect. Okay, it's fixed now.

NoFastMem rules out expansion memory from the system. Some

Weather

Nice weather continuing through the following weekend, but returning to normal shortly after that.

Ami Exchange Magazine's The Amiga News

INDEX

Editorials	26
Comics	26
Obituaries	72-101
Horrorscope	2

Volume 2, Issue 5

ALL THE NEWS THAT WE SEE FIT TO PRINT

0 Sections, 512 pages

Aliens Taking Amigas To Mars



Earthling Leo Schwab snapped this picture of the Aliens making their getaway

Meanwhile, in Amigaville...

Professional Page DTP Program Gets An Update

Gold Disk has again updated their Professional Page desktop publishing program for the Amiga. The new Professional Page version 1.3 adds scalable fonts, import of Encapsulated PostScript files - a common clipart file structure - and improved support of dotmatrix and non-PostScript printers.

Here is a list provided by Gold Disk of new features and changes

- Compugraphic fonts. The program adds Compugraphic, scalable fonts to the PostScript ones it already has.
- Full resolution support for Preferences graphics printers. Professional Page now outputs graphics and text (if you use the Compugraphic fonts) at the highest resolution of your printer.
- High resolution fonts on screen - you will see fonts at full resolution of screen no matter how large or how small the characters are (again, this assumes you are using the Compugraphic fonts).
- EPSF (Encapsulated PostScript File) import.
- Support for direct editing of text using Transcript from within Professional Page. This allows you to move very quickly between

Adding Features

ProWrite Ups Version Number

New Horizons Software has announced version 2.5 of their wordprocessor, ProWrite. Several significant new features have been added, including:

- Print NLQ text and pictures on the same page. High-quality printer fonts and pictures can be printed at the same time.

- User-adjustable page sizes. For example, you can print mailing labels with ProWrite's Print Merge.

- Top and bottom margins can be turned off. Now you can use the full height of the paper.

- Faster spell checking.

- "As-you-type" spell checking

option, lets you know when you make a mistake.

- Insert current date and/or time anywhere in a document automatically.

- Four different date formats, and 12- or 24-hour time formats.

- Centered tab stops. These come in handy for creating tables with items centered in their columns.

- Load, save, and convert text files that have line feeds after each line.

- Extremely fast display. It's now almost impossible to outrun the ProWrite 2.5's display speed, no matter how fast you type, even in a rather large font! Of the several graphics-based Amiga wordprocessors on the market, ProWrite

Pro Page Adds Compugraphic Fonts

continued

text editing and formatting, and allows you to edit text that is too small to be legible on screen. This option requires that you own the Transcript wordprocessor.

- Support for PostScript downloadable fonts. The program has not previously supported downloadable fonts.

- Numerous bug fixes.

Professional Page will still not have user-variable page magnification, or individual box rotation, although its magnification selections range from 25 percent to 200 percent (the 200 percent selection is nearly useless in the previous versions of the product).

Gold Disk claims they have implemented a proprietary font-caching scheme for use with Compugraphic's fonts, in order to allow rapid generation of smooth, well defined, on-screen type at any point size, any magnification, and any resolution.

It is important to remember that the Compugraphic support is an addition to the program, not a substitution. Gold Disk is broadening the program to allow people who use non-Postscript output devices to enjoy similar output quality, for example, on the popular, under-\$2,000 laserprinters, particularly the Hewlett-Packard LaserJet series. Professional Page v1.3 allows you to use Amiga bitmap fonts, Adobe's PostScript fonts, Agfa Compugraphic fonts, or a mixture of all three.

Registered owners will be entitled to upgrade their earlier versions of the program, and in addition, Gold Disk is making a swap-in offer to owners of competing products. Call the company for details. Finalized details of the upgrade fee were not available at this writing.

Professional Page v1.3 requires an Amiga (any model) with at least one megabyte of memory. Two disk drives are recommended. Price remains the same, at US \$395, Canadian \$495.00

Gold Disk
416-828-0913

Yet Another 3D Modeler

What the Amiga's many loyal users really, really need is another 3D modeling program. Well, here comes one, this time from Progressive Peripherals & Software. A 3-D modeling, rendering and animation package, "3-D Professional" is a Real Soon now product targeted for "fall."

The program allows full shading while in its edit modes. Wire frame rendering can also be used to improve productivity. It also supports VideoScape 3-D's "surface detail" feature, a function the program's distributors claim few other 3D modeling products have. Although the program is being marketed by Progressive Peripherals, the company that wrote it is Cryogenic Software.

New Access! Planned

Keith Young, author of the popular freely distributable (i.e., Shareware) terminal program Access!, has been doing some contract programming work of late and hasn't done much work on the program, which is, nonetheless, already pretty nice. However, amid rumors of an impending Access! update, Keith confirms that he's working on the program again, and will be posting a newer version, probably about the same time this magazine sees shelfspace.

The features Keith is planning to add, or has already added to the new release include:

- ARexx interface. Most of the term's features will be accessible (pun intended) with ARexx commands, similar to the program's script facility.

- A re-vamped File-Requester adds a separate scrolling area for the device-list - things like df0:, df1:, dh0:, etc.

- A new DEFINE window layout incorporates most of the term's settings.

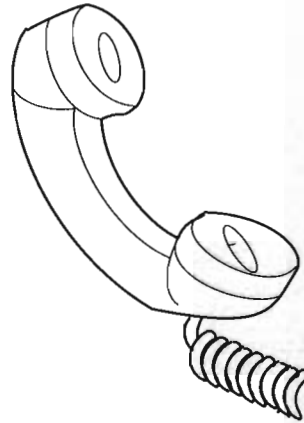
- The new Access! permits a new .def (terminal definition) file to be loaded with each number dialed.

- Multi-serial board support. The user can specify which 'device' and unit number the term is to use.

- Keith has added XPR External Protocol Library support, too. This new spec, developed by the Willy Langeveld, author of VLT, another term program, lets programs that support the spec use external protocol libraries. This way, every terminal program doesn't have to have code to support every protocol, and a new one can be added by adding a library.

- For Access! users who have wished heartily for Zmodem protocol for lo these many months, the Zmodem.library will be included with the distribution, Keith says.

- The new one will let you re-size the term window(s), including the main terminal window, and if you're running the program in



CHAT mode, you can set the dividing line between the upper (RECEIVING) and lower (SENDING) windows.

- The term's screen will be changed to a Workbench screen, so any program that would normally open its window on the Amiga Workbench will open on Access!'s screen.

"Oh, and yes, Access! will remain Shareware for the foreseeable future." That according to Keith. Some other formerly freely distributable term programs

have been snapped up and converted to commercial software packages, lately.

ProWrite Upgraded

continued

2.5 is beyond question the fastest.

ProWrite v2.5 is available now. Registered owners can upgrade for \$20.00 (US) plus \$5.00 shipping & handling (\$10.00 shipping outside the United States). To upgrade, send your current ProWrite Program disk and a check or money order for the correct amount (or your Visa/MasterCard number and expiration date if you prefer to "charge it"), along with your name and address. Texas residents should add 75% sales tax.

The company is working on a version 3.0 of the program, but says it will be some time before that version is ready to ship. The 2.5 update is the interim one to that level. People who update to version 2.5 will receive the 3.0 update for free, the company said.

New Horizons Software, Inc.
Attn: ProWrite Upgrade
PO Box 43167
Austin, Texas 78745

Are You Looking For Calligrapher?

InterActive Softworks, makers of Calligrapher for the Amiga, a font editing program, has moved. The current correct address for the company is:

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

If you purchase a Calligrapher which contains a different address send your registration card to the above address, instead. If you bought a Calligrapher version 1.0 then you should ask about the updated version 1.05 which includes a font management utility and fixes some nasty bugs which cause fonts made with the original not to work with some Amiga software.

ColorFonts Update

Speaking of fonts... What NewTek is billing as "The Ultimate Paint Program" - meaning DigiPaint 3, doesn't successfully deal with ColorFonts. Sure, it loads Amiga fonts, but not color ones. ColorText is the Amiga "standard" for color fonts - those are fonts with more than one defined (i.e., bitmapped) bitplane, permitting use in color on the screen - and even Commodore has acknowledged the importance of having fonts work in colors by announcing color font support for the still-vaporous AmigaDOS 1.4.

Standard or no, DigiPaint 3 doesn't support color fonts. It has some very elaborate facilities for making up your own fonts in color out of the Amiga's black and white ones, but it doesn't support the simpler ColorText ones. If you attempt to load one, it looks like somebody spilled garbage all over your screen.

Interestingly, NewTek's competition, MicroIllusions' Photon Paint 2.0, does support ColorText.

More 68030 Boards

While Commodore bides time in their terminal wait() state, third party developers have been working hard on speeding up the Amiga's processing speed, adding immense power, and even increasing the video display capabilities of the machine. CMI, the people who make the Processor Accelerator for older Amigas, is talking publicly about a speedup card for the Amiga that will blaze new trails in "speed up". Try FIFTY megaHertz, 68030-driven board with a one-megabyte cache. Shipping?

<pregnant pause> "Out by December '89," quoting the company.

CMI also is planning to ship a 16-million color Amiga video frame buffer

beating a Texas Instruments graphics coprocessor (that's the FABULOUS one!), and having genlock and digitizing capabilities. That one's in the "by the time you read this" category.

Speed up cards? The CMI 68040-based board is scheduled for spring or early summer of 1990.

CMI is shipping AppleTalk hardware connections for all the Amigas, and will expand the software to make it more palatable to existing, non-Amiga-based AppleTalk networks in the near future.

Next-best To A Laptop

This tip comes from the widely travelled and vastly experienced travelling telecommunicator, Harv Laser, chair of PeopleLink's AmigaZone. When Harv travels, he can't carry his handy-dandy Amiga laptop computer with him. That's because there ISN'T an Amiga laptop computer. However, he manages, somehow, with a non-Amiga machine, and uses a doodad called the BlackJack to attach his data connection to hotel telephones.

Hotels generally frown on their guests' rewiring their telephone systems, and only the newest ones are equipped with wiring that will easily accommodate a modem. So, the BlackJack is a device that fixes both of those difficulties at once, for a rather outrageous price.

The BlackJack is a desk phone-to-modem coupler for use on the road in hotels and such. Of course, you could use it at home, but who would want to? It requires a standard desk telephone, the kind that has a round, screwed-on mouthpiece. You unscrew the screwed-on mouthpiece and take out the little round "microphone". It's not wired in, just sitting place, held there by the plastic mouthpiece thing. Park those parts somewhere cozy (not the hotel's trashcan!), and press the BlackJack down onto the handset where the mouthpiece was. Its metal prong makes contact where the microphone did, and sticking out of it, where you'd normally expect to speak into the phone is now a standard female (RJ11C) modular phone connector, just the kind you'd connect to your modem if you had such a thing to connect it to.

Run a short double-male-terminated RJ11C modem cable to your modem on your laptop or whatever and you're in business. Harv advises that since the BlackJack is made

out of soft black rubber and doesn't really screw tightly onto the phone's mouthpiece, you have to make sure the handset isn't jostled while you're online, so the thing won't squirm its way off the handset.

The BlackJack, for \$49.95 (ouch!) is sold by:

Digital Systems International Inc.
Redmond Science Park
7659 178th Place N.E.
Redmond, WA 98052
206-881-7544 (voice)
206-881-1871 (FAX)

Help With The Director

The Right Answers Group, makers of The Director, an animation programming language for the Amiga, has released their new "Director Tutorial" videotape. This is no ordinary tutorial, either. Although it lists for only \$39.95, the Director Tutorial is more than four HOURS long..

The video's plot isn't all that complicated.

Keith Doyle of Right Answers Group narrates and demonstrates ten categories of information relating to using The Director. These include Animation Techniques on the Amiga; Load and Display of animations; Page Flipping; Slide Effects;

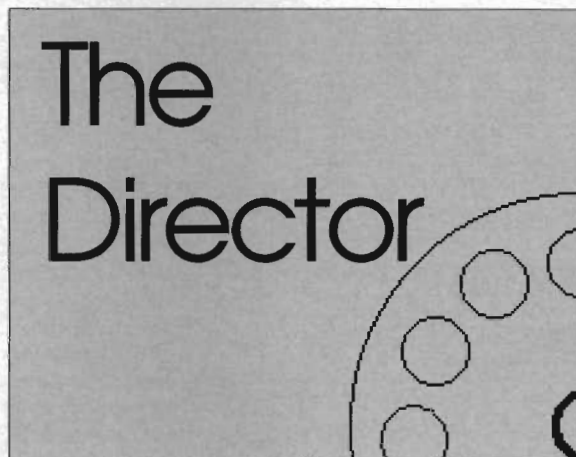
Partial-screen Page Flipping; Adding Sound to animations; ANIMS and what they are; programming "Strings" and "Arrays"; Introduction to the CLI; and even Packaging your finished work for distribution.

The video also covers many aspects of Right Answers Group's add-on product, The Director Toolkit.

Although it is probably the most powerful animation program available for the Amiga, The Director is indeed a programming "language," and it requires some learning to get going with it. The tutorial tape should make that process much easier for newcomers to animation, as well as programming languages.

The Director Tutorial tape is sold for VHS only and plays in that format's "SLP", four-hour mode. Although most current video decks cannot record in this mode, they can play it. however, check out your VHS deck's manual first, to be sure you can play the tutorial tape.

The Right Answers Group
PO Box 3699



TIP: DeluxePaint Animis

Are you having a problem with DeluxePaint III's animation files, particularly with loading other programs' animations into DeluxePaint III, or with loading its animations into other programs? Aha! You might have found a bug. Or a feature.

DeluxePaint III gives trouble reading some animations because it doesn't handle the Amiga's Hold and Modify images. Many animations, particularly those created in raytracing programs, are animated HAM screens. Since the program can't deal with a single-frame HAM, it can't deal with multiple-frame HAM animations, either.

The solution to that problem is to reduce the number of colors in the animation to something DeluxePaint III can deal with, or to use some other program (such as MicroIllusions' Photon Cel Animator) to edit



the animation. You can reduce the number of colors in the animation by re-raytracing the animation in a smaller palette, or by capturing the frames individually and then switching them with one of the palette reducers, such as Butcher 2.0 (Eagle Tree Software), PixMate, or Electronic Arts' Deluxe PhotoLab.

Even if the animations are the right resolution and palette, however, DeluxePaint III will sometimes refuse to read them. The solution is to save the animation as individual IFF pictures, and then import them to another program that deals successfully with the .ANIM format.

The new DeluxePaint III also apparently has a problem working properly with the new Fat Agnes chip. This is the standard Agnes custom graphics chip supplied in all new Amiga being shipped to dealers, and it is, in addition, available as a dealer-installable upgrade for older Amiga 500's and A2000's. (It won't fit in A1000's.)

The problem is that DeluxePaint III fails to address the extra graphics memory in all cases. Contact Electronic Arts if you have any of these problems, and ask for information on any upgrades which might be available. EA

isn't noted for fabulous user support, but they do have a minor upgrade to the program that fixes the Fat Agnes problem. Ask the company for details.

Electronic Arts
Customer Warranty
Box 7578
San Mateo, CA 94403-7578
415-572-ARTS

Another PageStream Update

The Amiga desktop publishing program PageStream has another new update ready, fixing some more bugs and adding some of the features that have been disabled in the first releases of the program. This one is version 1.61, but "by the time you read this" (to coin a phrase), there might be a version 1.7 available, instead.

Contact the company, SoftLogik, for details on obtaining the update.

Soft-Logik Publishing Corporation
1131F S. Towne Sq.
St. Louis, MO 63123
314-894-8608

Epyx Drops Back To Punt

Epyx, Inc. has announced today that the company is in the process of making "an orderly transition" from a publisher of computer software to a producer who develops software for affiliation and/or licensing with other software publishers.

The company said it will continue to develop a few products that are already in progress, and plans to continue selling their current products through the end of the year "The 'new' Epyx will be positioned to take full advantage of the expansive video games industry," said Gilbert Freeman, Epyx's president and chief executive officer.

Epyx, Inc.
(Why bother printing the address?)

Remember Mandala?

The cable channel Nickelodeon is running a game show for children called "Total Panic" which uses the much-touted, but lately rather anonymous Mandala software system, running on an Amiga and a Live! video digitizer. The setup allows the kids to play the game from inside the computer.

Mandala, once demoed and ballyhooed at several Amiga trade shows, connects up to the realtime digitizer, Live!, to permit realtime interaction with objects that appear on the Amiga screen. These aren't necessarily REAL objects, mind you. They can be - oh, say - Amiga icons, for example. The objects can be made to DO something, when the digitized

image captured by the Live! "touches" them. THAT's Mandala's magic!

Mandala, at last check, ain't cheap. It involved a rather expensive piece of hardware, in addition to the Amiga, the Live! digitizer, and the special software that facilitates Mandala's magic tricks. Mandala has made waves in the Super Star Rock Group Circuit, as well as other places, but it's a bit pricey for the Amigoid Livingroom.

Time Code Reading

For a limited time, MicroIllusions is offering their TCRG-102 time code reader/generator to developers at a reduced price, in order to spur development that supports the product. The product is in stock, for shipment now.

TCRG-102 has direct communication from the Amiga via RS232 "standard", although libraries are provided to make programming easier. Control panel and window dub software will also be included. Developers who spring for the development system deal will receive the final software and documentation when it becomes available at no extra charge.

Contact MicroIllusions for details.

Music-X Update Available

Speaking of MicroIllusions... An update for the company's new music sequencer software, Music-X, is now available. The update fixes some bugs. For example, the program now releases the serial port when it is closed down.

Since the Amiga's MIDI port is its serial port, the program's keeping a lock on the port had prevented other programs from using the serial port until the computer was rebooted.

Contact the company for details on obtaining the update.

MicroIllusions
Customer Service
818-360-3715

TIP: PageStream Halftones

Generally, PageStream's support of halftoning is an experience in slowness and mediocrity awaiting an update. However, here's a tip for getting the best out of it.

First, set the screen frequency to an evenly dividable number, relative to the output resolution. PageStream's screen frequency and screen angle parameters are controlled by the program's EDIT COORDINATES option on the Options menu. That's the secret! If you're printing to a laserprinter at 300 dots per inch of resolution on output, set your screen frequency to 75 lines per inch, maximum - that's an evenly dividable number, see? You don't want to go to 150, instead of 75, because that allows the laserprinter only two dots (PostScript calls

Continued On Page 28

Hostage

*Rescue Mission:
Princes Gate Take Two...*

by Kevin C. Rohrer

Attention all Special Forces personnel: Urgent...Hostage situation. . . Prepare for immediate action. . . Terrorists have stormed our embassy. . . embassy personnel are being held hostage. . . negotiations have broken down. These terrorists are heavily armed and considered extremely dangerous...

Plans and Operations

Infogrames/Mindscape has released an exciting new action-adventure game, *HOSTAGE: RESCUE MISSION*. In the game, a single player must use his six-man Assault Force to recapture a terrorist-controlled embassy and free the hostages inside.

HOSTAGE starts with a well written musical score, so turn up the sound and get ready for action! Pick your a mission: Training (no hostages), Target, Ultimatum, Rescue, or Assault. An on-screen clock sets the time limit for each stage. The higher the mission level, the shorter the time limit. The game may also be played at different ranks (difficulty levels), but when first starting out, the player must begin as a Lieutenant, and may not advance in rank until the Assault mission is mastered.

Stage 1: The Rescue Begins

Begin the rescue by moving the team's marksmen into observation points. Prior planning and following orders is everything in this type of operation, so they must go to spots that have been marked with an "X" on the on-screen map. Press the Fire or <ESC> button and the map is replaced with a nighttime view of the street around the embassy, showing one of the marksmen hiding in a doorway. Using either the joystick or keyboard controls, move the marksman down the street. Have him move cautiously

but quickly, using doorways, windows, and fences to stay out of the terrorists' sight.

This may not be as easy as it sounds, as the terrorists planned for this eventuality, and have searchlights ready to try and spot the marksmen with. Each of the lights moves in a regular pattern, so the marksmen must run, crawl, and roll around them. If one of them is unlucky enough to be spotlighted, he'll be fired upon--so don't let him stop!

but it might be wise to wait until one of your men is inside to direct the fire.

Once unoccupied rooms are found, move an entry man to a position above the window; then it's time to begin the assault in earnest. Have him rappell down to the chosen window, being careful not to overshoot it.

Stage 3: Entry Gained!

To make a dramatic window entry, move the joystick lever to the left and push the fire button. This will cause the man to crash through the window feet-first to the crash of shattering glass.

As soon as he enters, play moves to the third stage: inside the embassy. A small portion of the screen shows a layout of the floor that the entry man is on. Rooms, doors, and windows are shown, with a red arrow representing the rescuer and indicating the direction he's facing. Several white (hostage) and red (terrorist) dots can also be seen moving about inside.

Move the entry man throughout the rooms on each floor, using a submachine gun he's armed with to eliminate each ter-

rorist. This isn't as easy to do as it seems, as the player's view alternates from watching his entry man to only viewing what the entry man sees. When the man is standing idle, you see what he sees, but when another person is in the room with him, the view automatically switches from first to third person.

When hostages are found, they must be led to safety. Move the rescuer that has found a hostage to the third floor and that person will follow. Leave the hostage in a room located on the floor's upper righthand cor-



Stage 2: On Rappell!

Once Stage 1 is completed, it's time to move the remaining members into position. These men will rappell to the embassy roof from a helicopter, to await further orders.

Have each of the marksmen use his rifle's telescopic night sight to inspect the embassy's windows and look for empty rooms. If rooms in the three-story structure are occupied, the figures inside can usually be seen moving back and forth in front of the windows. You'll be tempted to have the marksmen fire on these dimly seen figures,

Subscribers Advantage

Our subscribers are important to us. And we appreciate their confidence in us. For that reason, we are implementing the Subscribers Advantage. Because we make bulk purchases here at A.X. Magazine, we can obtain certain items at an unusually low cost. Now, we would like to pass some of those savings on to our subscribers. Consequently, any registered subscribers can order the items listed below, at those unusually low prices. It's just our way of saying thank you, and Happy Holidays!

This Issue

*Blank 3.5" Floppy Disks Double Sided, Double Density
Lifetime Warranty - \$.55 each*

Please order in bundles of 25.

Maximum of 50 per subscriber- per issue. Please add \$2.50 per lot of 25 for Postage. Phone orders only

1-800-284-3624



TrueBasic Calculus

by Mike Hubbart

OK, how many math lovers are there in the audience?

Hello? Am I alone out here?

For some strange reason, most people I talk with have an aversion to math of any kind. Math doesn't hurt you, nor does it require an Einstein to work happily and easily with it. Although people achieve different levels of education, most find Calculus to be the stopper in math educational advancement. Professor John Kemeny has produced a math program designed to aid people taking or reviewing an Introductory Calculus class, and past this stage of mathematics and on to other levels (like Differential Equations or Linear Algebra). Instead of sketching out a calculus problem, this program does the work, sending the graphic results to the screen.

This product comes on a single disk, with a 20-page manual included. The manual only explains the program features; this product should either supplement a class or help review concepts after being out of Calculus for a while. It doesn't stand alone as a teacher for newcomers to this subject.

This program uses three windows. The bottom window is where program menus are shown. The left side window is where numbers are entered and the results of calculations are displayed. The right side window displays any graphs.

Before taking a Calculus class, there are a few prerequisites. You need to complete both Algebra and Trigonometry. TrueBasic has products similar to the Calculus program covering these areas, called Algebra 1 and Pre-Calculus; they are recommended for review if you have been out of mathematics for a few years.

The functions you may use with Calculus formulas are:

sin(e), cos(ine), tan(gent), cot(angent), sec(ant), csc (cosecant), asin (arcsine), atan (arctangent), abs (absolute value), sqr (square root), log(arithm), exp, and Pi.

Calculus consists of nine sections:

- 1) General
- 2) Limits
- 3) Tangent
- 4) Min/Max

- 5) Area
- 6) L'Hopital
- 7) Parameter
- 8) Taylor
- 9) DiffEq

The General section will allow input of a formula and printing it on an x/y graph, then using the *deriv* gadget to obtain a derivative of the original formula and also plot it on the same x/y graph. I was able to have 10 different derivatives on the same x/y graph. The *old f* gadget allows paging back thru the previously derived formulas for plotting, if you choose.

The Limits section calculates and displays a chart and x/y graph demonstrating the limit of $f(x)$ as x is approaching a . The table generates columnar information on h , $f(a-h)$, and $f(a+h)$.

The Tangent section will display a plot of the tangent to a input formula, on a x/y graph. L'Hopital shows a graphic rendition of L'Hopital's Rule, and Parameter plots a parametric form curve. Taylor finds the answers for the Taylor series of a function, and the DiffEq section deals with displaying 2nd order differential equations.

The way I tested this program was to dig out an old (six years) college textbook on Calculus and work through various sections while using the program as a supplement. I was impressed! The program helped me speed through a couple of areas that had given serious problems in the past. My textbook only gave answers for the odd problems, so I used the program to help me with troublesome even problems in the areas I examined. I wish I had had this program when I originally took calculus.

Do I recommend this program? You bet! An online help option, like the one used in TrueBasic Algebra 1, would enhance the user-friendliness of this program. TrueBasic does offer customer support during normal working hours.

TrueBasic, Inc
12 Commerce Ave
West Lebanon, NH 03784
1-800-TR-BASIC

Price: \$49.95

Gift Subscriptions To A.X. Magazine Now Available!

If you want to give a gift subscription to a friend or loved one... it's easy.

Just call 1-800-284-3624 and ask for a gift subscription.

That special person will receive a Holiday Greeting Card informing them of their gift, and then 6 issues of the most informative Amiga magazine available.

1 Year Subscriptions
• \$14.95 w/out disks.
• \$69.96 with disks.

them "cells" with which to image each of the dots in your halftone. As for screen angle, a 45-degree setting should work for most subjects, but if you get muddy results or moire patterns, change the angle.

Also, if the original you are reproducing itself contains a repeating pattern (picket fence, for example), you might need to adjust the angle differently, to adjust the moire out of the pattern in the original.

If you output to a PostScript device, some of these difficulties are peculiarities of PostScript. A Postscript output device will not produce the exact number of lines per inch of halftone that you tell it to. That's right, it actually disobeys your command. What it does is convert what you say you want to something it is capable of producing - along the even-divisible lines.

The only hope: trial and (alas) error. Oh, and the PostScript advice here applies to any PostScript halftone output, whether PageStream's or anybody else's.

X-Cad Changes Hands

American Software, a Chicago-based distributor of Amiga and other computer software and hardware, has been named exclusive distributor of the X-Cad Designer program from CAD Vision International. The \$149.95 program is the successor to Taurus' X-CAD, which was much more expensive, formerly sold by Haitex.

X-CAD Designer is an exceptionally fast, two-dimensional, computer-aided design and drafting system sporting more than 1500 command combinations.

Specifically designed to take full advantage of the Amiga's graphics processing hardware, X-CAD delivers speed far in excess of contemporary MS-DOS-based CAD systems. For example, even running under a standard Amiga configuration, X-CAD Designer performs Zoom and Redraw operations at least four times faster than AutoDesk's AutoCAD running on a Compaq Deskpro 386.

Other features built-in to X-CAD designer include user-definable screen menus, comprehensive dimensioning facilities, isometric grids, multiple viewports and a full 256 layers. The program also gives access to standard symbol libraries for architecture, electrical, electronic, and mechanical applications.

In addition to support for 24-pin dotmatrix, as well as laserprinters, X-CAD prints to the highest resolution of your output device - up to A0 size at 400 dots per inch and in 125 colors. Screen resolution is 640x400 or 640x200.

X-CAD Designer supports a number of external file formats including optional reading and writing of AutoCAD's .DXF file format, or Amiga IFF files (write only) or Aegis Draw Plus files (read only). The package is compatible with Gold Disk's Professional Page, and with X-CAD Professional, a (Real Soon

Now) more powerful version of the program scheduled to ship in late 1989.

X-CAD Designer requires an Amiga 500, 1000, 2000, or 2500 computer with one megabyte or more of memory.

For technical information contact:

CAD Vision International
HazlittMews

Off Hazlitt Rd.
London W14 0JZ
England

011 (44) 1-603-3313
011 (44) 1-602-2627 (FAX)

U.S. dealers may contact
American Software Distributors
217-643-2050.

