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Volume 2, Number 6
January 1990

Flight Simulators

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Amiga Games

Carrier Command
Falcon
DataStorm
Sky Chase
Golf Simulators
Shanghai
Heros Lance
Solitaire Royale
Prospecor In The Maze Of Xor
Hillsfar
Where In The World Is Carmen Sandiego
Distant Armies

CHAOS

This Latest Hot Topic Is Science's Last Chance To Try And Explain The Unexplainable... Nature's Logic.

06
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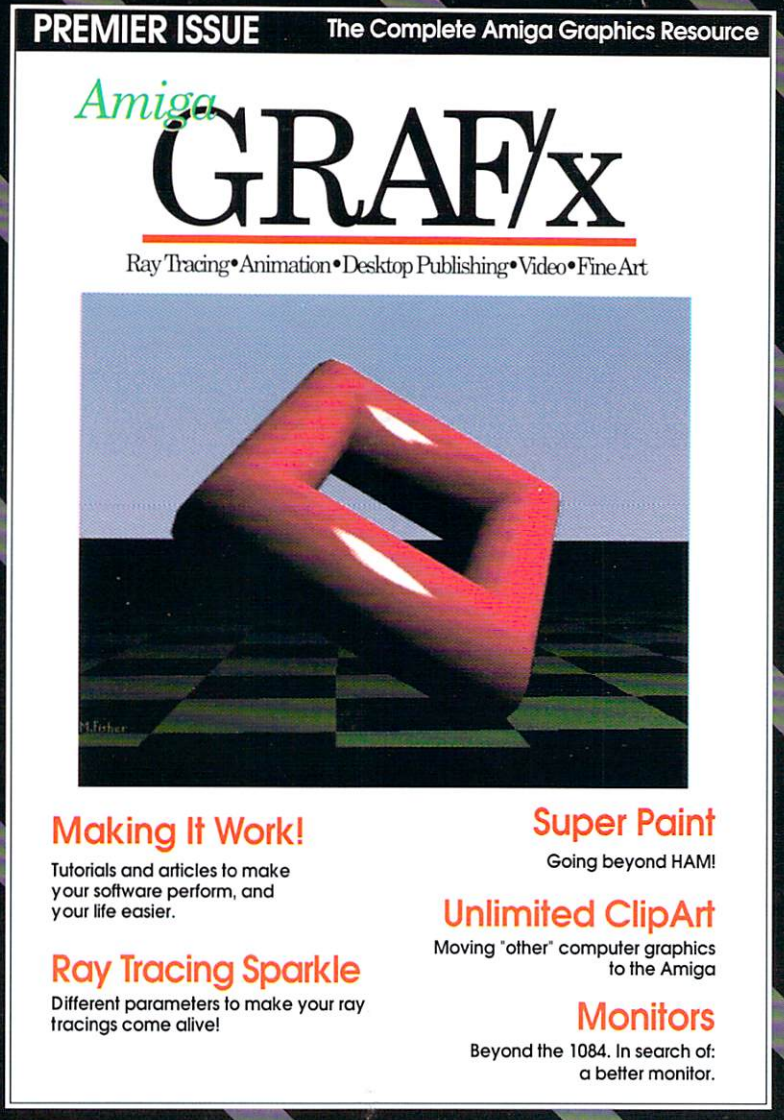

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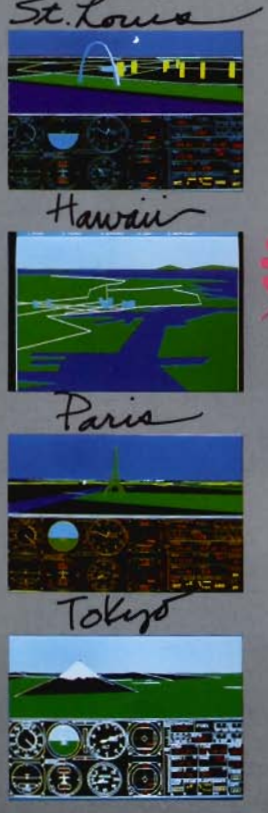
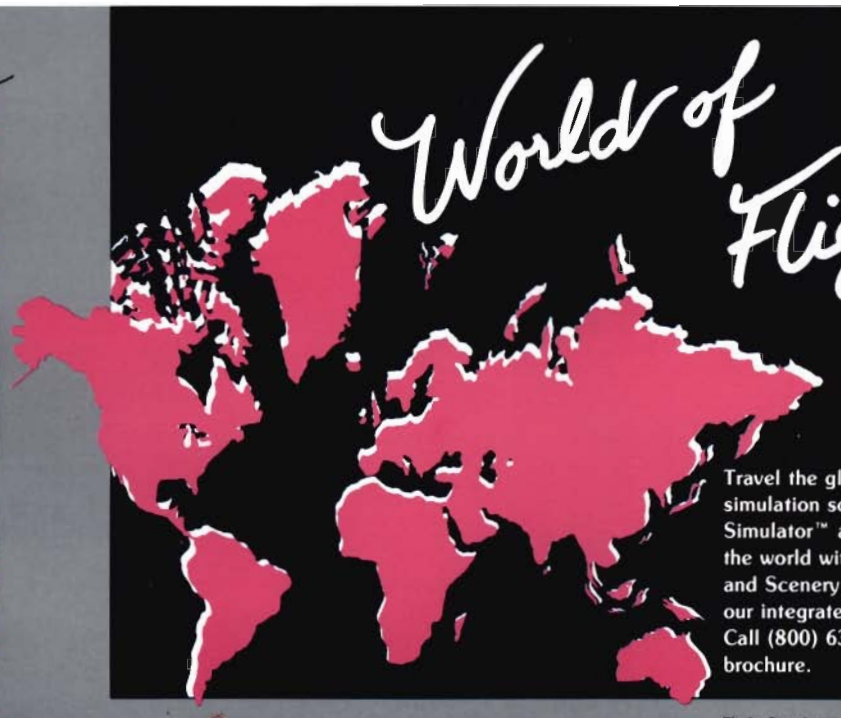


World of Flight



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A.X. Magazine's
Volume 2, Number 6

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by Mike Hubbartt
In the early days of computers, people dreamed of utilizing their computers as sophisticated aircraft simulators. No longer would it be necessary to pay high rates to soar above the clouds, nor would it require joining the armed forces for a tour of duty.

19 **Carrier Command**
by Mike Hubbart
Like the other products from Rainbird, Carrier Command (CC) comes with a novella to set the stage for the game.

Falcon Missions 14
by William F. Jordan
If lightning fast response coupled with smooth-scrolling graphics does not appeal to you, quit reading NOW. Otherwise...
Welcome! to one of Spectrum HoloByte's newest releases: Operation: Counterstrike

Jet Trainer 15
by Mike Hubbartt
What about the big jets - Boeing 727s. Precision Approach's Jet Instrument Trainer fills this vacancy in the computer simulator market.

SkyChase
by Mike Hubbartt
With all the flight simulators on the market, there is always room for one more. Maxis Software has released a new simulator for the Amiga called SkyChase, with options not yet found in other Amiga arcade flight simulators.
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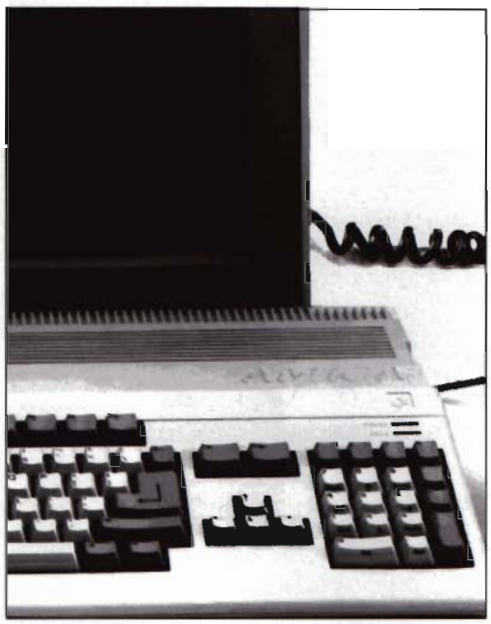
By John Iovine
A limitation of standard geometry (as quoted from Benoit Mandelbrot) is its inability to describe many of nature's forms. Chaos, on the other hand...

Amiga Productivity

18 **Cross Dos**
by Donald Maxwell
One of the few drawbacks to owning an Amiga is that you can't just pop in a disk from some other brand of computer - one of the IBM PC's at work, for example - and read a file directly into your Amiga word processor, database manager, or whatever.

50 **UltraLab**
by Steve Gillmor and Tina Chase
The following article, which explains the construction techniques employed in UltraLab, assumes you have already browsed through the UltraLab stacks on the AX disk set.

54 **Modula II - Draw**
Another installment in this Modula II programming tutorial. The creation of a paint program.



Math Aquarium 26
by Mike Hubbartt
Doug's Math Aquarium is a powerful tool for generating pictures rendered from mathematical calculations, and will enthrall those Amigans with even the slightest interest in this fascinating subject.

Math-A-Mation 43
by Mike Hubbartt
Are there any Amiga owners out there still in either high school or college? Are you ignoring your Amiga while spending all those hours on math homework? Have no fear, for Math-Amation from Progressive Peripherals is here.

S.I.D. 62
SID: System Info Display v3.00
by Mike Berro
Program On Disk. Instructions

City Desk's Major Update

by Jay Gross

City Desk version 2.0 is a long-promised, long-awaited update to City Desk 1.1, which almost, but not quite, brings the product into the realm of professional desktop publishing products for the Amiga.

On Disk This Issue

Ultra Lab
The latest in state-of-the-art programming has reached the Amiga. Now you can experience this revolution first hand.

S.I.D.
The actual program that displays all the System Information you would want to know.

Animation
Monster Animation. This detailed animation shows of Deluxe Paint III's fantastic animation abilities, and animated brushes.

UltraLab working demo on disk.

CHAOS
All the basic programs discussed in the CHAOS article are here on disk. Witness where math begins to leave logic and order, and enters CHAOS.

TREK TRIVIA
A slick trivia game based on Star Trek. For all those who think they know the series... try yourself.

SOUNDTRACKS
Incredible musical soundtracks from our famous Australian musician, Vincent Chu.

Modula II Paint

This is the paint program that accompanies the tutorial on Modula II.

Amiga Style Entertainment

64 **Where In The World**
by Mike Hubbartt
Who says learning new facts should be painful? The best educators in any level of school are those that make a subject both easy and fun to learn.

31 **Jack Nicklaus Golf**
by *Mike Hubbartt*
A few years ago, Accolade had one of the nicer golf simulations for any format, called Mean 18. e fhis new simulation has features enhanced over the older game while retaining the ease of play.

38 **Shanghai**
by *George Trepal*
Let's save time. If you love shoot-em-up arcade games and hate games like chess and solitaire, you'll hate Shanghai, so read no more.

40 **Heros Of The Lance**
by Mike Hubbartt
With all the different Dungeons & Dragons types of games for the Amiga, a program has to implement the game differently to stand out from the crowd.

42 **Solitaire Royale**
by David W. Martin
Solitaire Royale brings solitaire card games to the Amiga with a flair. While offering a variety of card games it also provides some unique features that can only be found in a computer game. Nothing is missing from this fine collection of card games except perhaps...

Where In The World Is Carmen?

Hero's Of The Lance

Carrier Command

20 **Data Storm**
by David W. Martin
Datastorm is one of the champions of the Game Zone's shoot-em-ups. The game is basically a Defender clone, but it is much better than its predecessor.

32 **OmniPlay's BBall**
by Mike Hubbartt
The evolution of sports simulations is readily apparent on the Amiga. Omni-Play Basketball is open-ended.

39 **Chess Overview**
by George Trepal
How good are ChessMaster 2000, Battlechess, and Distant Armies? They ALL beat me, so don't look for an evaluation of high-level chess in this review. But rather, a comparison on how they play.

46 **Prospector's Maze**
Prospector in the Mazes of Xor
by Mike Hubbartt
Remember Dig Dug, the old game with the little guy that burrows underground and exposes boulders to crush the bad guys?
Here's what you get for your money.

63 **Hillsfar**
by Mike Hubbartt
Strategic Simulations (SSI) has developed an Amiga product that relieves players of the tedious task of writing down all their information, while still retaining the action and fun of a D&D adventure.
This product is Hillsfar, based on the Forgotten Realms adventures.

Distant Armies
With a slight twist on Chess, dating back to ancient times... this game has a lot to offer.
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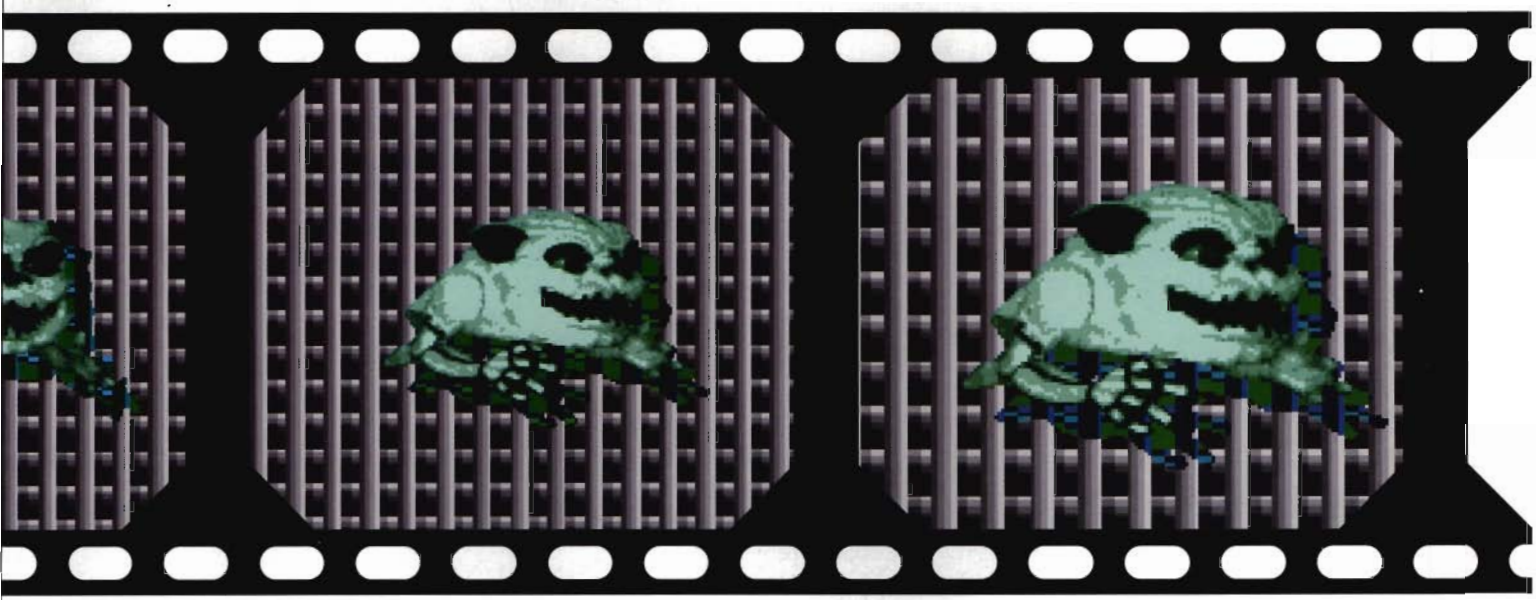
Animations



About This Issue's Animation

The "Monster" Animation

"Monster" is an animation by Steve Langguth, of Springfield, MO. Run it by clicking on its icon. The animation started life as a toy creature, which Steve digitized in stop motion with Digi-View Gold and a one-megabyte Amiga 500. He put the finished pieces together with Deluxe Paint III. =-

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

ULTRA:ShowAnim +5 ULTRA:MonsterAnimation

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

ULTRA:ShowAnim -c +5 ULTRA:MonsterAnimation

NOTE:

All of these animations are Copyright 1990 by A.X. Magazine (in its A.X. Disk Format) and by the original creator. 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.

In This Issue

Animations, animations and more animations. This issue we are featuring an animation which shows off the abilities of Deluxe Paint III and Digiview.

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Latest Breaking News

This issue of A.X. contains DYNA-SHOW 1.1, and a picture to go with it!

What is Dyna-Show?

4096 Colors in HIGH resolution on a standard Amiga. A pipe dream? Not at all. This issue of A.X. contains DYNA-SHOW 1.1, and a picture to go with it, both from NewTek. Dyna-Show is a (freely distributable) viewer for NewTek's new Dynamic HiRES and Dynamic HAM picture modes for the Amiga, part of the newly released Digi-View 4.0 software.

The format, which changes the computer's display palette on the fly for each scanline of a picture, permits the Amiga to display its full 4096 colors even in high resolution - 640 or more pixels wide by up to 480 lines tall. The Amiga's hardware does not permit more than 16 colors in a high-resolution line, and Dynamic HiRES doesn't do that. However, it allows a DIFFERENT 16-color palette for each line, which makes the difference in the display.

To see the pictures, you MUST use the Dyna-View program, included on the disk. If you attempt to load the pictures into a regular paint program, you will get a rather glorious mess.

Digi-View Gold, version 4.0 retails for $199.95, but since the upgrade is to the software, not the hardware, you can upgrade an existing Digi-View without buying a whole new one. The upgrade fee is $24.95 (plus $6 for shipping) direct from the company. Contact NewTek for further details.

Digi-View 4.0 Software Upgrade
NewTek, Inc.
115 W. Crane
Topeka KS 66603
800-843-8934

The picture and viewer files are copyright 1989 by NewTek.

There are crowds, and there are crowds, and Germany's first AmiExpo in Koln had some crowds.

German Expo Really Packs 'Em In

There are crowds, and there are crowds, and Germany's first AmiExpo in Koln *had* some crowds. You know the scene. You go to *the* most desirable place in town to... hang out. It's the place 'cause *everybody* hangs out there, you know. When you arrive, there's a line outside. Absolutely everybody is intent on hanging out there. When somebody decides to *stop* hanging out and actually leaves, they let somebody else in. Now THAT's a crowd! Now you have the idea of how crowded was the AmiExpo in Germany. Thousands of people, reportedly got turned away, 'cause there was no room at the inn. Er, at the EXPO.

Of course, this level of crowding both thrilled and chagrinned the Expo people, who were under orders from the fire marshals and other regulatory authorities to keep the number of people inside to a legal limit. First off, they were thrilled that so many people paid to get in. However, they despaired that they could have sold SO many more tickets if they'd had a larger hall. Which, you can bet your last pfenig, they're planning on *having* next year, for sure.

Other than elbow to elbow people, there was lots of Amiga stuff at the German exposition, though much of it was hard to see on account of the crowding. A lot of booths were devoted to doing things with the Amigas that Commodore (in Germany or otherwise) doesn't have much to do with. Tower cases, for example. What could be nicer than an Amiga motherboard, cozily parked in a PC-style tower case, with a behemoth power supply, room for a passel of disk drives of all different descriptions, and an entertaing blinking light or three on the front for reassurance that all is well inside? Not one, but several vendors. The USA doesn't have these critters, yet, although at least one has indeed been sighted at a show on these shores. It won't be long...

Another thing plentiful was pirates. Germany has vastly different copyright (and such) laws from those in force (so to speak) in the United States, and what is illegal here is not necessarily so over there. Rampant piracy, however, is one reason there are so many German hardware-, rather than software-, vendors. It's hard to make any money selling software in a pirate-ridden atmosphere, either in Germany or here, so lots of companies don't even bother trying. According to some reports from US vendors who made the journey across the Great Pond, some of the small booths even had banners suggesting software "trading." And not even discreet about it, either.

Germany's Amiga show is the latest in the AmiExpo Amiga promotional trade shows. AmiExpo is an independent show promoter, not part of Commodore, which has its own trade shows, World of Commodore. J:

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Dwin Craig - *Advisor*
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A.X. Magazine's PD Disk Contents For Issue 2.6

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

This issue's PD disk is a collection of some of the more unusual gleanings from the networks. Thanks once again to all of the generous programmers who contribute their time and energy to making this and other free (and shareware) software for the Amiga, and thanks once again to American PeopleLink, through whose facilities these and many of the items on the AX Magazine disks have been obtained.

FIRE!
Wait, don't run for the door, yet. This is a forest fire simulator. It's neat. A documentation file explains what you need to know to run it.

Looking for something?
A file for example. FileFind will help you out there. It's a neat utility (CLI only!) that will look through your hardisk or floppies and find a filename for you. Sourcecode included.

Plans is for making plans.
House plans. Draw your dream house.

The neat thing about Strek.REXX
is that it's a game written in Arexx. Some excellent examples of programming in REXX, to help you struggling programmers out there, and a fun game, too.

Pictures.
Well, they're pictures. Amiga pictures. NICE ones!

The animation
this time is Spigot, by Dr Gandalf. Very detailed and realistic, complete with sampled sounds.

FixDisk
will attempt to fix a disk, and even recover a file. This one is like Dave Haynie's DiskSalv, but it runs from the Workbench.

This issue's PD disk was edited by Jay Gross and assembled, iconized, and finalized by Clyde Wallace.

J:

Ami Expo Quake Report

Some exhibitors made it in spite of the earthquake, and some didn't. Here are a few comments on what was there, and what wasn't.

AmiExpo: Santa Clara, California

by Howard A. Audet

AmiEXPO in Santa Clara, California, kind of reminded me of the last two AmiEXPO's in Los Angeles. I am sure attendance of both the exhibitors and the attendees was lower than expected due the major earthquake earlier on in the week. A raffle was to have been held on Sunday for $10 a ticket, proceeds to help the earthquake victims.

Some exhibitors made it in spite of the earthquake and the difficulty of traveling, and some didn't. Here are just a few comments on what was (and wasn't) there. Names and addresses, except where noted, are from the AmiEXPO program.

Tensor Productions:

MIDI-Mice and VIDI-Mice: quoting from program, "the ultimate man-machine interfaces for the Amiga computer, are perfect tools for use in your interactive hypermedia productions and performances. By emulating all mouse and keyboard functions, MIDI-Mice and VIDI-Mice software allow you to control virtually any video, music or paint programs from your MIDI instrument and your video camera, respectively."

What I observed in the interactivity panel and product demonstration at Tensor's Booth: You need a realtime video interface to use VIDI-Mice (at this time only LIVE! supports that). Planned for the future: 3-D using two cameras with LIVE!2000. The person demonstrating had a video camera focused on his hand and when this was fed through LIVE! and VIDI-Mice his finger acted like a mouse pointer brush in DeluxePaint. *He was painting with his finger.* Both of these products will work with any Amiga multitasking software.

MIDI-Mice - I didn't see this in operation but they had a MIDI guitar attached to an Amiga.

Taliesin, Inc:

ProVector (estimated release, First Quarter 1990) was being demoed. To quote from program, "ProVector, a fast, intuitive, object-oriented drawing program for all Amiga models. ProVector is a true professional illustration tool which allows 'jaggy-free' device-independent output. ProVector features: fast, efficient and accurate freehand drawing; 256 simultaneous on-screen colors in Hi-Res through custom dithering algorithms, and full ARexx compatibility."

NewTek:

I didn't pay much attention. They were showing video effects using the Toaster.

WordPerfect:

I didn't sit through a demo.

Elan Design:

They were demonstrating Elan Performer and InVision Plus. To quote from program, ". . . InVision Plus brings a new dimension to real time Video Effects and Video Animation with many new effects, the still Capture Imaging System, full ANIM format compatibility. . ." You need a real time frame grabber (which means *only* LIVE! at this time) to use InVision Plus. A-Squared, makers of LIVE!, had the adjoining booth.