TIP: ProWrite's colors

Have you wondered why the Amiga wordprocessing program, ProWrite, doesn't permit you to edit the colors it uses? The answer is that the program's authors wanted the colors on the screen, as rendered by their dithering algorithms, to match as close as possible the colors you get on your color printer when you print a page.

"ProWrite has a particular design philosophy, namely that you shouldn't show anything on the screen that cannot be rendered on the printer," James Bayless explains. "Hence its 'limit' of eight colors (seven plus white). Only a very few (exceedingly expensive) printers use more than a four-color palette for creating a total of eight colors in a printout." All other colors a printer prints are actually produced by a "dithering" technique that is identical to ProWrite's "shading" options. For example, a color printer produces dark red by alternately printing red and black dots. Pink is produced by alternating red dots with no dots (letting the white paper show through). Thus ProWrite doesn't let you have the "full control" over the color palette that you would like, because a printer can't print that way.

ProWrite's "Adjust Colors" requester permits you to adjust the darkness of the black and white colors, but not their actual color, since when printing you always have the black ribbon and the white paper, and can't change either one of them. The other colors are adjustable for the purpose of matching the screen hues to the actual colors on your printer ribbon, not for altering the color of the printout itself. So, if you change ProWrite's "red" hue to be a glorious shade of bright green, it will still print using the printer's red ribbon. There is, besides that, no adjustment for color saturation. All printer ribbon colors are fully saturated (a color is made whiter by interleaving white, leaving out ink dots, as in the example of printing "pink").

Think about it a second. An ink dot on a printer is either there (the hammer hit the ribbon and ink whammed onto the paper), or it isn't - the hammer breezed by and didn't fire. There is no "partial" dot.

ProWrite chooses not to use these dithered colors for text, because of the freckled effect they would have on output, the company says. For example, if the program printed "pink" text, the printer would have to create the pastel color by leaving "holes" in the dot pattern, so the white paper would show through the red dots from the red ribbon.

Rainbird Rained Out

Say goodbye to Rainbird Software. A customer recently passed along the following text of a card he got from the company:

Dear Software Customer:

Thank you for submitting your request to Rainbird Software/Firebird Licensees, Inc. Unfortunately Rainbird Software/Firebird Licensees, Inc. is unable to provide the service or product of your request due to the discontinuation of this business

Sincerely,

Rainbird Software
(Discontinued Business)

The card was postmarked San Francisco, August 15, 1989.

No word yet on who, if anybody, will take over the company's products. Their line included a number of Amiga game titles, notoriously Starglider and Starglider II. The company used the name Rainbird mostly in the U.S., and the name Firebird mostly in the United Kingdom, although some confusion resulted when enterprising distributors imported their own merchandise.

Rainbird/Firebird
R.I.P.

A New SimCity

Maxis Software has shipped SimCity version 1.1, an update to the first release. The new version fixes some bugs in the program and makes it less hungry for the Amiga's graphics memory, so it is easier to load and run, and multitasks more readily.

Maxis is sending registered owners a newsletter containing information on updating to the new version. New product being shipped automatically contains the new version. However, if you get one that isn't, contact the company.

Maxis' documentation for the new version says that a right mouseclick which automatically activates the bulldozer had been removed. However, it has not. You can still 'doze away anything in the pointer's path by clicking the right mousebutton, documentation's statement to the contrary notwithstanding.

The company has also shipped a SimCity Terrain Editor. This lets you whip up your own terrain, on which to build your cities.

A Tisket, A TASS Kit

Mindware International, makers of PageFlipper, PageFlipper F/X, PageRender3D and other products, has released into the public domain a subset of the new "Thut Application Support System", dubbed TASS.

TASS is a library of software modules containing a wide range of frequently used programming elements and interface design tools for application developers who using ARexx to integrate into commercial software packages.

The "Thut" part of that is for Thut Inc., which created the software as a center of activity for ARexx integration. TASS lets application developers build an interface for the end user that implements ARexx macros. A growing number of commercial software packages are supporting the ARexx language for interprocess communications. However, ARexx can also be operated by the end user from either a CLI window or from AmigaDOS or ARexx script files.

In addition, Commodore has announced that eventually, version 1.4 of AmigaDOS will include a complete ARexx implementation, to facilitate the sort of thing at the system software level that ARexx provides now as an add-on product.

TASS reduces the amount of programming that end users will have to do to take advantage of the ARexx interfaces in commercial or freely distributable software. All the end user will see is a mouse-driven TASS screen that conceals the ARexx macros running "behind" the interface.

Mindware claims the use of TASS as a development tool will allow ARexx programmers to shorten the development time needed to write programs, as well as ensure that all ARexx-based applications share a long list of standard features and a familiar look and feel - gadgets and requester windows.

Placed in the public domain and widely distributed for free, Mindware's TASS library is also available for \$10.00 by writing directly to the company.

The company is using TASS and ARexx to develop and vertical applications based on its own products, including PageFlipper Plus F/X, PageRender 3D and PageSync. These applications will be targeted at the corporate presentation and professional video production markets.

Applications running under TASS automatically have the following features:

- Standard Directory Requester
- Standard Color Requester
- Standard Font Requester
- Standard String/Integer Requester
- Standard Boolean/Error Requester
- Standard look and feel
- Context-sensitive, cross-referenced help

- Text display utility
- Screen Grabber
- Image and Anim display utility
- Image and Anim processing
- Anim file creation
- ARexx Support:
 - Windows and gadgets remote-controlled by ARexx (Input)
 - Window Data can be clipped by ARexx
 - ARexx Macros can be assigned to Gadgets/Keys
 - ARexx Macros can be started by mouse or Hot Keys, Asynchronously
 - Window-specific or global macro expansions
 - Scrollable Window Text can be searched, paged, and positioned
 - Wide range of ARexx library functions (ARexx Function-Library)

Mindware International
110 Dunlop St. W.
Box 22158
Barrie, Ontario
CANADA L4M 5R3
705-737-5998.

ARexx
List \$49.95
William S. Hawes
P O Box 308
Maynard, MA 01754

PeopleLink Re-Zoning

PeopleLink, the Amiga-intensive, public-access network, has made a few changes here to the AmigaZone, the main Amiga conference. For one thing, the rate increases mentioned in the most recent past issue of this magazine were, by the time this one is moving toward printing-press-dom, out the proverbial window. The rates are now lower, with the elimination of the download charge, but the hourly charge increased somewhat for many callers, and considerably for callers who connect at 2400 Baud.

If you're not familiar with PeopleLink, it's definitely worth a look. In fact, much of the content of this news section has been there in one form or another, long before this magazine or any other can be produced and published.

Here is a listing of the AmigaZone's reorganized sections, with comments from the chair, Harv Laser, on each.

- Section 1 is now called "Announcements, Intros, Help, Rules". This is the place to put "Hi, I'm here!" type messages if you're a new or returning Zone member. . . ask for help in how the Club works (posting notices, "Hey, how do I download?" and similar questions and problems), and this is where the Sysops will post important announcements.

- Section 2 is now called "News, Rumors, and Miscellany." This is where the "less than urgent" stuff goes - such as "Hey, I saw an Amiga on a TV show" or "This dealer is great/so-so/horrible" or any other tidbits of

news or rumors or non-Amiga related stuff you care to post. In Section 2's library you'll find files recently moved out of Section 14 including Fish Disk catalogs, User Group and TUNA newsletters and such.

- Section 14 is newly remodeled as "The Official Commodore-Amiga Updates" section. This is where Commodore personnel will be regularly posting Amiga software revisions and upgrades for electronic distribution. These files, Copyright by Commodore, will always be "the real thing" since they are authorized uploads. Although they should not be ported over to BBS's, this is bound to happen. . . but if you download them from here you'll know you're getting untampered-with software from an authorized source. Only authorized Commodore personnel will be permitted to upload to Section 14. Anyone may download. The Education-related files that were previously in Section 14 have been moved to other sections.

PeopleLink Changes Rates (Again)

After announcing a new rate structure June 21st, PeopleLink has again changed the rates for connecting to the national network. PeopleLink is noted for its AmigaZone, a very active and rather friendly convergence of Amiga users nationwide. The new rates eliminate the download surcharge imposed in June, and revise the general connect time charge, instead.

PeopleLink (and other data telecommunications networks) is accessed by having your modem call a publicly dialable connection that handles the data call. It's the same as picking up the phone and dialing Seattle, but it's for computers, instead of voice communications. See, in order for computers to talk to each other (your Amiga and PeopleLink's massive mainframe), the computers need a phone line and a modem "carrier." That means, in simplest terms, long distance lines. Some large networks maintain their own data networks (and charge for it), but PeopleLink doesn't have a network of its own, relying instead on a service known as Telenet (among others, but Telenet is the main one).

Telenet maintains the highspeed modems, long distance multiplexing equipment and all the other doodahs that go into making it possible for you to dial a number in your home town of, say, Somewhere, New Jersey, and connect with PeopleLink's computers in Chicago, and NOT pay a long distance phone bill for the call. The call is billed to you as "Connect time" on PeopleLink, rather than billed to you by your phone company as a long distance call (although can just call the Chicago PeopleLink lines long distance if you want to).

Telenet manages this feat of marketing magic by clumping a bunch of calls onto one main phone line, and then unclumping them on the other end. Such a scheme is called "packet switching" and a few other, choice names. Yet, it works, and it works just fine. When you call

PeopleLink Telenet charges the time you're on to PeopleLink, and that cost is reflected in the charge for your connect time.

Anyway, PeopleLink says packet switch networks such as Telenet, charge not only for usage, but also surcharge for each packet sent through their network. A download, then, causes a lot of packets to be sent, whereas reading or typing messages doesn't put much of a burden on the network.

"The response we received about the price changes has caused us to reconsider our actions," said Elizabeth McGinnis, PeopleLink's president in a letter posted online. "The overwhelming response, by letter, bulletin board postings, phone calls and pigeon carriers, has resulted in Plink returning to a flat hourly rate within the continental United States."

The new rate schedule (effective 10/1/89) is:

Direct Dial into Chicago Node (312-715-1042), or via Telenet with PC Pursuit ID or via Tymnet with Starlink ID (300/1200/2400 Baud): 24 Hours - \$3.50 per hour

Access via REDI-Access and Telenet - Non-prime Time Rates, per hour

	REDI-Access	Telenet
300 Baud	\$4.95	\$6.95
1200	5.95	7.95
2400	9.95	13.95

Access via REDI-Access and Telenet - Prime Time Rates, per hour

	REDI-Access	Telenet
3/12/2400	\$17.95	\$19.95

Customers must be responsible for any telephone charges to reach any access number. So, if you don't have a Telenet, REDI-Access, or whatever network in your local calling area, you have to add the cost of calling one long distance. Charges are based on the number of minutes connected with a three-minute minimum per session.

WordPerfect Updates WordPerfect

WordPerfect, fresh from an announcement of their growing disinterest in the Amiga market, and just after dropping the retain pricing on the Amiga version of the WordPerfect wordprocessor, has announced that a new, rather major update is now available. Registered owners of Amiga WordPerfect 4.1 should contact the company's customer support line for information on obtaining the updated software.

The version number for the Amiga product, 4.1, has not changed. This means the product is compatible with files generated by products with a similar numbering on other machines for which WordPerfect is made. This does not include the WordPerfect 5.0 for MS-DOS machines, however.

Following is a list of the features and enhancements in the update, provided by the company:

- beep - setup option - the user now has more beep options. This includes an audible as well as screen beep. The user can specify that the beep will occur on hyphenation, search failure, errors, or three seconds before an auto backup occurs (backup warn).

- default macro path - setup option - the user can now specify where macros are to be saved.

- default document path - setup option - the path to which file requestors will default the user specifies otherwise.

- screen options - setup option - the user can now have WordPerfect open on the Workbench screen, or two-bitplane interlace or non-interlace screens.

- edit buffer sizing - setup option - the amount of memory that is used for editing a document can be more carefully controlled. If a user turns on 'auto' edit buffer sizing, WordPerfect will allocate enough memory to hold the entire document in memory (as opposed to keeping some of it on disk), within the bounds the user has set. Having the entire document in memory enhances the speed of editing and most other features. However, the user can put limits on the amount of memory used by WordPerfect, thus reserving memory for other applications in which to multitask.

- auto hyphenation - with this option on, WordPerfect tries to algorithmically hyphenate, thus relieving the user of having to respond to hyphenation requestor.

- hyphenation disable - on occasion, documents get bad data in them, or mistakes occur which would normally cause the hyphenation requestor to come up many times. Sometimes this occurs by accidentally setting the margins very small, or editing a file receive via modem which has ^Zs padding the end of the file. Usually all it would take to fix it would be to delete the offending code(s) from the document. This can be a frustrating situation since WordPerfect insists on using this data even though it wasn't intended to be there. Hyphenation disable was invented to handle this situation. When the hyphenation requestor comes up, the user simply presses 'disable' and the hyphenation requestor will no longer appear. This mode allows the user to break the normal rules of WordPerfect - i.e., it allows lines to be wider than the margins, thus making it possible to remove the offending data and then re-enable hyphenation to work in normal mode. If the user forgets to re-enable hyphenation, WordPerfect will remind on a save or print command, making sure that the document is properly formatted before putting it anywhere permanent.

- file requestors - the file requestors in WordPerfect have been modified to be more consistent with the Amiga user interface.

- scroll arrows - all scroll arrows have been moved to the bottom of their respective scroll bar to allow easier incremental access. This is consistent with future standards set by Commodore.

- taller font support - WordPerfect will now display any non-proportional 8xN font for document editing. This is particularly useful when wordprocessing on an Amiga high-resolution screen.

- requestor consolidation - many cases of multiple requestors have been replaced with single requestors performing the function of the many. This includes: column definition, page length setting, hyphenation options, beep options, print options (in Print), etc.

- spell checking - better speed, smoother, progress report (updates a word count display every eight words)

WordPerfect Corporation
288 West Center St
Orem, UT 84057
801-225-5000
801-227-4288 (FAX)

BridgeBoard's Two-faced Software Upgraded

The software that drives the Amiga BridgeBoard and the ill-fated Amiga SideCar for the A1000's is called "Janus", on account of the two-faced-ness of the software's main thing in life - making two dissimilar computers peacefully coexist in the same box and on the same screen, and on the same harddisk drives, even.

A> And there is indeed an updated version of this driver software, shipped with all new Amiga 2286 BridgeBoards, for example. This new version does things a bit more smoothly than the older versions, and it's worth getting. It's NOT worth buying a new BridgeBoard to get, however, and you shouldn't have to do so.

You don't. The official word from Commodore - after much jerking around as usual - is that the updated software is "being handled by the dealers." That means you just haul your original, Janus disks in to your Amiga dealer and get them to put the new software on them. No charge. For good measure, keep a backup copy of the OLD software before you go, so if something unpredictable breaks you can revert to the old stuff till you sort it all out.

Some dealers are even permitting people to photocopy the new software's manual, and if you can do that, by all means do so. The documentation is a great help to getting the software to work. Of course, if you don't get to copy the manual (a cheesy "policy" if there ever was one), complain loudly and bitterly to this week's Commodore management.

Pen Pal

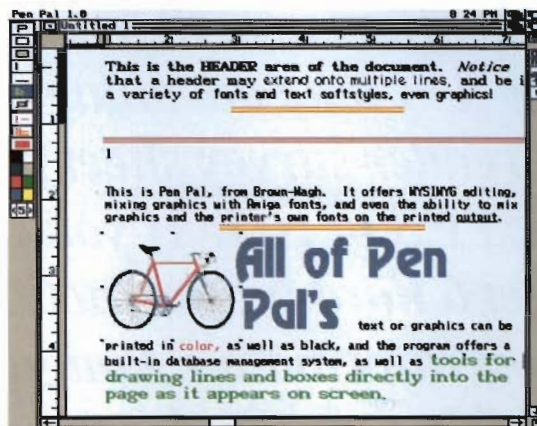
Your Amiga Pal...

by Mike Hubbart

Another Amiga word processor has entered the fray; it's called Pen Pal, and is brought to your Amiga courtesy of SoftWood Inc. and Brown-Wagh Publishing. Not just another word processor, Pen Pal goes beyond the color-handling capacities of most previous Amiga products. Not touted as a WordPerfect or excellence! killer, this product is meant to find a niche with people interested in generating neat letters with quality artwork on the same page as the printer's built-in fonts, or producing and using customized forms.

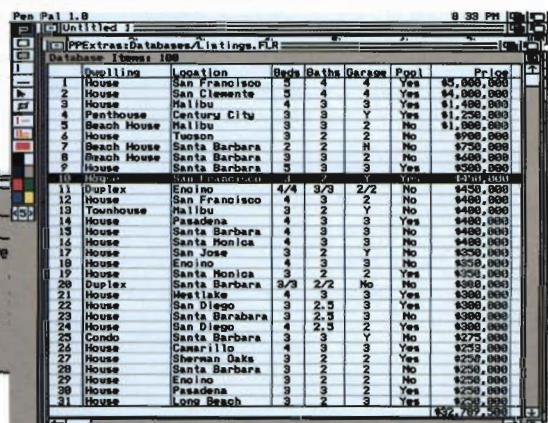
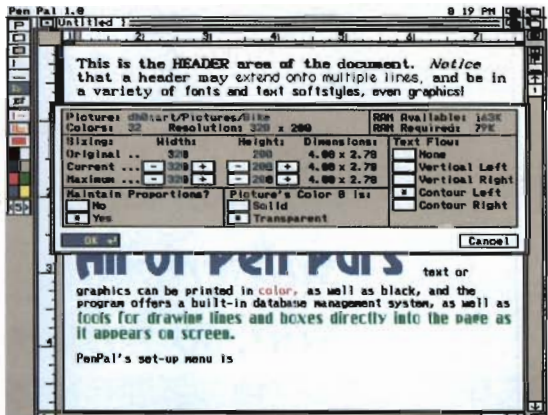
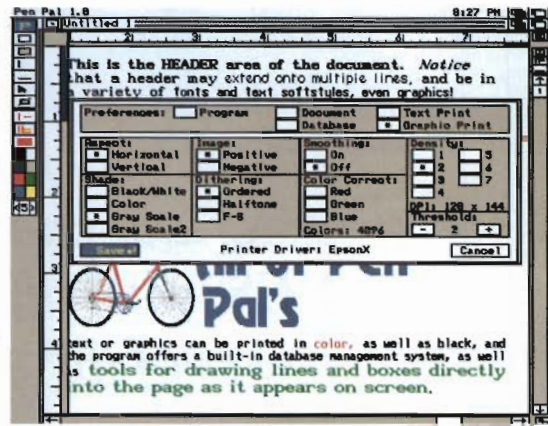
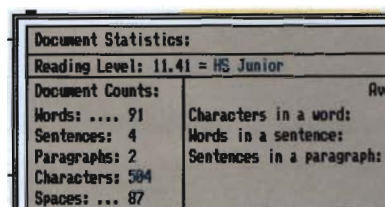
The Pen Pal program actually consists of three parts: the Word Processor, Forms Manager, and Database Manager. Not only can you generate letters, you can also create your own custom forms for a small business and use the database manager to keep track of friends, relatives, customers. My initial impressions of Pen Pal version 1.0 was not good. This product crashed while I was writing a short letter as a test of Pen Pal, bringing up the GURU twice in the first thirty minutes of use!

I do wish to compliment Brown-Wagh's interest in customer satisfaction - they sent out an update correcting reported bugs within four weeks of shipping the original version of this product. Not only was the update sent promptly, it was also sent without my having to call Brown-Wagh and mention the problems I had run across. I did not have the same problem with crashing with the new update of Pen Pal. Thanks, Brown-Wagh.



Nice Features of Pen Pal

The display window is similar to older Amiga word processors, with the rulers on the top and left side of the editing window for reference. The slide gadget on the right side of the editing window also displays the page number you're working on; this is different from WordPerfect's display on the bottom of the screen, but I find I like this method as well as WordPerfect's. There is an additional slide gadget on the bottom of the screen that gives sideways movement of your document's text. Both the rulers and bottom slide gadget may be turned off - I like the programmers' giving me this choice for a change!



Continued On Page 66

A.X. Magazine's

Free Hard Drive Sweepstakes

In conjunction with our subscription drive, A.X. Magazine is offering a 40 Megabyte hard drive free! How do I take advantage of this? Just fill out the reader survey sheet from this issue and check YES or NO. If you check YES, you will get 6 hard hitting, action packed issues of the most informative Amiga Magazine available at far under the newsstand rate! And if at any time you are not happy with your subscription... just mark cancel and we will refund the balance of your subscription. There is absolutely no risk to you, so why not give us a try!

To enter the sweepstakes use the Reader Survey form included in this issue. Or you may make a copy of that form to use, or send a SASE to this address for a copy. You may enter as many times as you wish, but only one entry per envelope. No purchase is necessary.

All entries must be in by January 2, 1990. Drawings will be held in the central offices of A.X. Productions, and all decisions are final. Winner must specify configuration for Amiga500/1000/2000. Mutilated or illegible entries will be disqualified, and sponsor not responsible for lost or stolen entries. Any prizes not accepted will be re-awarded. Offer open to U.S. residents except employees and their immediate families of A.X. Productions. Taxes on prizes are winner's responsibility. Not valid where prohibited by law.

Send All Entries To:

A.X. Magazine
6006 Greenbelt Road Suite 189
Greenbelt, Maryland 20770

Arexx Inroads

What does Arexx and Digipainting have to do with each other?

by Jay Gross

What's An Arexx Port Doing in a Paint Program?

The new DigiPaint 3 by NewTek has one interesting feature that not many reviewers have raved about. Yet. That's its full, and powerful Arexx port. Now, what in the world good could Arexx control be in a Paint program, you ask.

Good question.

Okay, think about it for a second. NewTek's documentation says you can do anything in DigiPaint 3 that you can do with the mouse and keyboard. That includes open the program, start a picture or load one from disk, change a picture in any manner supported by the program, which is a lot of manner, and close the program. It is, in short, a complete paint program that can be operated by remote control - by Arexx programs or commands, in other words. So what good is that?

A first instance might make it a bit clearer. Suppose you're animating something, and you need a simple graphic to move around the screen. You really need a few hundred nearly identical, but with the graphic in a different place each time, relative to the picture borders. OR, let's say you want a title to bounce in from the bottom of the screen, and march defiantly off the right edge. Either of these examples could be achieved simple and easily with most any paint program. With an Arexx script, however, it would be quite possible to generate such frames automatically, even unattended.

So, what you'd do is tell the Arexx script (as yet unwritten, alas) how many frames you want, and what the text string is - this is for the titling example. The program then opens DigiPaint 3, operates the controls automatically to

create the frames, saves each one to disk by a name you supply, incrementing the name by 1 each time (e.g., Title.1, Title.2, Title.3, . . .). Presto! The frames you need to create your titles!

Of course, grand as this idea is, it hasn't been done yet, but it isn't a difficult one to do, and as soon as some enterprising Amiga videot has need for such a thing, there'll likely be one floating about on the net-works (hint hint). Nevertheless, you get the idea. So, even though the Amiga press (and the programmers, so far!) has by and large ignored the issue, Arexx is a very interesting thing to have in a paint program.

J:

Creating animated frames with Digipaint 3.0!

AMIGA Multi User Software

by Conceptual Computing



Attach up to 17 or more terminals to your Amiga, each running any number of tasks or windows (text only).

Applications

- * Runs most DOS programs, including Ed
- * Conceptual Computing's MultiBase
- * Write your own applications

MultiBase

MultiBase is a Multi User database which runs on the Multi User Software System and has record locking for shared access to data files. Also has many other features such as inclusion of JPF files in database.

Multi User System Software	\$20 US	\$40 Can.
System Software and MultiBase	\$24.95 US	\$29.95 Can.
Demo disk and manual	\$5 US	\$5 Can.
(Ontario orders add Bx tax.)		

If you want to use one external terminal - just attach it to the serial port. For more than one external terminal, you need a multiple serial board or a serial multiplexer. See for details.

Conceptual Computing
603 Castlefield Ave., Toronto, Canada M5N 1L9
(416) 781-7742

What To Keep An Eye Out For In This Issue's 2 Disk Set.

Productivity

Who? What? When? Where? Demo

This powerful utility demo has been placed in this issue's disk set to let you see just what it can do for you. Designed to organize your time as well as your phone book, this just might be the thing for you. Try it out.

ToPP Utility

Professional Page supports several word processor formats, but not all of them. This utility will bring those other formats into use with Professional Page.

FONTS: Crypt

This fun font is included in the FONTS directory of disk #1. You can use it to dress up your favorite wordprocessor or paint program.

Workbench 1.4

These screenshots allow you to see what the new workbench will do for you, right on your Amiga screen.

ClickDos Utility

If CLI frustrates you, and yet you need to manipulate files, move them around and organize your disks... this is just the utility for you.

BBS Tutor

Many people still aren't clear as to what a Bulletin Board System is, or how it can benefit them. Well, try out this educational simulator... no modem required!

Graphics

TILES Clipart

On this issue's disk are two IFF files for use as clipart. They are large textured tiles which you can load into a paint program to use as a background, or clipout as pieces in a larger picture. Or for you video folk, you can use the tiles (full video pictures included) as a background for titling or other special effects without modification... just load and go!

Football Animation

This issue's animation is a full HAM animation from The Winners Circle. It shows off the smooth and detailed imagery available from HAM animations. 1 Megabyte is recommended, but if you only have 512k, most of the animation will still load. Available from an icon!

Music

The Boogie Woogie

Stereo At Its Best. For the best effect, connect your Amiga to a stereo system, and increase the volume. But beware, the music from A.X. Magazine utilizes a wide range of dynamics, and can cause damage to your stereo system if used in excess!

Frenetic Round Minuet In G Technopop

Are all more music included in this issue's disk set. For all these songs, you don't need a player...just a 512k Amiga!

If you
didn't
purchase
the disk set
when you
bought your
magazine...

It's as easy to
order as:
1-800-284-3624!

The A.X. Magazine Two Disk Set

DISK INSTRUCTIONS

1. At the Workbench prompt, insert your A.X. Disk #1 in drive 0.
 2. After your computer boots up, a Workbench screen will appear showing an A.X. disk icon. Double click that disk icon to expose the magazine icons.
 3. From here, everything is point and click. Double click the disk icons to expose more icons. The MAGAZINE icon will begin the central magazine interface. Other animations and items can be started from their icons also.
- * There is a PRINT OPTION in the magazine. From the main user interface, while reading an article, in the OPTIONS menu, select print.

Something Missing?

**The A.X. 2 Disk
Companion Set
Is Only \$11.
Just call
1-800-2-THE-MAG
1-800-284-3624
To Order
Or Use Your
Reader Survey Form**

THE DISK PORTION OF A.X. MAGAZINE

The user interface which drives the disk portion of this magazine is state-of-the-art in every way. The entire interface is written in 100 percent Assembly language to be quick and smooth.

As you read the articles, you are not just looking at text. We have integrated graphics and illustrations right into the text, and the entire thing smooth scrolls. Then we added sound and music on top of it all, to add to the multi-sensory experience. In addition to the articles, there are some useful Amiga system utilities, as well as other executable programs that can be run directly from the user interface.

Beginners will be happy to know that the interface is designed to be extremely simple to use. Just point and click. Yet, it is designed to also be quick and efficient for more advanced users. Single-drive owners will delight in the fact that you don't have to constantly swap disks to use the magazine. In the Table of Contents, articles are marked as to which disk they're on. So you will know in advance if you must change disks. And even then, you will only have to change disks once to read an article, show a picture, run a program or whatever.

The disk portion of A.X. Magazine is organized in the same way as the table of contents of this issue. For instance, everything shown in the FEATURES/COLUMNS section, can be found in that section on disk. The only difference is that there is more on the disk portion than is listed in the paper table of contents.

BAD DISK?

So you think you have a bad disk. Don't worry. Simply send your original disk back to us, and we will promptly replace it.

WHAT DOES A BAD DISK LOOK LIKE?

If you encounter a message saying that one of your disks has a "Read/Write Error", then you probably have one. Or, if your Amiga suggests using DiskDoctor to fix it.