Spirit Technology:

Lots of items I had never seen. Memory boards for the 2000, hard drive interfaces for the A2000 and A500, *and* the A1000. They also had a unit about the size of the A2000 case that was attached to an A500 via a ribbon cable. I saw slots inside it as well as hard drives. Spirit's literature said this thing almost makes an A500 into an A2000 and/or an IBM clone. It comes with some magic software

that lets you write your own device driver to run all those MS-DOS hardware things that the Amiga doesn't yet have available for its own slots.

Commodore:

. . .was neither listed to attend nor did they attend. Jay Miner was in attendance - although the AmiEXPO people had no idea who he was (read - not on the VIP list or any list for that matter). Leo Schwab was in attendance, too.

Virtual Reality Laboratories:

A quote from the program, "Distant Suns is version 3 of the award winning Galileo planetarium by Mike Smithwick. Your Amiga becomes a combination telescope and time machine. Distant Suns allows an observatory any place on earth from 8,000 B.C. to 12,000 A.D. Its full color night sky simulation is stunning." I haven't seen anything Galileo-related for a long time.

Advanced Gravis Computer Technology Ltd.:

Gravis Amiga/Atari Mousestick: this is a joystick that doubles as a mouse - I almost bought one. Retail $129.95.

From their handout: true opto-mechanical digital system; 1200-line resolution; adjustable output resolution; microcontroller (GMPU) unit; 16-character liquid crystal display; pre-programmed settings; built-in memory to store your settings; 8-position centering tension control; three programmable buttons; full turbo/auto-fire action; full switch joystick control; one-year warranty.

Advanced Gravis Computer Technology
1602 Carolina St. #D-12
Bellingham, WA 98226
800-937-0062

Out of the Blue Amiga artist:

Rick Parks was a speaker at the Amiga Graphics Seminar. He has been an artist for fifteen years. He's had his Amiga for about six months, and does a lot of murals, which has helped him greatly in his Amiga artwork - he uses zoom mode a lot. He is the artist who created Mickey Mouse Glass (it looks like it was digitized, but he assured us that he drew it by hand). The audience kept asking for more. He also gave a quicky tutorial on anti-aliasing - fill in the stair steps with midway between colors (these are not his words).

The keynote speech on Friday was by Douglas Barney, editor-in-chief of AmigaWorld magazine. His topic, "An Amiga Convert". Tim Jenison gave the keynote address on Saturday. Laura Longfellow, also of NewTek, introduced Tim, who was propelled on roller skates by an engine strapped to his back - in his power suit. This is the same grand entrance he made in AmiEXPO Chicago, except that there were no secret service agents here.

-=-

The following companies were among those that displayed at the show.

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415-826-6193

LATTICE, INC.
2500 S. Highland Avenue
Lombard, IL 60148
800-444-4309

MINDWARE INTERNATIONAL
230 Bayview Drive, Suite I
Barrie, Ontario L4N 4Y8
705-737-5998

MONTAGE PUBLISHING, INC.
25550 Hawthorne Blvd., Ste. 314
Torrance, CA 90505
213-373-9993

NES, INC.
4660 SW Flower Place
Portland, OR 97221
503-246-9311

NEW HORIZONS SOFTWARE, INC.
P.O. Box 43167
Austin, TX 78745
512-328-6650

NEWTEK
115 W. Crane Street
Topeka, KS 66606
913-354-1146

OMICRON VIDEO, INC.
21822 Lassen Street, Unit L
Chatsworth, CA 91311
818-700-0742

PREMIER SOFTWARE
P.O. Box 3782
Redwood City, CA 94064
415-364-4696

SOFT-LOGIK PUBLISHING CORPORATION
P.O. Box 290071
St. Louis, MO 63129
314-894-8608

SPIRIT TECHNOLOGY CORPORATION
220 W. 2950 South
Salt Lake City, UT 84115
801-485-4233

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

TALIESIN, INC.
P.O. Box 1671
Ft. Collins, CO 80522
303-484-7321

TENSOR PRODUCTIONS
280 Mathilda Drive, #9
Goleta, CA 93117
805-685-6245

THE DESKTOP ADVANTAGE
516 SW Western Ave.
Grants Pass, OR 97526
503-476-8254

VIDTECH INTERNATIONAL
2822 N.W. 79th Ave
Miami, FL 33122
305-477-2228

VIRTUAL REALITY LABORATORIES
2341 Ganador Court
San Luis Obispo, CA 93401
805-549-9092

WINNER'S CIRCLE SYSTEMS
2618 Telegraph Avenue
Berkeley, CA 94704
415-845-4814

WORDPERFECT CORPORATION
1555 North Technology Way
Orem, UT 84057
801-222-5800

ZUMA GROUP
6733 North Black Canyon Hwy.
Phoenix, AZ 85015
602-246-4238

Darcom Computer Products, Inc., and Go Amigo were in attendance, but not listed in the program:

-=-

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.

The miracle has happened.

It makes The Miracle of 34th Street look pale. It makes... well, nevermind. 'Tis the season, I suppose, for miracles, and miracle of miracles, Commodore Business Machines is *advertising* the Amiga. No, really. Promise! It's true! On television! The commercials got off to a flaky start on account of competition from the hot news of the hour, which was the earthquake that moved northern California a little bit closer to the ocean. However, after Brokaw had shed his crocodile tear, the regular television drudgery resumed, and the commercials started appearing.

Frequently. Fast and furious. Another miracle. Commodore doesn't believe in repeating their advertising, judging from previous efforts, even though repetition is widely acknowledged to be what makes advertising work. Yet, the commercials are being broadcast and rebroadcast, and repeated and repeated again, and the next thing you know, Amiga dealers (the few that are left) are smirking about (brace yourself) Amiga SALES!

It's encouraging, finally, in spite of the many problems that remain unsolved, and in spite of the odds that the Amiga faces. Indeed, the ads themselves, skillfully and wittily produced by none other than George Lucas' production firm, bear some criticism from professionals in the business (of which your intrepid editor happens to be one). The commercials sell the Amiga to children (Stevie, and his would-be emulators). This hardly addresses the "serious business" markets that CBM's new management has claimed to be interested in pursuing, and it does nothing for the computer's image as a serious computer. The ads very quickly blast out the tiniest bit of information about the computer, and don't really say much - except the one on video, which says a LOT, and very well, for the most part.

The print ads... Oh, that's another major miracle. Here's the scenario: CBM doesn't advertise at all for two years. Then, boom! a seven-page (SEVEN! FULL! PAGES!) ad section in Time, Newsweek, etc., etc. These ads, too, are very skimpy on information about the Amiga. Indeed, the ads don't contain the word Amiga or a logo bigger than the minuscule body type in the rather unusual-looking ad pages. Doesn't make much difference, though. The Amiga logo has changed almost as often as the CBM <quote> management <uiquote>, and with no advertising for so long, nobody knows what the logo looks like, anyway.

Watch those TV ads carefully (you have to be *quick*). There's a sequence from none other than AX magazine in there.

In other news, the Amiga continues to attract media attention here and there, some of it not-so-complimentary to CBM (sorta like the Jay's Way column, only WORSE!). The November 13 issue of the venerable financial journal, Forbes, takes a serious, and seriously critical, look at CBM, and comes to the conclusion that the company needs not just another change of management, but a change of ownership. I said that last issue!

Alas, such a miracle is not likely, and is likely to become even LESS likely after the next stockholder meeting, which is conveniently (?) scheduled in the Bahamas, perhaps to discourage any of the growing band of troublemaker stockholders who have had the nerve to speak out at previous meetings. Keeping the stockholders' meetings uneventful is one thing, but holding the meeting in a foreign country is ridiculous. Oh, and one of the proposals on tap is a vast salary increase and stock giveaway program for Irving Gould, chairman of the board, and other top executives. This after a multi-million-dollar loss in the most recent quarter.

Tis the season for miracles...

Surely *somewhere* there's a federal regulation against such tacky tactics. Of course, I don't personally see that it'll make any difference. The stock's still on blue light special these days, anyhow. Still, entrenching the current ownership and management makes it more expensive and therefore more difficult for what needs to happen to happen. A change in ownership. I'm with Forbes!

J:

AMIGA

FLIGHT

SIMULATORS

FLIGHT
SIMULATORS

No longer would it be necessary to pay high rates to soar above the clouds, nor would it require joining the armed forces for a tour of duty...

AMIGA
FLIGHT SIMULATORS

by Mike Hubbartt

In the early days of computers, people dreamed of utilizing their computers as sophisticated aircraft simulators. No longer would it be necessary to pay high rates to soar above the clouds, nor would it require joining the armed forces for a tour of duty to log many hazardous hours of combat flight in the government's most advanced jet fighters. Computer memory was (and is) the limiting factor for realistic flight simulators - four to sixty-four kilobytes was enough for only the most rudimentary simulators, with background that scrolled by at a snail's pace. Now that computers utilize more memory, a megabyte or more being common on the Amiga, simulators have become elaborate, taking advantage of this extra memory for faster scrolling backgrounds which enhances the realism of flying.

There are two different categories of simulators: arcade and non-arcade - a most suitable way of differentiating between them. Non-arcade simulators are more realistic than arcade types, with the many instruments needed for flight or combat and with realistic aircraft abilities. Modern jets cannot do a 15-G dive - it would wreck both the pilot AND the plane, whereas arcade games ignore the laws of physics (namely inertia) for enertainment value. Let's start with the non-arcade Amiga flight simulators.

The venerable simulator for computers, subLogic's Flight Simulator II, was the earliest (and many say best) Amiga flight simulator. Using either a Cessna 182 prop-driven plane or a Lear Jet, this simulator was so realistic that there was talk of obtaining FAA approval for pilot training using it to supplement ordinary flight school! With the Amiga Flight Simulator II (and ONLY with the Amiga Flight Simulator II), two people can connect their computers via modem and fly together on missions anywhere in the world! subLogic has also released scenery disks to use with the program. These scenery disks contain major landmarks from all over the U.S and the world - Europe and Japan included! Viewing the shuttle while flying over Cape Canaveral is thrilling, yet seeing the Statue of Liberty in her harbor makes one realize that computers open the world to those unable to go out on their own. Fly, using instruments, to different airports.

Next on the list, is subLogic's Jet - released due to the numerous requests for a military jet simulator that would be more exciting than the Lear Jet in Flight Simulator. Jet provides either an F-16 or F-18 (one is land-based while the other is aircraft carrier-based). Fly combat missions against Russian Migs, using guns and missles to eliminate them. Although mild when compared to more modern simulators, Jet was a big hit when released, and it still has a sizeable following. Jet also utilizes the same extra scenery disks used with Flight Simulator II.

After subLogic's success, Electronic Arts released a flight simulator aimed at the large group of computer enthusiasts not content with the action from Jet. F/A-18 also uses two different aircraft - the F-16 and F/A-18 jets used by U.S. military pilots. This simulator has a practice mode where new pilots can follow another jet through the various combat maneuvers needed for today's aerial assaults. Practicing an Immelman with F/A-18 has helped me with other flight simulators, since I now know how it is really done. F/A-18 allows practicing maneuvers over and over until you feel comfortable. The leading plane will even release a cloud of smoke to provide a trail for you to follow! F/A-18 offers six missions to complete - although to start them, you must successfully take off and land on an aircraft carrier and the documentation is skimpy on directions on how to accomplish this task.

The Migs in F/A-18 are more difficult to hit than those in Jet, adding another touch of realism. Not only do you look ahead when flying, you have other perspectives from which to view. The manual for this program is like the instrument panel - too sparse for my liking.

At the top of the Amiga flight simulator heap, for the time being, is Falcon from Spectrum Holobyte. Falcon uses only the F-16 aircraft, one plane found in both Jet and F/A-18. This simulator offers the fastest screen updates of any Amiga flight simulator on a standard Amiga with a standard 68000 microprocessor; the background can be speeded up by selecting display of only part of the ground information - a feature lacking in all other flight simulators to this point. The program itself comes with twenty missions to accomplish - blow up bridges and shoot down enemy Migs.

These Migs are the most difficult I have encountered in any Amiga flight simulator, and should challenge the most skilled computer pilots out there. Spectrum Holobyte released an update to Falcon, about six months after release. This update improved joystick handling, adds newer Migs (the Mig 29), and provides an extra twelve missions. The update also adds extra targets: landing craft, tanks, trains, and truck convoys. What really impressed me was how the blown-up targets stay that way for a certain number of missions - reflecting that the enemy needed time to replace them, which adds another dimension of reality to the program. This is the best simulator of the lot, although it takes a while to learn all the complexities of the Falcon aircraft. The manual is well done, and the instruments (both HUD and side-view instruments which replace a malfunctioning HUD) are the best of any simulator.

The last program mentioned in this catagory, is Precision Approach's Jet Instrument Trainer. This program is NOT a game, but serves to assist pilots with practicing scanning the instrument panel during various phases of maneuvering a B727 jet. The background is not elaborate, since this is an instrument training program. This program is for very serious computer simulator pilots, or for professional pilots wishing to brush up on their skills. This trainer comes with the procedural charts for Dallas, Athens, Belgrade, London, Paris, Guadalajara, Mexico City,

Continued On Page 69

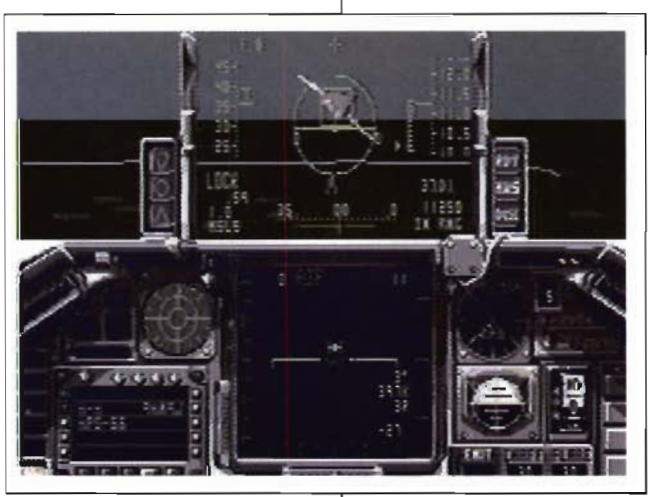
These Migs are the most difficult I have encountered in any Amiga flight simulator, and should challenge the most skilled computer pilots out there.

If lightning fast response coupled with smooth-scrolling graphics does not appeal to you, quit reading NOW. Otherwise...

Falcon Expansion Disk

by William F. Jordan

If lightning fast response coupled with smooth-scrolling graphics does not appeal to you, quit reading NOW. Otherwise...



Welcome! to one of Spectrum HoloByte's newest releases: Operation: Counterstrike Your mission: total defeat of the enemy forces by destroying all of the enemy industrial, air, and ground assets. At your disposal is a state-of-the-art F-16, fully loaded with such goodies as the M61-A1 Vulcan Internal Gun, Sidewinder and Maverick Missiles, and two different flavors of bombs - the Mk 84 2000-pound, Low Drag model, and the Durandal Anti-Runway.

To boot this game, you substitute the mission disk for the original Falcon Disk 1. It loads with a spiffy new title screen and starts at the same familiar pilot roster. The code wheel from Falcon (not included) lets you begin the slaughter. The previous game is located in a desert environment; however, Mission Disk 1 has all new terrain -- lakes, rivers, railroads, roads, and a swamp.

The manual is thin. It only contains information on the new missions, MiG 29 features, and a couple of the enhancements. Also included is a nice blurb on how to update your backup copy (of course you play from a backup copy) without overwriting your favorite Ace's record from Falcon. That is all you need, since the rest of the game plays the same way as the original.

To complete the game, twelve missions with many new targets have to be surmounted:

1. **Rolling Thunder** - prevent the encroaching tanks from over-running your home base.
2. **Water Sports** - destroy the landing craft before reinforcement tanks are beached.
3. **Truck Interdiction** - prevent the truck convoy from reaching its destination.
4. **Train Interdiction** - ditto above, but with a train.
5. **Wild Weasel** - destroy SAM (Surface to Air Missile) sites that are protecting various key targets.
6. **Serpents Jaw** - take out the bridge.
7. **Serpents Tail** - destroy another bridge; this one is a little tougher.
8. **POL** - destroy the enemy Petroleum, Oil, and Lubrication refineries.
9. **Wasp's Nest** - prevent the MiGs from taking off.
10. **Sledgehammer** - shut down the tank manufacturing facilities.
11. **Thunderball** - remove the enemy power generation complex.
12. **Flaming Dart** - destroy the arsenal.

Much strategy and skill is involved to finish off the enemy, because targets are not permanently destroyed when you blow them up. For example, more tanks are brought up from the rear one mission after they are destroyed, and factories are rebuilt after five missions. To get rid of the tanks for a while, the factory has to be shut down. Thus, you have to plan your missions well, and complete them before the targets are restored. In fact, if you do not complete some of the early missions soon enough, the enemy tanks will overrun your Home Base. You will be taken prisoner when you return home, and probably will be executed.

Instead of discreet, individual missions like those in the original version where you just have to blow up your target and return home, Mission Disk 1 requires

you to treat the twelve missions as a campaign. This marks one of the biggest and best improvements over Falcon. The game is more realistic since the Amiga emulates a real foe. Any actual enemy would try to rebuild his attack groups and lines of support as quickly as possible while he continues to press your forces on the front.

Besides adding new targets and integrating the missions into an overall strategy, other aspects of game play have also been improved. Now, MiGs will only follow you to within two squares of home base and will not harass you while you attempt to land because the pilots are too wary of the base air defenses. The flight controls now have an auto-leveling feature to right the craft after small banking maneuvers. This aspect can be disabled if extra realism is wanted. Figuring out where the enemy plane is headed is more like how a real fighter jockey would do it - eyeballing the target. The pilot turns his head with an auto-view mode that switches cockpit views to follow the path of the target plane. This is one of my favorite of the general enhancements since I no longer have to madly hit number keys trying to see which way the <bleep> MiG went.

Landing has been made easier by relaxing the requirements for a safe touch-down, i.e., you no longer have to land on the center of the runway. Also, a damaged plane can be landed if extra care is taken. This is a relief, because landing is difficult enough without the extra headaches of the smaller landing envelope. The HUD (Heads Up Display) has been updated to reflect current advances in F-16 technology. As for the weapon systems, the only discernible change is that the Maverick missile's camera has been fixed. It now displays the correct zoomed image of the target, making accurate shots easier. The last improvement does not make the game easier, but it does make it more realistic. Now, you are flying against the more advanced MiG-29A Fulcrum, instead of the older MiG-21. A nice extra bonus added into the score determination is 1000 points (times the rank multiplier) awarded for causing "total enemy industrial shutdown."

The Mission disk is much more than a new set of adventures for Falcon. It could have been more appropriately called Falcon II. The only downside of this package is that you have to already own Falcon to play it. Perhaps, Spectrum HoloByte should market another version specifically for those who do not already own the original Falcon game. However, for those who do currently have Falcon, it is definitely a good addition to any software library and worth the list price. I look forward to future releases if they have as many improvements as this one.

-=-

Jet Instrument Trainer

by Mike Hubbartt

Most Amiga flight products, whether combat or just plain flying simulators, are intended for recreation purposes. Relax and enjoy yourself with a safe and inexpensive flight from the convenience of your home. Go after that Mig, just like Maverick from Top Gun, and show him how fancy an American pilot can fly before coming around on his "6" to send a parting message (read: missile) his way. Splash one bogey - now thats music to my ears.

subLogic's Flight Simulator II was the first Amiga program that made elaborate use of instruments for flying small aircraft. What about the big jets - Boeing 727s. Precision Approach's Jet Instrument Trainer fills this vacancy in the computer simulator market. The Trainer places you behind the control panel of a 727, and lets you perform a series of instrument-oriented maneuvers at different airports around the world. Let's take a look at what you get for your money.

First of all, I'd like to clarify one important point. This is NOT a game! Do not buy this program with the mistaken belief that you are getting an arcade shoot-em-up with detailed graphics of Migs or ground scenery. This program is called Jet INSTRUMENT Trainer, not Jet Scenery Trainer. This product is either for professional pilots wishing to hone their skills, or for serious flight simulator pilots wishing to

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What about the big jets - Boeing 727s. Precision Approach's Jet Instrument Trainer fills this vacancy...

CROSS

by Donald Maxwell

DIR, DELETE, LIST, INFO and more can be used on MS-DOS disks just by plugging them into your Amiga disk drives!

One of the few drawbacks to owning an Amiga is that you can't just pop in a disk from some other brand of computer - one of the IBM PC's at work, for example - and read a file directly into your Amiga word processor, database manager, or whatever. That is, you couldn't. Now, a new software product called CrossDOS allows any Amiga to use MS-DOS and Atari ST disks almost exactly as if they were native Amiga disks.

CrossDOS does this by mounting any number of an Amiga's drives as MS-DOS drives, while allowing them to continue working normally as Amiga drives. So, you can take out an Amiga disk and insert an MS-DOS disk whenever you like. The only noticeable difference is that instead of entering "dir df0:", for example, you enter "dir di0:" (the "i" is for "IBM"). And presto! The MS-DOS directory appears on screen.

This means that any Amiga program can address MS-DOS disks directly, just as it does Amiga disks. Amiga WordPerfect, for example, can read a file that was saved on an IBM PC, modify it, and save it again on the MS-DOS disk - or on an Amiga disk. The same is true for CLI windows and file requesters. With CrossDOS installed, AmigaDOS can't tell one disk format from the other.

Even the Workbench can handle MS-DOS disks, using regular Amiga icons. Save an Amiga project, such as a Notepad file, on an MS-DOS disk, and you can later open that disk on the Workbench and click on the project icon to open both Notepad and the file. Or you can load the disk into an IBM PC or compatible and use the file there, instead. This all happens without any noticeable intermediary. File transfer utility programs, such as PCTools (which is on the Amiga Extras disk) or Dos-2-Dos (Central Coast Softrware), also make it possible for an Amiga disk drive to read and write MS-DOS disks.

The problem is, you have to USE them - in a four-step process - every time you want to transfer a file. First, you have to run the program. Second, you copy the file from an MS-DOS disk to an Amiga device, or vice versa. Third, you close the program in order to use that disk drive on an Amiga disk. And finally you can do something with the file you transferred. There are other problems, too. For example, although Dos-2-Dos can format MS-DOS disks, it can't make subdirectories on them. Also, neither utility can use more than one drive at a time for MS-DOS disks.

CrossDOS solves all of those problems and more. And it works so nicely that you hardly even notice it. Furthermore, any number of drives can be mounted as both MS-DOS and Amiga drives at the same time. This means that with two drives you can copy files from one MS-DOS disk *directly* to another, using the standard AmigaDOS Copy command. You can even copy an entire disk, using MDISKCOPY, a counterpart to Diskcopy, that comes with CrossDOS.

DOS MS-DOS 360k • 720k Atart ST

CROSSDOS AND AMIGADOS

CrossDOS enables almost all AmigaDOS floppy disk commands to work on MS-DOS disks, just as they do on Amiga disks. Thus, you can use Copy, Delete, Dir, Diskchange, Info, List, Makedir, Protect, Relabel, Run, Search, and Type - all normally.

There are a few AmigaDOS commands, however, that even CrossDOS can't make work on an MS-DOS disk:

Filenote doesn't work simply because there is no provision for comments in MS-DOS directories.

Install doesn't work because you couldn't boot an Amiga from an MS-DOS disk without somehow having first run CrossDOS - which you can't do until the Amiga has booted up.

Diskcopy and Format don't work, either. Counterparts to them come with CrossDOS. They can be run from the Workbench or copied to the c: directory and used from a CLI, the same as the AmigaDOS commands.

MDISKCOPY makes a copy of an MS-DOS disk, just as Diskcopy does of an Amiga disk.

MFORMAT will produce these formats on 3.5-inch and 5.25-inch disks:

360k MS-DOS
720k MS-DOS
360k Atari ST
720k Atari ST

(The AmigaDOS Format command appears to work through CrossDOS; but it produces a disk that is unreadable by either AmigaDOS or CrossDOS.)

Two other utilities come with CrossDOS:

KILL removes CrossDOS from the computer's memory. In doing so, it also knocks out the Workbench, but that's a relatively minor inconvenience if a CLI is open from which to run LoadWB.

DISKCHK checks the read integrity of any MS-DOS disk.

REQUIREMENTS

CrossDos should work on any Amiga with any hardware configuration. It also needs AmigaDOS 1.2 or higher. I've tested it with an Amiga 500 and two 3.5-inch drives and an Amiga 2000 with two 3.5-inch drives and one 5.25-inch drive. The A-2000 also has a hard drive, but because it has no MS-DOS partitions, I haven't tried to use CrossDOS on it.

CrossDOS uses only about 80 bytes of memory until

CorssDOS should work on any Amiga with any hardware configuration. It also needs AmigaDOS 1.2 or higher.

CrossDOS works so nicely that you hardly even notice that it's there, except when you need it.

there is actually a call to read or write an MS-DOS disk. Then each drive it mounts as an MS-DOS drive takes about 50k, the actual amount depending partly upon how many buffers it is allotted.

INSTALLATION

CrossDOS comprises several files that must be installed in the appropriate directories on a Workbench disk. You can copy the files manually; but an installation program on the CrossDOS disk does the job for you very neatly. It works from either Workbench or CLI, and it stops and asks your permission each time before copying anything. One of the options you have is adding to your startup-sequence a Mount instruction for each disk drive, so that CrossDOS will be ready as soon as the computer boots up. The installation program also automatically patches the trackdisk.device for Kickstart ROMs v 1.2 and 1.3 so that they work correctly with CrossDOS on single drive Amigas.

For a "standard" startup-sequence on a single-drive Amiga, the installation procedure is automatic and foolproof. But if you want more than one drive mounted for MS-DOS, or if you have done some creative work with Assign and Path, you'll probably need to edit your startup-sequence slightly. There's nothing tricky about this, however, and if you need to do it, then you shouldn't have any trouble figuring out what changes to make.

HOW IT WORKS

CrossDOS works in conjunction with AmigaDOS and the Amiga's floppy disk controller.

Once the CrossDOS files are installed, the next step is to Mount a drive or drives as MS-DOS devices. If for some reason you don't want this done in the startup-sequence, you can do it at any time from the Workbench or a CLI window. The command is Mount <devicename:> FROM DEVS:mountlist.msdosFS, where "devicename" is di0: through di3:. You also use this syntax in the startup-sequence. The "FROM" file - mountlist.msdosFS - has the same format as the standard Amiga mountlist, although several of the parameters are different. For example, the Device is mfm.device (another of the files that comes with CrossDOS) instead of trackdisk.device; and DosType specifies the MS-DOS format.

After a drive is mounted as an MS-DOS device - such as di0: - and an MS-DOS or Atari ST disk inserted in it, the Amiga will put two icons for the disk onto the Workbench. One is the AmigaDOS DF#:Bad icon (because it's not an Amiga disk) and the other is a usable icon with the MS-DOS disk's name. Double-clicking on the MS-DOS icon opens the disk, just as with Amiga disks, displaying directory, tool, and project icons, the "gas gauge," and all.

The CLI "Info" command returns MS-DOS disk data normally (except that the maximum capacity of the disk is only 360k or 720k.) The List command returns exactly the same information as for Amiga disks, including the protection bits, just as with Amiga disks; and the Protect command allows those bits to be changed. In other words, everything works normally. Disk changes are handled automatically, as with Amiga disks, except for drives like the 1020 external 5.25-inch drive, which has to be sent a Diskchange command before it will read the new disk's directory.

HARD DRIVES

According to the manual, CrossDOS will work on an MS-DOS harddrive or a MS-DOS partition of an Amiga hard drive, and mountlist.msdosFS contains mountlist for a hard drive, called dhi0:. The manual also says that a harddrive can have both Amiga and MS-DOS partitions. However, the manual recommends caution when using CrossDOS on a shared-DOS drive, so I decided not to test this feature on my Amiga-only hard drive.

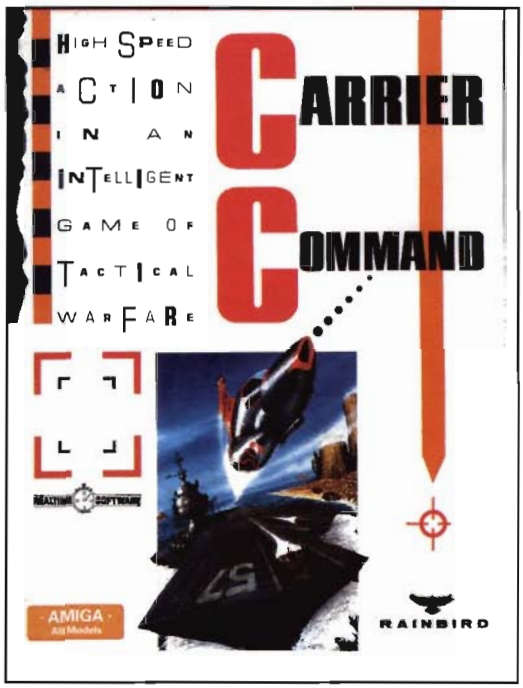
FILE FILTERING

For most purposes, CrossDOS needs no help in reading or writing MS-DOS disks. Nevertheless, it has two filters for difficult cases. One filter removes carriage returns and EOF markers when reading MS-DOS disks and adds them when writing to MS-DOS disks. The other filter clears the high bit when reading MS-DOS disks. It does not set the high bit when writing to MS-DOS disks.

WHAT IT CAN NOT DO

CrossDOS can't read or write high density MS-DOS disks - those formatted at 1.2 and 1.44 megabytes - because Amiga floppy disk drives are not capable of those densities. However, high-density MS-DOS drives can all read and write the "standard" density 360k and 720k formats, so this isn't an insurmountable problem. And it can't run MS-DOS programs on an Amiga. You need a Bridgeboard for that.

Continued On Page 24



Carrier Command

by Mike Hubbartt

Like the other products from Rainbird, Carrier Command (CC) comes with a novella to set the stage for the game. A novella is a short story (NOVEL-la - get it?), and its inclusion provides enough background to make the game quite real - you are in charge of a Twenty-second Century aircraft carrier, with the mission of taking control of Southern Ocean islands for your government. As always, there is someone else to contend with - the ENEMY, who is acquiring these islands as fast as his soldiers can move.

You are in charge of one *fast* aircraft carrier, with a top speed of 178 knots in deep water and forty knots in shallow water. This ship can move, and you need to keep these speeds in mind - they play a role in setting up your overall strategy. Your carrier comes equipped with both planes and sea-going tanks (AAVs), which are used in conjunction with the carrier's own weapons to attack enemy forces. What kind of weapons do Twenty-second Century carriers possess? Missiles (of course!) for both surface-to-surface warfare, and Anti-Missile missiles for defense against incoming surface-to-surface missiles. Lasers are great for a spree of destruction against enemy fortifications, and flares provide your defense against heat-seeker missles.

This game is more strategic than arcade, although you have times where you are firing away at the enemy forces. Your main purpose is to occupy and convert these Southern Ocean islands for your own people.

You must establish different types of islands to be successful, and the placement of each island is extremely critical. Your different islands are: Base, Resource, Factory, Defense, and Stockpile. The Base island is your starting point, and there is only one of these for your force. The other four types are not so limited.

Resource islands are where basics like mines and rigs are built. Fuel dumps are also constructed here, and shipped to Factory islands for use. These islands have a maximum capacity, which is reached if they continue to produce materials and are cut off from all Factory islands.

Factory islands produce equipment and fuel for your carrier and support forces. This equipment and fuel is sent to the Stockpile islands for storage. Up to three factories may occupy a single island.

Defense islands protect your islands when your carrier is occupied with minor details like obtaining other islands. The weapons available on these islands are: drones armed with heat-seeker missiles, land-based missiles (surface-to-air), and runways for your carrier planes to land for refueling. Use these islands well, 'cause the enemy will do his best to take over anything you currently possess.

Stockpile islands serve as a storage dump for all weapons, equipment, and fuel for your force's use. You had better have Defense Islands around any Stockpile island!

This game is icon-based, where icons are clicked on to select weapons and stores, or other options like launching a drone plane or AAV - a nice touch! The repair priorities can be established, adding another touch of realism to this game, since in real life you never have unlimited resources.

Do not expect to pop this game in right away and get started without reading the detailed manual. Let me reiterate - READ THE MANUAL BEFORE BEGINNING PLAY! Ok, that should be clear enough. The manual clearly explains the weapon and carrier systems, but it leaves the strategy up to you. This is an elaborate game that requires much thought before setting out to win. The strategic element adds so much to this program, that this is easily one of the finest games I have seen for any computer. I can recommend this program only to those that enjoy spending time at their keyboards, totally absorbed in their own personal war.

Carrier Command
Price: $44.95
Medalist International
180 LakeFront Drive
Hunt Valley, MD 21030
412-838-1166

This game is icon-based, where icons are clicked on to select weapons and stores, or other options like launching a drone plane or AAV - a nice touch!

DATA STORM

by David W. Martin

Datastorm is one of the champions of the Game Zone's shoot-em-ups. The game is basically a Defender clone, but it is much better than its predecessor.

It's been a long day at the office, or maybe you've spent the day toiling over your latest magazine article. Regardless of the situation it's probably a good idea to pull out your favorite computer game and relax a while. Just sit back and blast aliens. Lose yourself in a dimension of imagination that is full of sights and sounds. Nothing is even close to reality. You've entered the GAME ZONE!

Datastorm is one of the champions of the Game Zone's shoot-em-ups. The game is basically a Defender clone, but it is much better than its predecessor. For those of you who aren't familiar with Defender's layout, the game is very similar. The full-color screen is divided into two horizontal windows. The upper window contains a side view of your spacecraft and a horizontally scrolling landscape. The landscape wraps around, and in a matter of seconds you can return to your starting point from any direction (left or right). Waves upon waves of aliens materialize in this window, and each wave contains deadlier aliens than the last. The number of different aliens makes the game even more exciting. You're supposed to blast them into anti-matter! Zaaap!

The lower window is a status window that contains very important information from the instruments on your ship and your ship's status. The information provides a radar display of approaching aliens, your number of lives, number of smart bombs, bonus weapons (i.e. missiles, rapid fire, etc.) and shield strength. A closer look at the radar screen gives you a view of the entire planetary surface complete with aliens, your ship, and pods (or people) all of which are represented by color coded pixels or dots.

The object of the game is to protect your pods from invading aliens while blasting the heck out of every alien in your gun's sights. You must gather all eight of the pods and bring them to safety through a force field on the planet surface. Bonus points are awarded to you at the end of each level based on the number of pods that you have saved. The bonus points are important, as they provide things you will need to survive the next level - such as bonus shields.

Ignoring the pods and letting them be captured by the alien's lander craft causes the pods to mutate into traitor pods which must be destroyed before they destroy you. If all eight pods on a level are destroyed, the aliens become faster and harder to deal with. It's really hard to destroy those rampaging aliens, though not impossible.

OPTIONS

The game provides an options screen where you can select the playing mode, speed of the game, joystick or keyboard, and how the horizontal scrolling works. The playing mode can be either single playing (which I favor), double playing or team playing. In double play each player plays separately against the aliens. Team playing is interesting in that each player plays at the same time, trying to reach the same goal and sharing the same resources. This allows players to watch each other's back.

The speed of the game can be set from one to four. If you can play at level three or four, then you must be Superman! I haven't yet graduated to a higher speed since I get beaten whenever I try.

The keyboard option allows you to define what will fire smart bombs from your ship (either the keyboard or joystick). Joystick response is wonderful, and I like the control it gives me while I play.

The horizontal scrolling allows you to select "D" for a Defender style screen scrolling or "N" for a normal style screen scrolling. This function is not documented in the manual, but it seems to control the appearance of the alien waves onto the screen. After check-

ing with Bethesda I have found out that the difference between scrolling modes is that this mode forces your ship to the edge of a screen with a large portion of the screen in front of your ship. This way you're able to view the incoming alien waves as they begin to attack. Try this mode out, it gets some getting used to, but having this feature adds more variety to the game.

CONCLUSIONS

I found only a few problems with Datastorm. The most important is that the disk drive is continuously accessed throughout the execution of the program. This makes it impossible to find a point in which it is safe to remove the disk from the drive. Remember, the Amiga user guides clearly state that a user should NEVER remove a disk while the activity light is on. I contacted Bethesda about the disk access, and they told me that their program does not use the AmigaDOS disk validation system and that you could remove the disk from the drive at practically anytime. However, I recommend using caution when selecting a time to remove the disk. It's also not a good idea to remove the disk from the drive during game play, according to the manual.

The least important problem is really an annoyance and not really a serious problem. I would enjoy the game more if there was a faster way to play the game between rounds. Those pretty graphic screens are nice, but it would be nice if we could skip to the place we want to get to - and that place is blasting aliens!

One other note about a problem with earlier versions. Some versions of Datastorm are not compatible with the Super Agnus chip. Bethesda is now distributing a version that is compatible with the Super Agnus and its one megabyte of CHIP memory. Contact the company for information on an update.

Datastorm is a wonderful arcade game based on a classic idea, but full of exciting enhancements. I would recommend this game to anyone who enjoys fast paced shoot-em-ups with that arcade feel and for the brave who like facing overwhelming odds. In fact, I'll end with a quote from the manual: "Have fun, and... Blow'em to bits!"

Datastorm
$39.95
Bethesda Softworks
15235 Shady Grove Rd., Suite 100
Rockville, MD 20850
301-926-8300

Datastorm is a wonderful arcade game based on a classic idea, but full of exciting enhancements. I would recommend this game to anyone

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AMIGA GOSSIP

By Jay Gross

Ahhh, Fall Comdex. The world's largest computer Flea Market. There isn't much going on at a Comdex these days that doesn't revolve around the Clones market. Commodore sells last century's technology (Clones), in addition to next century's (the Amiga), however, so there they are, peddling their VGA-on-the-motherboard AT Clones and their "other" stuff. "Other", in this case, meaning the Amiga.

The big news from Comdex was announced gleefully on the cable news networks, and it was so boring and so blue around the gills it's not even worth repeating here. Needless to say, it had nothing whatsoever to do with the Amiga. Commodore's own news, which DOES have to do with the Amiga, was predictably ignored.

And the news is big, indeed. Superbig. Earth-shaking, even - no, that was AmiEXPO in San Francisco... This news is big. It makes the Milky Way look small. There isn't even headline type made that's big enough to convey this news, so here it is, without even bothering with the headline. Ready?

Oh Thirty.

That's it. The new Amiga with the 68030 card in it was announced, shown, promised, vaporized, whatever, at Comdex. The PeeCee crowd was not stopped in its tracks. The MacCrowd was underwhelmed. But here in Amigaville, that's BIG news. Atari sent up their '030 vapor balloon at Comdex, too, but that's beside the point. Anyway, the new Amiga is a vanilla Amiga 2000 with a new CPU card in it. The new card is powered by a Motorola 68030 chip, instead of the 68000 that powers the regular Amiga, and instead of the 68020 chip that powers the Amiga 2500 (and the add-in A2620 CPU board).

The new Amiga is not named "3000". Yet. It doesn't change the video capabilities of the machine for the better, and it's TIME to have a change in that realm, and it doesn't address any of the other limitations the machine has (lack of network connectability, for example, and poor memory management which permits one errant task in the multitasking environment to bring down the whole system). It does add new power to the Amiga's already incredibly powerful hardware.

Along with the news from Comdex, which CBM kindly sent in an information packet to dealers, there are new lower prices on the Amiga 2000 line of goods. Although the prices for the 500's haven't changed, the company is now throwing in a bunch of added goodies, including some software, which increases the amount of stuff you get, without increasing the price.

The new list price for the Amiga 2000 is $1899. That's a significant decrease from $2195. A 2000-HD (that's one with a harddisk drive in it, including the new A2091 SCSI controller card), drops from $2999 to $2699, another significant difference. If you crave an Amiga 2500, the price of admission is down a whopping $700, from $4699 to $3999. The A2620 card, which makes a 2500 out of a 2000, goes from $1995 to $1495, which is a pretty good deal for a 68020, 68881, and two megabytes (expandable to four) of 32-bit memory, all on a card with some accompanying software that doubles the computer's clock speed as well.

The new A2630 card, which makes a 2500/030 out of an A2000, comes in at $2195. However, a factory 2500/030 (That's an Amiga 2500 with the 2620 already in it, and a harddisk drive, and so forth) lists at the same old price that the vanilla 2500 had before.

There was lots of news, too. Commodore's press kit included blurbs about all the wonderful

There are new lowered prices on the Amiga 2000 line.

SOMEBODY FROM DISNEY FOR AMIGA

places Amigas have found their way into. The most interesting was the offices of Hewlett-Packard (name rings a bell, doesn't it?). H-P uses Amiga is in their Cupertino, California, offices to whip up internal video tapes for staff training and such.

Inspired by this and other multi-media applications of the Amiga, CBM announced a new multi-media department, and hired somebody from none other than Disney to crank it up.

More vapor

The computer industry thrives on vapor. At least it seems so, sometimes, and Commodore has played the vapor game with the best of them - although, to their eternal credit, they've been rather cool in the last few months. Comdex, though, is just too tempting. All the PeeCee companies are announcing vaporwares left and right, Microsoft is crowing about the fifty-seven new tricks they're going to teach their old dogs (MS-DOS and Windows, among others) to do. Someday. And Atari is announcing stuff faster than Federated rings up sales. So, here's Commodore, trying (so it seems) to be cool about all their widely known vapor, and they just don't fit in. Forgive them, then, if they give up and participate.

New Commodore vapor announced at Comdex: A2000-232, a seven-serial-port add-in card for the Amiga 2000 that's supposed to work (all of them multitasking) at 19,200 bits per second. It's always been a stupidity of the Amiga's design that it's been limited to one serial and one parallel port in both hardware and software, and now that several Amiga third-party vendors (ASDG, Supra, and others) have made considerable investment in solving this problem, CBM apparently feels safe in doing so, too. SEVEN serial ports is a veritable passel of the things, and there will be those who will instantly foresee powerful multi-serial-port applications of the Amiga.

When you go shopping for your Amiga toys...

Now for multiple parallel ports. CBM? Well? Well? Come on! Not even any vapor yet, so who knows when the "NOW" of Real Soon Now, which all of this stuff is touted as being, will occur.

The prices listed here are the list prices only, and the reductions no doubt reflect the fact that chipsies is now CHEAP!

You can buy a megabyte of memory for the money you'd once have had to spend on only a couple of chipsies. So, if you've been looking to upgrade your Amiga to more memory. . . . The new list prices, however, do not necessarily proportionally affect the actual selling prices (affectionately known as "street" prices in the business). The "street" price will change only in relation to how much the dealer cost changes, not the list - and that had not been finally decided (gospel according to West Chester) at this writing. When you go shopping for your Amiga toys, therefore, the best advice is: haggle.

Speaking of price decreases, Emerald Intelligence is offering a heckuva deal for a limited time (and by the time you read this, that limit will be VERY short, so hurry!) on their Amiga artificial intelligence product, Magellan, now in version 1.1. It's $69.95 plus shipping, LESS than half price for a $195 product. Magellan with the Interface Toolkit goes for $99 plus shipping (that's off of $249 regular price). Ring them up for the gory details. (Emerald Intelligence, 3915 Research Park Dr., Suite A1, Ann Arbor, MI 48108, 313-663-8757.

Cheap chips, cheaper Amigas, and Magellan's on sale. Okay bargain hunters. Checkbooks at the ready? CHARRRRRRRGE!

J:

Continued From Page 24

CROSS DOS

CrossDOS has never failed read or write an MS-DOS disk, or crashed!

In a month of using CrossDOS every day, I've turned up only one problem - and an odd one, at that. When more than one Amiga icon has been saved on an MS-DOS disk, and then the disk is closed and re-opened, only the first icon saved will appear on the Workbench.

Consultron's Leonard Poma offered an explanation for this "lost icon" problem, and a way around it. It seems that there is a conflict between the dates and times stored in an MS-DOS disk's directory and those stored in the .info file that the Amiga puts on the disk. (This is the disk .info file, not the ".info" extension on an icon's filename.) The .info file contains information about every icon on the disk and is updated whenever the disk is opened on the Workbench. When the .info file's date is more recent than the date listed in the MS-DOS directory or subdirectory, icons saved after the directory's last update don't show up on the Workbench.

The temporary fix for this is to use the CLI and delete the .info file from the MS-DOS disk. It's there only to speed up AmigaDOS's reading of the disk, anyway, and isn't really necessary. Once the .info file is gone and the disk is re-opened on the Workbench, all of the icons appear as they should. Unfortunately, a new .info file is saved every time the disk is opened, so it has to be deleted again after more icons are saved on the disk. Consultron is working on a real fix.

TWO MINOR WEAKNESSES

When MFORMAT is at work, multitasking is slowed down drastically. WordPerfect, for example, gets so slow during an MFORMAT that the worst hunt-and-peck typist can stay ahead of it. Furthermore, MFORMAT itself is very slow when used in the default "verify" mode. It took 350 seconds - nearly six minutes! - to format a 720k MS-DOS disk. Fortunately, however, there is a "noverify" mode that formatted a disk in 160 seconds, and a "fast" mode that did it in only 65 seconds. Even more fortunately, the "noverify" and "fast" modes may be added to the TOOL TYPE parameters of the MFORMAT icon. Is the "verify" mode necessary? I've tried the "fast" mode on a number of disks without any problems showing up, either when I used DiSKCHK to test them, or when I used them on an IBM PC.

For comparison, Dos-2-Dos formatted the same MS-DOS disk in 105 seconds, but it couldn't name the disk (or rename one, either). The AmigaDOS Format command did an 880k Amiga disk in 110 seconds, including initializing the disk.)

THE MANUAL

CrossDOS' manual is a small, 30-page, spiral-bound booklet. There is no index, but the table of contents is detailed enough to suffice. The instructions are reasonably clear, and the technical explanations appear to be thorough. The only real problem in the manual is that it might look daunting at first, because a fairly lengthy explanation of the CrossDOS' mountlist is located in the section on installation. But it turns out that this information is needed only if the default values don't apply in some specific situation. For most purposes, the installation program takes care of everything perfectly.

CONCLUSION

I've been using CrossDOS every day, and other than the few minor weaknesses I mentioned above, have been completely pleased with it. It has never crashed or failed to read or write an MS-DOS disk. And it has never interferred with the normal operation of the Amiga. I have to use IBM PC's at work, and CrossDOS saves me time and aggravation when I bring work home. It lets me use Amiga software (which I prefer) and yet work directly with MS-DOS disks. It works so unobtrusively that I don't even notice it anymore. That's the best recommendation any program could get.

CrossDOS
Consultron
11280 Parkview
Plymouth, MI 48170
$30.00

Requirements: Any Amiga with 256k and AmigaDOS 1.2 or higher; any hardware configuration.

-=-

SkyChase

by Mike Hubbartt

Flight simulator fanatics are a different breed. Some of us love realism of a program like Falcon to the exclusion to everything else, and others love the arcade shoot-em-ups such as Star Wars or StarGlider. With all the flight simulators on the market, there is always room for one more. Maxis Software has released a new simulator for the Amiga called SkyChase, with options not yet found in other Amiga arcade flight simulators. Is SkyChase better than Falcon or F/A-18? Not really, since it's in the arcade class of simulators.