WHAT SHOULD YOU DO?

That's easy. Simply send that disk to us, with a small note as to the problem you encountered, and we will gladly send you a new disk.

Please send your bad disk to:

A.X. Magazine - Bad Disks Urgent
6006 Greenbelt Road Suite 189
Greenbelt, MD 20770

TECHNICAL SUPPORT

Technical support is being provided by NewAge computers. When you call, please say you are calling for A.X. technical support. Also please have the issue number, and any other relevant information ready.

1-301-220-1296

Using DPaint

Every art medium is different and what works for watercolor won't work for oils or electrons. A book designed to pick up where Deluxe Paint's manual left off.

by George Trepal

BOOK REVIEW: *Using DeluxePaint* (second edition) by Steve Anzovin; Compute! Books; July 1989; 300pp, paperbound, \$23.95.

Every art medium is different and what works for watercolor won't work for oils or electrons. The manual that comes with DeluxePaint tells you what the electronic medium can do but not how to use it. *Using Deluxe Paint* shows you how to use the medium to its fullest.

Using Deluxe Paint bills itself as "not a substitute for the manual, but a companion to it." The author takes you step by step through

techniques to make very complex drawings. Complex for paper or canvas that is but a snap for the electronic medium. I've never seen anything like this book and I've learned a lot from it. Its author is truly a master of the electronic medium. However, the book is poorly written and heavily padded. I picked the following example by opening the book with my eyes closed. It's typical of the rest of the book. I quote from page 27:

"Because computer memory is not permanent, but vanishes each time the computer is turned off, your computer provides a form of permanent storage in which to record your work. The Apple IIs, Amiga, IBM PS/2,

and most IBM compatible laptop computers use 3-1/2 inch floppy disks as their primary form of permanent storage; other PCs use the older 5 1/4 inch disks. Electronic Arts sells DeluxePaint only on 3-1/2 inch disks for the Amiga and IIs, and supplies both 3-1/2 inch and 5 1/4 inch disks for PC compatibles."

Is it any surprise that Electronic Arts sells Deluxe Paint on the right size disk to fit a given computer - especially when the Amiga and IIs only use one size? Think I'm being overly picky, or that this paragraph leads to something later on? Here's the the start of the paragraph that follows it.

"As DeluxePaint takes up nearly all its own disk, you'll be saving

you work on a separate data disk. Formatted (ready-to-use) Amiga disks hold 880K bytes worth of pictures, while the Apple IIs's disks hold 800K bytes. That's 20 or more 320 x 200 full color pictures per disk..."

Why bother to tell how many bytes a disk holds when you don't tell how many bytes a picture is? Wouldn't it be easier just to say that Amiga disks hold at least twenty low resolution pictures? That cuts the words to one seventh of their original number.

The writer is a fine artist but not an experienced Amiga user. Here's an example from page 27:

"... Don't get into the situation of having a wonderful picture to save and no disk to save it on - and no way to format a disk because your computer is already tied up."

The Amiga is a multitasking computer. To format a disk, click the front/back gadget of DeluxePaint to get the Workbench screen. Use the pulldown menu to start a disk formatting. Now click back to DeluxePaint and work on your picture while the disk formats.

Other padding in the book includes rewriting parts of the DeluxePaint manual. The book claims it's a companion to the manual, but doesn't take its own claim very seriously. For those with the manual it's like buying it again. For pirates wanting the manual, it's incomplete.

The index is awful. You know a word is important when it's put in italics and given a paragraph apart from the main body of the text. Yet many such words don't appear in the index. What use is a book without a good index?

In conclusion, the book is more than 300 pages long. Were it well written, and if it didn't include information about Apple and IBM (useless to an Amiga user), it would be less than 40 pages long. This would make an excellent serialized magazine article, but at \$23.95 the book simply ain't worth it. •

"It was a dark day.

A day so dark, I needed a flashlight to put my socks on the right feet. My secretary Gladys had quit the day before, walking out with my heart and my Rolodex. I was lost. Then, a mysterious woman walked in...

She had a great software package, the kind of goods you want to take home to Mother. She whispered, **'Who!What!When!Where!'** then handed me the box and exited stage right. I never learned her name, but that woman changed my life.

Now, I use **Who!What!When!Where!** to schedule appointments, to remind me of upcoming events, to dial the phone, to print address labels, and as a calendar, alarm clock, and yes, as a Rolodex, too.

Of course, Gladys made better coffee, but then **Who!What!When!Where!** doesn't demand profit-sharing..."



**Who!
What!
When!
Where!**



1248 Clairmont Road
Suite 3D
Atlanta, GA 30030
(404) 377-1514

DigiPaint 3.0

A new Deluxe Paint, a new Photon Paint, so what's all the fuss over DigiPaint 3.0?

by R. Shamms Mortier, PhD.



All DigiPaintings by R. Shamms Mortier, PhD.

The first version of Digi-Paint was released about seven months after the glitzy ads started appearing in all the Amiga magazines. I was so naïve then, never having been subjected to the "Real Soon Now" blues before. I thought that when a vendor advertised a product, it meant it was available. Silly me. Well, it seems that many (if not most) Amiga vendors have learned since then that advertising vaporware is not only O.K., but actually admired in the Amiga community (look how long it took SoftLogik to release PageStream). ►

Of course, buggy releases are to be avoided; they don't do the Amiga or the intended user any service. But there is a limit. NewTek produces some of the best and most stable Amigaware around, but I wish they (and all other developers) would get off this kick(false)start of hyping stuff so many months in advance of its actual release.

When Digi-Paint 1.0 was released, I had already been working with Prism (from Impulse, remember it?) for about four months. When I finally did get my copy of Digi-Paint, it completely eclipsed Prism, sending it off to a dusty corner of my file cabinet forever. But then was then and this is now, so the song goes. While waiting for the release of 3.0 (2.0 was skipped for promotional reasons), I have fallen in love with PhotonPaint 2.0 (Microllusions). Though the final release of Digi-Paint 3.0 will not cause me to jilt my Photon lover, I am interested in carrying on a ménage-à-trois. Digi-Paint 3.0 is an astounding addition to the toolkit of Amiga artists, but so is PhotonPaint 2.0. They both do the dance well, and you'll probably want to change partners now and then, when the music calls for it.

So, What's New?

There is a small, one-page chapter of the manual (a much larger manual, by the way, then the flimsy pseudo-manual that accompanied 1.0) that is called "What's New?". A general mention is made concerning new

The first thing that becomes apparent when opening the 3.0 version is that the whole user interface has been redone. The old one has been scrapped completely, and new, easier to understand syntax replaces the arcane command language of 1.0. The new inter-

This is also the way Digi-Paint 3.0 addresses the resizing of brushes. Once you tell the system to save the grabbed brush (or one that you've imported), you select "Texture Map" from the options menu. Any tool then in use will apply the brush, instead of a paint fill, to the screen. Using the rectangle tool at that point will allow you to resize the brush to any area, and that area can be constrained to a square by holding down the shift key.

This takes a little getting used to, as it forgoes the use of the "resize brush" commands that Amigolds are used to, but it leaves room for much more variability. There are only two ways that you can get an area fill to flow around objects. One is to use the draw tool/fill combination. This is fine for solid colors, but with dithered fills, you run the risk of having the back-

ground look too pieced together. The other is to use the rub-through tool, which allows the alternate screen (the "J" screen) to replace the workscreen in areas that you specify. This is a much better alternative for large areas, because a very complex background can be brought into the



face is much cleaner and faster to get around, and there are now four separate menus that address the visual applications: the main window, the warping/texture-mapping window, the text window, and the palette window. As in NewTek's Digi-View software, all of these command centers are available from all of the others with a simple mouse click. Disk file commands and brush alterations are accessible by a right-mouse click, which is one of the only holdovers from 1.0. Unlike PhotonPaint, which still reserves a majority of its operations for access with word descriptors, Digi-Paint 3.0 allows visual access to most of its tools.

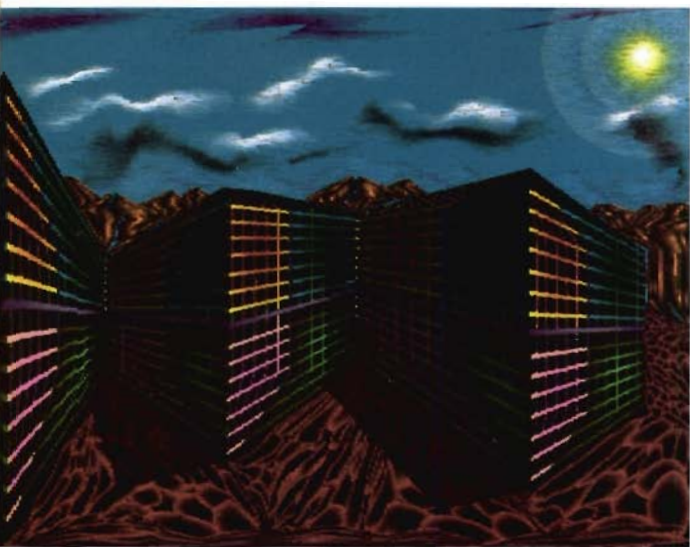
Even the manual, which in 1.0 lacked any visual interest, now bristles with graphic displays of screen displays. Some of the more extensive visual processes can be a bit time consuming to learn, but the learning curve slopes steeply downward once you spend a few hours with the possibilities. The manual even states that there is no way it can give you tutorial directions to all of Digi-Paint 3.0's pathways, and it is more than correct.

The Main Toolbox-

All the expected drawing tools are here: dot-draw, free-draw, polygon/line draw, rectangle, circle, ellipse, and a fill button. The only one glaringly absent (and one I miss) is an airbrush. The Fill option works a little differently than on Photon or other Amiga graphics programs. Instead of an area fill, any of the tools work as fills in conjunction with this button.

foreground smoothly. Even with these possibilities, I still wish Digi-Paint 3.0 had a background fill tool (maybe version 8.0, which will surely follow 3.0, will have this capability).

The fanciest action of all is the "repeat" function which is tied to a button of that same name. I always thought that the repeat (or "again") capability of Digi-Paint 1.0 was a



tools and processes, but it far understates (which was probably intentional) the awesome power and look of 3.0. This is coming from an artist who owns and uses all the other Amiga visual tools available, and who has become fairly jaded regarding hyped ads and promises. Let me say it again out front. Them who don't get their socks blown off by what can be visually accomplished with this new release of Digi-Paint ain't wearin' any socks.

great tool, and the clarity of the language in 3.0 is so much more understandable. Basically, the repeat function will do whatever you specify in the same area as last operated on. That means you can paint a solid colored sphere, then set the controls for a dithered sphere, textured shape, or some other combination of effects, and have them applied over the original shape again.

There is no limit to the number of times that this can be continued. Layering effects one on the other can produce extremely complex and interesting visual elements. When finished, these elements themselves could be grabbed, and then texture-mapped in an infinite series onto other surfaces. Professional artistic tools must remain wide open to applicational variability, and the Digi-Paint 3.0 tools are, for that reason, very professionally suitable.

Naturally, there is also a "scissors" tool that can cut brushes out of any screen, either for saving them in a disk file, or for applying them directly in a texture-mapping effect. The scissors tool does nothing by itself, but is

lined areas are needed. One nice use for this capability is cutting out alphanumeric symbols (letters and numbers) from a dithered background, giving you very handy video fonts unlike anyone else's.



Warp Speed, Scotty...

The Warping/Wrapping toolbox section will probably be your favorite. It is one of the prettiest designed interface screens I have come across. The choices are all visual, as befits the Amiga, and they are very easy to learn to use. This might as well be called the "infinite effects screen", because your options here, with only a few apparent tools, are really limited only by your imagination. Here's where the use of the "Repeat" button really gets a workout. Any application that is targeted to an area can be repeated after radically altering all of the parameters - the palette, the shape, the design of the brush, the transparency factor, and more. And that's not all... the whole thing is real-time interactive! That means that you can be messing with the controls even while the choice is being painted to the screen (if you're fast enough. Maybe here's where gaming skills come in handy.) There is an amazing tool section here that allows you to tell the system exactly how the surface is to be texture-mapped, in what degree of curvature. There is also a grid tool that gives you control over the vertical and horizontal number of times that the area will be tiled with the brush of your choice (from 1 to 9 times in either or both directions). Dithering and light source alterations can also be applied over a very wide range.

The Palette

The palette requester addresses the system in some ways unique to Digi-Paint 3.0. Pho-

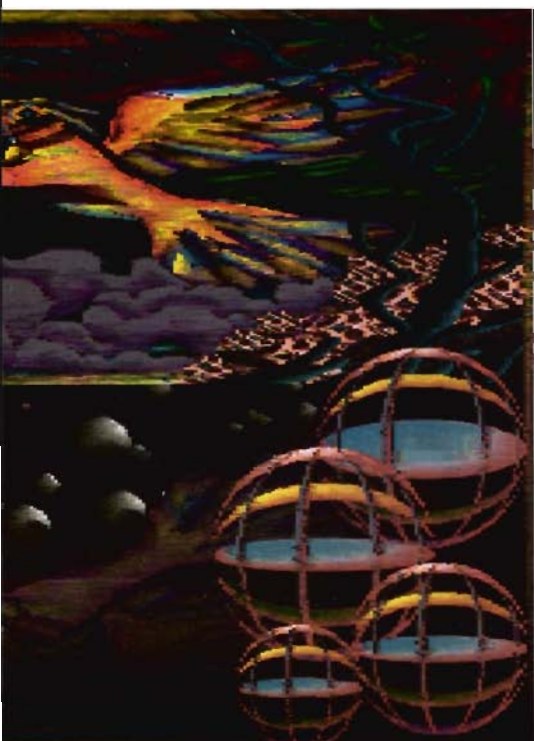
tonPaint 2.0 uses a standard 16-color register to set up a best-choice palette so that fringing will not occur, but leaves 64 colors on screen to color cycle (which Digi-Paint 3.0 cannot do) and to use as a smooth range of other colors. Digi-Paint 3.0 seems to be much

more limited in its color choices at first glance. Actually it's not, although the way that colors are displayed and activated may force you to work in a lower number of on-screen color choices. This may be a design plan by NewTek, so that the notorious color fringing effects of HAM mode can be minimized. Digi-Paint 3.0 has only its 16-color register on continuous display, accompanied by a short range bar (from eight to sixteen additional shades). You have to work pretty hard to add large new palettes, at least harder than in PhotonPaint. The trade off, however (at least what I think I see) is that Digi-Paint 3.0 produces far

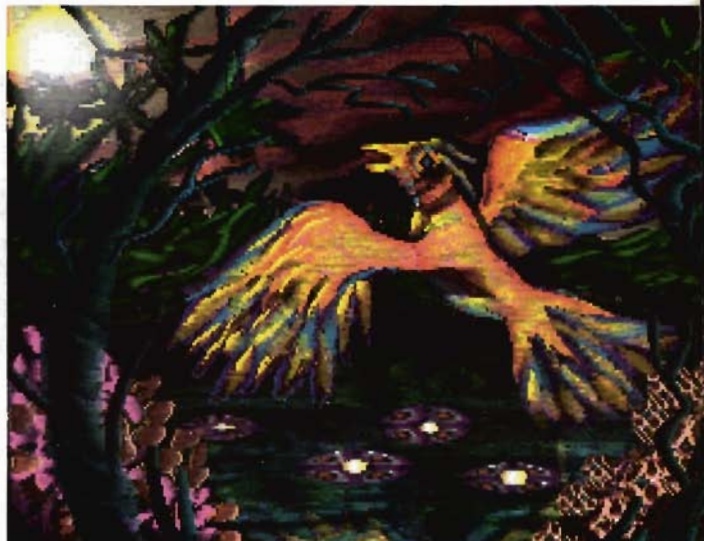
more brilliant screens less smeared by HAM artifacting than any other HAM painting program. A toggle-able smoothing factor also affects how your colors will be applied to the screen.

Text

Digi-Paint 3.0 allows the incorporation of any Amiga fonts. To be able to do less is no longer acceptable. There is also a selector for Bold/Italic/Underline. Text is entered in a window, instead of on the screen, much like this tool is used in ExpressPaint 3.0 (from PAR



part of an active duet with one of the other shape tools. Using it with the free-draw option allows you to cut out complicated areas on the screen. Using it with the rectangle gives you the standard ability to cut out rectangular chunks. Using it with circle or ellipse, adds the wonderful capacity to slice out curved surfaces, and the polygon tool responds in a similar manner when straight



software). There is no way that I could find to have this program read ColorFonts. Too bad! Why wasn't this included?

Other Stuff

Similar to Electronic Arts' Deluxe PhotoLab, Digi-Paint 3.0 will address superbitmapped screens, and will do this even better when Fat Agnus is installed (giving you a megabyte of Chip memory). Although you

Continued On Page 67

Spirit's HDA-506

When you are looking for performance and price.

by Jay Gross

A The Amiga showed up on the computer market right when the MS-DOS world was experiencing rapid declines in the prices of harddisk drives. Alas, the Amiga's drives carried the same, big-ticket pricetags that that other computer market had been accustomed to. Lately, though, the Amiga's harddisk drives have come down to earth, pricewise, largely due to a wider acceptance of the SCSI drive "standard." Unlike Apple's Macintosh computers, however, the Amiga doesn't really insist on SCSI drives. In fact, the machine doesn't much care what kind, color, or variety of hard-drive you attach, as long as there is driver software to make it work. The "driver" is the key-word there. Oh, and a hardware interface, too, while you're about it. That leaves you two choices: SCSI or vanilla MS-DOS ST-506. No ESDI (yet). Nothing else either (yet).

The first harddisk drives for the Amiga were SCSI - affectionately pronounced "scuzzy" in the computer trade - and the SCSI specification, a semi-standard in the industry, offers something the Amiga needs. Speed. The computer's rather slow disk operating system (DOS) was patched at the last minute onto an otherwise state-of-the-art machine by Commodore. The heavier duty hardware makes up the difference, and SCSI does just that.

These days, some of the fanciest SCSI drives available for the Amiga are capable of blindingly fast drive access, even animating *off the disk*. Still, leering up at us with their dirt-cheap prices from the pages of the latest mailorder catalogs, there have always been those cheapie MS-DOS drives. The computer trade knows them as "ST-506 drives". Some of them are also blindingly fast. Why not put them on the Amiga?

It's not at all a new idea. In fact, the standard drive supplied in an Amiga 2500 is NOT a high-class SCSI drive, but a plain ol' ST-506 drive driven by the 2500's 2090A harddisk controller card (which also supports SCSI).

For people without Amiga 2500's or A2000's to put such controller cards in (and even for people *with* 'em) Spirit Technologies makes a little magic box that will indeed attach one of those terminally cheap, MS-DOS, ST506 drives to your Amiga. Called the HDA-506, the Spirit unit contains a hardware interface card which has a place to mount an MS-DOS harddisk controller card, and comes with driver software to make the thing work with an Amiga, either

the A500 or the A1000, or more recently in the Amiga 2000. The 2000 product is of course a plug-in card. The other adapters are odd-looking, square, metal boxes that mount the controller to the expansion buss of the Amiga 500 or 1000.

Yes, the boxes do indeed pass the buss. However, you must be very careful about choosing other things to go on the end of the chain. Spirit says everything they've tested has worked, but it's doubtful they've tested absolutely every possible combination, so watch out. Try before you buy, in other words. This problem isn't necessarily Spirit's fault, as it can also be a limitation of the daisy-chain buss design.

My Spirit HDA-506 interface is one of the first shipped, and I've been using it, and abusing it (with lightning bolts!), and enjoying it - really enjoying it - for several months. I don't have anything else connected to the buss on my Amiga 1000, but I do have a Michigan Software Insider memory expander inside the machine (where



This screen demonstrates the "Jay Gross Benchmark."

else?).

Generally, the Spirit HDA-506 has proved to be of VERY high performance, and quite reliable even in a none-too-ideal environment (surges, spikes, lightning, heavy usage, and 24-hour operation).

Yawn. Benchmarks.

About the dumbest thing ever to hit the Amiga magazine circuit is harddisk drive "benchmarks," so I won't bother you with a useless chart of that silliness. Computer benchmarks in general have become rather moot, in fact. Many computer manufacturers spend fortunes making their equipment benchmark well. Not *perform* well, *benchmark* well. The venerable *Byte* magazine recently changed all their benchmarks because the Amiga kept blowing their cherished Macs and PeeCees away. Their newer suite of benchmarking requires running things the Amiga doesn't have, so they no longer have to measure their advertisers' stuff against the Amiga's. Convenient, don't you think? Well, so much for benchmarks.

Okay, okay, for those who absolutely insist on such nonsense, the Spirit box's benchmark performance with DISKPERFA (the old one) is 60-K to 291-K reads, 55-K to 268-K writes at the lowest to highest buffer size, and that was BEFORE Spirit's recent software upgrade, which leveled out the buffer-size difference somewhat by RAISING the already impressive lower end. The newer "benchmark" that's

floating about, which is designed to make drives seem to perform faster, does exactly that on the Spirit box. Surprise, surprise. Its figures are even more irrelevant here, however, since I didn't test empty drives both times.

In both cases, directory scan "benchmarks" are 112-120 per second. No kidding! Don't believe it? See, I told you benchmarks were stupid - but those are real figures. I made the DISKPERFA test when the drive was empty. The newer one, I made with the drive more than 80-percent full, and all it did was up the performance figures to even more unbelievable levels. Not a good test? Of course not. However, there's no way I'm not reformatting MY harddisk just to run stupid benchmarks!

The only significant factor in ALL of those "benchmark" figures is that they are above the current performance levels on the same "benchmark" by many of the Amiga's SCSI controller/drive combinations. They match or come close to the performance figures for even the most expensive controller/drive combinations running DMA (Direct Memory access) SCSI. Not bad, considering that the Spirit box is not DMA, not SCSI. Moreover, the disk drive I'm running on my machine, a vanilla Seagate ST-238R, has one of the slowest disk access times on the current market - 65 milliseconds - while many of the fancier SCSI ones are using *nineteen-millisecond* drives. Or faster!

Okay, that's enough inane benchmarking. Now we can discuss *real performance*. This is of course largely a subjective judgement. However, it's a carefully thought-out one, based on observation of many other drive/controller combinations in action.

Click-click. Bubble-de-bubble-de-bubble. Poof! A window FULL of icons appears on the screen. THIS is where the performance of a harddisk drive should be measured. My main Workbench window contains more than 55-K of icons. There are more than a dozen subdirectories with icons (not counting C, S, Libs, etc.), and a bunch of program icons as well. Some of these are small ones (to conserve Workbench real estate), and some are pretty and fancy (to entertain ME). Anyway, opening this window takes three to four seconds. This is after many months of usage on the drive, after many thousands of writes and rewrites. In fact, this is probably as low a performance as this drive will ever provide due to drive fragmentation. It's a worst case, in other words, not a pie in the sky benchmark. Real performance.

The real indicator, however, is not the number of seconds, but the fact that several times while this window is opening, the drive light off while the drive waits for the computer to display something. That means the drive is fetching things faster than the

Amiga can get them onto the screen. In such a case, it is impossible for a drive to do its job any faster (no matter HOW fast it benchmarks!), because it's already going faster than the computer.

This test is a significant one to me, because I open the Workbench window a lot. I also use the CLI window a good bit, but prefer the Workbench. I don't leave the window open, 'cause it's fast enough to re-open that it's not a problem doing so whenever I want to.

Okay, that's it for real world performance test number one. The rest is even easier. It loads large programs in a flash, and I load Professional Page's 350,696-byte executable very frequently, so I know. Again, during the load, the drive must wait for the Amiga several times. It is therefore not possible to load this program any faster, short of adding a speedup card (like Ronin's '030 board) to the innards of my Amiga. Well, not *this* payday. . . .

The unit I have is configured exactly as Spirit recommends for maximum performance. I bought the adapter and the Omti controller directly from them, supplying my own drive and expansion box. They supplied cables in their kit, but I used the ones that came with my drive. Spirit's part of this kaboodle comprises their HDA-506 adapter box, an Omti RLL (MS-DOS) controller card, and a Seagate ST238R drive unit. I mounted the drive unit in an off-the-shelf expansion box which has a power supply and a fan (and space for yet another half-height drive unit - eventually).

The Spirit box connects to the side of my Amiga 1000. Its boxy (to say the least) design sticks up several inches over the top of the Amiga (so does the A500 version). A collection of rather ugly cables proceeds out a tiny (!) hole in the back of the Spirit box and over into the drive unit's box. The cables (standard ones, actually) are barely long enough to maneuver the boxes into position beside the computer. There is NO extra cable length here.

RLL and MFM

Omti's controller comes in two forms. RLL and MFM. RLL means Run Length Limited. That's MS-DOS computer jargon. An RLL drive has its information encoded in a denser fashion so that the drive capacity is considerably (50-percent!) higher than

comparable MFM-driven drives. MS-DOS drives are usually discussed using Seagate's "ST" numbering system, even though there are many manufacturers besides Seagate. ST-506 is a TYPE of disk drive configuration, as "sedan" is a type of car. The other numbers are actually model numbers in the Seagate line, as Chevrolet is a type of sedan.

*If you follow the
directions, nothing
should go wrong...
go wrong... go wrong...*

An ST225 is an MFM drive. It won't like the idea of being driven to RLL standards (though they can indeed be forced to do so). An ST238 is essentially the same drive unit built to withstand the higher density RLL encoding. RLL drives won't mind operating to MFM specs at all (though it'd be kind of silly to do so). The only difference is the controller card, a small plug-in board that does the hardware bit twiddling that disk drive units want done.

Speaking of controller cards. . .

Much of the Spirit box's outstanding performance is probably due to the excellence of the Omti product. The Omti's are premium-priced MS-DOS controller cards that incorporate an on-card cache to help drive performance along. It's like a hardware-bound FACC-II on the harddisk buss. In greatly simplified terms, the card fetches extra sectors, figuring the computer will want those next, and stores the last one fetched, in case it's needed again. The unit also doesn't do any actual writing to the drive until its buffers are full and there's enough to bother with. This *caching* scheme is undoubtedly where Spirit's product gets its impressive performance at fetching small files (like icons!).

Spirit sells the Omti MFM and RLL controllers to go with their HDA-506, and until I see something else any better, they've got my vote for the best to put into the thing. However, a few other controllers will work. Besides that, Spirit is neither the most cost-effective, nor the only source of the Omti products. However, if you buy from someone else (an MS-DOS shop, for example), you must be very careful to specify the Omti brand name and "RLL" (or MFM). The MS-DOS world considers controllers to be controllers and one brand as good as another. You'll get the "bar brand" unless you specify. Many of the more popular bar brands of

MS-DOS controllers (Seagate (!), Western Digital, Everex, etc.) will NOT work in Spirit's HDA-506 box. There's nothing wrong with them for use in MS-DOS machines, however. Most of them, anyway.

Spirit is working on the hardware and software design of the HDA-506 to make it work with other companies' controllers, and they might have it honoring others by the time this sees print. So, if you're considering one, call them up and ask what MS-DOS controllers they're honoring this week.

If you're considering buying into this deal, I strongly recommend you consider only the RLL, too. Its extra performance and capacity make it not only well worth the extra bucks, but it is really the deciding edge that makes the whole kit worth looking into in the first place. Frankly, no matter what other controllers Spirit gets working, I'd vote for the Omti RLL. (Watch the lawyers lining up on account of that one! Well, sorry, that's the truth as I see it. See y'all in court.)

Installing. Ack!

Getting Spirit's box to work is not much of a problem, but it's not a dream, either. Beginners will find it totally unfathomable. For newcomers to the Amiga, I recommend buying something MUCH less complicated and which comes pre-formatted, pre-configured, and with software that permits re-formatting and re-installation if you want to do it.

As for the Spirit box, if you've installed drives in PeeCee's (as I do frequently) you'll have no prob. You have to assemble all the goodies into a workable unit. You know, "some assembly required." This task isn't difficult, and it doesn't involve any soldering (whew!). However, it does involve handling the boards and adapter cards, plugging in boards and wires and such - and plugging all of them in CORRECTLY, please; orient the cables with pin 1 connecting to pin 1, or stand BACK when you power up!