Your aircraft is rendered in wireframe, instead of solid image. This hurts the seriousness of it. There are other options of the program that are nice to see, like using the cockpit perspective for both planes simultaneously. Yes, two planes can fly against each other with SkyChase, with either human/human pilot mode, human/computer pilot mode, or computer/computer pilot mode. Fly against a friend or the computer, or watch a demo of the computer flying against itself. When in the human/computer mode, you can select on or off the opponent's cockpit view - it is more difficult when the opponent's view is off, since you don't know if he's about to get you. The screen is updated more rapidly when only one viewer screen is active, so turning off the opponent's view can enhance your play while increasing the level of difficulty.

SkyChase has the standard instrument control assortment normally seen in other simulators. Easy to read, check out your radar for enemy bogies while maintaining a safe altitude. Your other instruments include Percent Thrust, Heading, Pitch, Roll, Speed, Missle Count and Lock Indicators, Ammo Left, G-Force Indicator, and Perimeter Indicator (the flying area is limited, and you cannot leave the area described by the perimeter). These controls are duplicated and active for both aircraft. The instruments are elaborate enough to enhance the program's playability, without taking a long time to learn how to play.

The owner's manual demonstrates some common dogfighting maneuvers, such as the Break, Scissors, High G Yo-Yo, Lo G Yo-Yo, Lag Pursuit, Split S, Head On Vertical Loop, Immelmann, and Dive Loop. SkyChase lacks a maneuver practice mode, which is found in the non-arcade simulators such as Falcon or F/A-18. A practice mode would enhance the playability of this game. The program will allow handicapping the computer opponent, limiting its abilities until you learn the idiosyncrasies of the game. This helps a lot, although I still would like a practice mode.

SkyChase gives you a large assortment of planes to choose from, more than any other Amiga flight simulator. Pick from: F-14 Tomcat, F-15 Eagle, F-16 Falcon, F-18 Hornet, Soviet Mig-27, soviet Mig-31, or a paper airplane (yeah, but it has better stats than the others, so don't laugh too long). These different aircraft have different capabilities such as speed, ceiling, and armament configuration. Maxis has done well with this assortment of aircraft for you pilots, and not taken the easy route of offering only one plane as do most simulators.

This program is fun to play, although it falls in the line of arcade game more than flight simulator. I have enjoyed working with it, and am grateful for Maxis for releasing a flight simulator using the F-14 Tomcat, and two different soviet Migs. The differences in these planes is felt when switching planes and performing the same maneuver. I had the best results with the F-14 for combat maneuvers against a Mig, as I thought I probably would in real life.

SkyChase
Price: $39.95
Maxis Software
953 Mt. View Dr.
Suite 113
LaFayette, CA 94549
415-376-6434

FLIGHT
SIMULATORS

SkyChase gives you a large assortment of planes to choose from, more than any other Amiga flight simulator.

Doug's Math Aquarium

by Mike Hubbartt

We have become a more visually-oriented society, and since Doug's Math Aquarium converts math into colorful visual displays, this may help you understand more about math.

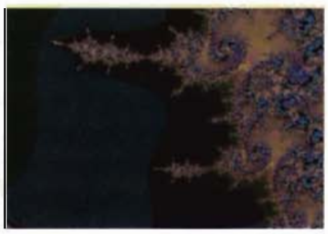


Figure 2.

The first exposure I had to Mandelbrot sets was when my monthly issue of Scientific American arrived in August of 1985. A short article in the monthly Computer Recreations section by A.K. Dewdney described Mandelbrot sets and showed beautiful color pictures of them. As Mandelbrot sets are easily generated on modern microcomputers, I began collecting any Amiga public domain software that generated them, to pursue my newfound interest. While searching for a commercial program to generate these and other pictures, I stumbled across Doug's Math Aquarium and was instantly hooked. Doug's Math Aquarium is a powerful tool for generating pictures rendered from mathematical calculations, and will enthrall those Amigans with even the slightest interest in this fascinating subject.

We have become a more visually-oriented society with the addition of television to our modern culture, and since Doug's Math Aquarium converts math formulas into colorful visual displays, this may help you understand more about math. Doug's Math Aquarium generates pictures from formulas; either the picture itself or the formula for generating it may be stored on disk for later reference. These can be as simple as X^2 + Y^2 (read: X squared plus Y squared), or more complex problems like formulas with recursion (used to find a Mandelbrot set), where a math problem or computer function repeatedly calls itself until it reaches a solution.

There are many pictures included on the main Doug's Math Aquarium disk, as well as pre-tested formulas for you to generate pictures from. Look at Figure 1 for a classic Mandelbrot set plotted in the normal CONTOUR mode. Doug's Math Aquarium has another rendering mode, called WIRE, which plots a faster wire frame picture for a formula. The formula for generating Figure 1 is:

```
val = fa3(x,y,51)
FA = a3 ? fb4( a1 * a1, a2 * a2, a3 - 1):0
FB = a1 + a2 < 4 ? fa3( a1 - a2 + x, a3 + a3 +y,
a4):a4
```

Figure 2 is a rendition of a Julia set. The formula used to calculate this set is:

```
val = fa3(x,y,0)
FA = a3 < 1024 ? fb4( a1 * a1, a2 * a2, a1 * a2, a3
+1):a3
FB = a1 + a2 < 4? fa3( a1 - a2 - 1.255495, a3 +a3 +
0.02909525, a4):a4
```

You don't need to know these values to see these pictures, since they are already rendered for you. You can experiment and change the formulas, and see the new picture for the changed formula. The math pictures are in the Amiga IFF format, which means they may be imported into paint programs for inclusion in art work. Doug's Math Aquarium will let you zoom in for a closeup of a section of a picture, or zoom back out - this feature was useful for exploring Mandelbrot sets, and I liked how quickly Doug's Math Aquarium rendered the new pictures.

While it takes time to render a picture from a formula, I find Doug's Math Aquarium is faster and far more powerful than any PD program. Rendering a Mandelbrot set from the formula takes from 15 to 20 minutes, and rendering from zooming in or out for an area takes 20 - 30 minutes for the pictures I used for experimenting.

The owners manual is 28 pages long, but does not attempt to explain fractals nor Mandelbrot sets. The Amiga HELP key is supported for online help - a nice feature. A list of suggested reading is included in the back of the manual, but did not list James Gleick's outstanding book *CHAOS*, a must-read that covers fractals and Mandelbrot sets. The back page of the manual gives a quick reference for the supported function keys, which is not as useful as a separate sheet or a template, but still is better than nothing.

Do I recommend this product? You bet! It is simple to render a formula into a picture, and has helped my understanding of patterns in mathematics. This program is not a game, but it will interest more than those with a strong math background. We don't often have the opportunity to explore a new universe - real or mathematical, except in television, and programs such as this go a long way to opening our eyes and minds to other things besides TV, movies, and hamburgers.

Doug's Math Aquarium
Price: $89.95
Seven Seas Software
PO Box 411
Port Townsend, WA 98360
206-385-3771

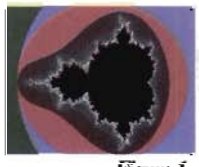
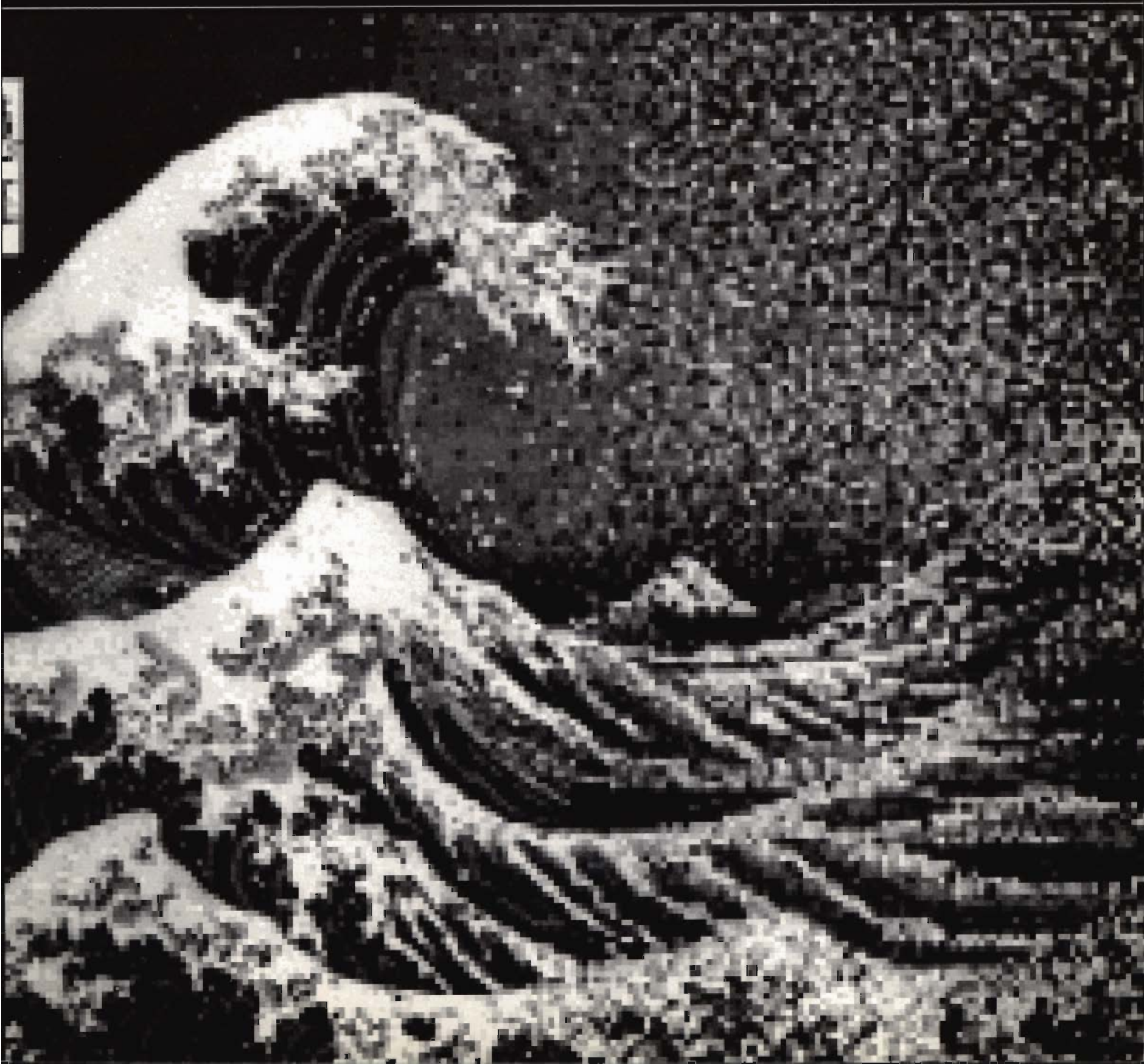


Figure 1.

AMIGA CHAOS

Math's failures to describe nature, is where CHAOS steps in.

By John Iovine



AMIGA CHAOS

Many popular motion pictures and special effects use fractals to generate images of nature's forms!

A limitation of standard geometry (as quoted from Benoit Mandelbrot) is its inability to describe many of nature's forms. Nature does not limit itself to the common geometric forms such as cones, circles, straight lines and triangles. Natural forms like mountains, landscapes, clouds and coastlines all exceed the functions of standard geometry.

Fractal equations graphed on a computer screen can mimic many of nature's forms. Many popular motion pictures have special effects containing fractal landscapes and planets. How do fractal equations generate images of nature's forms? What are the unique aspects of these equations?

This is where we will begin to explore. This article begins by building a foundation that is understandable, comprehensive, and most important, can be built upon. This, I'm sure you'll agree, is better than throwing esoteric equations and concepts at you, which would most probably obscure rather than illuminate the mathematical concepts we want to explore.

Dynamic Equations and Nature

Dynamic equations mimic nature during transitions from one state to another. Contrary to what you may have learned in college physics, events usually do not proceed in an orderly, linear fashion. This can be illustrated by examining a simple example in fluid dynamics.

Imagine we have a perfectly smooth pipe and an even supply of water flowing through the pipe. When the flow is smooth or laminar, small disturbances introduced quickly die out. But if we increase the pressure of flowing water, we will reach a point where turbulence is created in the water flow. How is this turbulence created? We still have a smooth pipe and an even supply of water, but now the flow is broken up into whorls and eddies. These disturbances dissipate energy and create additional drag on the system. The system essentially has become chaotic.

You are probably not impressed with the dynamics of water flowing through a pipe. And from an engineering standpoint, the question always leads to getting rid of the turbulence, not examining it. Let's digress a little bit and see where in the real world these systems can apply. Turbulent airflow over a wing destroys lift. Turbulence created in water by a moving submarine creates additional drag on the sub and probably makes detection easier.

The spread of infectious diseases such as AIDS and smallpox, has successfully been modeled using dynamic equations. One of the early applications of dynamic equations was the creation of a computer modeled weather system that accurately mimics natural weather fluctuations (see Butterfly Effect). Dynamic equations can help us understand these and other transition points in nature.

Beginning of Chaos

Dynamic equations are self-modifying equations. Meaning that an answer obtained from the first pass through the equation is fed back into the beginning of the equation, and the process is repeated. In other words, starting with a seed value for X, the computer calculates through the equation, then uses the resulting X for the seed value in the next iteration. It is convenient to graph each iteration on the screen; this way we can see the results and effects of each iteration.

This type of equation I believe was first defined by P.F. Verhurst in 1845 for growth limitation. He asserted that a given niche can maintain a certain optimum maximal population, (let's call this number X) further that as the population approached X the growth rate factor (lets call this number R) would decrease. This produces a dynamic non-linear equation with a variable growth rate. At high growth rate

factors the equation produces catastrophic consequences (chaos). Let's take a look.

Population Growth Model

The Verhulst equation can be broken down into two main functional parts. The first part (1+r)x is the growth factor. In each iteration the x is increased by itself (x times 1) plus the growth rate factor (x times r). To limit the growth to x = 1 (the optimum population size) the second half of the equation comes into play, (-rx^2) that varies with the value of x to bring the value of x to 1. This second half of the equation works well with low values of R (small growth rate factors). But as we shall see, as R is increased the equation begins to oscillate, first between 2 points, then 4 points, then 8, 16, and quickly into chaos.

When the equation enters chaos, what is meant is that we have come to the end of predictability. It is no longer possible to predict the results of the equation at any future point except by letting it run.

Before we go any further lets graph our first chaotic equation, the population growth model.

Population Growth Program

Enter the first program. When it is run, the program will prompt you for the growth rate factor. Enter 1.9 for the first test. Observe the results on your screen. Notice that as the program is plotting, it approaches the value of 1, overshoots slightly, compensates, undershoots, compensates etc.. These oscillations continue to dampen until it reaches an approximate value of 1. Consider the value 1 as the attractor at this point (growth factor) in the equation. The beginning oscillations are transient values the equation will go through before it settles on its attractor.

Run the program again and enter 2.4 at the prompt. Notice that the oscillations do not dampen, they continue indefinitely. It is no longer possible to reach the first attractor (optimum size of 1 for the population). The program at this point has two new attractors. The values of x are plotted graphically and printed to the screen.

Run the program again and enter 2.5 at the prompt. The program now oscillates at 4 points. Each point is an attractor. Run again and enter 2.98. The program has entered chaos. The value of X jumps all over now. It is no longer possible to predict the value of X at any iteration except by letting the equation run to the point in question.

You could increment the program more slowly, inputting your own numbers at the prompt, until you enter chaos. Notice how this mimics the transition from orderly to chaos as observed in nature - remember the water pipe example in the beginning.

Order out of Chaos

Enter and run program two. The first thing you should notice is that we are using the same equation as program 1. The first time the program goes through the equation for 100 iterations is to dampen the random oscillations (transients) as noted in program 1 test 1. After the transients have settled we then start plotting, using the same equation to plot the next 125 points. These points are the attractors. The program then increments R by .0035 and repeats the process.

When the program first starts plotting, it plots a single attractor, analogous to test 1. The program continues incrementing R (growth factor) and plotting attractors. When R reaches its first critical point it branches into two 2 points or attractors, analogous to program 1, test 2. This plots as two separating lines. As R is increased the branching spreads further apart until it reaches the next critical point where the equation began oscillating between 4 points and thereby branches into 4 lines, analogous to program 1, test 3. Finally we enter chaos.

At a point in the equation, it becomes impossible to predict the results of the equation at any future point!

AMIGA CHAOS

In the Dynamic Equations we have experimented with, even small increments in R can lead to catestrophic results and the onslought of chaos!

Self-Similarity

If we take an overview of the entire bifurcation (branching), interestingly, there appears to be a pattern to the chaotic dynamics of our non-linear equation. In addition, the overall pattern is repeated in the matrix of chaos. This paradoxical organization is a main similarity to fractals.

"Fractals," the word is synonymous with Benoit Mandelbrot, who developed the concept of fractals. I will return to the discussion of fractals later, but for now let's continue with dynamic equations.

We can magnify portions of our equation to see the self-similarity more clearly - by setting the R value at the two points we wish to examine, then adjusting the increment value to give a full screen image. This is accomplished by dividing the difference of R (endpoints) by our resolution in the X line. This number becomes the step value to increment R.

End points: $R = 2.8125$ *and* $R = 2.8829$
Subtraction $2.8829 - 2.8125 = .0704$
Step $.0704/320 = .00022$

For the example given above change the values in Program 2 to:

$R = 2.8125$
$R = R + .00022$

The Butterfly Effect

Edward Lorenz, a meteorologist, in the early 1960's created an interesting simulation program of Earth's atmosphere. The program contained 12 basic equations, using variables for heat, pressure, wind direction, and other meteorological factors tied together in a non-linear dynamic fashion. The "toy weather" created by the computer varied and remained as unpredictable as real world weather. Small differences in the input quickly became overwhelming differences in output.

This is as we can note with the dynamic equations we have experimented with, as small increments in R can lead to catastrophic results (chaos). A definition called the "Butterfly Effect" was created to explain how small, almost imperceivable effects could alter weather patterns. The definition is; " A butterfly stirring the air today in Peking can transform storm systems next month in New York." Even today, weather forecasts are completely speculative beyond two to three days, due to the "Butterfly Effect."

Nature

Self-similarity in nature appears to be the rule. Leaves on a tree are all similar to one another and are replicated thousands of times on each tree. Trees themselves are similar, the branches or branching on trees, although not identical, follow the same basic rules. This branching extends into mammalian physiology. If you examine the branching of a bare tree, then compare it to the branched structure of the bronchial system of the human lung, you'll find the similarity amazing. DNA contained in the nucleus of all living cells on earth are composed of the same compounds, arranged differently.

And of course, let's not forget the structure of matter, the versatility of matter and energy in our universe is composed of what appears to be a limited set of dynamic parts.

Usefulness

Aside from the examples given earlier of the usefulness of dynamic equations, dynamic equations are being used successfully for theoretical work in lasers, kinetics of chemical reactions, and hydrodynamics. Other fields include economics, electrical response of cardiac cells, feedback control of elec-

Continued On Page 68

Jack Nicklaus's Greatest 18 Holes of Championship Golf & Jack Nicklaus Presents The Major Championship Courses of 1989 Oak Hill * Royal Troon * Kemper Lakes

by Mike Hubbartt

JACK NICKLAUS'S GREATEST 18 HOLES OF CHAMPIONSHIP GOLF

A few years ago, Accolade had one of the nicer golf simulations for any format, called Mean 18. Although we are not real-life duffers, my wife and I enjoyed our weekly game of Mean 18, especially when we had company over with interest in either golf or computers. While it held a prominent spot in my games drawer for quite a while, Mean 18 has been replaced by a new release from Accolade called Jack Nicklaus' 18 Greatest Holes of Championship Golf. This new simulation has features enhanced over the older game while retaining the ease of play that made Mean 18 a favorite.

The two disks in this simulation must be backed up before play, since you save games in progress to the backup itself. The copy protection scheme is a sheet with all the golf courses - you must pick the correct one on boot up of the game, if you wish to play.

JNG allows either individual or team play - you can even compete against the golden bear himself! Playing against Jack is a thrill that most of us will never experience, except in our imaginations or in this game, so I recommend you give it a try. It is a humbling experience to play with such a great player, but very educational at the same time. I normally choose the two player option when my wife is around, since she will play this fun simulation anytime! Choose whether you are a beginner or pro, and which tee to start from. Start off at the beginner level unless you are both experienced at real AND computer golf, and feel lucky today.

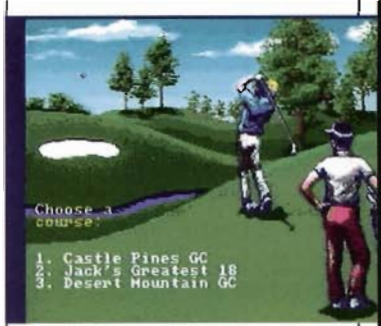
Three different courses are included in the game. The first is a composite course of the greatest 18 holes in golf (in Jack's opinion), with holes from courses such as Augusta, Pebble Beach, and St. Andrews to name but a few. The other two are designed by Jack, and are the Castle Pines, Colorado and Desert Mountain, Arizona courses. An optional course disk is available from Accolade; it has three other courses for you to try.

The user interface is similar to Mean 18, with the power bar at the left side of the screen to indicate when to swing the clubs. Aiming the shot is different than with Mean 18: the ball at the top of the screen moves either left of right in response to the Aim Shot gadgets at the bottom right of the screen. Why do you need to aim? Because WIND plays a factor in this simulation! There is a gauge at the bottom left of the screen that shows the wind direction, and you had better take this into consideration when planning your shots!

The graphics are nice and crisp - the trees look real and sound real when your ball accidentally hits them. The sounds are realistic, with different sounds used for woods and irons. The hidden holes (shoot blind - you can't see the pin) are not fun, and add a degree of difficulty that may frustrate the first time player, while exciting the more experienced people. I like what I see, and can definately recommend it to golfing fans of all ages.

*JACK NICKLAUS PRESENTS THE MAJOR CHAMPIONSHIP COURSES OF 1989 • OAK HILL * ROYAL TROON * KEMPER LAKES*

Jack Nicklaus Presents The Major Championship Courses of 1989 - why can't Accolade use a short program name (like Mean 18) - is an expansion disk for Jack Nicklaus etc., etc. This disk has three new courses: Oak Hill, Royal Troon, and Kemper Lakes.

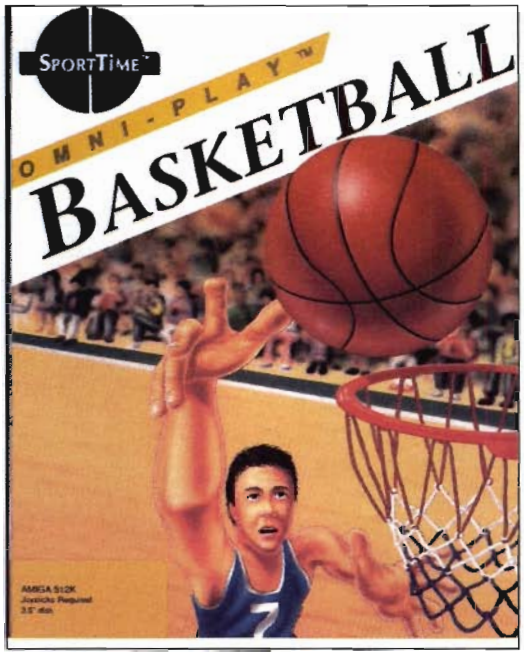


The courses are like real ones. Oak Hill is in Rochester, New York, site of the 1989 U.S. Open. Royal Troon is found at Troon, Scotland, and is the location of the esteemed British Open. Kemper Lakes is at Hawthorn Woods, Illinois, and is the location of the 1989 PGA Championship game.

There is not a whole lot to say about this expansion disk, except that all the holes are well done and they are TOUGH - especially Kemper Lakes! This disk makes a nice addition to the library of those that own the original Jack Nicklaus' Greatest 18 Holes of Championship Golf (phew! - what a title), and will breathe new life into it for those fortunate enough to complete all the original disk courses with lower scores than I can manage to pull off.

Jack Nicklaus' 18 Greatest Holes of Championship Golf • Price: $49.95
Jack Nicklaus Presents The Major Championship Courses of 1989 • Oak Hill * Royal Troon * Kemper Lakes • Price: $19.95

First of all, Omni-Play Basketball is open-ended. Yes, a sports simulation where external modules are added to make the game what YOU want!

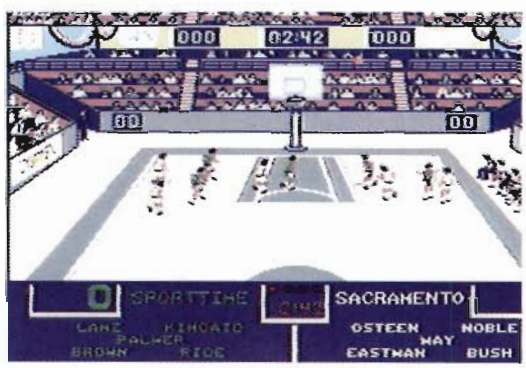


Omni-Play Basketball

by Mike Hubbartt

The evolution of sports simulations is readily apparent on the Amiga. The first basketball simulation was Larry Bird vs. Dr. J in One-On-One (Electronic Arts), and it had very few moving characters and an ocassional visit from the janitor when a player broke the backboard. One-On-One had been fine for eight-bit machines, but it didn't come close to pushing the Amiga. A few companies have released two-on-two or even three-on-three basketball games, but none had released a game where five players compete directly against another five players - until SportTime's release of Omni-Play Basketball.

First of all, Omni-Play Basketball is open-ended. Yes, a sports simulation where external modules are added to make the game what YOU want! I thought flight simulator programmers should be writing sports simulation software, and this modular programming approach is the reason. Omni-Play Basketball ships with two modules, saving the expense for later if you choose. The modules included are SBS League and End-View game. The other available modules are: Pro League, College League, Fantasy League, Side-View game, and a Printer utility. The printing utility dumps player stats and history to the printer. The three other leagues for Omni-Play Basketball provide a multitude of different teams with varied stats, and these teams add another dimension to this fine simulation, making the game more realistic. The fantasy league provides an all-star team for you to use, instead of the balanced (and more realistic) teams of the other leagues.



The side-view module allows viewing the game from the side - just as though you were sitting on the sidelines at an actual game. The end-view module shows the game from either end of the court, switching views when moving from one side of the court to the other. I much prefer the side-view module, since it is so different from the normal perspective offered by the other basketball simulators.

The SBA league has twenty-four teams, one each for major basketball cities across the U.S. These teams are divided into two conferences (East & West), which are further divided into two divisions each containing six teams. Competition amongst the teams is for Division, Conference, and finally SBA league championship. One or two players can choose teams

to coach/play, using both joysticks for head-to-head competition or only one when competing against the computer-run teams. Individuals may own the maximum of one team per division.

How do you improve your team's chances of a better showing than last place each year? Try trading players with another team, either human or computer-owned. An arbitration team handles negotiations, so make an offer and wait for the decision. Its not automatic that you will receive a player you want - just like with the NBA. Offer whatever incentives you feel will entice the player (and opposing team) to go along with you. If you wish to trade with a human team, then you remove the element of chance of trade completion, since human owners can vocalize their disagreements easier than the computer and a human owner. You trade the same type of player for another, a guard for a guard, center for center, and so on.

If trading fails to appeal to you, then send your entire team to training camp and work on select skills. Training camp is available only once a year, so make the best of it while your players are there. Select which skills each player improves, and which players are to improve. Concentrate on improving the skills of your top six players, instead of the entire roster of twelve, on your first visit to training camp. The more players that improve, the less improvement each player shows. The skills to improve are: Inside or Outside Shooting, and Speed or Overall Control - your player cannot improve both inside and outside shooting the same year of training camp, so select the stats for improvement carefully.

Players age in Omni-Play Basketball, starting at age 22 and retiring at age 42, unless you retire them due to injuries. Yeah, this program even takes injuries into account, adding a further element of realism to game play. The youngest players lack the skills of older players, while having better endurance than the older guys, so look for a happy medium with your players. Your players are: the Center, Forwards, Guards, and two reverves to act as general substitutes. Your teams play a nine year series, and not twenty, so don't worry about getting old and grey before completing a single series.

Play this game as the coach, the players, or both coach AND players. I had a difficult time at first getting all the complexities of game play down, so I opted to act as coach and watch the moves the computer generated for my players to follow in accordance to my directives. I like having my team hit the boards both offensively and defensively, and I use a mixed coverage instead of man-to-man or double covering key players. Attempting to steal the ball can lead to many fouls, so don't try it unless your people are well rested. Rotate players in and out of the lineup, resting the starters to reduce the fatigue factor - which plays a part in this game.

Turning off the system to avoid taking a low score results in a forfeit. Yeah, someone FINALLY included an option to keep some players honest, although most of us would never consider doing this to prevent a bad game from being recorded. A penalty is accessed during the next year, affecting the number of stats your players can improve at training camp, so I advise against cheating. I recommend letting the computer control the game play, so you will have enough time to pick up the strategy of the game. The graphics are adequate, and not of the quality of TV Sports:Football (Cinemaware), although many of that program's concepts seem implemented in this program. There is even a halftime show - The Nick and Bob show, with these two crusty commentators adding color to the game up to halftime.

You can skip the Nick and Bob show if you wish - although I find them an enjoyable and different way of presenting the game stats.

I like what I see in Omni-Play Basketball. The game is well thought out, the add-on modules representing this adequately. The manual does a fine job of covering the material, enough for most sports enthusiasts to set up their teams and make long term plans for their teams without needing ten years of NBA coaching experience. This program represents another step forward in sport simulators, like TV Sports:Football and Wayne Gretzky Hockey. If you like computer basketball, run down to the local dealer and ask for a demo. As either a coach or player, this game will keep you coming back for another shot at the hoop long after "Air" Jordan is playing golf in the off season.

Omni-Play Basketball
Price: $49.95
SportTime
3187-G Airway Avenue
Costa Mesa, CA 92626
714-966-1311

-=-

Turning off the system to avoid taking a low score results in a forfeit. Yeah, someone FINALLY included an option to keep some players honest...

SEX!

Flush from selling lots of sexy adventure games to glasses-wearing computer nerds, Free Spirit is at it again. The subtletly of the new product's title will tip you off immediately to what's going on. Ready? "Planet of Lust."

And that, as they say on Mars, is enough said.

Planet of Lust
List Price $39.95
Free Spirit Software
P O Box 128
58 Noble St
Kutztown, PA 19530

Out To The Future

Star Command is another new title from the pen (compiler?) of Doug Wood, author of the Phantasie trilogy of adventure games. It's sold under the Strategic Simulations label, which is in turn marketed by Electronic Arts under its Affiliated Labels program. The program is a one-player game set far into the future in the deepest reaches of space.

The earth is history. Hostile beings did it in. You control - out here in the vast reaches of space - a crew of eight star troopers whon have been assigned by Star Command to save the remainng inhabitants of the galaxy from pirates and aliens. You travel through space in starships, exploring planets and space stations looking for objects, people, enemies. You get to shoot things, too.

Star Command
SSI
675 Alamanor Ave
Sunnyvale, CA 94086
408-737-6800

Know What You're Missing?

If you purchased this issue without the Two Disk Set, look to the Disk Contents Page to find out what you're missing

Baseball Commissioner Offers League Control

It took a while, but owners of the Electronic Arts program Earl Weaver Baseball can now add the "Commissioners Disk" to the game for additional league control and options.

The program, designed by Eddie Dombrower of Mirage Graphics, is a sophisticated tool for managing league baseball. You can even use it by itself for managing a real-life baseball league, such as Little League, or softball, or next month when you buy the New York Mets, or something.

The program also includes an advanced ballpark editor, so you can have your stadium tailored to your fondest and farthest fetched desires.

Commissioner's Disk
works with, but doesn't entirely require
Earl Weaver Baseball
Electronic Arts

Deskjet Printer Driver

Now You Too Can Make The HP Deskjet Dance

One of the nicest printers on the market these days is Hewlett Packard's Deskjet Plus. It's a three-HUNDRED dot-per-inch printer that uses inkjet technology, rather than striking a ribbon with pins. The letters are literally sprayed onto the paper as it passes through the printer.

The Deskjet is unusual in more ways than that, too. It deals with sheet papers, for one thing, instead of the familiar edge-perforated stuff we're familiar with. All this without the added expense of a special sheet-feeder attachment.

The one thing the Deskjet Plus needs, to make it useful on an Amiga is a printer driver. Yes indeed, AmigaDOS 1.3 does come with a printer driver for the Deskjet. *Not* the "Plus" model, however, which is considerably faster and better (at the same list price!).

Creative Focus to the rescue. Actually, the company has placed a Deskjet driver in the public domain, but they also sell one with a few more bells and whistles - Super_DJ v2.0. If you have a Deskjet Plus (or the slightly older Deskjet), this driver is worth owning. The accompanying information sheet, itself printed on a Deskjet using an Amiga, says the custom driver supports the ability to change fonts (typefaces) by line, word or letter, and enables an enhanced implementation of printer control codes supported by the printer, including letter quality, condensed, and enlarged print. Graphic

dumps on the Deskjet plus are forty percent faster than with any other Amiga driver, says the sheet, through the use of data compression routines in the driver software.

The Super_DJ v2.0 printer driver, which comes on a disk with some other neat utilities and doodads thrown in for freebies, requires AmigaDOS 1.3, and of course a Hewlett-Packard Deskjet or Deskjet Plus printer. The printers are $995.00 list, but the "Street" price is considerably lower.

Super_DJ v2.0 Printer Driver
Creative Focus
Box 580
Chenango Bridge, NY 13745-0580

Party Of The Third Part

Lattice, Inc., has started a program for developers of libraries and add-on products that support Lattice's C Compilers. The vendors will get special treatment from the company regarding product support, and will have their third-party products mentioned in materials Lattice hands out with the compilers. In addition, participating developers will receive advance copies of Lattice's product upgrades, so that they can keep their own compiler-dependent programs current with the latest versions.

Contact the company for details on the program, which extends to Lattice's products for computers other than the Amiga.

Lattice, Inc.
2500 S. Highland Av.
Lombard, IL 60148
1-312-916-1600

Border Power

There aren't many things that a paint program can do on the Amiga that could be termed "new." There are as many powerful features in the Amiga programs that the hard-working programmers can think up to put in. And if anybody has any ideas for more, please let them know and there'll be another round of Amiga paint program competition instantly.

The paint wars are far from over, but there is a new feature on the market. New paint program, too, of course. This one is Spritz from Glacier Technologies. The new feature? Power Borders!

Turn any brush into an instant award, newsletter or flyer. Just grab the brush and invoke Power Borders on it. The program makes up a fancy schmancy border in a flash and voila! Instant award- or certificate-looking graphics.

Spritz has another neat feature, too. It's Smart-Link, which permits the program to talk to other programs which also support Smart-Link. So far, that isn't very many programs. Professional Automation Resources' ExpressPaint, for example. End of list. Glacier is making the techie details of the link-up public so other companies can incorporate it in their products if they want to.

For the techies out there, Spritz generates commented "C", Assembler, and AmigaBASIC soutce code for icons, gadgets, requesters, BoBs, and sprites from pictures and imagery created in it (or imported into it).

Spritz
List Price $ 79.95
Glacier Technologies
PO Box 1309
Vancouver, WA 98666
206-694-1539

Lattice Improves Compiler And Expands Support

Lattice, Inc., makers of the Lattice C and C++ Compilers for the Amiga (and a few other machines), has shipped version 5.04 of the Amiga C compiler and announced changes to its support policy.

The company expanded its free technical support and added two additional levels of expanded support, which it sells on an annual fee basis. The free support is now expanded to include a free, special conference on the American PeopleLink Network, in addition to the company's own electronic bulletin board system, and a conference on the BIX pay network. Time spent on PeopleLink is not free, but Lattice charges no additional fee for its support conference once you're there (and if you're not, you're missing out on a lot of good information and a load of fun).

Free software patches and bug fixes are posted to the electronic networks, and some of them are sent automatically to registered users of the compiler. Lattice also offers a telephone hotline, and responts to all technical questions sent in by mail or Fax. Frequently asked questions are answered in the company newsletter.

The new, pay support level offers (of course) all the services of the first one, plus guaranteed response to technical questions within 24 hours. The pay support also offers special conferences on BIX and CompuServe (another pay network). Software maintenance summary reports are released monthly, and free patch disks are mailed

at the end of the month in which the fix becomes available. Special technical bulletins are issued, too.

The charge for this "Level 2" support is $100 per product per year, with a minimum charge of $450. The maximum fee is $7,500.

If 24-hour response time isn't your cup of C. Er, tea... Then, maybe the "Level 3" support program is your (tea) bag. For a minimum annual fee of $900 (maxed out at $9,000), you get guaranteed four-hour response, plus library source updates mailed in the month the source is updates, and patch disks mailed as available. Users at this support level also have direct access to product development engineers.

For further information, contact the company.

Animated Brushes

The hardest part about using Deluxe Paint III's animated brush options is getting started on building a library of those neat animated brushes. Now HERE's a product that's correctly timed. Right at the onset of what will undoubtedly become an insatiable animated brush craving among Amiga artists, JLVMStudios is shipping a bunch of Anim-Brush disks. Pictures and Alphabets. Neat ones, too.

The disks - there are seven so far - go for $9.95 apiece, and are divided into Anim-Brush and Alphabet categories. Pick any four-disk set for $29.95. Not bad, and you can edit the brushes slightly as you need - it's a whole lot better than staring at a blank screen.

Oh, but that's not the good news. The fact is, no matter how many zillions of animated brushes you collect, you'll always have need for one you don't have. So, JLVMStudios invites you to make suggestions. "Please drop us a line, and we will attempt to accomodate you." Downright neighborly, don't you think? If you already have animated brushes you'd like to share with the rest of the known universe, the company buys 'em for two bucks a pop, and gives you credit for your creations. The work is accepted only in lo-res, and in no more than 20 frames.

Faucets a-drip,
boys a-running...
the variety is impressive,
and the quality is quite good.

For information on either the brushes disks or the purchase deal, contact:

Anim-Art
JLVMStudios
Star Rt. Box 237
Bloomington, NY 12401

Dressing Up Your Amiga

Active Circuits, inc., has released ImageLink, the first full-color imaging and multi-format image conversion system for the Amiga 2000. InageLink supports full-color imaging - that's pictures with sixteen million (or more) colors - through the Amiga 2000's BridgeBoard, but transparently to the Amiga user.

The company's software makes a transparent link between the Amiga side of either of the Amiga BridgeBoards and AT&T's Truevision Targa videographic boards.

Targa is one of the "standards" of the MS-DOS side of things in the computer industry. It comes in a low-end (ha!) configuration that works with the Intel 8088-based Amiga A2088 Bridgeboard, and a fancier one that does a whole lot for a whole lot more money on the lots more expensive A2286 ("AT-compat") Bridgeboard.

ImageLink was previewed at the National Computer Graphics Association's annual show in Philadelphia in the spring, and was released at Siggraph in August in Boston. (Siggraph is the Association for Computing Machinery's Special Interest Group on Computer Graphics, whose annual exhibition defines the state of the art in computer graphics technology).

The ImageLink software makes dynamic image conversion between a variety of formats, transparent to the end user. Its design takes advantage of the Amiga's multitasking capabilities, and is controllable through ARexx (William Hawes) for batch jobs, external control, and (potentially) control from within other Amiga software that also supports ARexx.

The product offers support for IFF, as well as other Amiga-specific formats and MacIntosh PICT2, and Targa formats. The software interfaces directly with several Amiga rendering packages, and will output picture information to high-quality imaging devices. The bottom line on all this is that the Amiga 2000 equipped with a BridgeBoard and one of the Truevision Targa display boards can produce and manipulate screen images in a resolution much higher and much deeper (i.e., more colors) than the regular Amiga display.

Active Circuits is also planning additional modules to support GIF, PC Paintbrush (PCX), Sun Rasterfile and TIFF formats.

ImageLink lists for $299.95, and requires an Amiga with a megabyte or more of memory (and other accoutrements previously described). The "Targa Direct" module is list priced at $199.95.

ImageLink • Active Circuits, Inc.
106 Highway 71
Manasquan, NJ 08736
201-223-5999

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™

- State-of-the-art Graphics
- Digitized Sounds
- Load & Save Games

2 Disks

Hilarious script by author
Jay Gross

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 alows you to truely "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

SHANGHAI

by George Trepal

If you love shoot-em-up arcade games and hate games like chess and solitaire, you'll hate Shanghai, so read no more.

Let's save time. If you love shoot-em-up arcade games and hate games like chess and solitaire, you'll hate Shanghai, so read no more. Scram! OK, the noisy people are gone. It's safe to come out now. It's terrible what ten years of smoking bad Mexican weed have done to their minds. However, you are obviously a person of keen intellect and discriminating taste. I'm honored to be allowed to review games for you.

If I were reviewing a chess program I'd tell you about its graphics, how well it plays chess, and if I had any problems with it. I wouldn't tell you anything about chess itself. Chess is one of the few games that's popular century after century. You KNOW it's a good game without me telling you.

Mah jongg (from Cantonese meaning house sparrow, of all things) is another game that's been popular century after century. Too bad it's not too well known on our part of the planet. Shanghai is computerized mah jongg. I'll tell you about mah jongg, and Shanghai, too.

First Shanghai. It's best described in the words of used car salesmen: runs real good. Shanghai came out in 1986. Over the years I and my friends have thoroughly tested it and never found a bug. Help screens? Plenty of them. You never have to use printed documentation. Shanghai's graphics are excellent. This program should be the ruler by which all other games are measured. But it could be better.

Sometimes it's hard to see which playing pieces are active. Eventually you learn to see the subtle differences in shading but this takes a while. If you want to eliminate this problem, multitask one of the pop-up palette programs that let you change a screen's colors. Color the edges of the pieces a bright purple. I guarantee you'll have no problems (except with your eyes) after that.

My final complaint is that the screen has no front/back gadgets. This is not to say that Shanghai doesn't multitask, it does quite well, but you have to press the left Amiga key and M to send it into the background or retrieve it.

Now to mah jongg. Mah jongg stacks 144 tiles to make a flattened Mayan-style pyramid. You try to find and remove matching pairs of tiles from the ends of rows. You now know all the rules. This doesn't sound exciting, but neither does a two sentence description of solitaire or chess. Like chess, learning winning strategies may take a lifetime.

I think chess continues to be popular because it's fun at any level. When I was ten years old all the neighborhood kids played it (though not very well) and enjoyed it. As we grew up we gained insight into it but never outgrew it. Mah jongg is like that. At the lowest level you just look at the end tiles and try to match them. At higher levels you match this tile to let you get to that tile which in turn opens the way to the tile you really want. Unlike chess which is pure strategy mah jongg involves luck too. Remove a tile. Will the one under it be what you need or not? There's no way to tell until you actually see it.

In the orient mah jongg is usually a four-player game. On the computer, you play it solitaire or with one other person. Either way it's fun.

Conclusion: Mah jongg is one of the world's great games and Shanghai is a wonderful computer version of it. If you like chess or solitaire you'll probably love Shanghai. Shanghai is an old Amiga game, and most computer stores don't carry any game over six months old. However, they'll be more than happy to get Shanghai for you. Just show them money, and they'll be very eager to please you.

Weather
For the latest forecasts, see the Jay's Way column on page 10, then look into the Gossip column for good measure.

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The Amiga News

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Volume 2, Issue 6 *ALL THE NEWS THAT WE SEE FIT TO PRINT* 0 Sections, 512 pages

Thousands Take A Plunge

Entire Thing Caught By Video

As more and more people take the plunge into desktop video, most importantly the Amiga's stellar brand of desktop video, the dearth of books on the subject becomes apparent. Desktop video is such a new idea that there aren't many references on the topic, aside from the trade (meaning video) journals and the occasional Amiga magazine article. Many book publishers are rushing in to fill the void, and heading the pack is Abacus, publishers of a line of fifteen (and counting) books for the Amiga.

Abacus' new video title is *Amiga Desktop Video*. Apt title, eh? Anyway, the book, penned by Guy Wright, recommends three Amiga video setups - for hobbyist, amateur, and professional video producers - based on evaluations of video-related products supplied by the manufacturers. the book also includes "how-to" on the recommended products.

Amiga Desktop Video lists for $19.95.

A Success Story

Taito Forced To Peddle Software

Talk about rags to riches. Taito Software has been selling software for about eighteen months. Not a long time, even in terms of the computer industry, which is still rather young compared to, say, the quarrying or the railroad industries. Yearling Taito, however, has reached annual sales of fifty million smackers, peddling two million game cartridges (whatever *those* are) for a certain Japanese game machine (Nintendo).

The company's best-selling titles include Operation Wolf, Bubble Bobble, and Renegade, all conversions of arcade games (you know, "Deposit Coin"!) orignally developed by its parent company, Taito Corp. of Tokyo.

Taito's products, in addition to being available for "other" computers, are stars in the Amiga games galaxy, as well.

Amiga Is Exposed

The Inside Story Is Brought Out In Open

Another new Abacus title for the Amiga is *Advanced System Programmer's Guide*. Abacus' marketing study (the company's news release mentioned "our casual market research") shows that nearly half of the Amiga user base is interested in programming the Amiga. To do so, they need (and want, Abacus bets) more information about the inner workings of the machine and how to make it do something.

Advanced System Programmer's Guide is a second volume which describes the Amiga's inner self. The company says it contains "extensive programming and technical information, as well as suggestions about programming style, hints on transferring data using CLI arguments, explanations on how to use libraries and structures, and descriptions on working with the Amiga's elusive Clipboard facility."

The book also offers information on IFF files as well as on other system "devices."

Advanced System Programmer's Guide lists for $34.95, and a companion disk containng the programs described in the book lists for $14.95.

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

EA Takes Free Fall

Electronic Arts Brings Game To Market

Electronic Arts has shipped Swords of Twilight, a multiplayer faltasy role-playing game folr the Amiga. The game, designed by Free Fall Associates, permits up to three players to make tracks for high

Plunge - *from previous page.*

adventure. Computer adventure, of course. Computer tracks, too. Anyway, the game design permits all three characters to converse and act simultaneously while they explore ruins, temples, castles, and keeps.

Plot? Of course it has a plot. Better than most sitcoms, in fact. The deal is: Seven Shadowlords are threatening the worlds joined by the magic Rainbow Road. That's not a brick one, and it isn't yellow, but it's in the same galaxy, so it counts. Players get to be knights or magi on a quest for the jeweled swords that are the only hope for saving the realm of Albion. There are eight parallel worlds and some rather "colorful folk" (EA's term, there) to deal with along the way. Colorful indeed. Ogres, ghouls, sages, skeletons, etc., etc. Some of these gentle (?) creatures you woo with mere words. Others yield only to the hack and slash of cold steel. You must defend the good ones and dish up justice to the wicked or you'll lose favor among the people.

Jon Freeman is the game's designer. This is what he says about it: "This is the first game that mixes the variety, color, and scope of epic fantasy with real-world logic, ethics, and consequences."

You get to choose your party from a roster of thirty characters. Engage in combat through the facilities of your joystick (rather than typing words) for an additional dimension to the game.

For More Less Insane Information - Refer To The Gossip Column

Babies Twisted Through Tunnels

In competition for Cyberneufe Trophy

Another Electronic Arts offering for this most game-purchasing-oriented season of the year (for reasons known only to immortals, most likely) is Powerdrome. This one is a futuristic, airborne racing simulation. It's from designer Michael Powell. The simulation combines arcade action with the strategy of Formula One racing.