To help with the installation, if you need it, Spirit offers a technical support line. I was able to connect to this line several times easily, reaching only one busy signal. The installation won't run up your long distance bill much if you have all vanilla components. If you have something not mentioned in the minimal charts, though, prepare your dialing finger for a workout. Also, unless you're psychic, you're likely to need the help line if anything at all goes wrong, although if you follow the directions in the "documentation," nothing should go wrong. ...go wrong ...go wrong. ...

In fact, if you have no understanding of the Amiga's mountlist stuff, there's not much hope for you with the HDA-506's docs, unless you're just lucky and all the defaults work for you. The good news is, Spirit's technical support is courteous, willing and knowl-

edgeable, and they EVEN called me back when they said they would. (They did NOT know I was calling from a magazine at the time - I pretended to be normal in order to test their customer support for this review). They could surely save themselves a lot of support line time if they did decent docs.

Other points

The Spirit HDA-506 is NOT a DMA harddisk controller. Of course, since you'd hardly know that from looking at its performance, that's barely worth mentioning. Spirit says they're working on software to enable what is known as "pseudo-DMA", to make it run a bit faster. Yawn. When I see the drive waiting for the Amiga to do something with the information it's providing, I'm motivated to speed up the Amiga, not add exotic DMA or pseudo-DMA to the drive controller. More drive speed will only mean it'll wait longer between blips of its little green light.

Spirit's box is powered by the powersupply that runs your harddisk drive, not your computer. So, if you get an expansion box without a power supply, you're cooked. It takes about 15 watts of current to run a 20 or 30-megabyte MFM or RLL harddisk drive. Two of those (in a twin box, like mine) take twice that. The boards and controllers won't even make a dent in that capacity, so don't worry about it for a moment. The relief is that the box does NOT take its power from the A500 or the A1000 Amiga.

The software Spirit supplies is decent, not particularly tolerant of errors, and easily installed with a little poring through the "manual." It eats up very little time during boot-up, and very little computer memory for its "stdisk.device", which is the controller software for the disk. The HDA-506 is an Amiga-DOS-mountable device and has behaved perfectly predictably under all programs I've run, which is all of them that I own, which is a lot of programs, all productivity titles. I configured my 30-megabyte RLL drive into one big volume (which I named *Big*), rather than partitioning. It's full now, of course, but that's another story.

The mountlist MUST be edited to get the thing to work right. This isn't hard to do, but there is no explanation of what things are, or where to obtain the information required. Some of the information requested is available by querying the drive electronically, as Supra's software does, but much of it must be supplied by the user from documentation (you threw it out?) included (hahahaha) with the (Recycled, used? No docs?) harddisk (oops!) itself.

The information is readily available from the many diskdrive manufacturers, and should just be included in the documentation for the HDA-506 in the form of a (admittedly huge) table, for use in editing the mountlist.

Some advice is given on tweaking the

mountlist for performance improvements, reliability improvement, etc., but since mine worked perfectly and admirably the first time, I wasn't willing to tinker with it in the hope of improving anything. I'll pay whatever cost - either money or speed - to have reliability, and I happened to get both, so I have no complaints. If it helps anyone, I've included with this article my mountlist entry for the HDA-506, plus Omti RLL, plus Seagate (genuine, not a clone) ST-238R disk drive.

Money

Okay, we're down now to the eternal question. What of price performance? The initial reason for wanting to attach those cheap MS-DOS harddisks to the Amiga is that they're cheap. Dirt cheap. However, when you add a device to run them, whether Commodore's 2090A controller (for the A2000, \$395) or Spirit's HDA-506 adapter, adding them to the Amiga isn't terribly cheap. The difference is that the MS-DOS drives aren't just cheap but plentiful on the used market. Many MS-DOS computerists, particularly businesses, are taking advantage of the decline in large-capacity drive prices to swap out their old ST-225 and ST-238 units for faster and bigger drives. So, the old ones can be had really, really, really, dirt cheap. Free, even, in some cases.

Spirit's HDA-506 kit is in fact rather pricey unless you have a source of free or REAL CHEAP ST-506-spec harddisks. The current list for the box is \$269, and you still need a ST506 controller (the Omti RLL, preferably, about \$100), AND a drive (\$200-250), AND a box with a powersupply (mine cost \$90). My unit, which I bought from Spirit, would have cost the same as a Supra SCSI drive, if I hadn't got my ST238 drive for nearly nothing from a MS-DOS desktop publishing consulting client who was swapping them out.

Like any MS-DOS controller card, the HDA-506 will happily control two drive units. Spirit claims the drives don't have to be of the same exact specification, (i.e., you could have a 30 and a 65 megabyte drive on the same controller) but I'm still a few paydays from being able to test this claim personally.

Problems

This review has been "in the works" for several months for a couple of reasons. One was, I wanted to see how the unit survived over time. It's held up admirably. It survived a HUGE jolt of lightning that took out my microwave oven and (I hear the cheering now) my phone answering machine. My Amiga stays on 24 hours a day, and I pound away at it for at least twelve of those, and (during deadline weeks) up to 20!. Eight days per week. I formatted the drive once, and have suffered a read/write error only once since then. I'm charmed, I suppose. The read/write error occurred one day after I had made a complete backup of the

Continued On Page 69

A Half Price Sale • Save 50%

- ☐ **Free 40 MEG Hard Drive Sweepstakes!** Please enter me in the sweepstakes. I have filled out the questionnaire below. I have read the rules indicated on page 32, and accept them.
- ☐ **Issue 25 Companion Disk Set** For only \$11, plus \$1.50 Postage and Handling, please send me this issue's companion disk set First Class Mail.

Other Special Offers

- ☐ Please send me the Animation Special Edition Issue for \$14.95 which includes 2 disks full of sample animations, objects and fonts.
- ☐ I'd like more free information on the new GRAF/x Magazine. Please send me a flyer with more information.

Yes!

- I'd like to take advantage of the special subscription rate and subscribe for the next 6 issues of A.X.
- ☐ **Magazine for only \$69.95, which is a savings of over 22% off of the cover price! (A savings of almost \$20!) Plus, please rush me my free copy of this issue's PD Disk. (PD 25)**
- ☐ **Paper Only Subscription** Please subscribe me for one year (6 issues) of A.X. Magazine for the low rate of \$14.95. I will get 6 issues of the paper version of A.X. Magazine - a savings of 37% off the newsstand rate.

OK!

- I'd like to take advantage of the Half Price Sale! Send me the next issue of A.X. Magazine. Also, send me the following Back Issue or Special Issue of A.X. Magazine for half price. Each additional issue is at regular price. (Only While Supplies Last)

☐ ~~SOLD OUT~~ **ISSUE 1.0** Special Price \$4.95

☐ **ISSUE 2.1** (\$11.95) Special Price \$5.95

☐ ~~SOLD OUT~~ **ISSUE 1.1** Special Price \$4.95

☐ **ISSUE 2.2** (\$14.95) Special Price \$7.45

☐ **ISSUE 1.3** (\$11.95) Special Price \$5.95

☐ ~~SOLD OUT~~ **SPECIAL 1.0** Special Price \$4.95

☐ **ISSUE 1.4** (\$11.95) Special Price \$5.95

☐ **SPECIAL 1.3** (\$9.95) Special Price \$4.95

☐ **ISSUE 2.3** (\$14.95) Special Price \$7.45

☐ **ISSUE 2.4** (\$14.95) Special Price \$7.45

A.X. PD Disks (Prices only available to A.X. Readers) ☐ **Issue 25 PD Disk (\$2.50)** ☐ **Issue 24 PD Disk (\$3.95)**

Total Amount

☐ **Bill Me** (For orders over \$10)

☐ **Mastercard/Visa**

☐ **Check or Money Order Enclosed**

Signature

Expiry

Please make checks payable to A.X. Productions.

Name

Phone

Address

Reader Survey

- What other Amiga magazines do you subscribe to? _____
- Is your combined income Under \$30,000 \$30,001-\$40,000 \$40,001-\$50,000 \$50,001-\$60,000 \$60,001-\$70,000 \$70,000+?
- What is your age-group? Under 18 18-24 25-45 Over 45
- How long have you owned your Amiga? New 1/2Yr. 1Yr. 2Yrs. MORE
- How much do you plan to spend on Software/Hardware in a year? \$ _____ / \$ _____
- What type of hardware do you plan to purchase next? _____
- What type of software do you plan to purchase next? _____
- What kind of games are you most interested in? _____
- Have you subscribed yet? If not, why? _____
- Would you buy A.X. Magazine again? Why or why not? _____
- Is there a topic you would like to see covered in the near future? _____
- What products would you like to see tutorials on? _____
- How many other people do you show your magazine to (paper or disk version)? _____

Send To: 6006 Greenbelt Road Suite 189 Greenbelt MD 20770 1-800-2-THE-MAG (284-3624)
In Canada - CompuArt PO Box 712 * Victoria Station * Montreal Quebec * Canada H3Z 2V8

Name _____

Address _____

Place Stamp
Here.

The Post Office
will not deliver
mail without
postage.

Ami Exchange's

AMIGA

Software & Information

More affectionately known as A.X. Magazine

6006 Greenbelt Road Suite 189
Greenbelt, Maryland 20770

Fold into thirds, with this side on the outside. ▲

Only Amiga Makes It Possible... But A.X. Magazine Makes It Happen!™

**Our world is a democracy, and so is A.X. Magazine.
Tell us what you want. We will listen.**

For Office Use Only

C	CK	MO	BM
S	SI	CC	PD

ORDER FORM 24

Aunt Arctic

Cute. Very, very, very cute. Cute name, cute little monkey, cute little monsters, even cute music.

by John Thompson

Cute. Very, very, very cute. Cute name, cute little monkey, cute little monsters, even cute music. Your on-screen persona is Charlie the Chimp, who of course

faces an almost infinite number of monsters in his mission to rescue his aunt (hence the name) from the evil 'Big Borks'. To do this, you, as Charlie, must negotiate a fifty-level maze, collecting all the bananas on each level to move up to the next.

The folks at Mindware have turned out a very slick product; the graphics and sound are top notch. The characters are nicely drawn and they move smoothly. Some are incredibly cute (sorry, but it's the perfect word). One 'monster' is a little eskimo parka with no eskimo inside; I love to watch it rush about frantically in search of a victim. Theme music playing during a game usually drives me crazy after a few minutes; this music is actually worth listening to, and each level even seems to have its own music.

Most of the expected features are present. The game can be played solo or in a two-person cooperative mode. The metal triangles are especially thoughtful; if you touch a triangle, the next time your chimp dies you start back at that triangle instead of the start of the game. This prevents a lot of frustration;

keeping the player from playing and re-playing the same opening screens.

Unfortunately, Aunt Arctic Adventure

how nice the graphics and sound may be, there is nothing really original here; all the game concepts here date back to Donkey Kong. For some reason, software companies seem to crank out prettier, slicker, flashier version of these same old games. Is that all we, the gaming public, will buy?

I will give the folks at Mindware a little credit, though; AAA takes more than just fast reflexes; you actually have to think to get some of those bananas. Sometimes I think people make too much of this though. You know 'Gee, mom, I'm not just playing a game, I'm Solving Challenging Logic Puzzles!' It almost sounds educational, doesn't it?

One other thing; Aunt Arctic Adventure is HARD. There are several obstacles which require very precise timing to overcome. After you play a while, of course, things seem to get easier, but the first level is very frustrating. The first level or two of a new game should be easy, letting the player have fun from the very beginning, especially if a player is trying the game out before buying!

Aunt Arctic Adventure has a lot of nice things going for it. The graphics and sound are wonderful, and I can tell that a lot of thought and effort went into it.

There is nothing wrong with the game, but somehow it just doesn't call me back to play again. •



doesn't offer anything NEW; it's just one more run-jump-climb avoid-monsters collect-bananas game. No matter

Amiga Trip

*When you need to plan that trip you've been thinking about...
you know the one I'm talking about... the one you never get around to... well...*

by Jay Gross

Are you one of those people? You know the type. Stop at a convenience store and mill around for a few minutes, then pop the question. "Can you tell me how to find Fillinthe Blank?" Especially when *Fillinthe Blank* is a whole city! There's hope. It's not the miraculous "sense of direction" pill said to be under development in a mad scientist's laboooooratory somewhere in the Midwest. No, the scientist went out for a walk, and hasn't been able to find his laboooooratory again, yet. No, this is (voila!) a computer program.

Trip.

And boy, is it a trip. "Where is Kalamazoo?", the cover asks. Well, complete with a heavy book of maps and the ability to generate its own, graphically on the CGA - oops - Amiga screen, Trip is prepared to answer the question. Once you figure out its rather unintuitive, ported (ick, dirty word) user interface, the program performs rather nicely. It does have some troubles, most caused by the fact that its scope is the entire United States and Canada. But it does work.

Trip's trip is planning trips. You tell it where you want to go from and where you want to go to, and by via place you'd like to make the journey, and it goes through impressive gyrations to calculate a path for you. If you ask for it, it'll print out an itinerary, too, and you could hardly get any more detailed list of the crossroads along the way from a thick atlas.

Trip is sold with or without an accompanying atlas; the with-atlas version wasn't provided for this review. Without the atlas, you run into

some rather puzzling things. Some of the program's statements and documentation refers to the atlas, but you would only know an atlas is available if the store you buy from carries both versions. Get the atlas. It greatly improves the value of the program.

Since you most likely won't be hauling your Amiga along in your car, Trip kindly prints out its itinerary for you on paper. You can follow it

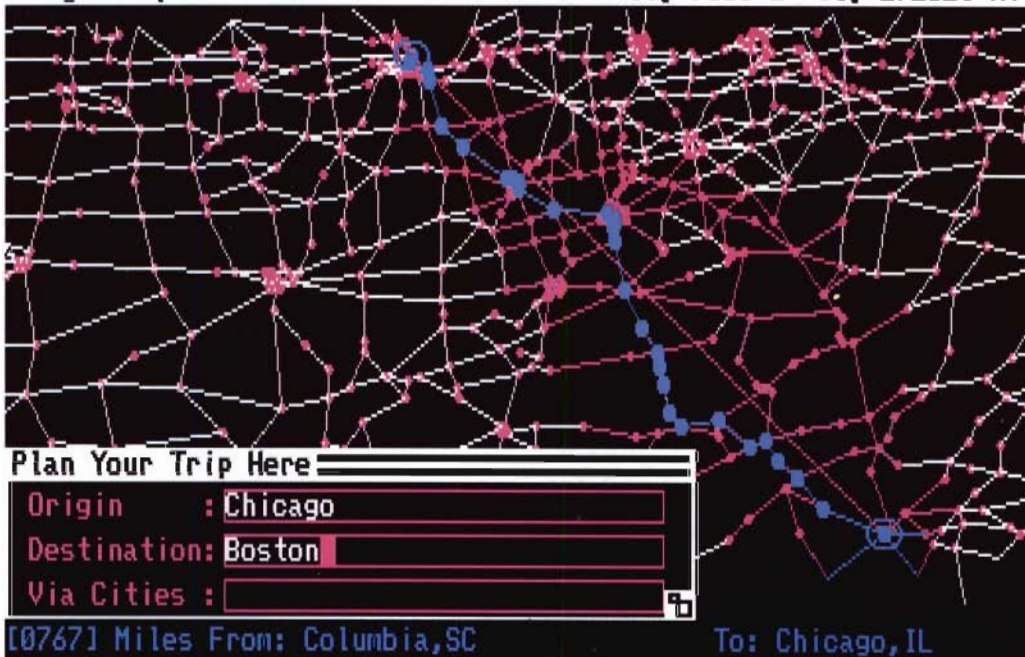
to even mention the entertaining gyrations it goes through in doing its thing. Its best use will of course be in planning long and complicated trips - such as Columbia, South Carolina to Chicago, to Boston, and home - the actual Trip test mentioned here.

Trip needs some improvements. This is, after all, an Amiga, and it could use a LOT of Amiga-izing, particularly relating to the user interface.

The search algorithm for accepting place names needs some work, too. It could not find Lexington, South Carolina, claiming it doesn't exist (it's a close call, really), but when coaxed a bit, it could find it, one of Columbia's burbs, after all.

Trip is \$39.95 list without the atlas, ten bucks more with.

Amiga Trip(aIn) Version 1.0 - 2500 Places, 7656 Lanes, 272321 Mil



easily, even if you can't follow directions.

In choosing its routes, Trip considers the Interstate Highway System the optimal way to ride - and it usually is - but in many areas there are better routes that might not be controlled access, and might not even be the shortest route. Nevertheless, in several hypothetical, and one actual planning sessions, the trips that Trip tripped out were very efficient and well-chosen routes.

If you customarily hop on the Great Metal Birds and flit round in the wild blue on your travels, Trip won't be of much use. Driving around in a motorcar, on the other hand, might be considerably efficiencized by using the program - not

Sky Sheppard Software
PO Box 49
St. Mary's, IA 50241
515-280-7208

J:

**Refer to page 72 for a
sample itinerary.**

Troubleshooting For Beginners

*When things don't work, and your computer refuses to listen...
Who ya gonna call?*

by Melody Natcher

It's 3:30 a.m. Your thesis is due in the professor's office in five hours. You've double-checked your margins; the spelling is perfect; your footnotes are all in the proper format and correctly aligned. . . but your printer insists on recognizing embedded WordPerfect control codes as something foreign, littering the print-out with extraneous periods, triangles and assorted symbols from a distant galaxy. Who ya gonna call?

Here's a modicum of guidance to beginners who are trying to get past the Dreaded Expert Syndrome. An amazing number of new computer owners treat their hardware as though it contained an atomic pile, waiting for one wrong touch on the keyboard as an excuse to explode. Others have been so brain-washed by the "techie contingent" that they've decided they'll never understand what's going on, and rush to a repairman or technical support person at the least sign of trouble.

Most things that go wrong are problems with compatibility or software defects, and with a little detective work you can solve your own problems without ever having to unscrew the cover off of anything. There are also some things you can do hardwarewise - simple tests and checks - without calling in an "expert." These tips and tricks are the microchip equivalents of checking your car's radiator, changing a flat tire, or topping off its brake fluid yourself - things everyone needs to know and which anyone of average strength and intelligence can master.

Problems with the Central Processing Unit (CPU)

The important thing is to be methodical in eliminating things which are *not* wrong. You turned on the switch and nothing works? Check your wall plug to make sure power is getting to your system. Never mind that it worked three hours ago - maybe your roomie unplugged things in order to vacuum. Connectors all in order? Make sure power is getting TO the outlet. Plug a lamp into the socket and see if it works. Do the same thing with the power strip and any other buffers you have between wall socket and your equipment. Make sure the connections are tight. My roommate's system began acting up recently, and if roomie hadn't been working on a deadline,

the computer would have gone into the repair shop. The system was out of warranty, so we opened it up ourselves. We used a can of compressed air to dust off the keyboard and connectors and checked the fuses. The fuses were OK, and when we closed it up, so was the computer. Either the shaking or the cleaning had re-established a connection that had somehow been lost.

If your warranty's up (and not before), consider opening up your computer (carefully!) and vacuuming out the grunge before you invest in a service call. Be careful, and don't touch ANY of the chips unless you know what you're doing. If you ruin something it's your loss entirely.

Problems with the Keyboard

If the keyboard doesn't work, but the CPU has power, make sure someone or some program hasn't disabled the keyboard. Turn the computer off, then on again, to flush any password protection from the system. Try booting from a different disk, in case someone has tinkered with your Amiga's startup-sequence (a prankster perhaps?). If you have an Amiga 1000 or 2000, your keyboard is connected to the CPU by a cable, so make sure the keyboard is snugly plugged in.

If keys are sticking or aren't responding, then it's possible the key contacts are just dirty. I have cats, and little clumps of fur end up matted around my Amiga's keys. If you have similar problems, run a mini-vacuum over the keyboard, or get out your handy canister of compressed air and carefully aim air blasts between the keys. If this isn't enough you may have to have at it from the inside. Be careful. I'm told that it's possible to accidentally separate the rubber membrane on which the contacts rest from the keys themselves. This will fix your problem by forcing you to replace the keyboard.

Problems with the Disk Drives

The main thing about disk drives is to treat them gently. Some brands of new disk drives come with a plas-

tic or cardboard "pseudodisk" blocking its "mouth." Be sure to remove this before trying to use the drive, and save it. If you transport the drive, replace the "pseudodisk" and keep the drive rightside-up at all times. Amiga drives don't go out of alignment as easily as those on some other machines, but that's no excuse to play soccer with them.

Start suspecting your drive's alignment when things that one disk drive writes cannot be read by other drives. When an Amiga drive goes "out of alignment," (as opposed to just getting dirty), there isn't much choice but to take the drive in for service. Still, if your drive is acting up, and if it's out of factory warranty, you can try cleaning the heads with one of the commercial head-cleaning disks. These come as sheets of absorbent white material in a regular disk shell. A bottle of fluid is also provided. Carefully

Disks can be randomized by temperature, light, and magnetic fields. Keep your disks cool, dry, and out of direct sunlight. Don't pile things on top of them or leave them near telephones or other appliances which contain electromagnets. In fact, banish all magnets from the room where you store your software. As to the X-ray machines in airports, the one time I let the "experts" at the baggage check talk me into sending software through with my baggage, I had problems with the disks afterwards. Insist that the disks be hand carried around the X-ray source.

Problems with the Modem

There are several types of problems with the modem. Among other things, they've been known to ferry electrical surges into the

computer and burn out everything!

One simpler trouble which has nearly caused me to chuck the whole thing out the window has been defective telephone

cord jacks. (The jacks are the little plastic devices on the end of the phone cord.) Several times, my modem or my answering machine have refused to work, and troubleshooting has revealed that one or more of the jacks is no longer doing its job. I keep a spare cord, just in case.

Problems with the Printer

For help with printer drivers, consult your Amiga 1.3 manual. This is the hardware department.

Generally, if the printer will not power up, make sure that it is plugged in and that the power cable is attached to the correct orifice of the printer. If the printer doesn't respond to print commands, check the cable from the computer to make sure both ends of it also are snugly attached. Printers have a habit of vibrating cables loose.

If it still doesn't work, try the printer's own self-test, but remember that a printer that flawlessly performs a self-test won't necessarily do ANYTHING else. The self-test doesn't prove it works, in other words, just that it self-tests.

If the tractor feed jams, reach into the box

from which the paper is feeding and wake the cat up and make him/her move. Also, peek into the room occasionally during printing to make sure the cat isn't sitting on top of the printer trying to catch the print-head as it dances by.

Dip switches are very small switches set somewhere into the body of your printer. Most newer printers have them on the outside or other location where they can be found. One printer which I helped a friend set up, however, had its dip switches hidden in the print head area, under a velcro-like flap of material. Some printers don't have dip switches at all.

Consulting your printer manual, you have located your dip switches. If everything has been fine up to now and suddenly you are getting gibberish for output, check and see whether little hands have been busy at the dip switches. So far, my cats have not been able to bollux this element of computing, but small hands might, as might roommates resetting the hardware to bend to the whims of a different program.

If small children are the problem, you might consider duct-taping over the dip-switch aperture, removing easy temptation. If roommates are the problem, duct-tape over the roommate.

Problems with Video

If you are using one of the standard Amiga monitors, then follow the instructions which came with your computer when you hook up your monitor. There isn't much you can do wrong. If you get everything plugged in but there is no sound, make sure the sound knob hasn't been turned down. If that isn't the problem, then you've probably exchanged one of the composite cables and the sound cable. Try composite mode, and if the monitor starts humming or whistling at you, you'll know that this was your problem.

If you're all plugged in and everything is blurry, or green - or not-green when its supposed to be green - remember that Commodore monitors operate in more than one mode: Check the two rightmost switches inside the door on the front of the monitor. If the problem has to do with greenness then push the rightmost switch; if the problem is blurriness push the other.

Problems in Software and Hardware Incompatibility

Step one in troubleshooting incompatibility problems is to eliminate the obvious. Is it really a problem in incompatibility? One contemporary computer horror is that your new software or your computer or both is infected with a virus. Assuming the problem is indeed a virus, I must refer you to the bur-

If small children are the problem, you might consider duct-taping...

follow the instructions included with the cleaning kit you choose.

Don't overdo it! Annual cleaning should be plenty for a drive in a reasonably clean environment. In a room full of smokers, semi-annual is more like it. Tobacco smoke is very difficult to remove from drive heads, and most of the commercially available cleaning kits won't be much use on heavy deposits of the stuff.

Be sure you aren't popping disks out of the drives prematurely. If you get read/write errors or hard-sector errors after intensive disk swapping, you are probably removing the disks while the drive heads are active. If the drive light is on, wait for it to go out, no matter what the requester says. Remember that with some software, the light will go out momentarily, then the drive will start back up again. Patience!

Poor quality disks make your drives appear to be malfunctioning when they're not. Always spring for double-sided, double-density disks, or you are asking for trouble. Even the highest quality disks do wear out, though. If you keep using the same disk over and over, you'll wear out the magnetic media - just as repeatedly playing the same record will ruin the grooves.

geoning literature on that subject for guidance. However, there are other conditions which can mimic virus problems, so what looks like virus behavior is not necessarily always a virus. Viruses in computers are like viruses in medicine. They often get blamed for things that are otherwise unexplainable.

Not a virus? Keep checking.

A friend's new wordprocessor program would not format top and bottom margins correctly during printing. It turned out that there was a problem with the disk medium which just happened to affect that part of the printer code.

My own early experiences with WordPerfect on the Amiga were similar. I did have a hardware problem, but once it was corrected, I still found extraneous characters dropped into my text output. I played with dip switches, called the manufacturer of my printer about the printer codes, and did everything else I could think of. In the end, I used the customizing feature from WordPerfect to rewrite the printer code on disk. My particular printer was one of the first of the model to be made, and the codes it recognizes are not exactly the same as those which later became standard.

If a new program does everything but print correctly, usually a software bug is not the villain. One dip switch which frequently causes printing problems is the one controlling automatic carriage returns.

The Amiga's normal setup wants to have the printer do what it's told to do, not add anything automatically.

Another problem is that the program which won't load or work when a particular peripheral is attached to the system. Some programs do not make correct use of expansion memory, and won't work correctly unless the NoFastMem option included with the system disk has been run. Other programs require contiguous memory. WordPerfect forced me to get the A501 memory expander before it would stop crashing, even though it is supposed to run in 512K.

Software/Software Incompatibilities.

There are programs which roll over and play dead if you attempt to run them in conjunction with anything else.

By the way, you do keep a separate archived disk of everything that can be copied, don't you? Never work with an original if you can help it, and keep the write-protect on whenever possible. When creating your own original documents or programs, make frequent backups to disk. Otherwise an unexpected power outage or visit from the Guru can undo a great deal of labor.

Speaking of viruses, always coldstart your system (turn the computer off and then turn

it back on again, to make sure that EVERYTHING lurking in memory is cleared out) before switching from one application to another if there is any chance you have inherited a virus. Always coldstart and reboot before risking an original or archived disk. Also, when you cut the power to coldstart, be sure to wait at least several seconds before flipping the power back on - otherwise there is some possibility that you will blow the CPU with an electric jolt.

In Conclusion...

The above paragraphs were written from personal experience and the experiences of people who have asked me for help over the last few years. I am not suggesting that someone completely unhandy get out the screwdriver, just that the person might try a few simple checks before calling for help. A person who can spare the time will learn when to call in a repairman and when things can be kept going with a simple bang on the casing.

For me, the sense of being in control is usually worth the time and effort needed to do things for myself. Besides, I love to see the experts' faces when the "dumb broad" knows the difference between a harddrive and a handsaw! •



NEW AGE COMPUTERS

AMIGA



NAC BBS
24 Hours
1200-2400 BPS
(301)774-8569



- ☐ A full year warranty on all Amigas.
- ☐ Hundreds of Amiga software titles.
- ☐ Studio with high-end Amiga workstations.
- ☐ GVP 68030/882, 4-Megs 32-bit, on display.
- ☐ Authorized Amiga Service Center.
- ☐ Amiga Training Center.
- ☐ Try software before you buy it.

**NEW AGE COMPUTERS**

NEW AGE CLASSES

- ✓ Turbo Silver,
- ✓ Deluxe Paint III,
- ✓ WordPerfect,
- ✓ Intro to the Amiga,
- ✓ Intro to Desktop Video

1-301-220-1296



4925 Edgewood Rd., College Park, Maryland 20740

Musician

NAMM, New Stuff, and a MIDI Switcher

by Glen Deskin

Can it be? Music-X!

I just received the release version 1.0 of Music-X from Microllusions. After many months of waiting, it's finally here. You've probably seen their full page ads in the music trade magazines and Amiga magazines and thought, "At last, an all-in-one professional music package for the Amiga - I've got to have it!", only to find out that it was not being shipped yet.

Well, all you MIDIots out there, the wait is over. Not only have they released one of the best manuals I have seen on any program, but a solid, well organized, and powerful piece of music application software. Where else could you get a patch librarian/editor (programmable for any synth that supports System Exclusive), graphic editing as well as Event-List editing, a MIDI Keymap editor (kind of like a MIDI mapper), complete MIDI data filtering capabilities, SMPTE sync option, SMF (Standard MIDI files) and the ability to install other modules or programs, all in one package?

NEWS FROM NAMM

Last winter's NAMM show (National Association

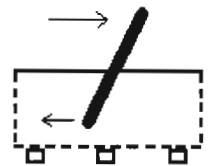
of Music Merchants, the biggest trade show in the music industry) in Anaheim, California, saw Commodore's first appearance at such an event, and many software companies showed off their latest products for the Amiga. Of course there was Dr. T's, with KCS Level II, a more powerful version of KCS 1.6, and The Copyist. Dr. T's now has more than 20 programs available for the Amiga, more than any other music software company.

Soundquest was showing its new patch editors for Roland and Kawai synths. was Soundquest. However, the real surprise was from Passport, who previewed Amiga versions of their popular Master Tracks Pro 3.0 and MasterTracks Jr., which have now just been released.

Master Tracks Pro has been one of the most widely used sequencing programs for the Mac, and stands to be just as popular on the Amiga. MTP offers unmatched graphic editing capabilities that allow you to edit individual notes as well as MIDI controllers such as

pitch bend and MIDI volume. One unique feature of MTP is its Song Editor, where you can cut up en-

them any way you like. But not just one track at a time! You can take a whole section of a track (i.e., synth bass track, drum track, and piano track) and copy, cut, or paste it any way you wish. Building complete songs this way is a breeze!

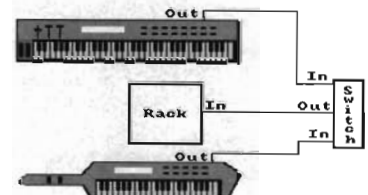


(Figure 3)

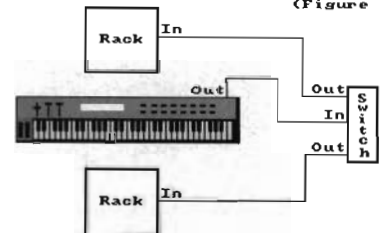
DO-IT YOURSELF MIDI SWITCH BOX

And now, the hardware project.

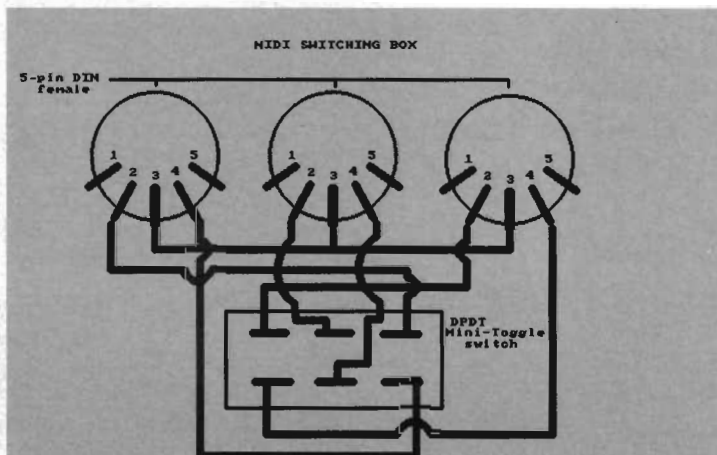
(Figure 1)



(Figure 2)



Wouldn't it be great if you had an endless flow of cash to go out and buy all the newest and hottest MIDI gear on the market as well as those \$500 and up expansion cards, hard drives, modems, accelerator boards, etc.? Well, if you're like me, you spend six months reading up on some new synth



tire sections of tracks and rearrange

Continued On Page 53

Bars & Pipes by Jay Gross

When it comes to music software, it seems from a mainly amateur musician's point of view that musicians are a bunch of masochists. Either that, or they're computer wizards all dressed up in musician's clothes. Tied-dyed T-shirts, and... no, wait, that was another generation altogether. You'd think that with its reputation for friendliness - at least in the final analysis it's the software, not the hardware, that does the friendly, the Amiga would have the friendliest, easiest to use, nicest, most wonderful music software in the known universe. Some folks, indeed, would argue that it does. To a non-professional, not to say amateur, musician, however, that ain't exactly the case. The stuff is complicated!

Music software for the Amiga so far, either requires you to memorize a bunch of dinosaur-slow keystrokes, or to deal with a computeresque complexity that would give Einstein a headache. There are, however, finally, some Amiga software products on the horizon that might help turn that around.

The din of complaints reaches all the way to here, so yes indeed, for sure, there are some very nice music programs on the Amiga market already. Excellent stuff. Nice. Okay? Well, there is, as the saying goes, always room for one more. One of the newcomers is Blue Ribbon Bakery's Bars&Pipes. The program's claim to fame is that it puts a simple, mouse interface on the more complicated things that you get to do with the program.

Blue Ribbon has cooked up musical software, mainly MIDI related, with a pretty, graphical screen, on which there are lots of little pictures that you can activate with the mousepointer. The "pipes" part of the name comes from bars&Pipes' screen metaphor that describes the flow of musical information. The program's "Pipeline" (wasn't that a song?) looks like a bunch of pipes. As a plumber would install a faucet to modify the flow of liquid through a pipe, you pop a picture icon down on a "pipe" of musical information to change the way it is played, recorded, etc. You don't have to deal with the program's mechanism of accomplishing what you want, you just tell it what you want with the mouse. See? Bars&Pipes lets you direct what happens on a per-track basis. The Pipeline is the basic musical boiler-room, where the main solution is cooked up, and each of the screen's pipes can process information either before or after recording from the MIDI channels.

Besides the Pipeline, the program sports a well-supplied toolbox - you need a bunch of different wrenches, gronkers and doowhacks to work on pipes, don't you? The musical toolbox, though, contains magic icons that process MIDI information on its way through the pipes. The different icons

inflict different effects on the music as it "flows" through the pipes. Take the Keyboard Splitter, for example. And Event Filter, and Randomizer (it should run for Congress!), Chord Substituter (everybody knows one of THOSE), Inverter, Transposer (handy), Phrase Shaper, Counterpointer (wouldn't Bach be jealous?) and the essential Quantizer. All these are tools in the toolbox, quoting the company's poop sheet: "just to name a few."

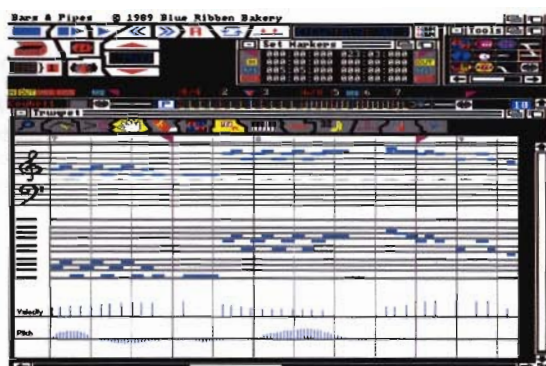
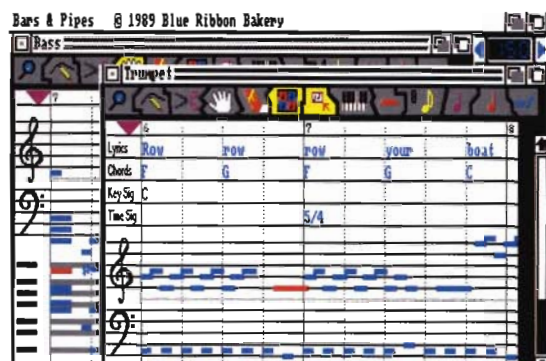
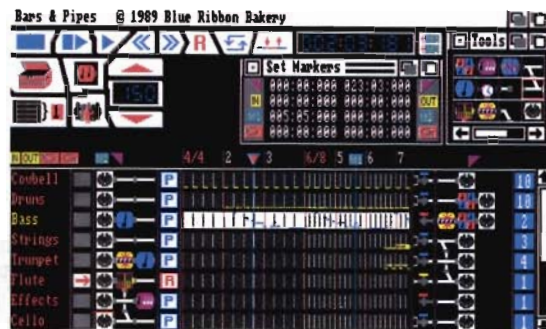
If you don't like the toolbox as it is, you get to change it to suit yourself, by using Bars&Pipes' Create-A-Tool feature. It builds a macrotool to suit your whims. Blue Ribbon Bakery says Bars&Pipes is "openended", too. More new tools can be added as they are developed.

Plumbers don't have much need for a sequencer, so the plumbing metaphor goes on hold for this one. The Bars&Pipes Sequencer has no limit to the number of tracks you can record. Use the mouse to drag your choice of tools onto the Pipeline and have at the keyboards, pitch-followers, guitars, and that new MIDI refrigerator you picked up at the music store last weekend. The Sequencer's features include the usual copy and paste, plus global cut, auto-locate registers, punch in/out, Looped Mode recording, global display of music on all tracks, A-B-A global song construction and editing, timing of 192 clocks per quarter note, tempo maps, sync to external MIDI or MIDI Time Code, audible metronome, rhythm, chord, key, lyric and time signature input and (last, not least) MIDI File format compatibility.

So much for the pipes, which way to the bars? That's the editor, of course. The MUSIC editor. No, you don't get notes. But you do get musical staves, and (ahem!) bars on those staves to represent the music that's in the pipes. The editor also offers piano roll format, if you prefer. Either way, you can open multiple edit windows at once and drag notes to where you want them (where else) with the mousepointer. You can use the program's tools to process notes one at a time or a phrase at a time. Type your lyrics directly over the music, and the program will print out a lead sheet. Handy.

The editor lets you hear each note as you edit, too, and you can edit key, rhythm, and chord change information for algorithmic composition.

Bars&Pipes is another of those "by the time you read this" products, and the music side



of the Amiga software business seems well supplied in that realm this season. At this writing, it's projected for October 1989. Third week in the month. Depending on when you get this issue, it could already be available.

The program's list price is \$250.

Bars&Pipes
Blue Ribbon Bakery
1248 Clairmont Rd Suite 3D
Atlanta, GA 30030
404-377-1514

Music Modules

It's taken a while for the people who write serious music software to get their compilers into compiling Amiga software. Well, the dam hasn't exactly burst, yet, but there is a flow - not to say flood - of new stuff. Stuff that's fresh out on the software shelves and stuff that's still slightly vaporous around the edges. The empty promise "by the time you read this" gets more magazines in trouble than it makes friends among readers, so take this with a <quantity optional> of salt. However, if all has gone well (by the time you read this, all will at least have already gone either well or not), you should - by the time you read this - be able to see, feel and experience a new thing on the music scene called "Music Modules." By the time you read this.

The modular approach isn't new to the music software genre, so there's no need to rap on and on about it here. The idea, of course, is to take fullest advantage of the Amiga's multitasking capabilities, so you can load the "modules" you need to do what you want to do, and not have the giant overhead of a larger program, containing things you're not using for the moment. Neat. This new module-based package is by Musicomp Technologies. Music Modules comes in two flavors. The "Music Modules Starter Kit" which includes five modules, goes for \$49.95 list. The whole kit is \$99.95. Look for the Music Modules Starter Kit "by the time you read this" almost for definite, predictable sure (grain or two of salt added for flavoring). The bigger package is likely to be a teeny bit later than that, but right around there. So, add a box of salt to the "by the time you read this" tag on that one.

Music Modules Starter Kit is in beta testing at this writing. It contains these five modules:

- Keyboard Controller lets you use your Amiga's keys like piano keys, adding mouse-driven pitchbend & mouse-controlled volume setting.
- Mouse to MIDI enables using the Amiga mouse to jam with any one of 144 musical scales with pitchbends & volume controls
- Sampled Sounds Player permits using up to 40 IFF sound files at once, each having independent volume, pitchbend range, and tuning settings.
- Harmony automatically sweetens your music with one of 29 types of harmony while you play the melody, and uses multiple modules for automatic chords
- MIDI Delay & Shift provides realtime delay for MIDI playing, adjustable from 16 msec to over 8 seconds. It also gives pitchshift and feedback).

Music Modules - the whole kaboodle, that is, not the Starter Kit - will have extensive MIDI capabilities for the professional musician - in addition to all of the above, of course. The company says it will remain "easy to use and entertaining for the hobbyist," in addition to being a professional product. Who said "pass the salt"?

Music Modules is developed even as these words flow onto the paper (around 4 am; all programmers create at 4am). The plan is to include five additional modules besides those in the Starter Kit. The names for them are still tentative, but at this writing, they are: NOTE INVERTER, ARPEGGIATOR, COUNTER POINT, CHORD GENERATOR, and MIDI \$YSEX DUMP.

Record/Save/Edit/Play, a MIDI File Sequencer, another module, will not be in the initial release. Put it in the Real Soon Now category - it'll be in good company over there. Record/Save/Edit/Play's purpose in life - or rather in Music Modules - is to play "Standard MIDI Files".

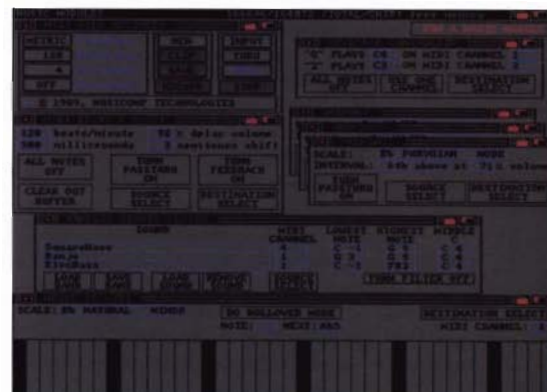
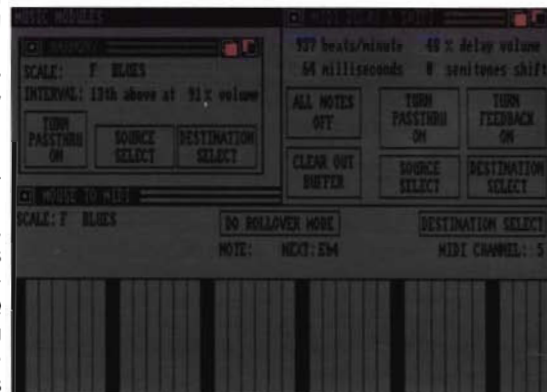
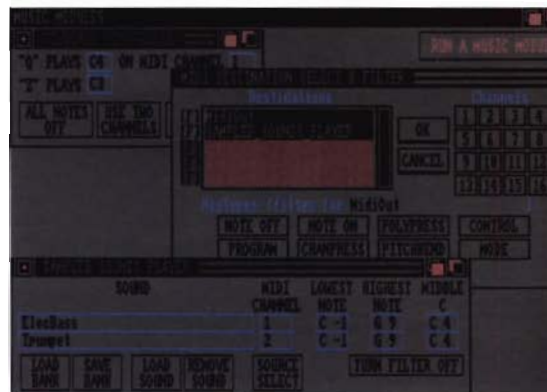
Musicomp Technologies, makers of Music Modules, makes Sound Effects, too. Original name, don't you think? Well, that's what it does. Sound Effects gives you Echo, Flange, Chorus, Tremolo, Reverse, Harmonize, Fuzz, Compressor, EQ and other sound effects on the Amiga IFF sounds. The company describes the user interface for Sound Effects as "Stompbox". Okedoke. Stomp your way into this baby for a list price of \$59.95. It's not a "module," but a separate music product. It's in the "Real Soon Now" category, too. Ahem! Sound Effects could be used to modify an Amiga IFF sound file that would later be used by Music Modules' (or anybody else's) Sampled Sound Player.

The Starter kit (Record/Edit/Save/Play) lists for \$49.95, and the whole kit lists for \$99.95.

For more information, contact the company.

Music Modules
Musicomp Technologies
 176 Broadway, 3rd Floor
 Methuen, MA 01844
 508-688-0599

J:



or effects processor to find the absolute best one that you can buy with the money you have; you lay out \$1500 - \$2000, bring it home, and in six weeks either (a) discover that it really doesn't do the one thing you really need it to do, (b) find out that a new and improved model has come out and that they are discontinuing the model you bought, or (c) all of the above, and you just wasted \$1500 - \$2000. Those of you who meet the above criteria (any who don't, you aren't missing much!) might consider this little project a relief from the world of high-priced gear.

If you have more than one or two MIDI devices in your setup, you know how patching MIDI cables all over the place can become confusing, not to mention messy. You've probably checked out those fancy MIDI patch bays and MIDI-thru boxes that cost \$100 to \$1000, and just couldn't spend the money for it when all you want to do is switch your sound module rack back and forth between two master keyboards, or between computer control and master keyboard control. Well, this MIDI Switch Box works perfectly for around \$10 in parts and an hour or two of your time. All you need to know is how to solder a few pieces of wire. The parts can be found at a local electronics supply store.

How It Works:

The MIDI switch box switches a single MIDI cable between two other MIDI cables. For example, say you have a rack of various sound modules, a master controller keyboard (full size) and a strap-on remote keyboard. During a live performance you want to be able to switch which keyboard is controlling the rack. With the MIDI switch box, you simply connect a MIDI cable coming from the rack into the center jack of the MIDI switch box. Then connect each keyboard to the left and right MIDI jacks of the switch box. Now all you have to do is throw the switch when you want to change keyboards. No MIDI cords to repatch!

(See figure 1).

WARNING!!! DO NOT THROW THE

SWITCH WHILE ANY NOTES ARE BEING HELD OR ANY DATA ARE BEING TRANSMITTED!!!! You will get hanging notes and other weird effects. This is equivalent to pulling a MIDI cable out of a synth while it is playing another synth or sound module. A "note on" command is transmitted from the controlling synth, and when you pull the MIDI cord, the slave synth doesn't receive a "note off" command, so the note or notes being played will sustain forever until the unit is powered down or until it receives a "note off" command. Some sequencer programs have a function that sends an "all notes off" command on all MIDI channels for just such occasions.

The MIDI switch box works the opposite way as well. For instance you could have one master keyboard controlling two racks

(see figure 2).

How to build it:

Even though MIDI cables use the 5-pin DIN standard, only three of the five pins are actually used. They are pins 2, 3, and 4, with pin three acting as a common ground, therefore there aren't many connections to be made. The first step is to mount the four components in an enclosure such as an electronics project box. You will probably have to drill holes to fit MIDI jacks and the switch. You may not have a bit for a regular 3/8" drill big enough for the MIDI jacks to fit, in which case you can easily file the hole the rest of the way after initially drilling with the closest bit size you have. I used a round file that's made to fit in a drill, and it worked fine. File bits can be found at a hardware store for a few dollars. The plastic project boxes found in electronics stores are the easiest to work with.

Once you have the three MIDI jacks and the DPDT toggle switch mounted, all that's left is to make a few solder connections. First connect all of the center pins of the MIDI jacks together (PIN #3). Next, connect PIN #2 from each jack to the switch. See the accompanying diagram. Do the same for PIN #4 of each jack. (NOTE: You may have noticed that the wires cross over to the opposite side of the switch from the MIDI jack. The reason is that

when you throw a DPDT toggle switch to one side it actually connects the center with the opposite side (See figure 3). If you were to wire each jack to its corresponding side, when you throw the switch to the right, you would activate the left MIDI jack, and vice versa.)

That's it! An hour of work, and you saved yourself a few bucks and a few headaches patching MIDI cables.

Parts List:

- (1) DPDT ("Double Pole, Double Throw") Mini Toggle Switch
- (3) Female 5-pin DIN jacks (Flush mount)
- (1) Project Box or other enclosure
- Electrical connecting wire (non-stranded is easiest to work with)
- Solder and a soldering iron

Modifications:

If you're a bit more electronics minded, the MIDI switch box can easily be modified with, for example, a rotary switch and more jacks, or any other combination. Several of these could be combined into a rack mount unit to create a MIDI patch bay. Well, good luck with this project! I hope a lot of folks find it a useful addition to their MIDI setup. I know I sure did.

That's all for The Amiga Musician for this issue. Till next time...

Send questions, ideas, or comments to:

The Amiga Musician
Glen Deskin
3811 Federal Lane
Abingdon, MD 21009



GOSSIP

By Jay Gross

The computer chip price gouge - er, shortage - is over. RAM chips are plentiful, and cheap, and getting more of both all the time.

Chips that fetched \$12 and up a few short months ago are bringing a sorry two-fifty these days, and they show every indication of getting even cheaper. The Japanese are doing what they can to hold up the prices by reducing production, but there are many other countries where chips are made that are willing to let the chips (prices) fall where they may.

As RAM chip prices drop, the price of computer goods won't be far behind, competition in the industry being what it is (vicious). The most dramatic decreases will of course be on the things that use RAM chips most. Things like, oh, say, *memory expansions!* And there is little sweeter in the world than an Amiga Workbench screen that announces, "4204080 free memory". Or more!

The *other* good news is that CBM is launching a multi-million-smacker advertising campaign for (brace yourself) TeeVee. Yes, that monumental mediocrity, that universal baby sitter, that principal source of most people's entertainment, news, and (alas) views. Amigas on the TeeVee. Wonders never cease. The thrilling part is that George Lucas did the commercial. Can you picture Amigas floating through space, docking with each other, and... Well, it worked in Star Wars.

At this writing, nobody's seen the commercial, yet. Commodore wine and dined and information-engineered what few of their dealers are still hanging in there, but they showed only storyboards for the commercial, not the real thing. Storyboards, for those who aren't up on AdAgencySpeak, are artists' paper renderings of the key frames in a video sequence, to convey the idea of what's to be done in video, film, or whatever. MovieSetter makes storyboards automagically, but that's another story.

Although the ad budget'd keep a normal family of fifty-seven in Twinkies for decades, when you talk National Boob Tube, you talk bigger bucks than a piddly seven or fourteen mil. For that coin, CBM expects to cover only about 40 percent of the United States (which is, to be sure, an immense improvement over covering zero percent of it!), so depending on where you are, the Amiga might STILL be a well-kept secret. Sigh.

Oh, and that's especially true if the lower of those figures, as rumored, is the actual one to be spent. Seems there was a seven-million-dollar loan depending on the Sears stores carrying the Amiga 500. Harry Copperman (he's the president of Commodore this week) didn't like the idea of having the Amigas in Sears. Harry thinks rather Applish. Real computer stores. Real dealers. CBM has always thought cheap. Retail stores. Mailorder. The Gossip Fence has it that Harry didn't care for the Sears deal that, supposedly, he inherited from previous CBM executive management, (not necessarily Max Toy; not necessarily not Max, either). Anyway, gossip is that Harry snatched the Amigas back from the Sears retail outlets - which have no hope of being able to meet the requirements the company imposes on its real dealers - but it was too late by the time he got in office to squelch the catalog deal. Believe any of this at your own risk, of course, and hardly any of it makes much difference anyway. Still, it'd be nice to think that Harry isn't just an Apple undercover agent, sent over to put the Amigas out to pasture in Nintendoville, thus to head off the increasing threat to the tottering MacIntosh.

More Commodore stupidity. CBM has been on a dealer deletion campaign - if cranking up big-time competitors weren't already enough to send them packing to Atari's bosom. The company cancelled all dealer agreements as of October 10 (shortly BEFORE the big ad campaign!), and required a very time-consuming re-application process. New dealer quotas (by another name) will have the effect of *eliminating* small dealers. In the Southeast, CBM's former manufacturer's representative is busily calling on Amiga dealers pitching Atari's as the answer to CBM's mistreatments. Successfully so, if you believe the reps' report (posted unbeknownst to them directly to the Gossip Fence).

So, as the busy buying season gets cranking, it's reasonable to stop and take stock (East-West Software... no, that's a different matter). Commodore is in the position of having a bigtime ad campaign airing in major American markets. To handle the vast numbers of Amiga buyers these ads will undoubtedly generate, there is Sears mailorder, along with a dwindling group of loyal Amiga dealerships - none too happy about the latest two-faced shenanigans, no doubt, and irked, to say the least, by the untimely authorization - against the company's "policies" for dealer qualification - of large chains of competitors.

Amigas

on the

TeeVee.

Wonders

never

cease.

AREXX PORT IN A PAINT PROGRAM?

Considering these points, isn't a dealer weedout oddly timed? Somebody please tell Commodore, and please use your time machine to get the word to them several months AGO. It's too late now to build a new dealer base in time to take advantage of the year end buying binge. So, look for CBM to post yet another loss, whine yet again about the "lackluster" sales of the Amiga, and probably rotate management in the spring.

All those millions of people, moved to immediate Amiga purchasing by George's TV ad, will have to find a place to buy them on their own, and maybe they will. Tune in again next ish, folks for the exciting continuation of the never-ending saga: Commodore Business Machines, Fire, Ready, Aim, DUCK!

And now a word about the real, original Amiga. The Amiga 1000. Word is that Commodore is actually helping with the development of a kit for adding the newer custom chips to an Amiga model 1000.

Music software seems to be the latest craze on the Amiga. Funny how these things work in batches. Anyway, look who *else* is advertising, Mr. Attitude themselves, Dr. T's. They've been promoting their software for "other" computers in electronic music-oriented magazines for a long time, but the July issue of Keyboard magazine contained an ad entirely devoted to the Amiga. Wonder of wonders. T's, of course, has all the bases covered, having ported their music sequencer and associated softwares to almost everything that blinks. Any day now, you'll be able to run the Keyboard Controlled Sequencer on your microwave oven.

Porting has become quite a fashion, lately, though fortunately most of the porting is being done *from* the Amiga *down* to "other" computers. Byte by Byte takes the cake on that score, though. They ported their ray tracing code down to the Macintosh, and seem to be porting the whole company down there with it. The company is marketing their Amiga wares through an external company, keeping the new MacProduct in house. How are *those* for priorities, Amiga fans?

That's it for this ish, Fence Fans - the good news, the bad news, and the non-news. More news when there is news, pure conjecture when there isn't. • J:

What's An Arexx Port Doing in a Paint Program?

The new DigiPaint 3 by NewTek has one interesting feature that not many reviewers have raved about. Yet. That's its full, and powerful Arexx port. Now, what in the world good could Arexx control be in a Paint program, you ask.

Good question.

Okay, think about it for a second. NewTek's documentation says you can do anything in DigiPaint 3 that you can do with the mouse and keyboard. That includes open the program, start a picture or load one from disk, *change* a picture in any manner supported by the program, which is a *lot* of manner, and close the program. It is, in short, a complete paint program that can be operated by remote control - by Arexx programs or commands, in other words. So what good is that?

A f'instance might make it a bit clearer. Suppose you're animating something, and you need a simple graphic to move around the screen. You really need a few hundred nearly identical, but with the graphic in a different place each time, relative to the picture borders. OR, let's say you want a title to bounce in from the bottom of the screen, and march defiantly off the right edge. Either of these examples could be achieved simple and easily with most any paint program. With an Arexx script, however, it would be quite possible to generate such frames automatically, even unattended.

So, what you'd do is tell the Arexx script (as yet unwritten, alas) how many frames you want, and what the text string is - this is for the titling example. The program then opens DigiPaint 3, operates the controls automatically to create the frames, saves each one to disk by a name you supply, incrementing the name by 1 each time (e.g., *Title.1*, *Title.2*, *Title.3*, ...). Presto! The frames you need to create your titles!

Of course, grand as this idea is, it hasn't been done yet, but it isn't a difficult one to do, and as soon as some enterprising Amiga videot has need for such a thing, there'll likely be one floating about on the networks (hint hint hint). Nevertheless, you get the idea. So, even though the Amiga press (and the programmers, so far!) has by and large ignored the issue, Arexx is a very interesting thing to have in a paint program. •

Music,
the
latest
craze.