The racing vehicles are Typhoon-class, jet hovercraft. You race these babies through twisty-turney, tunnel-dotted courses, competing against the clock or battling for position with four intergalactical rivals. Powerdrome is done with solid, 3-D graphics. Two players can race head-to-head using a two-computer datalink.

One more thing. If you win, you get the Cybemeufe Trophy. So there.

Dr. Jones Drowns Clinging To Submarine Superstructure

Well, almost...

Indiana Jones, the invincible, unbelievable (in more ways than one) comic, adventurer, and boxoffice hit extraordinare, is at it again. On the silver screen, of course, and on the Amiga screen, too. Lucasfilm Games has shipped Indiana Jones and the Last Crusade, the Graphic Adventure (whew!). It's an Amiga computer game based on Lucasfilm Ltd.'s new film (ready for this?) Indiana Jones and the Last Crusade (but you knew that, didn't you).

The games start in 1938 (turn your clock back now), just as Dr. Indiana, mild-mannered college professor, walks up the steps of the archeology building at Barnett College in Connecticut. Everything looks fine and normal. Safe. With Indy? Ha! No way. The Germans (they were important participants in World War II, the Big One) are up their old tricks again, pursuing the vast magic of the elusive Holy Grail in order to conquer... more efficently, or more thoroughly, or perhaps more permanently. The inevitable chase traverses the entire globe while Indy clings to the superstructure of a submarine under water without even drowning - no, wait, that was another movie. At the movie house, you can grab onto your seat and try to keep up wit the action as it plays out before you. But you can't *do* anything. The Amiga version lets you BE Indiana Jones, and occasionally Henry Jones, father of Indy (and. . . no, nevermind). Click on the verbs, objects and locations, as with Maniac Mansion, Zak McKracken, and Aliiien Mindbenders. This is a no-typing game. The Indiana Jones game adds features to the interface so that the Indy character (that's you) can be a clever, sarcastic, charming, or infuriating talker - as the case may be or warrant.

You get the sixty-page Grail Diary with the game, so you won't have to chase all over the globe to find it. Just be sure no suspicious-looking Germans find out you have it. Lucasfilm games are sold by Electronic Arts.

Ami ga Foretells Future

As Per The Yet Untold True Story

Add card reading to the long list of things the Amiga can do for you. Tarot cards, in fact. Empire Graphics has shipped The Tarot Master, a fortune telling program based on the Tarot cards. You are going to meet a tall, dark stranger. She will be a Republican... That sort of thing.

The Tarot Master both tells fortunes and teaches users how to define and read the cards for themselves. So, if you want to go into the fortune telling business, forget about those expensive crystal balls, and use your Amiga instead.

The program lists for $29.95, which is about the going rate in some parts for a competent fortune teller's prognostications.

The Tarot Master
Empire Graphics
PO Box 964
Union, NJ 07083
201-964-7864

Surgeon Found Related To Carnivorous Rose Bushes

Weird Dreams Found To Be The Cause

Medalist International, has released Wierd Dreams. Not the dreams themselves. An Amiga title by that name. Designed and built in Great Britain, Wierd Dreams puts you into the subconscious mind of a hospital patient as he yields to the surgeon's knife. Feast your eyes on giant wasps, carnivorious rose bushes, a killer lawnmower, and a not-so-nice little girl who isn't at all sugar and spice.

If all that doesn't convince you this is a game of wierdness, try the scene where a person is trapped inside a cotton candy machine. Now THAT's wierd.

The deal is, if you successfully confront all these strange challenges, your chances of success on the operating table improve accordingly. On the other hand, if you fail... well. It's just too disastrous to bear describing.

Word is the company is planning an international contest, and the prize is free psychiatric help for the winner. No, really, being serious now... Wierd Dreams works with the joystick, and isn't even aware that the Amiga's mouse exists. What a wierd dream!

Modest Job Offering

Positions Available For Absolute Ruler Of Everything And Everyone. See Naughty Dog For Details

The aim in some games is saving the universe. Not bad for an evening's diversion with the mouse or joystick. Then there are the get-rid-of-all-the-blocks ones. Cleaning up, so to speak. Keef The Thief, a new Electronic Arts game, has as its goal, the ever-so-modest and unassuming task of becoming the Absolute Ruler of Everything and Everyone. Now *there's* a goal worth pursuing.

Keef is a role playing game with a sense of humor, designed by Naughty Dog, Inc. and marketed by Electronic Arts. You're Keef, see? Keef (that's you) is a juvenile delinquent who gets to go out on his (that's your) own for the first time. You face the dreaded Survival. Not an easy task in the Tri-City Area, a vermin-infested continent tangled with thick, steamy jungles. Rumor is, too, that an evil magician is trying to create the magic required for ruling the continent, and you might as well set out to beat him to it. Ruling the continent, that is.

Two hundred monsters crave Keefsteak. Twenty-five creepy dungeons contain fabulous treasures and plentifful horrors (you decide which is which). Three cities for your plundering pleasure. Ten digitized tunes in full stereo (because of the way the Amiga handles stereo, Electronic Arts can manage stereo sound in a game, but not in Deluxe Music Construction Set). And that joy of all joys, animated realtime combat. Kill 'em, Keef!

Wouldn't Camus Be Proud

The strange things at Medalist are multitudinous these days. Another new title is Xenophobe, a game of fast and furious action, high-tech weaponry and detailed and amusing graphics. If you think you recognize the strange name (In plain English, it means "one who fears strangers"), you probably do. Xenophobe has been a rather popular coin-op game.

Here's a neat quote from Gerry Blair, executive director of the company. "Xenophobe puts you in command of three rag-tag squads of scientists, soldiers, and n'er do wells in a battle to reclaim abandoned space stations from alien invaders. Aliens are everywhere in the game, and they don't feel like negotiating."

Xenophobe
Wierd Dreams
Medalist International
180 Lakefront Dr.
Hunt Valley, MD 21030

Sincerest Continuences On Page 34 ▶

ON DISK

This Issue

A.X. Magazine Issue 2.6

Here is a sampling of what to look for on this issue's companion disk set.

A New Graphics Mode - NewTek's DigiView 4.0

NewTek has just released DigiView 4.0 which is a video digitizer for the Amiga. Along with this new release they have taken advantage of the latest craze in Amiga graphics... Dynamic HAM and Dynamic Hires. Included on disk is a sample picture using this new graphics mode. The results are quite startling. On disk # 1, inside the Article Illustrations directory you will find a picture icon. Just double click the icon to bring up the picture, then hit any key to exit.

UltraLab Demo

Included in this issue is a functioning demo of UltraLab. Slowly, a revolution is sweeping over the computer programming community. This revolution is the ability to program complicated procedures simply with the click of a mouse. This new era in computer programming will actually allow anyone to quickly and easily program even the most complicated programs. In this issue, we included a UltraLab program which performs the same as the DeluxePrint and PrintMaster type programs. Basically, these programs allow you to choose a particular birthday or holiday card, then print them out, customized to that someone special. The program on this issues disk set does the same thing, except for Valentines Day Cards. The amazing thing about this program, is that it was basically programmed with a mouse and an Ultra Card program called UltraLab.

Monster Animation

This animation shows off the abilities of Deluxe Paint III and the animated brush routines. Just double click the icon to begin the animation!

Star Trek Trivia Game

Even if you aren't a Star Trek fan, this game is worth a look. Not only is it slick, but it features lots of different digitized theme songs from the Star Trek series. So make sure your volume is turned up, sit back and enjoy.

While Your Sound Is Turned Up

Try out the latest entry from the talented Vincent Chu. This issue's song is a dedication to a friend of Vincent's who died recently in an accident.

CHAOTIC PROGRAMS

Sample some of the latest unsolved mysteries of science for yourself. Chaos is one of the challenging categories that have many scientists, mathemeticians and computer scientists puzzled. These AmigaBASIC programs (referred to in the CHAOS article) are available on disk for your experimentation pleasure. Who knows, maybe you could be the first person to solve this mystery.

S.I.D.

Do you ever wonder what your Amiga knows. What peripherals are connected, what libraries are open, what devices are present. S.I.D., other than being a powerful tool for programmers, can be a valuable learning instrument for beginners and intermediate Amiga users as well. S.I.D. can tell you everything that's going on with your Amiga, and what your Amiga has access to.

Source Code For Modula II

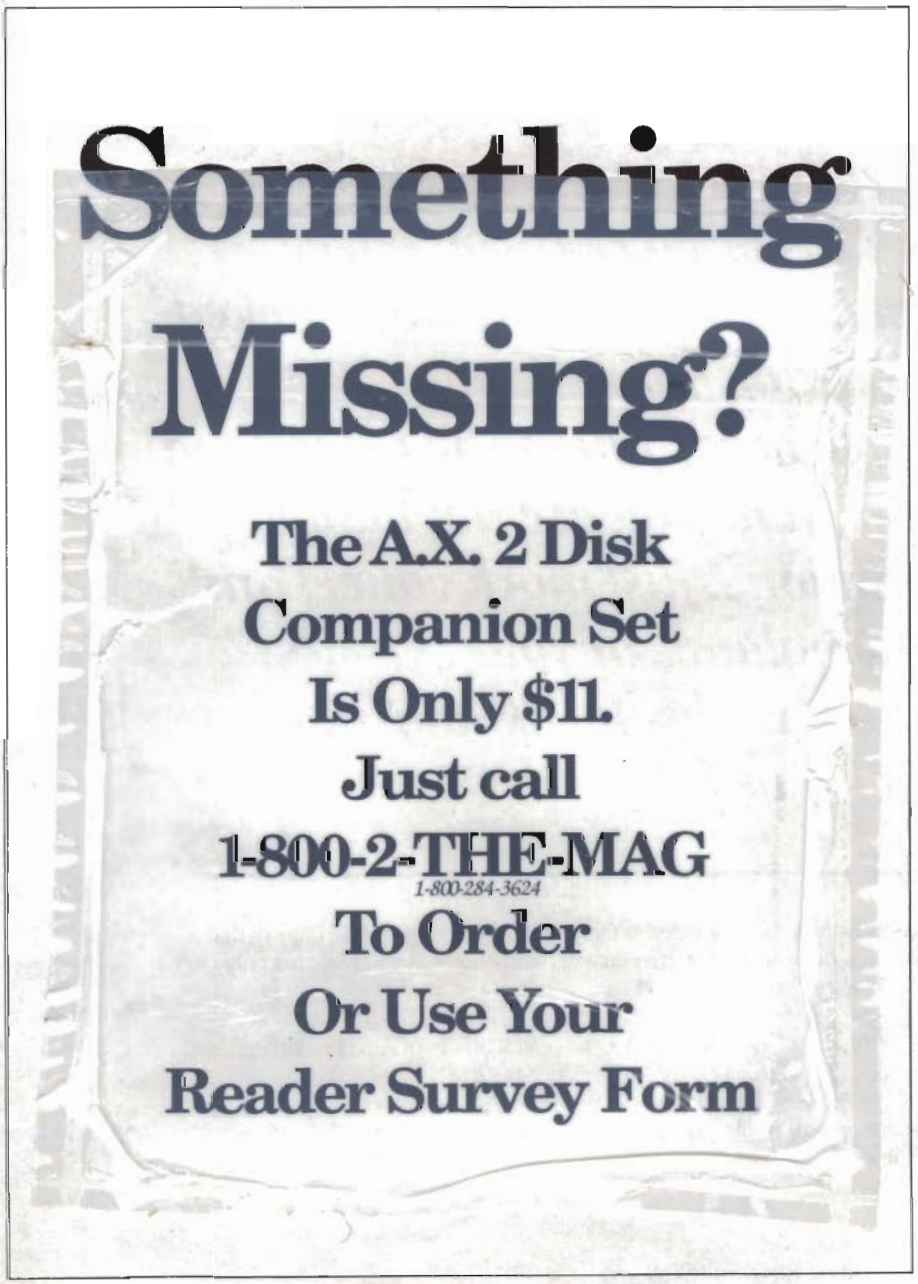
The latest draw/paint program being discussed in our on going tutorial on Modula II includes source code which is provided on disk, for your experimentation, and recompiling.

The A.X. Magazine Two Disk Set

DISK INSTRUCTIONS

1. At the Workbench prompt, boot from your favorite Workbench disk. It is important that your Workbench disk be relatively complete, especially with DIAMOND fonts.
2. After your insert the A.X. Disk, an A.X. disk icon will appear. 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.



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 executeable 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.

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1-301-220-1296

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Chess Round-Up

by George Trepal

How good are ChessMaster 2000, Battlechess, and Distant Armies? They ALL beat me, so don't look for an evaluation of high-level chess in this review. ChessMaster 2000 beat me the fastest, so I suspect it's the meanest chess program. This is not to say it's the best. You might not want to lose every time you play. Here's an overview of the programs.

Feature	ChessMaster	BattleChess	Distant Armies
2D and 3D view	yes	yes	yes
change how well computer plays	yes	yes	yes
save game to disk	yes	yes	yes
set up a situation	yes	yes	yes
suggest a move	yes	yes	yes
allows modem play	no	yes	no
can run from hard drive	no	yes	yes
graphics	good	wow!	good
game variations	no	no	yes
chess clocks	yes	no	no
analyze game	yes	no	no
show threats	no	no	yes

ChessMaster 2000 is your basic, no-frills chess program. At its best level of play it claims to have a Grand Master rating of 2000 (Grand Master humans rate about 2600.) This means it can whup the bejeebers out of just about anybody. Even its lowest level was very hard to beat, and it's faster than either of the other programs. If you're serious about chess, then I recommend ChessMaster 2000. If you're just learning chess it'd be too discouraging a teacher.

BattleChess is the program to have around when Aunt Emma sees your computer and asks what "that thing" does. Battlechess's graphics knock the socks off anybody. Instead of men being captured they battle to the death. Some of the battles look like they've come from the Monty Python and the Holy Grail movie. The animation is some of the best I've seen on any computer.

Battles call for a lot of slow diskdrive grinding unless run from a hard drive. After a day or so, you'll play in 2D mode and avoid the battles unless you have company over. Battlechess plays a good game of chess, and its lower levels would be good for those just learning chess. It's the only program that lets you play over the phone.

Distant Armies is in a class by itself. Over the millennia chess has evolved and is still evolving. Some versions were played on ten by ten boards (with extra men) and others on circular boards. Distant Armies plays these versions and many more. So, Distant Armies is chess and it's not chess. If you like to read chess books and memorize pages of famous games Distant Armies isn't for you. If you like to solve chess problems and enjoy creative thinking, you'll love Distant Armies.

All three programs are well done and, as far as I can tell, bug free. They all have the drawback of taking time to calculate a move. I don't mind thinking about my move for ten or fifteen minutes but resent it if the computer takes more than a few milliseconds. Sigh... Such is not the case. You set how long the machine will think (five seconds, up to days.) The longer it thinks, the better it plays, but even at five seconds the moves are good enough to make an interesting game.

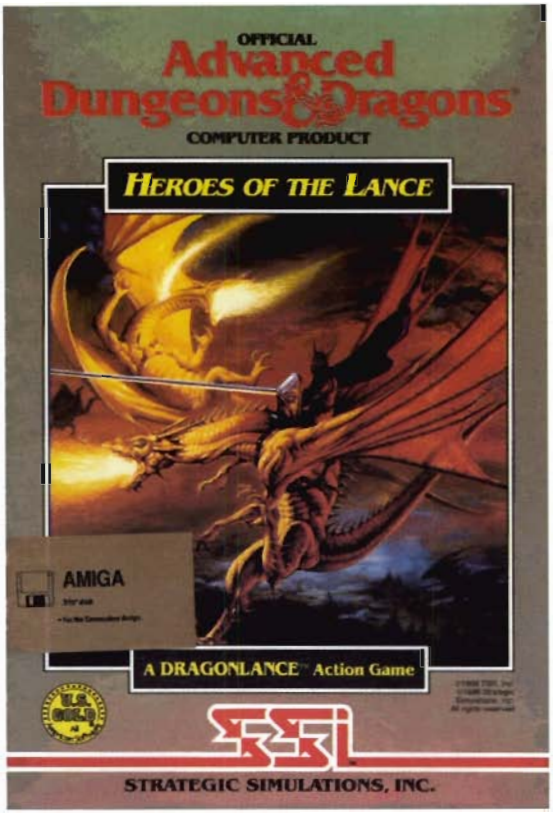
-=-

Above. Some of the Distant Armies variations.

Below. The 3D perspective of Chessmaster 2000.

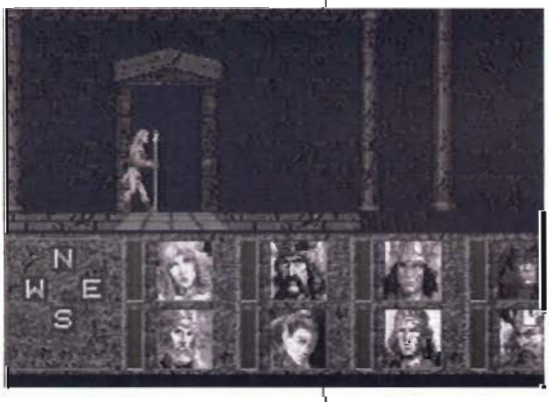
At its best level of play it claims to have a Grand Master rating of 2000 (Grand Master humans rate about 2600.) This means it can whup the bejeebers out of just about anybody.

What makes Heros different from the others, is the action oriented approach it takes to Dungeons & Dragons.



Heros Of The Lance

by Mike Hubbartt



With all the different Dungeons & Dragons types of games for the Amiga, a program has to implement the game differently to stand out from the crowd. Heros of the Lance is a game based on the Dragonlance series from TSR, imported to the Amiga by Strategic Simulations (SSI). What makes Heros different from the others, is the action-oriented approach it takes to Dungeons & Dragons. You control your character with the joystick (instead of with commands selected from menus), as he or she hits the monsters encountered or moves about in the adventure.

This game occurs in the realm of Krynn. You have eight characters that go on the adventure, although you only directly control one of them at a time. The eight characters are:

Tanis - half elf; the land's best fighter that leads the troupe on the adventure; a master swordsman and archer;
Caramen Majere - human warrior, brother of another member of the group, Raistlin;
Raistlin Majere - human mage, and a very young magician at that;-
Sturm Brightblade - human fighter, and son of a Knight of Solamnia;
Goldmoon - daughter of a chieftain and in love with another member of this group (Riverwind), she bears a Cleric's staff and Cleric powers;
Riverwind - human ranger, outcast from his tribe; uses both the bow and longsword;
Tasselhoff Burrfoot - a Kender, and a thief (a feature typical of all Kender);
Flint Fireforge - a stout hill dwarf; uses battleaxe and throwing axes.

The monsters encountered are:
men - mercenaries that work for the Dragon Highlords;
Baaz Draconians - common ground troops with a liking for man-flesh; both short and ugly;
Giant Spiders - large spiders that view the walking as meals-on-wheels;
Trolls - large brutes slow to injure and heal quickly;
Spectral Minions - deceased warriors that you can see through;
Bozak Draconians - larger than the Baaz, are the Dragon Highlords magic users (VERY dangerous);
Aghar - Gully dwarves, a low class of dwarf that is quite cowardly;
Baby Black Dragons - tough little devils with acid breath as their primary weapon;
Wraiths - undead that steal life force at a touch - the kind of people to avoid taking home to meet mother;
Rhisanth - large black dragon that uses acid breath to stop you.

After loading the game, hit the space bar to select the marching order of your heros. The front four of them contribute the most, so proper positioning is a must. I use both Goldmoon and Raistlin the magic user's powers constantly. The Clerical spells include cure light wounds, cure serious wounds, prayer, and raise the dead. Since the monsters encountered in the dungeons are tough, and do their best to cause severe harm to your heros, curing wounds is quite important unless you want a short and boring adventure. Magic user spells include web, magic missile, and burning hands - all heavy-duty means of attacking some of the nastiest foes in the dungeon. I also like to keep two fighters in the front row, with long range weapons like the bow or spears, for defense against the guys you don't want to get close enough to to cause a lot of damage to your party.

The negative aspects of this program are few. The

game is on a two disk set, although it will only load from one drive! Why? This is the first game I've used that wouldn't access my external drive and I don't see the rationale behind it. Another negative aspect is that when a character dies in combat, another is brought up from the front row (until all four are dead), but the new character is in the exact same location as the newly deceased - he/she usually gets toasted! If missiles were fired at the dead character, the new one will usually get hit by them and die before doing any harm.

When in doubt, hit the space bar and attack with magic. Take care to protect Goldmoon, or you cannot heal nor revive your wounded companions. The hill dwarf uses his shield to protect when he dodges, so he's a good choice when under missile attack from afar. Practice with your weapons before making an all-out assault on the dungeon; it takes manual dexterity to hit the monsters, and practice makes perfect. I found it most effective to use the Kender as Dragonfodder, and kept him in the fifth position so I could easily exchange his position with that of the leader. Using a marching order of fighter/fighter/cleric/fighter is strong enough until magic is necessary against the tougher opponents - then switch to magic user/fighter/cleric/fighter for the most effective offense.

Manual-based copy protection, an unexpected surprise in game software, is what SSI relies on for protection against theft from pirates. This game was a pleasant surprise, since I have been an avid D&D fan for many years and thought an action game would lose too many of the enjoyable elements of D&D. I like this game as much as Hillsfar, another D&D game from SSI, even though it requires more manual dexterity than Hillsfar. Your character stats are displayed when you choose Hero Select, using the standard wisdom/constitution/dexterity D&D'ers are comfortable with. If you enjoy reading either science fiction or fantasy and haven't tried D&D, give this game a try at your local dealer - I think you'll be pleasantly surprised.

Heros Of The Lance
Price: $39.95
Strategic Simulations, Inc.
675 Almanor Ave.
Sunnyvale, CA 94086
415-964-1353

-=-

When in doubt, hit the space bar and attack with magic... and take care of Goldmoon.

Solitaire Royale

by David Martin

If you're a solitaire card game lover try this game out. You will take it home in no time at all!

Solitaire Royale brings solitaire card games to the Amiga with a flair. While offering a variety of card games it also provides some unique features that can only be found in a computer game. Nothing is missing from this fine collection of card games except perhaps a means of cheating - the game play strictly follows the rules of solitaire and will not let you even think about that.

Solitaire Royale offers games for adults and children. The games themselves can be played by a single person, or you can have a tournament consisting of any number of players. One other method of play called TOURING allows you to play all the solitaire games in a row, gaining a cumulative score from each game played. Touring tournaments can also be played. These simple variations can be a lot of fun. In fact, I played by myself and with friends at my local Amiga dealer for the good part of a day before begging them to sell me the last copy of the game they had in stock.

If you're a solitaire card game lover try this game out. You will take it home in no time at all! At this point you can continue reading if you need more information about Solitaire Royale before rushing to your computer store to buy it.

LET'S PLAY SOME GAMES

Solitaire Royale contains eight games for adults and three games for children. The eight adult games are: Pyramid, Golf, Klondike, Canfield, Corners, Calculation, Three Shuffles and a Draw, and Reno. I enjoy the first four, and I can really play them for hours. The seventh, Three Shuffles and a Draw, is a lot of fun as a multiple player game or for playing alone. It represents solitaire for what it really is a "thinker's" game.

The three games for children are: Concentration, Pairs and The Wish. I remember learning to play the first two as a child, but the last one was new to me. They are all fun, and the manual explains that they also help you to learn the basics of solitaire.

The manual itself covers information about the games and rules of solitaire play. A glossary of solitaire terms and a history lesson about solitaire make the manual both educational and informative. The back of the book recommends additional books to read for information regarding games of solitaire.

GAME CONTROLS

The game is a wonderful example of how you can control your computer with your mouse. Everything is mouse driven and easy to control. The game gives users lots of control over their environment as well. You can set the speed of dealing, error messages during game play (This catches all those solitaire cheaters out there!), the way cards are moved by the mouse, sound effects, deck selection (How about a Japanese motif?), clear scores and select the color of the playing field. I like the fast deal, the option of allowing left-handed people to play with a left handed pointer and playing with the sound off. The game runs a little faster with no sound and fast deal mode.

Games are selected from the menu bar. If you don't know how to play a certain game the HOW TO PLAY option retrieves online help files to tell you how. During game play Solitaire Royale keeps track of scoring and even allows you to save incomplete games that you can load later and finish playing. If you're in the middle of a game and get stuck, the HELP menu is just a click away for some expert advice (or maybe you just want to backup a move). The game has such great online help and instructions you can practically throw the manual away after booting.

ARE YOU AT THE STORE YET?

If you enjoy card playing and solitaire in particular then I recommend that you check this one out. Finally, a deck of 52 cards on 3.5 inch diskette.

Solitaire Royale
$29.95
Spectrum Holobyte
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Alameda, CA 94501
415-522-3584

-=-

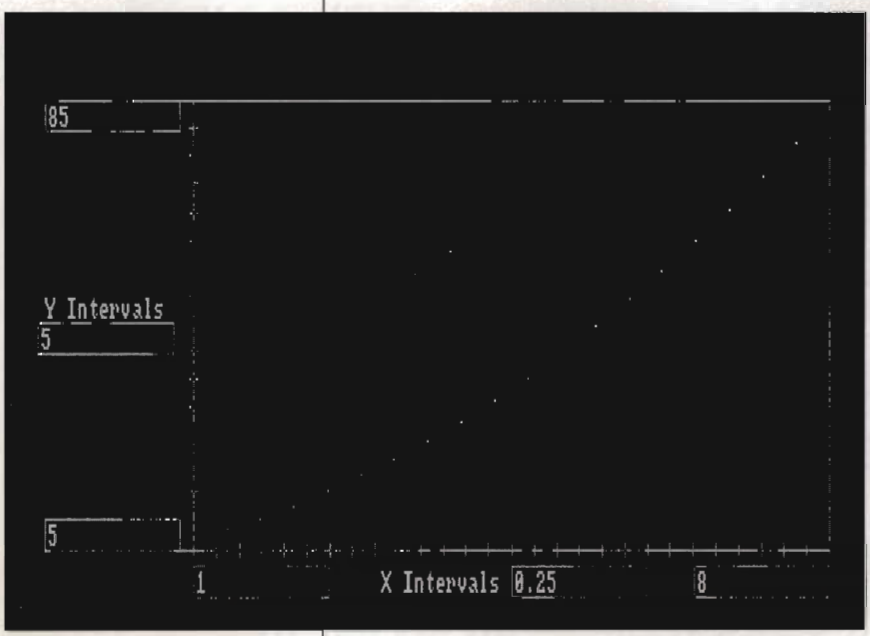
MATHAMATION

by Mike Hubbartt

Are you ignoring your Amiga while spending all those hours on math homework? Have no fear, for Math-Amation is here.

Are there any Amiga owners out there still in either high school or college? Are you ignoring your Amiga while spending all those hours on math homework? Have no fear, for Math-Amation from Progressive Peripherals is here. What a great way to get the folks to dish out the cash for software, eh? They might even be pleased enough with your higher math grades to be willing shell out for "Where In The USA Is Carmen Sandiego" (Dad, I need help with U.S. geography!).

First of all, Math-Amation works with numbers, producing the appropriate drawings (graphs). The numeric range that works with this program is -10E +308 to +10E +308, using IEEE double precision for all calculations. Up to 15 digits of accuracy are displayed - you adjust accuracy from 1 to 15 digits with a Projects menu selection. Results of calculations are stored in memory registers - there are a maximum of 50 registers for holding your results. An expander gadget will expand any partial window to full screen size, without requiring you to use the resizer gadget. The redrawing of the scientific calculator was fairly slow after resizing its window, so I made it a practice to leave the calculator's window to the default size.



Math-Amation has two calculators: scientific and matrix. The scientific calculator keys are: +,-,*,/, Pi,(,),=, square, square root, cube, cube root, sine, cosine, tangent, cotangent, secant, cosecant, inverse circular & hyperbolic functions, common & natural logarithms, exponential function e, powers and roots, factorial function x!, memory store, memory recall, add to memory, subtract from memory, multiply memory by, and memory divide. Enter formulas with standard algebraic notation and not with Reverse Polish Notation (common to Hewlett Packard calculators). For example, entering (1 + 4) * 2 is standard algebraic notation.

Math-Amation's matrix calculator is useful when working with matrices. An example of a 4 x 4 matrix is

1 2 3 4
-1 -2 -3 -4
5 -6 7 -8
2 4 2 4

This calculator obviously will lack the broad range of appeal of the scientific calculator.

This program is useful for conversion of data. The different types of data for conversion are: Angles, Length, Area, Volume, Coverage Rate, Flow Rate, Loading Mass, Fuel Consumption, Density, Velocity, Acceleration, Heating, Power, Lighting, Compressability, Viscosity, and Time. Wow! Any of these look useful to you physics students? For example, the units of conversion for length are Inch, Foot, Yard, Mile, Nautical Mile, Millimeter, Centimeter, Meter, Kilometer, and Chain.

Geometry students will enjoy using the Triangle, Rectangle, and Circle menu items. For Triangles, work with SSS, SAS, SSA, or AAS. Work with either plain, hollow, or tilted rectangles. Find the area, circumference, and radius of a circle by either entering the values in the blanks or by clicking on the proper gadgets for whichever item you would like to enter.

Need help with polynomials? The program works with one or two polynomials, up to the 5th degree. Enter all the value for x5, x4, x3, x2, and x for both polynomials in the window, and see the results in the

lower right comer of the window. Add, subtract, or multiply the two polynomials. Even find the derivative of a polynomial.

Math-Amation plots not only polynomials, but also functions with a single variable (the functions are up to 200 characters long). For example, if you input the values of x^2+2x+4 for Poly A, and values x^2+3x+9 for Poly B, clicking on the gadgets below produces the following results:

Gadget	Result
B+	2x^2+5X+13
B-	-x-5
B*	x^4+5X^3+19x^2+30x+36
A<>B	swaps the values for Poly A and B

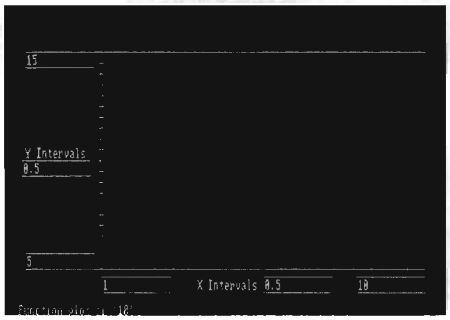
Plotting out Poly A and B, with Xmin = 1, Xmax = 8, and number points = 20 produces the graph in Picture 1. If you wish to see a function plotted, look at Pictures 2 and 3. The initial values for both pictures is v(x) = 10 and V(y) = 3, Vmin = 1, Vmax = 10, and number points = 20. Math2 is a plot of y(v), and math3 is a plot of x(v). All three of these pictures may either be saved as IFF images, or dumped to the printer for a hard copy. The plotting of graphs is one of Math-Amation's stronger points - see either a 2D or 3D bar graph. A 3D bar graph is shown in Picture 4, the corresponding pie chart for the same data is in Picture 5, and the cumulative bar graph is shown in Picture 6. All graphs generated with this program may be saved in IFF format, for inclusion in paint programs for generating presentation reports - a very nice plus for this program.

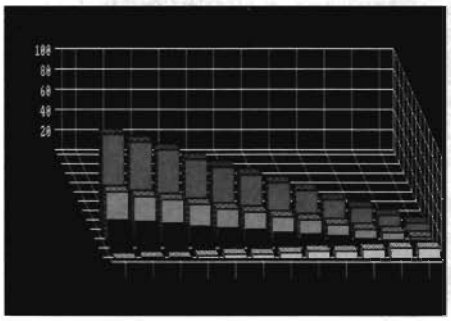
The manual is nicely organized, with over 100 pages of properly indexed material, spiral-bound. Appendix A contains a list of keyboard equivalents, but NOT a quick reference card, which I count as a feature which is necessary on a program of this type.

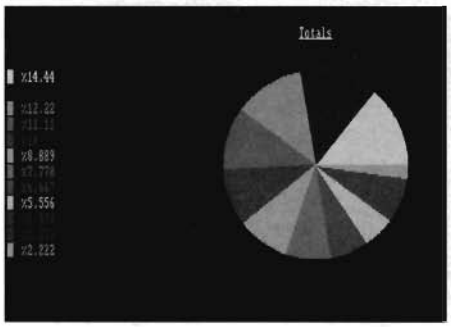
The manual lists add-on modules for the program, but I couldn't find them anywhere - another downcheck.* My last complaint was the price of $99.95. It seems 'way too high for this type of product. I can see a range of $49 - $69, but the current price will place it out of reach of many who really need access to it - poor students.

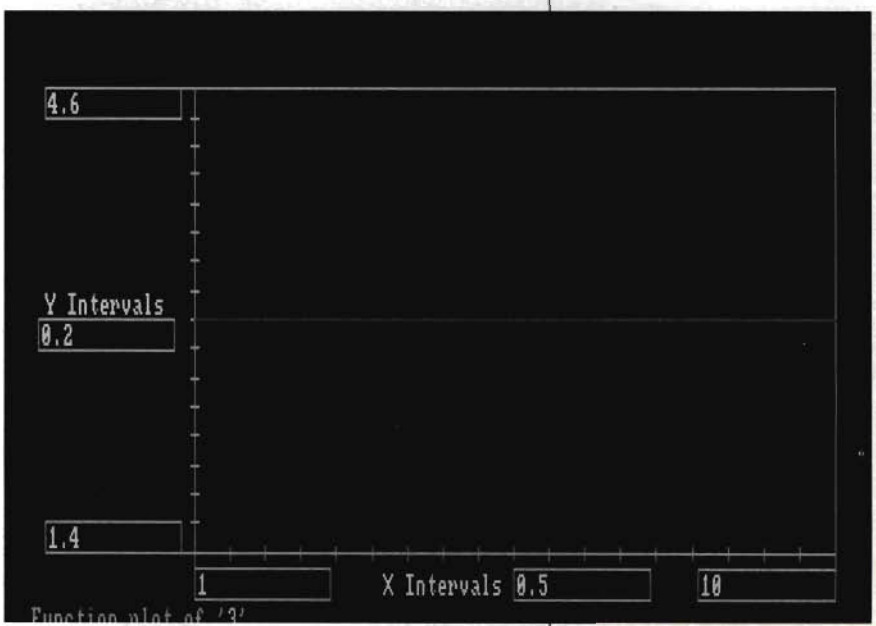
Math-Amation
Price: $99.95
Progressive Peripherals & Software
464 Kalamath Street
Denver, CO 80204
303-825-4144

[There are no add-on modules at this writing, and no firm plans to market any. - the editor]









The manual is nicely organized, with over 100 pages of properly indexed material, spiral-bound.

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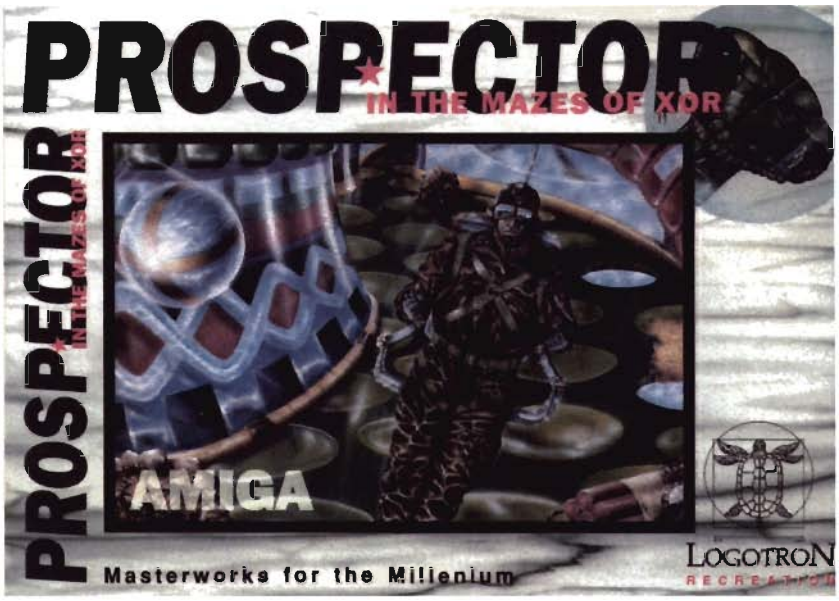
Remember Dig Dug, the old game with the little guy that burrows underground and exposes boulders to crush the bad guys?



Prospector in the Mazes of Xor

by Mike Hubbartt

Remember Dig Dug, the old game with the little guy that burrows underground and exposes boulders to crush the bad guys? Prospector in the Mazes of Xor felt so similar to Dig Dug, that after just a few minutes of play, I had no problem using the same basic strategies to win this more complex game.

Here's what you get for your money. The game comes on a single disk. The manual is small, less than 18 half-pages with black and white drawings, and it includes instructions in English, German, and French. The box cover is nicely done in crisp colors, just as it looks in the company's magazine ad - I wonder why none of the color was wasted on the owner's manual. The screen shots on the back of the box are good examples of the screens you work with during the game, which are quite nice.

A useful feature of Xor is its multitasking ability; I ran it as a background task and pulled down the front screen and did a directory check of df1, and it worked properly. This is one of the few games that runs as a background task, and I hope to see more companies do the same in the future.

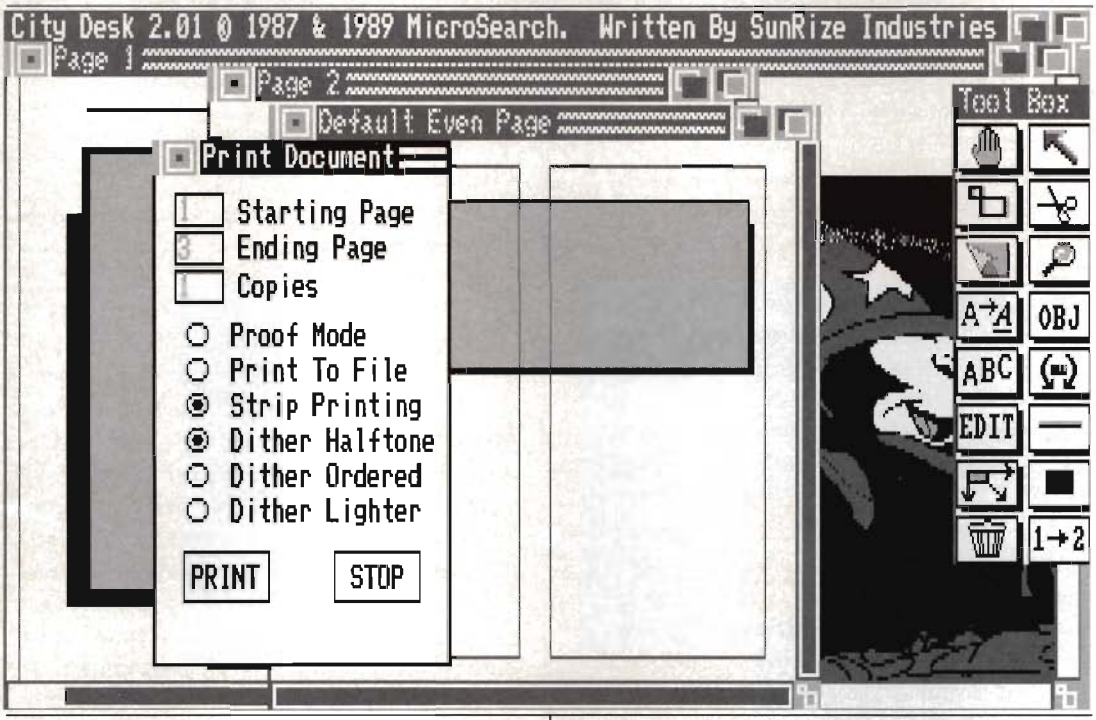
You have two prospectors, Herb and Pip, who need to collect all the balloons in each maze to sucessfully complete it. Herb looks like a nerd with a beanie, which flies him around the mazes. Pip resembles a snake with a bubble on it's head. Sounds like a couple of guys you can really relate to, eh? Drop boulders or push Zeppelins out of the way, so your character can pass through the maze. Make a wrong choice, and you're stuck restarting the level unless your second character can clear an alternate path for you. Switching between Herb and Pip is easy, just press the joystick trigger and you return to the last place the newer character occupied.

If one of your characters dies, due to dynamite or other items falling on him, them you automatically switch to the other one and use him until trapped or eliminated.

Continued On Page 65

CityDesk 2.0

by Jay Gross



City Desk version 2.0 is a long-promised, long-awaited update to City Desk 1.1 which almost, but not quite brings the product into the professional realm.

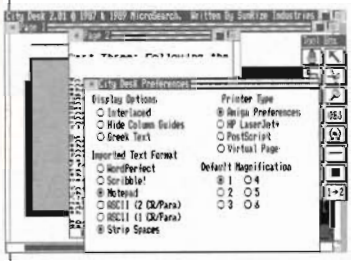
City Desk version 2.0 is a long-promised, long-awaited update to City Desk 1.1, which almost, but not quite, brings the product into the realm of professional desktop publishing products for the Amiga. Indeed, the program's limitations might not even bother some professionals, especially those who moved over from dedicated typsetting equipment, where things aren't as friendly as the Amiga makes them.

Fact is, laserprinters print one main size of paper. Letter size. If you do most of your work on standard, letter-sized paper - as most people do - you probably won't even notice the product's biggest limitation, its page size, which is fixed at 8.5 x 11. This would be considerably less limiting if the page size could be applied horizontally (so-called "Landscape" mode). It cannot. Other than that, however, if you're accustomed to producing your documents by editing formatting codes into text files - as is still the rule with many publishing, not to say desktop publishing, programs - you won't mind City Desk 2.0's non-graphical approach to its documents.

For professional use, however, and facing off with Professional Page (Gold Disk) and PageStream (Soft-Logik), both of which allow user-selectable page sizes, color separations, and graphics-based text formatting and editing, City Desk falls just a bit short of the mark. That doesn't mean it doesn't do nice work. It does - as professional as any of the rest, but not as easily convinced to do so. City Desk 2.0 is a very capable program, and it does do some nice things that the other two programs don't do - the most significant of which is its elaborate support of Hewlett-Packard LaserJet-series printers. even permitting downloading softfonts to it.

Input

City Desk version 2.0 is an immense enhancement



Text can be configured to automatically wrap around any object, even irregular shaped object.

over the earlier version of the program. It adds features, improvements, and enhanced usability at every turn. The program now includes a full screen editor, for use in installing those formatting codes with which City Desk decides how to flow its type into the pages. The program works in columns and pages, and it allows the user to flow text into the columns with one or more clicks of the mouse. Text can be configured to automatically wrap around objects (even irregular ones) in its path as it flows, and it can have different font sizes, line spacings (or "leading"), applied to it - all from commands which must be embedded into the text.

These codes can be placed in the text in any old editor program. However, for refining them in the page layout process, City Desk 2.0 now provides a highly capable editor of its own. This editor is text-based, however. You don't get to highlight sections of text and apply attributes, fonts, spacing, etc., to it, as you can with Professional Page and PageStream. It's not more difficult to do; it just requires learning the codes and editing and re-editing the file to get them in the page. The earlier version of the program provided only a one-line requester, and the user had to conduct search/replace functions to find the area to work on. It was a clumsy, almost unusuable system, and the new version's approach will be most welcome indeed.

City Desk prints its screen very quickly, not appreciably faster or slower than the other products on the market. However, if you really want to see some speed, draw a box. Any box. Select the box tool (from the City Desk's handy, relocatable tools window), and have at it. The speed with which the program puts a box on the screen, whether filled, shadowed, outlined, or empty, is absolutely incredible, and it doesn't seem to matter how many boxes there already are, or how many layers of them the program has to keep up with. THIS is the way an Amiga should WORK!

Shades of Grey

The program works only everything in black and white - no automatic process-color separations. However, version 2.0 adds grey-scale capabilities. The included graphics editor now works in 16 shades of grey, and the program will halftone its output for you (not a new trick, but a nice one), so your pictures will look good on the printed page - whether or not you print to laserprinter, dotmatrix, or PostScript. You can adjust the dot density of the output for your reproduction methods if you need to. Documents which are to be turned out in quantity by electrostatic means (meaning on Xerox copiers and their immitators) should be printed with a lower dots-per-inch halftoning specification than documents intended for reproduction on printing presses. Indeed, PostScript printing to plate-ready materials (i.e. film negatives) can handle halftone dot densities suitable for quality reproduction (in magazines, for example). You'll need to take the intended reproduction method into account when creating and outputting the pages, of course.

City Desk 2.0 comes on four (!) disks, most of which are devoted to fonts. You get four complete sets of fonts for use with the program, including special ones for 24-pin dotmatrix printing, as well as LaserJet and PostScript fonts. A pull-down menu option allows reassigning the FONTS: device from within the program - a nice, and welcome, touch.

Output

Except for lack of kerning and the obstacle of having to edit in specific spacing commands (rather than percentages or proportions, as in Professional Page), City Desk's output looks quite nice. In fact, City Desk's results, when printed to dotmatrix printers, whether 9-pin (a la EpsonX and similar) or 24-pin, is superb. In contrast, Professional Page's output to dotmatrix printers is lousy, and that's being kind. So, if your need is for printing to a dotmatrix printer, whether 9- or 24-pin, City Desk's nice output more than makes up for the fewer features it offers. City Desk also offers elaborate support of the H-P LaserJet printers. That's significant for two reasons. One - many offices have H-P LaserJets; it's one of THE most popular laserprinters on the market, and many of the non-H-P ones have H-P LaserJet emulation modes which will suffice for City Desk's purposes. And two - LaserJet printers cost considerably less than PostScript ones, so if you're setting up a desktop publishing system for in-house documentation, manuals, brochures, and such, the cost of doing so is greatly reduced by going with the H-P (or compatible) laserprinter, rather than PostScript.

On the other hand, H-P LaserJet printers have some limitations. The biggest problem with them is that they're not PostScript. Clumsy as it is, Adobe's PostScript page description language is emerging as a common language by which computers and printers carry on conversations that result in nice printed work. That could change, with Apple Computer instigating a language of its own for its MacIntosh line, but it'll be a while, and PostScript is entrenched for the time being, at least.

City Desk's PostScript output is "merely" PostScript, and that's saying exactly what needs to be said about

it. PostScript is to computing what the tokens are to an electronic arcade. You put in your money (your documents) in a change machine (City Desk), and you get tokens (PostScript code) which will make ANY of the game machines (printing and imagesetting devices, and lately even screen displays) wink and blink and do their thing. To their credit, too, City Desk's screen fonts for their PostScript output are nicer than those supplied with Professional Page. The printed fonts, of course, are the same no matter what - but it's easier to see what the print itself will look like, especially with odd fonts.

Size_of()

The program is very large - more than 335,000 bytes in the executable file - but it doesn't load any overlays, and once loaded does its thing entirely out of memory. The box implies that the program will work in 512-K of memory, but the fact is, it's going to be very tight, and the box says a megabyte is "highly" recommended. For desktop publishing of anything but the tiniest, text-based documents, a megabyte (or more) of memory is going to be a necessity. Don't even think about complaining if you run City Desk 2.0 (or anything else) in 512-K and run out of memory. You're trying to do Caterpillar work with a shovel!