Free Information

These companies have free information to offer. Just give them a call, or write them for free information with no obligation.

SPOC

The **SPOC ENTERTAINMENT PACKAGE** is a library of over 35 AMIGA computer recreational, demo and educational programs. At less than the cost of public domain, there is more than enough here to keep the entire family entertained for MONTHS! SPOC is NOT public domain, but original, highly entertaining programs which use all the AMIGA's special features. Your family will run this package more than all your other entertainment software combined, or we WILL refund your money! SPOC is the most fun you ever had with your AMIGA, that is. To order send \$25.00 to:

SPOC
BOX 299AX
KIOWA, OK 74553

Saw, Saw, Hammer, Hammer
A Programmer's Tool Kit

The AmigaBASIC Tool Kit Volume I is a new collection of useful utilities for BASIC programmers. It's a kit of more than 20 utilities, doodads, and subroutines. Some of them are pretty fancy programs, themselves written in AmigaBASIC (some compiled, some including uncompiled sourcecode) that actually WRITE sourcecode for you to use in your programs. Other things (that's the hammer, so these are mayhaps the saw?) in the kit are directly MERGEable BASIC code that can be incorporated into your own programs to accomplish one thing or another.

The AmigaBASIC Tool Kit Volume I
by George Trepal
Published by Software Designs
1202 N. W. 75th St. Suite 102
Downers Grove, IL 60516

Following is a listing of just some of Volume I:
CALENDAR: This program tells the week any date from 1900 to 2099.

COLORCYCLE: This is a demonstration of very rapid color cycling.

COLORS: This color designer writes AmigaBASIC code containing PALETTE or DATA statements to describe a color palette you create with an easy, DeluxePaint-style menu.

DIALER: This program generates the tones a push-button phone uses to dial. The tones are close enough to the true ones to actually dial the phone if you hold the receiver near the computer's speaker.

DIRECTORY: This program reads a disk directory, opens a window, prints the directory's contents and waits for you to click on a file name. Then it returns what you clicked in as a variable called Dir\$.

DOHELP: This program helps you write documentation for your programs.

DosFromBasic: This little demo program lets you use the Amiga's list, directory, and info commands without having to open a CLI window.

Plus Much Much More!

VIDEO VISIONS

Video Visions is a series of utility Data disks that support the wide number and growing market of Amiga video programs. It is a service to Users' needs so a specific backdrop or logo can be designed. A large number of the Animation and Titler programs do not support an IFF paint creating utility. The Video Vision Art can be imported into any IFF program and be manipulated.

Video Visions comes with two packed disks per volume for \$24.95 and is the cornerstone of the Video Vision product. Users' special requests are also handled at a nominal fee. You can purchase further discounts by ordering The MIXED SET, The TITLER SET or The ANIMATOR SET.

Some of the volumes available are:

Volume # 1 (2.0): *The TITLER*
New Fontstyles, Large Fonts. (For those using titler programs, features backdrops-scenery.

Volume # 1 (2.1): *Broadcast Titler*
Same but 736x480 page sizes.

Volume # 2 (2.0): *The 3D-Animator*
For those using Sculpt3D and Videoscape3D, features Fantasy-Animals.

Volume # 3 (1.0): *The 2D-Animator*
Hi-res featuring Characters-Creations (Motion scenes and more.) (Version 1.1 is in lo-res 352-240 for Moviesetter fans.)

Volume # 4 (1.0): *The VIDEOGRAPHER*
Wedding-Occassions data Pro Video PLUS.
Version (1.1) is in 736x480 page sizes.

Volume # 5 (1.0): *The BROADCASTER*
Business-Broadcast, Cable TV, DProductions, PVPLUS.

Volume # 6 (1.0): *The EDUCATOR*
History-Geography

Volume # 7 (1.0): *The ADVERTISER*
Products-Symbols.

Coming Soon:

A low cost display program, useful for editing Visuals, animations before transfer to tape.

PLUS: MiniVolumes and new volumes are available.

For More Information:
Charles Voner Designs
61 Clewley Road
Medford, MASS 02155
Or call: (617) 396-8354

Take Stock

There is something alluring about the daily stock market quotes. You know, "Dow Jones Industrial Average is up four and an eighth. . ." And you know, deep in your heart, that somewhere down the line, somebody, somehow, probably made a bundle on that measly four-point increase (or lost a fortune the day before when the market dropped a few points). Well, sometimes the news is good and sometimes it isn't, but these days, being able to cope with the market's complexity is a talent of two kinds of people:

First, there are the people who have the natural TALENT to buy low and sell high. Every time. Members of the Midas family, for the most part, and none too plentiful, though very rich. You can usually recognize them by the silver spoon. . . Well, nevermind.

Second, the people who apply a considerable amount of technology and skill in judgement (both!), with a heavy accent on the computer technology we all know and love.

When the stock market talks, the Amiga listens. Quickly, now, before the broker's office closes. This is a quick look at **Take Stock**, from *East/West Software*, another new piece of software to bring the power of the Amiga to bear (ahem!) on stock trading. **Take Stock** handles a database of up to a hundred stocks on a data disk (floppy, of course). It handles all types of stock transactions, including purchases, sales, dividends, and the increasingly complicated stock splits. The program keeps track of stock transactions by type, date, and the serial number of the certificate, and it will collect up to 365 (magic number!) daily quotes on each stock.

To check on the performance of your portfolio (of stocks!), the program offers graphing ability and can display two of its graphs on the screen at once, and when tax time comes, it will be able to display or print out the information you need to keep the I.R.S. at bay for yet another fiscal year.

Take Stock is an Amiga program. It multi-tasks. Ahhhhhhhh. Now, where is that checkbook. Consolidated Widget is looking more and more promising with each new buyout offer. . .

Take Stock
East West Software
73 Loma Lane
Suffern, NY 10901

Now Available...

**Disks
Inside**

ANIMATION

Amiga Animation • A Limited Edition



Animation Program Covered This Issue

*Included so you can
try your hand at
animation!*

- Deluxe Paint III
- Videoscape-3D
- Turbo Silver
- Framegrabber
- Fantavision
- Sculpt!Elan
- Zoetrope
- Interfonts and more.

About This Special Issue

What you get, and how to get more information about the products mentioned.

Taking a Good Look at Amiga Animation

by Jay Gross

Overview of Amiga Animation Software, Hardware, techniques and expectations for the future. News about new developments and new products and improvements to come.

MakeAnim Program

Get in on the act, and make your own animations, even if you don't have one of the commercial animation programs, yet. Here is MakeAnim, a freely distributable program for putting your own ANIM format files together from pictures. Complete and working, on the disk, along with a how-to file to tell you how to use it.

Product Review: Zoetrope

by Mike Hubbard

Here's a look at one of the newer Amiga animation products on the market. Zoetrope. It has serious limitations for serious video enthusiasts, but if you just want to make things move for the fun of it, it fills the bill.

ZoeAx2.RIF Animation

This neat animation gives you some idea about what you can do with Zoetrope in the way of moving titles around on the Amiga screen. Animation by Mike Hubbard.

Frogmovie Animation

First thing you notice about this neat tree frog is his eyes. Then his lunch flies into the picture and kerpop! Yummy.

DeluxePaint III: The Next Generation

by Mike Hubbard

Electronic Arts' new upgrade to DeluxePaint adds animation to the world of Amiga paint programs. DeluxePaint III makes it easy by keeping track of the frames for you.

Example Animation: DeluxePaint III

by Mike Hubbard

This is an example of what you can do quickly and easily with DeluxePaint III and a little poring through the manual to see how it works.

AX Animation

The car on the cover of Am! Exchange Magazine Issue 2.2 springs to life, and a few other rather startling things occur, as well. This animation was created with DeluxePaint III from digitized images (and a little tinkering here and there) by Shamms Mortier.

Product Review: Fantavision

by Brian Roberts

Brian explains a little about what was involved in creating the NCR Fantavision animations.

Marilyn - Fantavision Style

A colorized Marilyn Monroe animation done with Fantavision.

Objects

This is a whole subdirectory of objects for your animating and raytracing pleasure. The first batch goes with the Videoscape tutorial. Next is an object for raytracing in Sculpt-3D. It is: HangGlider.scene

3D Font

Some of the most difficult to make objects in raytracing packages are alphabet characters. They're complicated and time-consuming. Here for your raytracing pleasure is a set of capitals in a 3-D font named AX.Bold. It's in Turbo Silver 3.0 format.

Turbo Silver: Animation Made Simple

by Clyde R. Wallace

A walk-through tutorial on how to do an animation with Turbo Silver 3.0 (and the new "SV" update) from Impulse, Inc. What to watch out for, and how to get the most out of the time you invest.

Spacial FlyBy: A Turbo Silver Animation

by Clyde R. Wallace

The animation, Spacial FlyBy depicts a planetary system in 3-D space, through which the viewer (that's you!) moves, taking in the sights as you go. This is the tutorial's demonstration animation.

Marilyn

by Clyde R. Wallace

This is an explanation of how the Marilyn animation was created. This was not just your average frame grabbed animation. Several considerations were kept in mind when creating the animation. For instance, the animation was designed to have many frames that would create a long running animation in a short amount of memory.

Marilyn The Animation

by Clyde R. Wallace

This is the accompanying animation from the Marilyn article. Clearly, Norma Jean and the Amiga belong together.

Where to Get More Information

This is a list of company names, addresses, and telephone numbers for the products mentioned in this issue.

Selling Your Animations

by Jay Gross

After you get all the hardware and all the software you need, and after you gain all the experience and skills you need to do animation on the Amiga, what then? You don't have to sell your animations, of course, but if you want to, here are some suggestions for marketing your work, your services, or your animated features.

Get Set for MovieSetter

by Chris Bailey

Gold Disk's animation entry on the Amiga scene is MovieSetter, one of the so-called sprite-based animation products. Here's an article on the program, including a discussion of how the demonstration animation was produced.

MovieSetter Animation: AX Movie

by Chris Bailey

This MovieSetter animation shows off the smoothness of MovieSetter's animations. In only about 60 kilobytes of disk space, and within the memory constraints of a standard, 512-K Amiga, it produces an animation lasting a full 42 seconds. The program supports sampled sounds, too, but they couldn't fit into a 512-K Amiga on top of this slick animation, so the sounds have been omitted from this demonstration.

You can order this Special Issue with your Order Form, or by calling 1-800-284-3624.

Animation Secrets

The first in a series of articles dealing with animation on the Amiga.

by R. Shamms Mortler, PhD.

From a time when there were fewer graphic packages available for the Amiga than there were fingers on one hand, this same system now boasts some of the most advanced visually oriented software of any microcomputer graphics system, and more is being added each month.

All of these packages come with manuals, of which some are good and clear, and some are less than helpful. All of these packages require time and experience at the hands of the artist in order to reach anything near their full potential. Much of what is found is reported in a sporadic fashion in "hints and tips" sections of a wide range of Amiga magazines. What will make this column different is first its dedication to delving into all of the comparative packages that perform a specific task in question, and secondly the narrow focus on a specific graphic tool or technique. In this way, you will hopefully get both a wider and deeper view of the possibilities. The topic we will begin with is "Brushes".

Of Blitters and Bobs, Sprites, and Brushes

There is some interesting terminology and valuable syntax connect-

ed with brushes, terms that Amigoids

should learn to keep from confusing the issues. It is to Agnus (and lately "Fat" Agnus) that we owe the "Blitter" function (Bit-Mapped Block Transfer).

The Blitter is responsible for shuffling around very large blocks of data in memory. The Blitter allows for the blink-of-an-eye drawing routines in all of the Amiga painting and graphics intensive functions. Sprites, like the pointer you see move on the screen when you move the Amiga mouse, are not controlled by the Blitter, but instead are under the direct control of Agnus' sister chip, Denise. Sprites can move around the playfield (background) without ever affecting the playfield data

itself. They're really not part of the graphics screen, which helps to explain why they are never "saved" when you archive a graphic screen. At the moment, you can have up to eight, four-color sprites on the Amiga screen at any one time.

Sprites are the "player" pieces that move around in games.



Figure 1.

A "Bob" is another matter altogether, and here's where brushes come in. A custom brush is really a BOB, and BOBs are under Agnus' thumb. BOBs move slower than sprites, which accounts for the flashing that occurs when you move them quickly around the screen. Brushes (BOBs) can be made to move very smoothly, however, if they are not created too large (meaning, kept to about a 32 x 32 pixel range). BOBs also react to color cycling, which means that you can internally animate a BOB (Brush) as well as to control its global movement with the mouse.

The Name of the Game

Aegis Images was one of the first Amiga graphics packages, and many Amigoids still have it (and use it). It has some features that are exemplary, and some that have since been eclipsed by years of development by other products and the expanding need of the Amiga community. As with other packages, Images allows the user to cap-

ture, use, save, and load "Brushes". The difference is that it doesn't call them "Brushes", but prefers "Windows". This preference is actually a demand, as it also requires the file name extension ".WIN" for a brush. Electronic Arts introduced DeluxePaint I after Aegis Images was on the market, and its lack of a required extension to the brush file name became more pleasing to the Amiga community, so the "Window" appellation was dropped as a standard. "Images", however, is still a powerful graphics package, and it boasts some features (at least unique ways of handling tools) that its fans are not in a hurry to give up.



Figure 3.

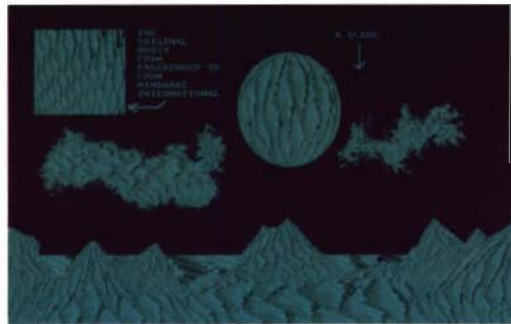


Figure 2.

The ".WIN" extension in the file name is no problem to other packages, so if you're still an Aegis Images user, make sure all your brushes have the ".WIN" extension saved with your brushes. You can expand this tip into other areas, even into sound files. The only block that stands in the way of many music program's abilities to load (recognize) an IFF file is the required extension on the file's name. Always check the manual to be sure, before changing a file's name. Graphic files and sound files can often be transformed to fit nicely into your other favorite packages by this simple method.

Flying Brushes (BOBs)-

There are many ways to develop animation on the Amiga. There are over a dozen programs devoted to this task. There is also a way of animating sequences from within a paint program, and recording the results directly to your VCR. Brushes are the prime ingredient in this process. First, be sure that your paint program has a way of turning off the pointer (sprite). If not, your animation will show the pointer attached to the brush, which is not a wanted result. Remember, make your soon-to-be-animated brushes as small as possible if you want to avoid flashing during movement. Use colors that allow them to stand out from the screen, or "edge" them in a one- or two-pixel ring of color. Also be aware that moving brushes can have internal color cycling. You could, for instance, make a brush of a rocket, and use colors (Red-Orange-Yellow-White) that were set to cycle in the flame being released from the engine.

The brushes that I'm talking about are not to be confused with the ANIMbrushes of DeluxePaint III. We'll look at those in a specific way in a future column. One drawback with "flying" your brush around the screen with the mouse is that overscan screens cannot be used at the same time, so you're stuck with a border. A way around that is to design a screen so that the border actually helps the graphic. As an example, I'm including a sample screen that demonstrates this (See Figure 1, on disk). Load this screen into DeluxePaint (either II or III). Cut the rocket brush out of the screen, and then erase it from the background. Set color cycling to "on" and fly it around. I have stencil-protected a section of the screen to give you ideas on how to work around the border restrictions.

To HAM and Back

Both PhotonPaint 2.0 and DigiPaint 3.0 have the capacity to load and save brushes, and there are a number of utility programs that can translate standard Amiga graphics into HAM, and vice-versa. This means that you can develop brushes in ExpressPaint (for example) and use them in a HAM paint program. This can be very useful, since many of the Amiga non-HAM graphics programs allow you many more brush tools than their HAM counterparts. Experiment with the programs

you have to develop processes similar to those I'm outlining here.

Living at the Edge

One of the nicest features of DeluxePaint III is the "edge" command. It either adds and subtracts a one-pixel edge from a brush. If you want a brush to stand out from a background (which is especially necessary when the brush has the same colors as the background) try putting a solid one- or two-pixel wide edge around it. Another useful "edging" in DeluxePaint III is to put a four-pixel outline around the brush, and then paste it down. Then, remove the edge on the grabbed brush, select "color", and stamp out the main brush in the center of your edged, pasted-down graphic using the background color. What's left is an outline (silhouette) of the brush, useful in a myriad of graphics applications. This method is really nice for making outlined text brushes of words and sentences.

Another trick is to remove about a two pixel edge from your original brush after first pasting a clone of the original on the page. Then go through the previous process until you have a four-pixel-wide outline of the brush without the original data in the middle. This outline will be only two pixels wider than the original, as the other two pixels will cover the outer two of the original brush. Now select "smooth" from the modes menu, and carefully place the outline over the pasted-down brush, and click the left mousebutton. This is a way to smooth out (anti-alias) graphic edges without interfering with the data in the brush itself, except for the outer two pixels.

Pattern Brushes

In HAM and non-HAM painting programs alike, it is possible to capture areas of the screen as brushes, and then use these graphics to fill other areas. This can be done either by flowing the brush graphic into the new area in a way that replicates the original, or by filling a desired area by twisting and turning until it reaches the new areas boundaries. There are two programs, Caligari and PageRender3D (from Octree Software and Mindware International respectively) that use very intricate dithered fills in order to shade 3D objects.

Both of these programs allow you to save these objects as an IFF picture. If you use either of these programs, try the following: First, select an area of a saved picture from which to capture a brush. Make sure the area has a diverse level of dithered fills (you can get a better look at the area by magnifying it first). The captured brush should be no more than about 25 pixels square. Then, in your paint program, use the pattern-fill option, and make sure the brush just grabbed is selected. When you draw shapes, you will notice that some of the dithering is greatly enlarged, while some is twisted. I love this for creating interesting natural forms, like rocks and trees. It

also prints nicely in a desktop publishing environment. (See Figure 2)

Drawing with Brushes

Aside from stamping a brush down, interesting effects can be created by actually drawing with a Brush. If there is enough color in the brush's outline, multicolored tracers are left in the wake of the moving brush. Don't forget, however, that "drawing" includes all of the tools in the toolbox, not just freeform movement. Great patterns can be generated using the straight line tool with a brush. This creates very symmetrical arrangements of lines, almost 3D in their form. Circles, Arcs, Ellipses, and outline boxes also take on unsuspected appearances, and finished results can be themselves saved as brushes. One of my favorite uses is the "Symmetry" tool in DeluxePaint, which I also record as I am using it (you've simply got to try this one!).

First select a number of sides in the symmetrical polygon by bringing up the Symmetry Parameters requester. Then, you're off! Left mouse presses will paint the brush down in a never-ending series of patterns, and right mouse clicks will erase the patterns. I shouldn't say "clicks" actually, since you create these mandalas by holding either the left or right mouse buttons down. Novel graphics can be created when the brush is a digitized and recognizable face. HAM paint programs don't really allow you to draw with the brush, although Photon 2.0 comes close. Programs that excel in this are DeluxePaint (either I, II, or III), Deluxe PhotoLab, Aegis' Images, and the ExpressPaint series. There is also a great border tool included with the program called SPRITZ (PAR Software), which was written by Stephen Vermeullen, the author of the ExpressPaint series.

When you draw with brushes, you also might want to color cycle the results. You can even turn color cycling on, turn your VCR on, and record while painting. This produces mesmerizing shapes that glow, throb, and orbit mysterious centers. These shapes are akin to the mandalas used for meditational purposes in Eastern religions, and can be just as contemplatively effective when produced on the Amiga. A mandala painting of mine can be seen in Figure 3.

Conclusion

So, there you have it. A beginning introduction to using brushes in Amiga visuals. I hope you have discovered at least one thing that you didn't realize from your own Amiga experiments. If so, the article has been a great success. If not, perhaps you can write and offer me some hints about processes that I didn't cover, and I'll credit you with the knowledge in the next "Secrets" column. Until the next time, then, this is your obsessive Amiga friend Shamms, signing off. See you in ROMulan space.

Amiga Videot's Delight

Session II

Getting the best out of any video gear... with the best video tape.

by R. Shamms Mortier, PhD.

Before we get into this issue's videographic topic, let me re-emphasize the scope of this column, so that you can submit questions that can be reflected upon. Don't be shy about asking for information, because of either its complexity or simplicity. The odds are good that by doing so, you'll help many other Amigoids in the process. Any necessary research that's done to answer your questions will probably uncover information neither you nor I ever thought of, so get those cards and letters in the mail! Here is a list of appropriate Amiga Videot subject matter:

1. Technical subjects and questions relating to videography, especially interfacing the Amiga with peripheral videographic devices.
2. Questions and discoveries concerning Amiga graphic and animation techniques and programs, including how these interface with hardware devices.
3. MIDI information, including questions that are related to any Amiga music product. Music and sound generation are vital to Amiga videography.
4. Product comparisons - e.g., "which product is better for doing such-and-such?", or discoveries you've made with comparative experiments.
5. General and philosophical questions relating to computers in the videographic arts.
6. Anything else you think is appropriate to the column and that may be of interest to AX (and GraF/X) readers.

Try to be as brief and clear as possible. Since my eyesight is approaching fifty years of continuous use, printouts are easier to read than hand-written copy. Send your data to:

R. Shamms Mortier
15 Rockydale
Bristol, VT 05443
No phone calls please.

Videotape

If you've just spent months getting all of the scenes in your Amiga animation just so, and you're ready to archive them on videotape, you should know that all brands of tape are not qualitatively equal. Since some tape will give you a better end product, higher quality tape is what you need if you plan to send the results to others, especially to professional users. Your tape is you, and first impressions make a difference. Amiga videography is motivating a new segment of the population to try their hand at video-production and computer animation. Usually, after purchasing an Amiga, the next consideration is the quality and brand of the video hardware and peripheral computer devices.

Tape is usually nowhere near the top of the list, which is a mistake. The best video gear cannot give you the results you're looking for if you use poor quality tape. Each of the present formats (ED Beta, SuperBeta, Hi8, 8mm, SuperVHS, and standard VHS) has a range of available tapes, further complicating the issue.

The average frequency limit of any magnetic recording is about ten octaves wide, but the bandwidth of a video signal is eighteen octaves. This discrepancy is addressed by splitting the signal into an FM (Frequency Modulated) part, and the other as an Amplitude Modulated. Certain tape characteristics are very important in allowing the recorder to capture the best results.

The exact components of various manufacturers' tapes are held as secret as the formula for Coca-Cola, and for the same reason - a competitive edge. The makeup of the oxides with which a tape is coated is primary in this covert technology, and the stakes are billions of dollars worth of sales. The newer, enhanced formats use tapes that require a very different composition than the standard quality tapes, which somewhat explains the caution in mixing tapes with formats they weren't designed for. The fineness in the grinding of the coating's particles has a lot to do with the frequency response of the tape. As the tape passes the recording/playback heads, it undergoes magnetization. Various particles magnetize (coercivity level) and hold that magnetization (retentivity level) in ranges different from other particles.

The evenness of the coating (in non-metallic tapes) is also very important. Some tapes include a lubricant for smoother operation, and some use a back-coating to alter their opacity, so that any associated light triggering will be assured. Some tapes also include protective layers. All of these factors effect the thickness of the tape, which then effects how much tape can be fitted onto a reel, which alters the running time. In general, the thicker the tape, the more attributes it probably has for lasting a long time and for giving you the best results. If the bottom edge of the tape is not straight and smooth, the tape will not be able to maintain a stable position on the recording head, and may also lead to a buildup of static electricity.

Remember all of this the next time you're tempted to buy a dozen supermarket tapes for \$1.99 each, for use with your Amiga work.

As all Amiga videographers and animators know, sound is as important as visuals in a production. Video-tapes are not equal in their ability to give you good sound recording either. Some things to look for are:

Audio Sensitivity

Audio Output Variation

Audio Frequency Response (20 to 20,000 Hertz covers the standard range

of human hearing) Audio Signal-to-Noise Ratio ("S/N", tape "hiss") Erasability (quantification of any leftover sound after erasing)

Most VCR's have internal compensation capabilities that adjust the audio output to an optimum level, but this optimum is easier achieved with better quality tape.

Take Care

In the Media Library at the University of Vermont, adjacent to my office, the care and feeding of videotape is taken very seriously. Storage rooms are air conditioned and de-humidified.

Tape is also stored so that the cases rest vertically, and are never stored on their

front or back sides. Particles can actually fall off the tape backing over time if the tape is stored in the wrong position. The amount of times a tape is played also has an effect on its continued quality. The standard is somewhere between two and three hundred uses. Beyond that, tapes suffer a loss of their medium. Obviously, better tape (especially surfaces protectively coated) will be able to withstand a higher number of plays.

There are a thousand other considerations and parameters that are important to videotape users, and therefore to Amiga animators and videographic artists. I am sure we will cover many more in response to your questions and statements in future issues. For those wishing a comprehensive view of videotape technology, I highly recommend an excellent resource publication, which will cost you about seven dollars. It is called "Video Magazine's Blank Tape Tests", available from:

Reese Communications, Inc.

**480 West 34th Street
N.Y., N.Y. 10001**

Here are the VHS T-120 tapes it recommends as the best overall:

Fuji Super HG Hi-Fi
Fuji Super XG Pro
JVC Super HG Hi-Fi
Maxell HL Hi-Fi
Maxell RX Pro
Scotch EXG
Sony Pro-X
TDK EH-G Hi-Fi
TDK HG-X Pro

Super VHS:

Fuji Pro S
Maxell SQ

Next time you are tempted to buy those \$1.99 supermarket tapes...

VHS-C tapes suggested:

JVC Super HG
Maxell HGX Gold
Maxell RX
TDK HG-X Pro

Super VHS-C:

JVC and RCA ST-C20

Beta:

Fuji Super HG Hi-Fi L-750
Sony Pro X L500

ED Beta:

Sony L500 ED-Beta

8mm:

Maxell P6-60
Maxell HGX-M

Hi8:

Sony, Maxell, and Canon ME and Mp types

The Bottom Line

Remember that all video players are not alike, so there may be different choices motivated by the attributes of your machine. See you next time, and remember the Amiga Videot motto. "Scan Me till the Cows Come Home". •

Getting Started *with* On The Amiga

by Mike Hubbart

Few people claim C is easy to learn, and it is not generally recommended as a first computer language, since some of the language's concepts can be difficult to grasp. There are some helpful tools, however, in addition to a good C compiler, that will be of invaluable help in learning the language. This is an overview of some available C support materials, to help you choose the tools you need.

The three most important items for Amiga C programming are: a good C compiler, a good text editor, and documentation on C.

The three most important items for Amiga C Programming...

Compilers first. There are three public-domain C compilers: PDC, Small C, and Sozobon C. All three of these are in Fred Fish's library of Amiga freely distributable software - on disks FF 110, FF 141, and FF 171 respectively. These free compilers lack most of the features of commercial C compilers, however.

Of the commercial ones, the Manx compiler is currently in version 4.0, and has a "feel" more like a UNIX environment, considering its command structure and the Z editor which resembles UNIX's vi. It defaults to using 16-bit integers, which execute faster than larger integers. The Lattice compiler was the original Amiga C compiler, is currently in version 5.0, and defaults to using 32-bit integers. Currently, the Amiga market is about divided fifty-fifty in compiler camps. Picking between them isn't easy, since both companies offer updates at a reasonable

price, provide a debugger to check code with, and provide good customer support. Sourcecode created for one compiler, however, won't necessarily compile on the other without some modification.

When you're ready to make your choice between these compilers, ask the people who know. Read the magazine reviews, and consult people (from your local Amiga User Group, for example) that have used the compilers.

First Steps

Before you do any compiling, you have to get the sourcecode into a text file. Enter the text editor. There are many Amiga text editors to choose from, both public domain and commercial. Editors come with a variety of options. A good editor will have pull-down menus, should allow multiple windows open simultaneously, and shouldn't take up a lot of memory while in use. An editor should be chosen for not only what it can do, but also how easy it is to use.

Although not in the public domain, Ed, Edit, and MicroEmacs editors come with Amiga-DOS' Workbench v1.3. Many programmers swear by MicroEmacs. DME is an outstanding public domain editor written by Matt Dillon, and it's available on the Fred Fish disks, too. TxEt Plus, CygnusEd, and Uedit are some other outstanding commercial text editors for the Amiga. These programs are loaded with features and well worth buying.

What to Type

A good shelf of C documentation has got to start with *The C Programming Language*, by Kernighan and Ritchie. This book is the definitive C reference, although it's not the best book for learning C from. *Programming in C* by Stephan Kochan is an excellent book for learning about the specifics of the C language.

Some additional books important for C development on the Amiga include the Addison-Wesley Amiga Manuals and also *Inside the Amiga with C*. The four manuals from Addison-Wesley cover: Intuition, Libraries/Devices, Exec, and Hardware.

The *Intuition* manual contains the information needed to work with windows, gadgets, screens, and menus - the components of the Amiga's Intuition interface. The *Libraries/Devices* manual contains specific information on Amiga libraries and devices and on graphics support, and how to write code to access them. The *Exec* manual contains information about Exec, which controls the Amiga's 68000 microprocessor. The *Hardware* manual contains specific information about the Amiga hardware.

Inside the Amiga With C is a single volume containing information similar to that in the *Intuition* manual, as well as a smattering of information from the *Libraries/Devices* and *Exec* manuals. This is an excellent first book for the Amiga, but it should be used to support, not replace, the Addison-Wesley manuals. The book has plenty of helpful C example programs and is well written.

Other useful programming tools on your shopping list might include Power Windows and Inovatools, both from Inovatronics, as well as a debugging aid or two, a shell to the CLI, and a good printer.

Power Windows is a program that is used to generate code for screens, windows, menus, and gadgets. This program lets you design your screens, windows, gadgets, and menus, and then simply generate the sourcecode to create them. Power Windows will generate code for both Manx and Lattice compilers, as well as other Amiga languages. This tool is a real time saver, and it provides instant example code for doing things in Intuition.

Inovatronics also has a program called Inovatools, which is a library of specially written functions that are quite useful. The flashy window open function, for example, is unique and does catch your attention.

Debugging is the term for removing errors from a program's code. There are a few debugging tools for C programs, including not only commercial, but also some good public domain ones as well.

To start off with the commercial debuggers, consider Lint by Gimpel Software. It can be a life saver. This program will examine several code modules at the same time, so it finds errors that a compiler will generally miss. Lint works on C code that has not yet

Continued On Page 67

Amiga

INSIDER

A MAGAZINE FOR THE AMIGA INDUSTRY

*Amiga developers, dealers and distributors, now there is a
centralized Amiga industry magazine:*

The Amiga INSIDER.

*Dealers, what's going on insider Commodore, what are the
new products available, and what are the hottest new products
coming soon? Of all the similar products, which should you
use shelf space for, and which shouldn't you bother carrying?
Are you wasting valuable retail space? What to look for, and
what to look out for.*

*How do you deal with the Post-Holidays slump? What methods
do successful dealers use to sell products?*

*Developers, each issue will bring you valuable information on
how to manufacture, market and distribute products in this un-
usual marketplace we call the Amiga community.*

*How do you break into the difficult "chain store" distribution?
Do ports pay off? What are the latest copy protection schemes,
and do they actually help? What about packaging, what meth-
ods, or packaging schemes actually reduce your labor and ex-
penses? And what are the most cost effective packaging
methods available?*

The Amiga INSIDER: *The Industry Magazine For
The Amiga.*

And the best part of all... it's FREE!

*If you are a qualified Amiga developer, dealer or distributor,
give us a call and secure your copy of the Amiga INSIDER!*

Call (301)439-1151 (9-5pm) E.S.T.

Taito Take Five

Five of Taito's newest additions to the Amiga line are reviewed.

by Mike Hubbart

Taito Games

by Mike Hubbart

Although the Amiga is great for programming, desktop publishing, graphics, and music, it also displays a better game than any other computer on the market. Don't get offended! After all, the Amiga was initially developed as the ultimate game machine, and it runs them nicely. The five games this article covers all possess four common characteristics: 1) very good graphics, 2) Addictive, 3) easy to learn, and 4) published by Taito Software. The five games are Operation Wolf, Renegade, Rambo III, Bubble Bobble, and Qix. All of these games, except for Rambo III, were initially released as arcade games, and are now accurately ported over to the Amiga.

OPERATION WOLF

The mission is quite simple; rescue hostages by eliminating terrorists. The terrorists come at you from both sides of the screen. They are foot soldiers, paratroops, in gunboats, in tanks, and in helicopters. Your weapons are a machine gun, dynamite, and grenades; ammo must frequently be replenished by picking it up in the neighborhood where the fighting is heaviest. Shoot the bullet clip to add it to your arsenal. Shoot the animals and they will drop ammunition for you. You have a limited amount of health, but can regain health by shooting a bottle (strongly resembles a coke bottle!) while fighting bad guys.

Use the mouse instead of a joystick for this game - the left button for the machine gun, and the right for grenades. There are six missions that must be completed in order to win the game. What impressed me the most about this game was how easy it is to learn, but difficult to master. I

went through the first mission (cutting off enemy communications) in the first day, but it took four or five days of constant play to get past the second (jungle fighting). I have played this game in the arcades, and this is as close as you can get to the arcade version! My only complaint about Operation Wolf: it takes too long to restart after getting killed - nearly a minute before you can start again. With over 60 high scores saved to disk, even the most inept player will quickly find themselves on this list.

To sum up: I love it!



Renegade

RENEGADE

The object: use karate kicking and punching to defeat entire gangs of thugs. You can punch straight ahead or down on a felled foe. Kicking techniques are jumping kicks and a powerful back kick. The back kick is the only blow I found effective against the gang leaders, whom you face after defeating the majority of their gangs. Some thugs use their hands, while others use chains, motorcycles, and knives. The gangs will gang up on you, two or three attacking you at nearly the same time, from the front and rear simultaneously.

My main complaints about Renegade: its too difficult to

turn the hero around, in order to use the back kick on the gang leader if you start out facing him. Also, it's too limited in karate techniques when compared to martial arts games of the last five years. New games start up much faster than with Operation Wolf, which I do appreciate. Fans of the arcade version will enjoy this one, but I found it to be my least favorite of the five, even though I play it at least once a week.

RAMBO III

This game was quite recently released, and it has three missions. The first is to rescue Col. Trautman from the Russian fortress. Attack the Russian soldiers from the side or back, and you will escape detection. Attack from the front, and reinforcements arrive pronto! Pick up tools and weapons (like arrows and batteries) while you look for your friend in this maze of a fort. In the second mission, Rambo must make his way through and escape the vehicle compound. In this stage, the enemy soldiers mean business! Look lively, or you lose your boyish good looks and resemble a green-eyed skull (this is your relative health gauge - a nice idea!). The last mission has Rambo hijacking a Russian tank and destroying Russian forces attempting to inhibit his return across the border.

The graphics are the best of the five games, and the movement of the characters is realistic. This game provides a great way of ridding yourself of frustration after a long hard day at the office.

BUBBLE BOBBLE

This is one of the two non-violent games of this five-game roundup, and it is



Rambo



Rambo



delightful. One or two can play, although two players cannot play against each other. Your characters for the game: two cheery looking brontosaurus named Bub and Bob. Their weapons: bubbles they blow and trap the nasties within, while roaming the mazes. To score points, trap a villain in a bubble, bounce Bub or Bob into the bubble, and then run over the fruit that is deposited when the bubble breaks. No bloodshed, bullets, or mayhem. The game is easy to learn and enchanting. It is as

much fun playing individually, as it is with two players. I have absolutely no complaints about this game!

QIX

Remember that game a few years back that had fuses and energy waves coursing about, while the player attempted to block off sections of the game area by building walls? That fun arcade game has made the transition to the Amiga, and many will be grateful that they can conserve on the expenditure of quarters at last.

Move around the grid, leaving a trail that, if untouched by the stray energy waves pulsing around the grid, will close a section down. Fuses

(they look like sparks on the grid lines, will destroy you if they catch up. Like Bubble Bobble, this game lacks foes to blast or shoot, but still is fun. It would

have been better to see it three years ago; it will lose a lot of appeal to potential customers since it is so old. I did like seeing a practice mode, which is quite useful to the first-time player, and would like to see more games include them.

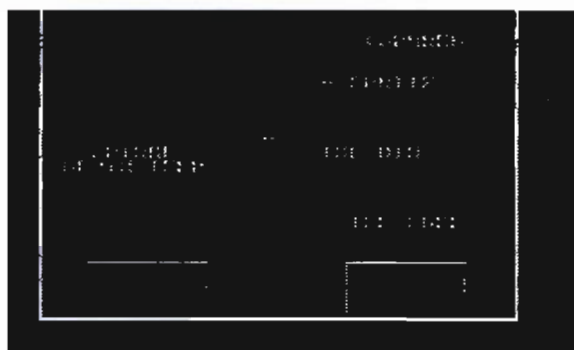
The Summary

All five of these games are priced at \$34.95 - less than I would normally spend at the arcade in a year on a single favored game. I was most im-



Bubble Bobble

Taito Software, Inc 267 West Esplanade North Vancouver B.C. Canada V7M 1A5 604-984-3344 •

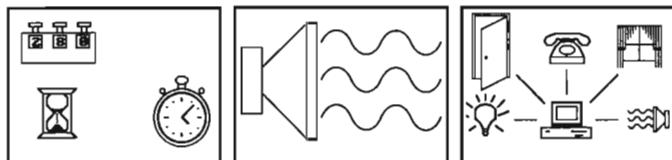


Qix

pressed with Operation Wolf, although Rambo III had the best graphics. The non-destructive styles (to other humans) of Bubble Bobble and Qix make them both easy to recommend to game players - most especially the younger ones.

Operation Wolf
Renegade
Rambo III
Bubble Bobble
Qix

INTRUDER ALERT



- Home Or Business Alarm
- Traffic Flow Monitoring
- Log And Time Stamp Events
- Attendance Counting
- External BSR/X-10 Control
- Light Level Detection
- Graphic Control Panel
- Menu And Mouse Driven
- Modem Alert Option
- Digitized Alarm Effects
- Synthesized Computer Speech
- Hot Key Recall Sequence

Completely MULTI-TASKING with hooks to start other computer programs when a BREACH is detected. Uses of the Intruder Alert Monitor are only limited by the ingenuity of YOU, the user.



P.O. Box 123228, Ft. Worth, TX 76121 Phone: 817-732-8014

QUALITY VIDEO FONTS FOR YOUR AMIGA

★ MASTERPIECE PROFESSIONAL FONT COLLECTION®

20 DISK SET

The largest collection of fonts and clip art available in a single package for the AMIGA.

110 DIFFERENT HI-RES FONT STYLES
This doesn't mean 10 sizes of 11 fonts. It means 110 DIFFERENT fonts.

LARGE SIZES

Specially designed for video work. 95 % of the fonts are over 100 pt. tall.

BORDER CLIP ART • BRUSHES

COLORFONTS • 100 PAGE MANUAL

20 DISK SET - ONLY \$199.00

Contact your local AMIGA dealer or order direct from
AROCK Computer Software, 1306 E. Sunshine,
Springfield, MO 65804 1-800-288-2765

DPaint II is a registered trademark of Electronic Arts.

generally result in instant stock price booms. Since CBM's stock continues to wallow in the gutter, investors are apparently taking no stock (to coin a phrase) in the rumors of buyout, takeover, or whathaveyou.

Nevertheless H-P, AT&T, and CBM *could* all have some common interests. Unix. Since even CBM isn't stupid enough to believe they can successfully market an Amiga Unix box (either the A2500-UX or something yet unnamed), they could be looking for a corporate partner for such a venture. H-P and AT&T are very logical places to look.

More on Unix

Whoever, and however, if CBM is going to market a Unix box, they'd better do it soon. The price of Unix computers is declining rapidly (along with potential profits on selling them), while numbers of units sold is increasing dramatically. Indeed, many computer press insiders are looking toward the Unix (or something similarly named) base to take over in business computing where the MS-DOS' dinosaurs are stuck in tar, if not feathers.

The bottom line.

There are as usual conflicting, and even confusing indications coming from Commodore. There's considerable confusion in the company itself as to where it is going (suggestions?) and how it's going to get there. While their engineering department is finagling new and finer doodads to patch onto the Amiga architecture, almost everything they've invented for the last year is still vaporware, and there's no concrete indication that any of it will ever see the light of day on a dealer's shelf. Meanwhile, the competition is busily "inventing" the very things that the Amiga has had to itself for a long time. Desktop Video and Desktop Media - "Media"; it's the same thing, but incorporating more than just video.

If CBM continues, as it has for four years already, to sit on its thumbs, Amigas will be nice game machines. CBM will become a particularly unpleasant chapter (eleven?) in the history of computers, and us loyal Amiga users will be waving ROM Kernal Manuals shouting "We told you so." Yet, there are positive indications that there are, after all, actual signs of life among the perpetually numb. The advertising campaign, for example - in spite of its being scaled down to half of the above-mentioned figures according to rumored reports at press time.

Ah, advertising. And of course, it *can't* hurt!

J:

Amiga images to a slide, you need to either photograph the screen, or print to a special device called a film recorder. This is a contraption that draws the computer's image onto photographic film, instead of a monitor's picture tube. Active Circuits was actually developing an interface to these devices while Siggraph swirled around them. The Active Circuits approach is to take some of the common ones available for MS-DOS machines, and make an Amiga interface. The company is responsible for the software, which is now shipping, that integrates an AT&T Truevision Targa display board to an Amiga 2000/2500 containing a Bridge Board.

From Amiga's low-key presence, to Atari's, now. That's right, Atari. No, they weren't trying to hawk the ST as a graphics workstation. They were promoting their Transputer-based workstation. That's right, Transputer. This job has no microprocessor other than one or more Transputer chips. Its operating system is Helios, and its display is large and colorful. Fully configured, \$8,000. While I was delicately extracting information from the person attending Atari's two-man booth, a couple of rabid Amigoids walked by. They stopped in front of the Atari booth and one of them asked LOUDLY, "Is Atari making COMPUTERS, now?"

That incisive barb out of the way, let me mention that Atari claims to have actually got their Transputer box onto the market. Shipped. I didn't check this claim out, so take it as it is. A claim. Nevertheless, let it be noted in this very paragraph that Commodore has NOT got their Transputer-based Amiga board out the door.

Atari's people were courteous and congenial, even to Amiga press, and demonstrated a number of things the Transputer box does. They also *knew* what the box does. This was not the case over in the Amiga booth, where nobody was willing to talk about, or even acknowledge the existence of the University of Lowell's high-tech, high-performance, high-resolution display card for the Amiga. The unit was sitting there, running absolutely incredible graphics demos on a nice big monitor, but all of Commodore's people smugly said they couldn't comment on things that haven't shipped. And it hasn't shipped. Will it ever? They didn't know.

The most boring part of a trip is the time it takes to get out of the state you started in, and the most exciting part is the trip home. Thinking about all those toys, hallucinating about winning the lottery for several of the states and being able to OWN some of them. And wishing, wishing. Wishing.

J:

can't paint in overscan in real time, there is a very fast scrolling option. Interlace can also be toggled. Very small screens can be worked on, grabbed, and saved as brushes. There is a control for showing the XY coordinates, and a genlock toggle that makes color 0 transparent for genlock encoding. DigiPaint 3.0 also supports a subset of ARExx, so that programmers can control this program entirely from macros, either from within other programs or from the command line or AmigaDOS scripts.

A disk comes with Digi-Paint 3.0 called "Transfer 24". It is basically a duplicate of the image enhancement controls found on the DigiView Gold software, giving you even more options as to the final appearance of your work. Owners of NewTek's digitizers will be instantly able to use these tools. Others will learn in a short time, thanks to a complete tutorial in the manual.

Concluding Remarks

There is no way to preview a super-bitmapped image all at one time, which is a big oversight. NewTek should study the technique used by DPhotoLab and implement this ASAP. Digi-Paint 3.0 has only two work screens, compared to the open-ended number allowed by PhotonPaint 2.0 and Deluxe PhotoLab (Electronic Arts). The magnification tool brings up a large overview of an area, and is much more desirable than the way that 1.0 handled this tool. On the negative side, double clicking on a picture icon will not open the program, which isn't a major fault, but should be redressed.

The Print Requester is puny, and should be enlarged in options to include in-program parameter settings. There are no ways to protect (stencil) areas of the screen so they cannot be painted over. The disk refuses to have its demos removed, a matter that I have written to NewTek about. Once seen, they should be able to be discarded, leaving room for other stuff. As mentioned there is only a limited cycle-draw option, which cuts down on the effectiveness of this tool. The menus cannot be moved around the screen, just toggled on and off. Also missing and missed is a "delete" operand in the file requester. Clearing the screen clears to a foreground color choice, which is confusing. And last, my biggest gripe of all with program manuals, there is no index.

On the positive side, the program (and all its functions) work about five magnitudes faster than PhotonPaint 2.0. Because of the advanced dithering routines, the colors look sharper and brighter. As I said at the beginning, Digi-Paint 3.0 will not replace PhotonPaint 2.0 in your library - at least it will not do so in mine. I see them (and use them) as co-creators. Each one has definite attributes that the other lacks, and I have successfully transferred files back and forth between the two. Although Digi-Paint 3.0 should not be the only HAM paint program you own, I think your library will be the sorrier for its absence.

The user interface is similar to that of paint programs, with the color palettes for the box fill, line fill, and line color on the bottom left side of the screen. Nice for the fortunate ones owning a color printer, these options adjust the color of a box enclosing text, the lines composing that box, and the color between the lines that enclose the text! Being one of those fortunate few with a color printer, I immediately began a test of Pen Pal's color printing abilities using my printer to write several friends and I was happy with the results.

There are many nice bells and whistles about this product: the wait display on the mousepointer turns into a gauge that displays the relative amount of time before a task is completed, such as loading or saving a file to disk. The cursor, when moved over a gadget on the side, displays the name of that particular gadget - a time-saving idea for those users with no time to refer to the owners manual when hard at work.

The time is constantly displayed in the top program title, for those with battery-backed clocks. The program comes configured this way, which saved me the time and bother of adding the setclock command (normally found in the c directory) myself to the start-up sequence. Good idea!

Additionally, there are three (yes three!) dictionaries that can be specified for searching the entire document, or just a single paragraph. Now this is an excellent idea! When writing an article, it is normal to occasionally add an additional paragraph, so checking only the new paragraph's spelling obviously saves time. The spelling checker also has a word lookup feature, where you type in the word in question to see an alphabetized list of similarly spelled words from any of the three dictionaries. Speaking of the dictionaries, they are: the main dictionary with 100,000 words, the common dictionary with the most common 1,500 words (for a quick check of your document), and the user-defined dictionary that may contain up to 250 user-selected words (such as Amiga, RAM, CPU, etc).

There is two ways of selecting fonts and their sizes. Use the size menu, where the sizes are listed with the font names as subitems for each size. Use the font menu, to select the font name, and then the font size as a sub-menu item. While not a main feature, this is a useful extra to Pen Pal.

There are vital statistics for the entire document or an individual paragraph. The statistics given for both are: readability level; counts for words, sentences, paragraphs, characters, and spaces; the average, minimum, and maximum for characters in a word, words in a sentence, and sentences in a paragraph. These stats are quite impor-

tant for writing documents for magazines or for school, and I am glad to see them included.

Another outstanding feature of Pen Pal is the well-written owners manual. I found it quite easy to read, full of detail - except when dealing with forms (only five pages) - , and it covers all Pen Pal menus in the reference section. A particularly well written section that stood out in the manual was the section on the database portion of Pen Pal. The database section is explained better in this manual than many of the commercial databases I have worked with.

The database portion of Pen Pal is a definite plus for the product. The manual gave outstanding coverage on use of it, for novice or expert database users. Databases can be saved in either Pen Pal or ASCII format; ASCII files are for exporting data into a different database. Additionally, ASCII database files created on other databases can be imported into this database manager. This database will sort files using up to 32 field specifiers, allowing the user to select the sorting priority order. Naturally, the information from a database may be imported into a letter created by Pen Pal.

I was disappointed by the short manual coverage on forms. This main feature of Pen Pal deserves considerable attention. To be completely fair, the manual does clearly state the steps for designing and filling in forms. Maybe I'm nitpicking after seeing the fine coverage that both the word processor and database manager received in the manual. No other Amiga word processor includes a feature with this much power as a standard feature, and it still impresses me that Softwood includes it free.

Not-So-Nice Features of Pen Pal

The new file requester defaults to options where a Pen Pal file with .wtr is expected in Pen Pal format. This is an inconvenience when importing files written on other word processors. Additionally, it takes quite a while before an imported non-Pen Pal article is displayed on the screen - much longer than with other Amiga word processors such as Transcript, KindWords, WordPerfect, or excellence!

There was a severe shortage of keyboard equivalents for menu items. Of the approximate 110 different menu items available, there were only 19 with keyboard equivalents. I don't like removing my hand from the keyboard to use the mouse to select either help or statistics on the number of words in a document. This aspect of this program could use enhancing in future updates.

New windows are slow to open, and new files opened are slow to display onto the

screen. Moving through text, once displayed, is not too slow, although slower than some of the newer word processors. Additionally, after typing in two pages of text, I had to use the New Page option to continue writing on a third page. Why? This seems like a waste of my time, since I only used text and not graphics in my document.

The Save and Save As options worked the same, a serious bug! Save should save the document, without having to retype the name if the document was already saved once, but I had to reselect the drive, file name, and select between Pen Pal or ASCII format each time I used the Save option. The Save As option has always performed that way in all other word processors I have used, and I fail to see any advantage of Save and Save As acting the same way in Pen Pal.

Summary

Overall, I liked the product. There are obvious shortcomings, a lack of speed at key times being the main complaint. All documents produced with Pen Pal looked good - I was quite pleased with the output. The price of \$149.95 may seem high, until you consider the superb features of Pen Pal of using built-in printer fonts on the same page as graphics! The letter I received from Brown-Wagh promises some additional features in version 2.0 of the product, including: downloadable fonts, columns, additional keyboard shortcuts, and sample forms. •

Pen Pal

Price: \$149.95

Brown-Wagh Publishing

16795 Lark Avenue, Suite 210

Los Gatos, CA 95030

408-395-3838

drive, and I lost only a few files (alas, including the first version of this review) in the resulting re-format and restore process. This crash was NOT the HDA's fault.

Nevertheless, there's a **big** reason WHY I wanted to see the unit perform over time before reviewing it. My Spirit HDA-506 made THREE trips back to the Spirit before it worked. The problem, according to Spirit was a "solder bridge" on the HDA interface adapter - that's the guts of the thing. When I called Spirit's technical support line pretending to be a rather unassertive customer, they told me to send the wrong part back for them to check, after diagnosing the problem over the phone. Twice!

After the first one of these diagnoses proved wrong, they should have suggested sending back the whole kaboodle (and I normally would have insisted at the outset). I did suggest it on the third trip, and they readily agreed. Their turnaround was one week each time; I paid UPS blue label ("2nd Day Air") to them, they paid UPS blue back to me. It would have been only four days, except that the weekends kept getting in the way.

In view of the difficulty of diagnosing the problems (do you blame the customer's own drive unit, or the cabling, or the assembly, or the software, or the A1000's notorious unfriendliness to buss devices, etc.?), Spirit should just check their units before they ship them. It's not asking too much.

After the third return, the unit worked perfectly, and has worked flawlessly ever since. Meanwhile, Spirit has now upgraded the hardware interface board and even redesigned the square box to greatly improve its looks on the A1000 and 500.

Conclusion

Aside from confusing documentation and a bit of priciness, the Spirit HDA-506 unit is an excellent choice for a harddisk drive addition to the Amiga, particularly the A1000, especially if you opt for the RLL controller and drive. The unit's very impressive performance more than compensates the fact that it isn't cheap, especially when you consider its quick directory scans and icon fetching in the real world of Amiga diskdrive access. •

i:

loaded first. System requirements are a minimum of Kickstart 1.2 and 512K memory. It supports both the mouse and keyboard, and may be loaded onto a harddisk.

GETTYSBURG is played much like a traditional board wargame, the playing area being divided into invisible squares that can be viewed on the reference map. Zones of control, movement rates for different terrain and unit types, firing and sighting ranges, and leadership modifiers (in the Advanced game) are all here. Unlike board wargames, however, you always have an opponent available, and the drudgery of figuring combat ratios, victory point totals, and other information needed to effectively play a game are absent - who says that computers can't make life easier!

Getting started is easy. After loading, you are presented with a colorful menu listing all game options. Pick either the Basic, Intermediate, or Advanced game (new or previously saved); play either side against the computer or human opponent, hidden or non-hidden units, time limit for each turn, and your choice of military symbols or toylike figures that represent each unit. Handicapping one or both sides is also possible from this menu, as well as picking the scenario that you wish to play, be it the three-day campaign game, or just one day. Each turn represents one hour, and each day of battle runs from 7am to 7pm.

You play the role of either Union General Gordon Meade, or Confederate General Lee, and give orders to units under your command. When the battle begins, each side only has a few units on the map, with others arriving during the course of play on roads that lead from the map edges. Moving the cursor onto a unit and clicking the Access Unit gadget, gives you information on its current status; give it movement and combat orders, and click on the NEXT UNIT gadget to move on. Once you have finished giving orders, it's time have your troops earn their pay by initiating combat. The computer handles all calculations, having all units that have been ordered to fire do so. Casualties are subtracted from target units and you're notified of losses in men and artillery pieces, with routed units running from battle.

Most of the computer screen is occupied with the map, approximately one-sixth of the total battlefield area being visible at anytime. The main map color is a dark green that denotes Clear terrain. Hills are medium green and hill-tops bright green. Roads and the town of Gettysburg are brown, rivers blue, and woods consist of groups of evergreens with brown trunks. Union forces are blue while the Confederates are grey. The map is easy to look at for long periods of time, and everything has enough contrast to it that nothing will get lost. Should you wish to see what type of terrain units are occupying, hitting **T** hides the units and displays the terrain underneath.

At the bottom left of the screen gadgets give each unit their orders, and advance a turn from movement mode into combat mode. Units may be ordered to advance, fire on certain squares, build fortifications, change formation, and *mélée*.

Unit types consist of infantry, cavalry, and artillery. Each unit represents half a brigade, and their ratings for manpower (guns for artillery), effectiveness, fatigue, morale, weapon type, mode, facing, operation points, command control, rout status, and disruption points are historically accurate.

Infantry may be in LINE (for battle) or COLUMN (for movement) formations, cavalry is MOUNTED or DISMOUNTED, and artillery is LIMBERED (for movement) or UNLIMBERED (for firing). Each derives movement, as well as firing benefits and restrictions according to their formation and facing. Due to movement and combat, they may become fatigued, demoralized, and possibly break and rout (lose their courage, turn and run from battle). Naturally, all detrimental effects (except men killed/captured) are reversible over time.

Winning is determined at the end of a scenario by a point score that's awarded for killing and capturing enemy troops and leaders, destroying artillery pieces, and possession of certain battlefield objectives. These objectives include certain hilltops, bridges, entrances to the town of Gettysburg, and roads leading onto the map. All objectives are listed on the reference map via the two armies' national flags, the flags denoting which side gets points for possessing them.

As you can tell, there is quite a bit to GETTYSBURG. SSI, however, has made learning the system easy by letting you play at different levels. Each level adds more rules and detail.

Sound is quite good, with the digitized blast of a cannon when artillery fires, and the crack of rifle fire when infantry shoots. Also, should a unit rout, the cry of "LET'S GET OUTA HERE!" is heard as it scampers off.

GETTYSBURG'S weak points are minor, and do nothing to detract from the enjoyable gaming experience that can be had from trying to duplicate, or change history. Recommended for anyone interested in wargaming or the Civil War.

GETTYSBURG--THE TURNING POINT

List price \$60.00

Strategic Simulations, Inc.

1046 N. Rengstorff Ave.

Mountain View, CA 94043-1716

415-964-1200

ner; this room is considered "safe", and the hostages will stay there until the mission's conclusion. Be careful though, as they may not be the only persons who follow a rescuer.

Stage 4: The Outcome: Mission Recap

Once all the terrorists have been eliminated, the hostages rescued, or the rescuers are dead, the mission is over. If the mission was a complete success, the player will be promoted to the next higher rank and assigned a secret access code necessary to perform an advanced mission. If the mission was less than perfect, an opportunity will be given to turn back the clock and restart the mission at either of the first two stages.

Logistics

The music is first rate, with each stage having its own digitized theme in stereo. Just as entertaining is the helicopter's rotors beating the air as the sound reverberates among the buildings surrounding the embassy. Digitized voices are also present here: the team leader's voice telling his men to go, plus the cries of the dying as they are shot.

Graphics are both well done and intricately detailed. Shadows are present and even individual bricks can be seen in buildings' walls. There is no fuzziness about anything viewed on-screen; everything is so sharp and clear they could be digitized photos. Animations are also good; team members move naturally as they maneuver along the street or down the embassy walls.

Summary

HOSTAGE'S premise is straightforward: enter and search a building, kill the bad guys while saving the good ones. It's both fun to play and challenging, but not so difficult that people will give up in frustration. HOSTAGE is an exceptional, quality game from beginning to end.

HOSTAGE: RESCUE MISSION

List Price \$39.95

Mindscape, Inc.

3444 Dundee Road

Northbrook, IL 60062

312-480-7667, 800-221-9884

been compiled, comparing code to the Kernighan-Ritchie standard.

The next debugging tool to consider is SDB from Manx. SDB - short for Source level Debugger - works on C code that has been compiled and linked. SDB has three windows open at once: one for C sourcecode, one for commands, and one to display the results of any commands entered. SDB will even allow viewing variables, windows, and structures, when they are specified by their C code names. SDB is a must for Manx compiler users.

Lattice's source level debugger is CPR, a new wrinkle in Lattice's C development environment, beginning with the company's version 5.0 release of the compiler. The "source level" in these products' names means that the debugger works with the sourcecode to tell the user where in the source the compiled program has a problem, flags a variable, or whatever.

Some public domain debugging tools are available on Fred Fish disks. Of particular interest is Cref from FF 103 which is a C cross reference program, and CDecl from FF 114 which is a C to English declaration translator.

Shelling out

There are several good shells available - a shell is a program that gives much-needed aid to the CLI. Although it may pain some of you, it is a necessity to know a bit about the CLI when programming, so grit your teeth and dig into that dusty copy of The AmigaDOS Manual for an overview of the commands and their arguments in the CLI.

Matt Dillon has also released a public domain shell. It is a well written shell, it's free, and its sourcecode is available for hopeful shell programmers. Dillon's shell uses the Amiga's Help key to list the shell's 40 built-in commands to the screen. Dillon's shell is available on the Fred Fish disks - the most current version (2.10) being on FF 168 and 169.

Metran Technology has a commercial shell, Tshell, which offers a Unix-like syntax and an on-line manual. Tshell is loaded with useful utilities for pro-

grammers, such as several calculators and C function support.

William Hawes, author of Conman, wrote the only Assembly Language shell, called Wshell. It is fast, small, well-written and documented and is by some accounts the ultimate in shells.

AmigaDOS V1.3 does come with its own shell, although it is quite limited compared to some of the others.

Although it may
pain some of you, it
is a necessity...

The printer is under the manual.

A good printer is a must when programming. It's often easy to catch a simple mistake, such as missing bracket, when you look through your code on paper instead of on the monitor.

Last but not least, you need plenty of example C code, and you find that in abundance on the Fred Fish disks and in some of the Amiga magazines. The source code for many of the programs is one of the best reasons to get Fish disks - these programs are Amiga-specific and will show if the authors do things differently from what the books suggest.

The last advice is: read, read, read, study, study, study. Sorry, there are no helpful utilities available for this one. •

--

Gettysburg

For the want of a shoe...

by Kevin C. Rohrer

Strategic Simulations, Inc. (SSI), military simulation specialists, have been in the gaming business since the early days of personal computers. Only recently, however, have they begun releasing Amiga versions of their more popular games, including their grand tactical level game about the battle of Gettysburg. The game system is based on their award-winning BATTLE OF ANTIETAM, and improves on it. The title: GETTYSBURG: THE TURNING POINT, aptly describes this American Civil War battle, which was the highpoint for the Confederate States.

Gettysburg, the Battle

Prior to July 1863, the southeastern Pennsylvania town of Gettysburg was a farming community containing a seminary college and, unfortunately for its citizens, a shoe factory. Nineteenth Century armies travelled on foot, so it wasn't uncommon during the Civil War for soldiers to march right out of their shoes while on an extended campaign. Ironically, it was the need for shoes in the Confederate divisions and the presence of the shoe factory that helped decide the outcome of this five-year conflict, and made Gettysburg the most famous of the all Civil War battlefields.

The Army of the Potomac was advancing on the Confederate Capital of Richmond. Con-

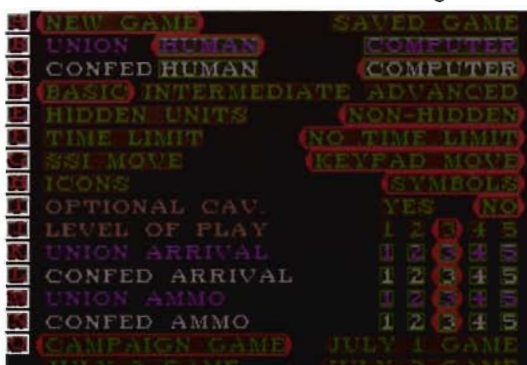
federate General Robert E. Lee wanted to take the pressure off Richmond and carry the war to the enemy, by invading the North via Maryland and Pennsylvania.

A week prior to the battle, Confederate General Jubal Early passed through Gettysburg and spotted the shoes, but didn't take advantage of the find. Fellow division com-

manded by a fighter: John Buford and his men were fighters also. Consequently, Heth got more than he bargained for when he and his men met Buford on Seminary Ridge west of town.

Heth attacked, and Buford's men gave as good as they got. Buford, seeing that he couldn't hold on indefinitely, summoned the

rest of the army. Heth, realizing that he now had a fight on his hands, continued with the attack, the sounds of battle drawing Confederate forces to the scene, and so the battle was joined.



mander Henry Heth also learned of the shoes, which his men desperately needed, and decided to appropriate them. He was under orders not to enter battle until the entire Army of Northern Virginia could be brought to bear, but Heth didn't see anything standing in his way, and marched to-

Gettysburg, the Game

GETTYSBURG comes on one disk, with a magazine-sized, 29-page rulebook (10 pages comprise game rules), and a machine-specific reference card. SSI did their usual excellent job of rulebook writing with GETTYS-

BURG. Even those unfamiliar with the workings of wargames, be it board or computer, shouldn't have much of a problem playing this simulation.

Those interested in the historical aspects will

be pleased with the high level of research that was done, the fruits of which are presented in the rulebook's remaining pages of tables, maps, and text. Also included is a colorful, plasticized map of the battlefield, with game tables on the back.

The reference card mentions multitasking the game, but in order to do so, it should be



wards Gettysburg.

The appropriation appeared to be a shoe-in (sorry, I couldn't resist): only two brigades of enemy cavalry guarded the town. Until this point Union cavalry had been decidedly inferior to their Confederate counterparts, and an embarrassment to their leaders. However, the Union brigades in Gettysburg were

Trip Itinerary

Amiga Trip(aIn) Version 1.0 - 2500 Places, 7656 Lanes, 272321 Mi



Page 1 Itinerary suggested by Trip(aIn) -
Thu Oct 5 23:34:49 1989
To: Boston, MA From: Chicago, IL

Boston, MA is 846 Miles (direct) to the East

From Chicago, IL take I 94 SSW 6 Miles
To Split I 94/90 Chicago, IL.
about 0:10 driving time.
19 Miles NW of Gary, IN on I 90 Skyway
2 Miles NNE of Split I 57/94 Chicago, IL on I 94
Boston, MA is 848 Miles (direct) to the East
You have traveled 6 Miles, about 0:10 hours

From Split I 94/90 Chicago, IL take I 90 Skyway SE 19 Miles
To Gary, IN. about 0:25 driving time.
27 Miles WSW of Michigan City Exit 40, IN on I 94
32 Miles West of Michigan City Exit 49, IN on I 90, Indiana Road
10 Miles North of Ainsworth, IN on I 65
9 Miles ESE of Hammond, IN on I 80
Boston, MA is 834 Miles (direct) to the East
You have traveled 25 Miles, about 0:35 hours

From Gary, IN take I 90, Indiana Road East 32 Miles
To Michigan City Exit 49, IN. about 0:39 driving time.
21 Miles WSW of S. Bend Exit 72, IN on I 90, Indiana Road
7 Miles ESE of Michigan City Exit 40, IN on US 20
2 Miles NNE of La Porte, IN on (39)
Boston, MA is 803 Miles (direct) to the East
You have traveled 57 Miles, about 1:14 hours

From Michigan City Exit 49, IN take I 90, Indiana Road ENE 21 Miles...
To S. Bend Exit 72, IN. about 0:27 driving time.
6 Miles WSW of S. Bend Exit 77, IN on I 90, Indiana Road
12 Miles SSW of N. Niles, MI on US 31
9 Miles NW of Gilmer Park, IN on US 31
Boston, MA is 784 Miles (direct) to the East
You have traveled 78 Miles, about 1:41 hours

From S. Bend Exit 72, IN take I 90, Indiana Road ENE 6 Miles
To S. Bend Exit 77, IN. about 0:10 driving time.
6 Miles SSW of Niles, MI on US 33
5 Miles West of Mishawaka Exit 83, IN on I 90, Indiana Road
6 Miles North of S. Bend, IN on US 33
Boston, MA is 778 Miles (direct) to the East
You have traveled 84 Miles, about 1:51 hours

Update - Continued From Page 20

software is not friendly to expansion memory, particularly some older stuff that was written before expansion memory was as common an Amiga add-on as it now is. Anyway, NoFastMem has been changed to also specifically divert calls on fast memory to public memory. Wonderful. Ask your favorite Amiga techie to explain it to you, and be sure you have a comfortable chair and time to spare before you do.

With 1.3.2, SetMap gets browbeaten a bit. SetMap changes the computer's keyboard mapping from one country or preference to another. Because of the way the Amiga system was designed, the machine can handle French or Danish as easily as it does ValSpeak. The kludge in 1.3.2 makes sure that a keymap can't cross a 64-K boundary under Kickstart version 34 and before. The current version of Kickstart is 34.5, so most everybody doesn't have to worry about such a thing, anyway.

What the L

The Amiga's L directory is another one of those "invisible" ones that come on the Amiga standard Workbench. These are little chunks of software that the Amiga plugs in here and there in its memory banks, in order to customize to the software programmers' wants. Things in L are generally called "handlers".

The changes to the L stuff aren't particularly major. Pipe-Handler is the piece of code which under AmigaDOS 1.3 operates a "pipe" for CLI commands. A pipe, in computer jargon, is merely a convenient term for sending the output of one program or process to the input of another. If, for example, you sent the output of the LIST command to the input of the SORT command, you should end up with a sorted listing. Naturally, it's really much more complicated than that, but that's the idea. The new Pipe.handler is now indifferent to case.

Speak-Handler gets the same treatment. It's OPTS no longer care about case. Moreover, it no longer loses 10K when an unknown packet is received.

Harddisk users, listen up. FastFileSystem is in for a few changes too. For one thing, it no longer fails if the boot block of a disk contains a zero in the first longword. Translation: fewer lockups! Also, whenever a file not in the root is altered, the timestamp of the root block is no longer altered. This has been fixed, the last modified date is now altered instead. The next part applies only to the terminally rich. Terminally harddisk rich, that is. Due to a calculation error when writing out the required bitmap, a large volume would always validate on restart. Large, there, means >308 megabytes. Oh, would that more of us had that problem! Anyway, this has been fixed with 1.3.2. The new limit is 2.5 gigabytes, but it's tested to only 600 megabytes. That should be adequate for even a weekend of digitizing!

Aux-Handler is another of those CLI-bound doodads. It sets up the Amiga serial port to operate sorta kinda like a network. Things you do to the AUX: device are automatically done over the serial connection. The 1.3.2 version sets the flags to 0 on open of the serial device. Techies, again, will be thrilled.

Utilities UP 4 points.

The changes in 1.3.2 that apply to the Utilities drawer are none to major. Quickly, they involve making the CMD program work with device names that have odd number of characters, and adding a QUERY function to it so that it works with printer drivers that query the printer.

Programmer's Libs

Women's lib is one thing, but the Amiga has its own Libs. It's the Libs drawer on the standard Workbench.

In 1.3.2, some of the Amiga's native Libs files get minor improvements. For one, the info.library, which has to do with the Workbench's icons and the way they're handled, no longer improperly combine tooltypes. The other change is that the version.library, which tells programs what version of everything they have at their disposal, has its version number changed. Have to keep up with the current numbers, so all the software will know where they stand.

What the serial.device does for serials, the printer.device does for printers. It is the printer.device that makes all the translations necessary to get a printer to work. Remember, on the Amiga a printer can be switched from parallel port to serial port at the click of a mousebutton in the Preferences program. The 1.3.2 changes to the printer.device include fixing its support for multipass printers.

Devs is for devices (printer.device and serial.device). 1.3.2's changes? First, it no longer crashes on mismatched baud rate. Now THAT's a nice change. It also refuses to open unavailable units, a handy feature indeed, and it does all this with that dream of all programmers, Lower Overhead. That means it's smaller, takes less space and less processing time.

Whew! That's it for the 1.3.2 changes. All this only describes the differences between 1.3 and 1.3.2. What in the world will we do if there's ever a REAL update to the Amiga's operating system!

J:

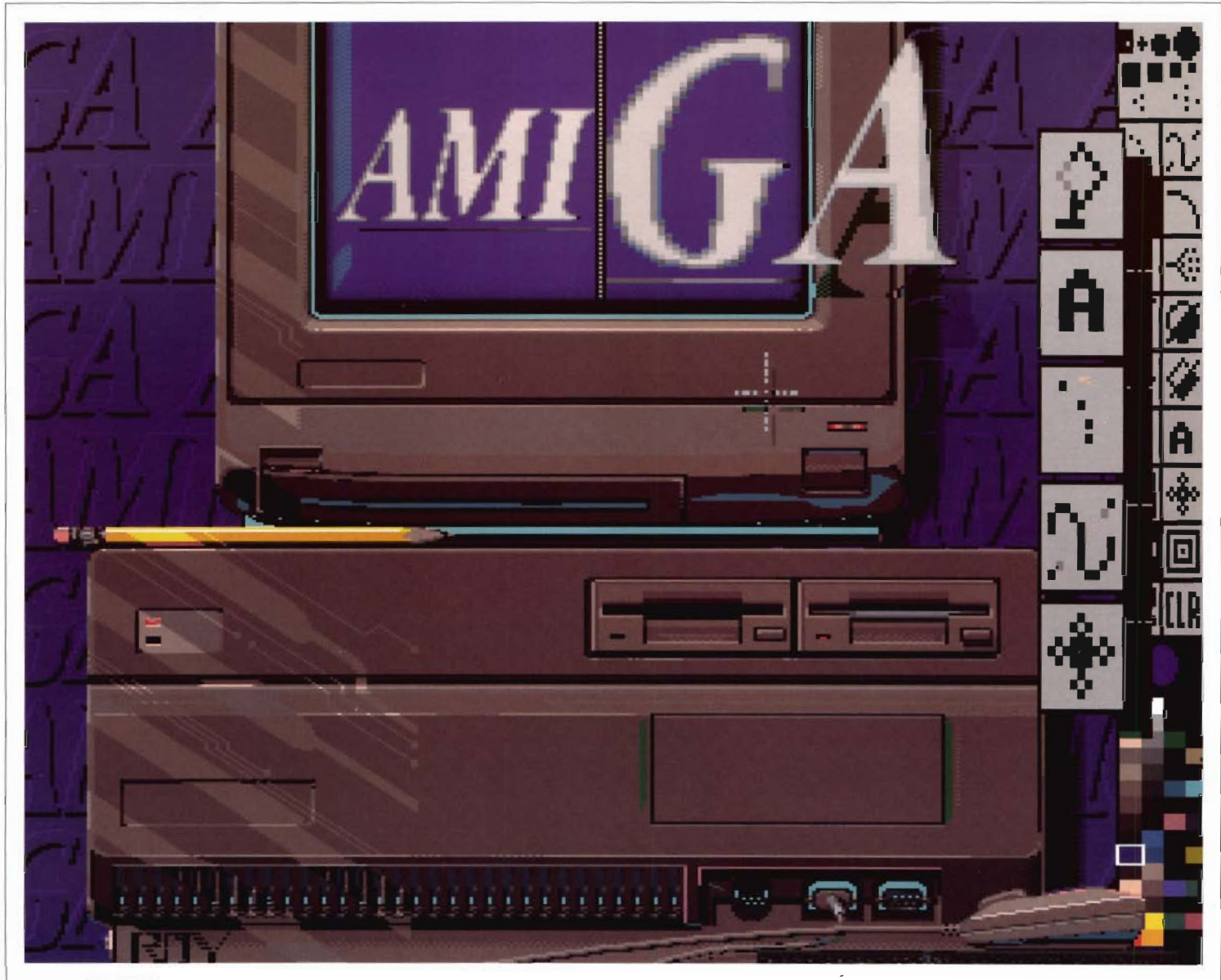


A.X. GAMES GALLERY

As a member of the Planetary Exploration Corps braving the incredible danger involved... and so it goes. In reality, this game is a fresh take-off on those familiar "Arkanoid"-like games that litter the Amiga community. You maneuver your "grav" (sound familiar) through a colorful, and interesting scrolling background. Out of this strange planets defenses come chewing teeth, oscillating screws and even light bulbs. The instructions say that the people of that planet haven't a grasp on things... perhaps that is an understatement.



Amiga Paint



CHRISTOPHER ROY
A . X . M A G A Z I N E 1 9 8 9

Sportscar

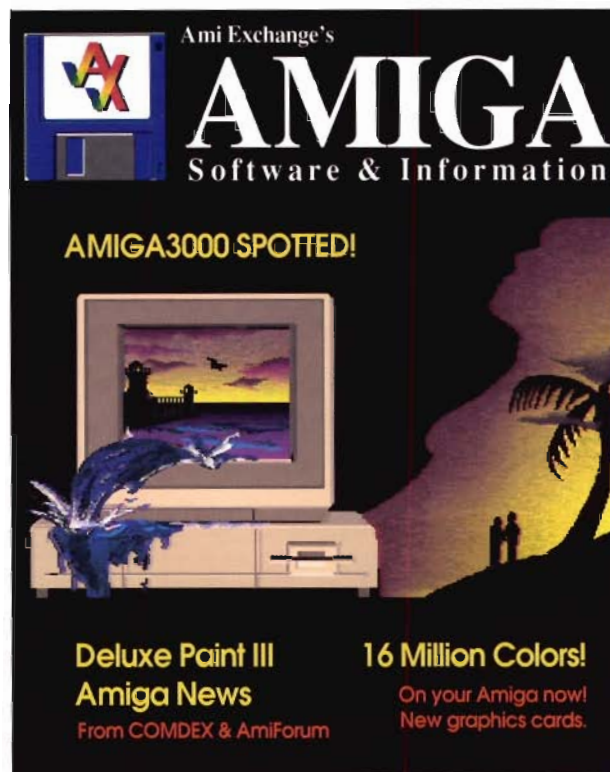


Sportscar By Christopher Roy • 1989

CHRISTOPHER ROY

A . X . M A G A Z I N E 1 9 8 9

In the previous issue...



Amiga News and New Products

Amiga news from COMDEX in Chicago, the National Computer Graphics Association show in Philadelphia, and incredible new Amiga graphics boards. Article by Jay Gross

The Gossip Fence

A little bit of knowledge can be a dangerous thing. Total Fiction by Jay Gross

Stop The Presses

The latest news. Paper articles have lag times, but disks don't. Here is the latest on a new Amiga computer and more.

Virus Warning

A purported newer version of Virus3.3 is really a virus. Important Information

WORKING DEMO: Font-Works ICON

Load an Amiga font, add a drop shadow, color, and a lot of other things. The demo does everything but save. You MUST use the icon! Included are some tips on how to make the best use of the demo version included in this issue. Have fun.

ABOUT the Font-Works Demo

PLEASE read this first, before running the Font-Works demo. The guru will haunt you if you don't!

FONTs: To Add To Your Own Workbench

Whether you are using a paint program, or wordprocessor that supports different fonts, you are probably tired of your typical, same old fonts. Here are some more fonts to add to your collection. Complete with an ICON utility to install them on your own disk.

UTILITY: Workbench Toggle

This icon driven utility will let you switch between your normal Workbench, and a HIRES Workbench screen without going to preferences, and without rebooting.

ICONS: For Your Workbench

If you are tired of looking at those same old Workbench icons, here are a few more to spruce up your Workbench screens. Simply "drag" them over to your own Workbench disk.

What's New

From the latest in hardware add-ons, a new mouse, Word Perfect's Amiga policy, software, a new president at Commodore, and more

UTILITY: FreeSpace Indicator

This convenient icon driven utility will display in a small window exactly how much space you have free on your disk drives, memory and virtual RAM/DISK (if you have one). When ever you are copying things, or just looking for a disk with a little extra space, this is the just the ticket. Program by R. L. Stockton.

DeluxePaint III: Even More "Deluxe"

Dan Silva's third generation of the king of paint programs is now shipping! Article by R. Shamms Mortier, PhD

What's Up With Caligari?

The \$2,000 3D art program readies a scaled-down version for normal humans! Article by R. Shamms Mortier, PhD

Image Processing Overview

An overview of what image processing is, and exactly what it can do. Take a look at this article for a general understanding before diving into the separate articles.

The 80286 Amiga Bridgecard

All the information worth knowing about the latest in

Bridgecard technology: 80286.

PageStream: New DTP On The Block

Soft-Logik's PageStream is a new desktop publishing program for the Amiga. Article with screenshot illustrations by Shamms Mortier

PageStream: A Second Opinion

Some like it, some like it not. This is another view of PageStream. Review by Hap Aziz

SPREADSHEET: Template - Expenses

This template will help you keep track of expenses on a business trip. To use this, you need Analyze! or some other 123 compatible spreadsheet program. You can use this application as is, or adapt it to your own needs.

Professional Page Template: Business Stationary

This version 1.2 template, creates business cards, letterheads, and business #10 envelopes on your Amiga. Requires Professional Page 1.2

HARDWARE NEWS: SubSystem 500

Adding A2000 cards to an A500 with the SubSystem 500 by Pacific Peripherals. Article by Jonathan Hardy

Draw Routines in Modula-II

The adventure continues continuing. More neat features to the program. Article, program, and Modula-II source by Rich Bielak

SOURCE CODE: Modula-II Draw

The .MOD and .DEF source files for the demonstration program Draw are on disk #3 in the DRAW directory.

PROGRAM: Draw

This is the compiled, working program so far.

Program by Rich Bielak

Object Oriented Programming

First of a series on C++ and object oriented programming on the Amiga. Article by John E. Ramspott

Introduction X Window System

X-Windows on the Amiga. What is it? Who needs it? How does it work? Article by John E. Ramspott

Using Lint

Lint is a program for helping you program in C by finding those errors. Article by Mike Hubbard

DMCS Printouts: The Complete Story

The full story on how to get good-looking music scores out of DMCS. PART 1 Article by John Thompson

"M" - Let Your Amiga Do The Walking

This new algorithmic composer for the Amiga gets overviewed by our resident musician, Glen Deskin. He takes a look at what M is, and what it can do for you musically

DMCS Printouts: The Story Continues

More tips and tricks for getting good-looking scores out of DMCS. PART 2 Article by John Thompson - continued from part 1

A New Standard MIDI File Format

It is about time. Now you can move sequences back and forth between different MIDI programs easily, get sequences from other computers and convert them for the Amiga and more. By Glen Deskin.

Getting Started With Amiga Music

A beginner's guide to Amiga music software. What does what, and how well. Article by Sally Ann Hubbard

Article by Sally Ann Hubbard

Music Sampler Library

Here's how you can get disks of A.X.'s music columnist's creations. PD and shareware disk library by Sally Ann Hubbard

MUSIC: Rockin' Bach

The music you hear is the A.X. Theme Song for this issue, Rockin' Bach. Original Sonix music composition by John Thompson

MUSIC: Tropical Treats

This is music from the land of eternal summertime. Original Sonix music composition by John Thompson

BBS Spotlight

Taking a closer look at a couple of Amiga BBS's around the country. Column by Chris Bailey

Protocols Continued Again

Everything you never even wanted to know about good ol' Xmodem.

You're Cordially NOT Invited...

Mindscope's Uninvited puts you in the drivers seat. Then the fun starts... Review by Kevin C. Rohrer

Blast! ... From the Past

Incognito's Footman and Demonware's Evil Garden. Arcades revisited. Article and reviews by John E. Ramspott

Falcon vs FA/18

The latest salvos in the Amiga Flight Simulation wars. Review by Mike Hubbard

How 'Bout Them Hobbits!

Looking around Tolkien's fantasy world with War in Middle Earth. Review by Mike Hubbard

Three New Ones From Sega

Alien Syndrome, Outrun and Space Harrier - new Amiga arcade-style games. Article and reviews by John E. Ramspott

PROGRAM: DrawPoker ICON!

Get your odds charts and your rabbit's foot out. This is the REAL THING! Program by NEEDTHIS - run this from ICON ONLY!!!

The Meonest Streets

Double Dragon and Techno Cop, gorey games for the action-oriented. Article and reviews by John E. Ramspott

Painting Pictures Under Duress

PowerStyx: Like playing with Deluxe Paint's polygon fill option. Review by John E. Ramspott

The Ami Exchange Social Register

Here's where and how to send what and to whom at A.X. Magazine.

Artists, Get Published!

An engraved invitation to artists to submit work for us in A.X. Magazine.

The Just For Fun Department

Bud and Sally take a turn at Battle Chest. Er, Chessssss. Humor by Everitt Mickey

All of this and more appeared
in Issue 2.3 of A.X. Magazine.
1-800-2-THE-MAG
THE Magazine For The Amiga

KIKUGI™



Journey into the world of ancient Japan...

KIKUGI is one in a series of Ancient Games produced by Image Tech. In ancient Japan, generations of rulers and emperors honed their skills of concentration and strategy with games such as KIKUGI.

Now Image Tech brings this ancient game to you. The premise of the game begins simply: jump marbles and remove as you go. But quickly the strategy becomes more and more intricate as you progress. Each move you make limits the number of remaining moves, making each additional move more and more intense. The playing increases in intensity until finally culminating into a last few critical moves.

The game play is **ADDICTIVE**. Each new game pattern demands to be solved. The more you play, the better your skills of concentration and strategy become. If you desire a game that challenges your mind as well as being fun to play, then KIKUGI is the game for you!

Available for Amiga and IBM (CGA, EGA, VGA)

- * State-of-the-art Graphics
- * Digitized Sounds



Dungeon Quest™

2 Disks

Hilarious script by author
Jay Gross

- * State-of-the-art Graphics
- * Digitized Sounds
- * Load & Save Games

Dungeon Quest: The ultimate in multisensory gaming.

Tired of your run-of-the-mill graphic adventures where even the graphics put you to sleep? Well, prepare for the BEST in graphic adventures...

Vivid graphics, stereo sounds, and an intuitive interface help make Dungeon Quest THE state of the art in graphic adventure gaming. On top of all this, our language interpreter allows you to truly "talk" with the game. So, with Dungeon Quest you spend your time playing the game, not puzzling over the interface or which word to use.

With Dungeon Quest, be prepared to explore in Medieval times: castles, dungeons, foreign lands, and more.

Available for Amiga and IBM (CGA, EGA, VGA)



image tech

6006 Greenbelt Road, Suite 189 Greenbelt, MD 20770 (301)439-1151

Sextimates

Everything you wanted to know, now you can figure it out.

A new twist on trivia that you
are sure to enjoy. If you dare
risk addiction.

by **ACTIONWORKS™**