You will also find it's not impossible, to run City Desk with only a single floppy drive. Masochistic, yes, impossible, no. For any kind of serious desktop publishing, a harddisk drive will be an enormous worksaver. The large volumes will allow the system to have all of its many printer fonts, screen fonts, text files, picture files, and any drivers (like the PostScript support files) all in one place. Again, it's not impossible, or even difficult to use the program from floppies, but as the complexity of what you're doing increases, the amount of disk-swapping will increase dramatically.

Manual? Who Reads Manuals?

There is no pull-down menu or on-line help for the available City Desk embedded commands. These are not particularly intuitive, either, and there's an elaborate syntax associated with them. The command language does include some extremely powerful macro capabilities, so you can just "define" something as being a headline (for example) with an embedded command, and then apply a standard headline format to all of them in the document with one macro definition statement. The manual describes and explains this technique in some detail, but it's a sufficiently complicated thing that it could use a lot more explaining, particularly the idiosyncrasies of the syntax.

City Desk 2.0's manual comes in a nice, imprinted vinyl binder. However, the pages are sparse, and the information, while straightforward and readable, is none too well organized and none too plentiful. One thing you can say about the manual, though. It was produced with the product, and even contains example pages from a dotmatrix printer to illustrate a tutorial. As such, it displays the program's capabilities in the most effective manner possible - itself.

SUMMARY

As an update to the earlier City Desk program, version 2.0 is an immense improvement, adding many conveniences and expanded features. However, its page size is still fixed at 8.5x11 (letter size vertical), and the program makes using many of its typographic features somewhat time-consuming, by employing only embedded codes to get them. Still, the program's output is quite nice, and if you need a program that works with Hewlett-Packard's LaserJet printers, you will find none other on the Amiga that supports it as well.

City Desk isn't yet a truly "professional" product, being limited in its typographic functions, and having little support of color. However, it's getting there, and its reasonable cost makes it worth a serious look if your work falls into the category it targets.

J:

You will also find it's not impossible, to run City Desk with only a single floppy drive. Masochistic, yes impossible, no.

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UltraLab Tutorial

by Steve Gillmor and Tina Chas

UltraLab puts the future of computer programming right in your hands with Ultrcard. Programming by icon.

The following article, which explains the construction techniques employed in UltraLab, assumes you have already browsed through the UltraLab stacks on the AX disk set. If you have not yet done so, open your Stacks directory and doubleclick on the UltraLab icon. Spend a few minutes navigating around, and then leave UltraLab up and running as you continue with this text.

Although it may appear to be one continuous stack, in reality UltraLab is composed of two separate stacks linked together, one named UltraLab, and the other ULab.val1. The first stack is made up of three frames, two backdrops, and several kinds of objects. The opening screen depicts the UltraLab laboratory, complete with chalkboard, plant, books, and a TV monitor with the words "Click Me" on its screen. Access the menu bar by holding down the right mousebutton at the top of your screen, and go to the Edit menu. You will notice an item labeled Info, with subitems for Stack, Backdrop, and Frame. As we progress to exploring the Card Shop example stack, use this menu area to learn about the actual composition of the stack and the current frame.

Let's go there now, either by following along with the UltraLab stack text, or more quickly, by selecting the Open Stack item from the Project menu and doubleclicking on the ULab.val1 name.

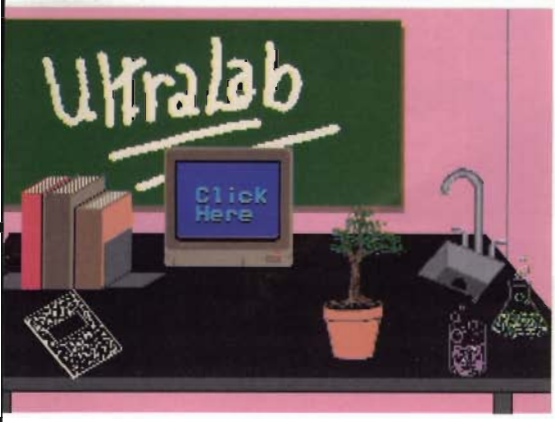
You can see by looking at the Stack Info menu subitem that this stack also contains three frames. What you are actually viewing now is Frame 1 superimposed over the backdrop. Frame 1 has five objects, one of which is visible. That's the panel of designs on the left side. The image is a bitmapped brush created in DeluxePaint III and imported into this Frame object. The card background on the right, and the blue color of the rest of the screen is an IFF picture loaded into the backdrop.

The backdrop contains objects as well (fourteen to be precise) with the large heart, the "Happy Valentine's Day" text, and the arrows objects visible. Click on the right arrow and you will jump to the next frame in this stack. The Design panel is replaced by the Greetings panel, but all else remains the same. This is because we are seeing various frames and their associated objects displayed over the common backdrop and its objects. The arrow you clicked on is a backdrop object, so it remains visible no matter where you are in the stack. This allows us to assign a command to this object that is effective from frame to frame. This is done via a script, an English-like, mini-program that in this case tells the UltraCard Browser to "jump" to the "next" frame.

Although you can't save changes made to the current stack with this Browser version of UltraCard, you can enter Modify Mode in the Edit menu and examine how an object is created, manipulated, and scripted. Do so right now. Then click on the right arrow object. Be careful to select the center of the arrow, not the underlying box. Now pull down the menu strip with the right mouse button and notice that the menus are changed to reflect the different mode. Find the Properties menu, and release the mouse over the Script. . . item, or press the F6 key on your keyboard. The script editor window will appear, in which you will notice the "jump next" command embedded in the Select.Up script.

As you become more familiar with how UltraCard works, you will find it valuable to examine scripts for objects to understand how things are run, but for now, select Abort from the Editor's Project menu to return to the frame without changing anything.

As we already mentioned, objects can be on the frame or the backdrop. In addition, there are several kinds of objects, with different Properties assigned to them. The arrow is actually a graphically-filled object, as is the panel of Greet-



ings. Hold down the left Alt key and then the Control key with it, and you'll see dotted lines indicating all the frame and backdrop objects that are currently available. You can see that there are many more objects here than are visible. Click in the middle of the big red heart on the card on the right side of the screen, and you'll see the dotted outline of an object smaller than the heart.

Now go to the Properties menu and hold down the Visible item, where you'll see that the "No" subitem is checked. Select "Yes" by moving the mouse over that subitem and clicking with the left button, or just release the right button when you are over the "Yes". You'll see the rose appear. It and all the other pictures and Greetings at the bottom of the card are already there, they're just mostly invisible. There are clear objects over each of the panel's choices that have scripts embedded in them that turn "the visible" of each corresponding bitmap on when they are clicked. You can click and select various objects, then go and look at the various settings in the Properties menu, and even alter them and see what happens. You can also click and drag objects around, and resize them with the resize gadget in the lower right corner of the object.

Don't worry, you'll be able to restore them by exiting Modify Mode back to Browse Mode (bottom of the Edit menu or the F1 key) and going to another frame. Let's do this now, and click on the right arrow again, or press the right arrow ONCE on your keyboard.

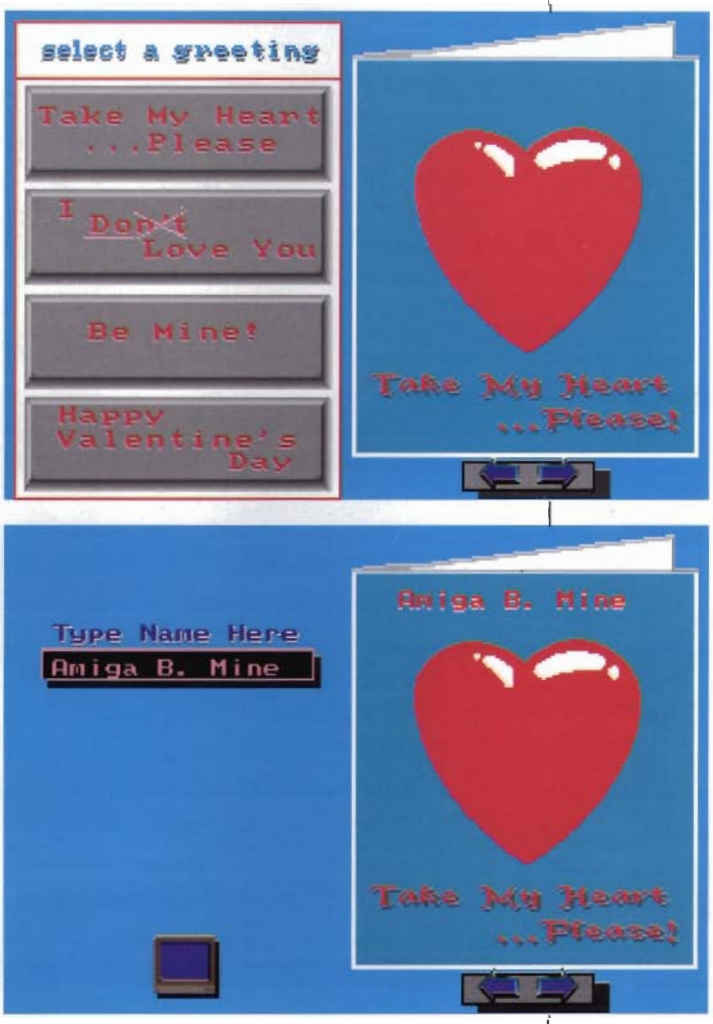
Now we're on the last frame of this stack. There are two different kinds of objects on this frame, including a visible single-line data entry field, and a multiline test field. When you click in and type a name in the single-line data entry field, you activate a script that sends the contents of your entry to load into the multiline field at the top of the card area to the right. The script also makes the small tv set image visible, so that when you are done creating your Valentine, you can navigate back to the UltraLab stack. Go ahead and do that, and we'll describe the multiline field you see in the big TV screen.

When you get there, reenter Modify mode by pressing the F2 key, and select the multiline text object by selecting the Frame subitem of the Select By Name. . . item on the Edit menu, then double-clicking on the "Endtext" name. (Or you can click on the text as you already know how to do.) If you go to the Contents menu, you can examine the various selections for text color, dropshadow, scrollers, etc.

We could go through all these choices, but the genius of hypermedia, and UltraCard in particular, is that you can explore and manipulate these objects and properties, and educate yourself by example. We have created this sample stack to give you as many different examples of different objects, attributes, scripts and design strategies as we could compress into this magazine disk.

A few hints: scripts are embedded not only in objects, but also in frames, backdrops, and the stacks

Don't worry, you'll be able to restore them by exiting Modify Mode back to Browse Mode (bottom of the Edit menu or the F1 key) and going to another frame.



And finally, one last word to the wise. You can't break anything by fooling around in UltraLab.

themselves. This allows the stack author to have scripts (or handlers) that apply to more than just one object to exist, as well as to fire off commands when you enter and leave frames and stacks. The complexities of the underlying UltraTalk scripting language are beyond the scope of this introductory article, but the example scripts can be used to construct your own versions of stacks if you get the UltraCard program.

For now, you can experiment by entering the scripts and changing the commands, then going back to Browse mode, see what the changes do. Just make sure not to leave the frame you are on, or else the changes you make will be erased. If you are altering a script or an object in the backdrop, you can see the changes from frame to frame, as long as you don't leave the stack, or move to a frame with a different backdrop.

One more trick. You can enter a multiline text field from Browse mode by holding down the Left Shift and Control keys, then clicking once with the left mousebutton on the text object. You can see how the text is entered, change it, then click on the close box in the upper left corner and see the difference. To change the color or other properties of the text, you must go to Modify Mode.

And finally, one last word to the wise. **You can't break anything by fooling around in UltraLab.** If you want the security of having a visible menu bar, press the F5 key so that you can go to your Workbench screen with the front-to-back gadget in the upper right corner. Or just press Left-Amiga N and M to go back and forth from Workbench.

To run UltraLab from your hard drive (it's faster) or from RAM: (REALLY fast!) drag the UCBrowser icon and the stacks directory icon to the appropriate location. Then type in the CLI:

assign ultra: dh0:

(or wherever you have put this)

You can't create new objects with the Browser version of the program, nor can you import new IFF backdrops. But you can load new graphic brushes or clip out sections of IFF pictures using the Graphic subitem of the Fill item in the Properties menu. We have given you enough objects in both the Card Shop backdrop and frames that you can alter and experiment with. Try changing the Valentine Card theme to a Christmas or Birthday one.

The underlying Hypermedia technology of UltraCard, CanDo, VIVA, Interactor, and Thinker is the coming thing in Amiga personal and business computing. With the success of HyperCard in selling the Macintosh, and the emergence of PC versions like HyperPad and Plus, this interactive multimedia form of point-and-click prototyping software is growing rapidly.

You're not just looking at an UltraCard stack. This is the future of computing. Look for developments in the coming weeks and months, both at the magazine stand and at your local software dealer. Stay tuned.

Draw Routines In Modula II

by Richie Bielak
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BIX: richie_b

In this installment, a palette requestor is added to give the ability to change colors by point and click.

DRAW PROGRAM: COLOR REQUESTER

Last time, we revised our DRAW program to have a better color menu. This time, we'll add the ability to change colors by providing a palette requester. By selecting a particular color and adjusting RGB sliders the user will be able to change any color on the drawing screen. In addition, our aim will be not just adding a color requester to the DRAW program, but developing a module that will easily "plug-in" into any other program. To do this we must make sure that the requester can deal with any screen type and any number of colors.

To get an idea of how our requester will appear, take a look at Figure #1.

PLAN OF ACTION

The color requester will actually be a window containing a number of gadgets. The requesters provided by Intuition are less convenient to use, therefore I decided to use a window (in fact, I have seen an old program by R.J. Mical that used a window for a color requester).

Each gadget used to select a color will be just a rectangle of that color. All those gadgets will be arranged into a larger rectangle on the right hand side of the requester window. Three vertical slider gadgets will be used to modify the Red, Green of Blue (RGB) values of the currently selected color. Finally, two buttons OK and CANCEL will be used to close the requester. Color changes will be made permanent or will be undone, according to the user's choice of a closing gadget.

To show which color is selected, a separate rectangle filled with the current color will be shown below the color selection gadgets (again, see figure #1).

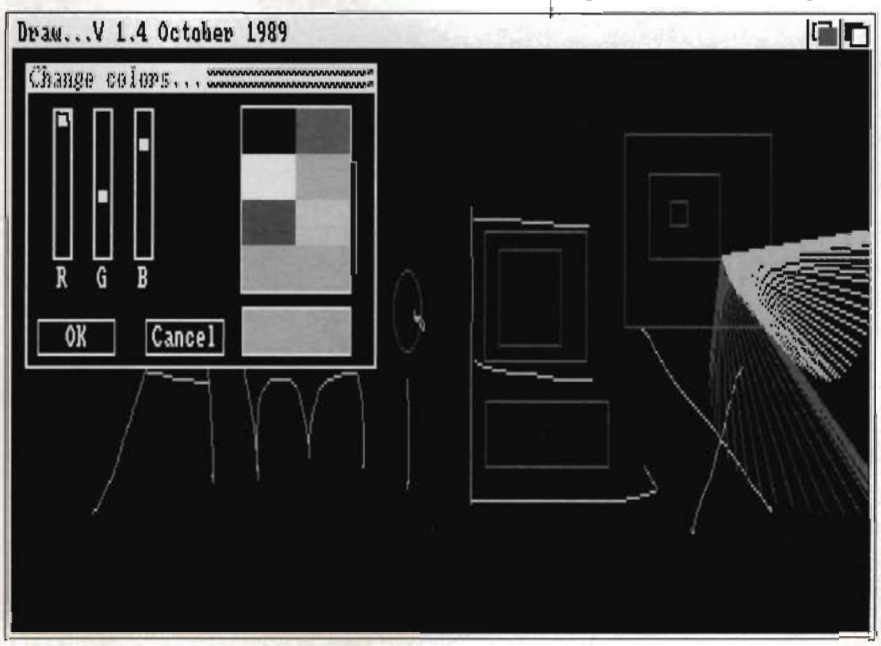
In order to make our requester applicable in any program, we place it in a separate module: SETCOLORS. Here is how the procedure used to invoke the requester is declared in the definition module:

PROCEDURE ColorControl (sp : ScreenPtr);

Note, that we only have to pass a pointer to the screen on which the requester is to be shown. If the pointer passed is NIL, then the WorkBench screen is assumed. Such a declaration will make the requester very easy to use, however it will make its implementation a little more complicated. For example, we will have to figure out how many colors are present on the given screen.

We begin our detailed discussion of the SETCOLORS module by looking at Intuition gadgets.

Figure 1. The Palette Requestor



Creating color selection gadgets is a two step process. First figure out where the gadget will be placed, then create the structure to represent the gadget.

GADGETS

Intuition provides us with three types of gadgets: boolean, string and proportional. Boolean gadgets are simple buttons that can be clicked on by the user (some boolean gadgets can flip between two states: ON and OFF, hence the name "boolean"). In the SETCOLORS module the OK and CANCEL buttons, and all the color selection gadgets are boolean gadgets.

A string gadget is used to enter a string or a number into a program. SETCOLORS does not use string gadgets.

Proportional gadgets are used to input a value into a program by moving a "handle" with the mouse, instead of typing. The handle in a proportional gadget can move horizontally, vertically, or both horizontally and vertically at once. The most common use of proportional gadgets is to implement "sliders" that move either horizontally or vertically. In our case, we will use three horizontal sliders to modify the RGB values of a particular color.

SETTING UP THE GADGET LIST

The gadget list for the color requester is created in the procedure called "SetUpColorControl". This procedure uses the "SimpleGadgets" module, that can be obtained with the Benchmark package. "SimpleGadgets" makes the set up of gadgets a lot simpler. I will try and point out some of these simplifications as we go along.

"SetUpColorControls" first obtains the number of colors that are available on the current screen and then calls another procedure, "SetUpColorGadgets", in order to create the color selection gadgets.

Creating color selection gadgets is a two step process. First, we have to figure out where the gadget will be placed, and then we have to create the structures that represent the gadget. The calculation of gadget's placement uses four constants, declared at the beginning of the module, which define the size and position of the larger rectangle that contains all the color gadgets (these are "ColorRecWidth", "ColorRectHeight", etc).

First, based on the number of colors present, the width and height of each color request gadget is computed this way: four, eight, sixteen or thirty two gadgets will fit in the area of the same size.

The computation of gadget's position is done at the bottom of the FOR loop, that also defines gadget list structures. Two variables, "top" and "left", hold the position of the next gadget relative to the upper left hand corner of the rectangle actually holding the gadgets. To help you understand this computation keep in mind that the gadgets are "placed" in columns, starting at the top and going down. The first column is built on the left, and the following ones are put to the right.

Compared with above computations, creation of the gadget structures is rather boring. We call the "AddGadgetImageButton" procedure (from "SimpleGadgets"). This procedure sets up a "Gadget" record and adds it to our list. Besides the position information, "AddGadgetImageButton" accepts an "Image" record as a parameter. The "Image" record describes the picture to be displayed as the gadget. In our case, we want to show a rectangle of a single color. We have encountered a similar situation when creating the color menu, where we got to display a rectangle of one color by placing appropriate values in the "PlaneOnOff" field of the "Image" record. The same trick is used here (for a more detailed explanation why this works, see the previous article).

The next two gadgets created are the OK and CANCEL button gadgets. We use the procedure "AddGadgetTextButton" from "SimpleGadgets". Parameters for this procedure include position information and address of a string that will appear in the button. "AddGadgetTextButton" procedure sets up three structures to represent the gadget. They are a "Gadget" record, an "IntuiText" record to represent the text and a "Border" record that describes the border drawn around the button.

While gadgets are being added to the list, "SimpleGadgets" module saves the pointer to the last gadget added in the variable called "LastGadget". This way, the user of "SimpleGadgets" can easily modify the created structures. For the button gadgets we modify the "GadgetID" field. This field contains a number that will allow us to determine which gadget was clicked on, when a gadget event is processed.

Each gadget in the list has a different "GadgetID". The color gadgets were automatically assigned IDs from 0 up to 31 by the "SimpleGadgets" module. To make sure that the IDs assigned to all gadgets are unique, the remaining gadgets are give numbers larger than 31 (see the appropriate constant declarations).

Finally, the last three gadgets added to the list are the proportional ("prop") gadgets representing the RGB sliders. First, before actually creating these gadgets, we have to modify the default options used by "SimpleGadgets" module (done by calling "GlobalGadgetOpt"). In particular, we have to make sure

that the "GadgImmediate" is set on in the "Activation" flags. This flag tells Intuition to send us IDCMP messages as soon as the user selects any of the prop gadgets, so that we may provide instantenous feedback (i.e. the colors change as the slider moves). For the other gadgets the IDCMP message is sent only when the user releases the mouse button over the gadget.

To create the structures needed to represent the prop gadget the following call is made:

AddGadgetProp (20, 15, 15, 50, FALSE, TRUE, 0, 0, 0, 01111H);

The first four parameters specify the position and size of the gadget. The two numbers represent distances of the gadgets upper left hand corner from the left side and the top of the window. The next two numbers specify the width and height of the gadget box, or more precisely the container of the "knob". The knob is that part of the gadget that is moved using the mouse.

The next two BOOLEAN parameters specify if the gadget should allow horizontal and/or vertical movement. In our case the gadget only moves vertically; that's why the first value past is FALSE.

Two zeros passed as the following parameters indicate the initial values of the horizontal and vertical variables. In Intuition's terminology these are called the "Pot" variables (Pot - stands for "potentiometer").

The final two parameters indicate the increment by which the pot value changes for the smallest knob movement. The possible pot values range from 0 to 0FFFF (in hex). The increment, sometimes called "body" value, limits the number of possible positions the knob can occupy. In the case of the color requester, each slider needs 16 positions as the RGB values range from 0 to 15. That's where the value 01111 (in hex) for the last parameter comes from - 0FFFF divided by 15 (or 0F in hex) gives 01111 (hex).

All the extra variables needed for proportional gadgets are not kept in the "Gadget" record. Rather, they are placed in a "PropInfo" record, reproduced below:

```
PropInfo = RECORD
Flags    : PropInfoFlagsMask;
```

All the extra variables needed for proportional gadgets are not kept in the "Gadget" record, but in a "PropInfo" record.

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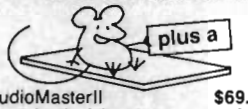

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If a mouse was released over a proportional gadget, simply set the current color to the values specified by the RGB slider.

```
HorizPot : CARDINAL;
VertPot : CARDINAL;
HorizBody : CARDINAL;
VertBody : CARDINAL;
(* Fields below are used only by Intuition *)
CWidth : CARDINAL;
CHeight : CARDINAL;
HPotRes : CARDINAL;
VPortRes : CARDINAL;
LeftBorder: CARDINAL;
TopBorder : CARDINAL;
END;
```

The field in this record that we will be using is "VertPot", which will contain the value corresponding to the vertical knob position when this gadget is selected. The pointer to the "PropInfo" record is stored in the "SpecialInfo" of the "Gadget" record. The pointers to three "PropInfo" records are saved in the variables "RedPropPtr", "BluePropPtr", and "GreenPropPtr", since we will need to access these fields a lot.

Finally, the "AddGadgetProp", from "SimpleGadgets", does not allow addition of text to the gadget, therefore we have to do this ourselves. In the initialization code for the "SetColors" module we set up three "IntuiText" records which point to single letter strings: "R", "G" and "B". When the prop gadgets are added to the list, we "attach" the appropriate "IntuiText" records to the corresponding gadgets.

As you can see, setting up the gadget list is a fairly complex affair, even with a lot of help from the "SimpleGadgets" module.

SETTING PROP VALUES

When the prop gadgets were defined their values were set to zero. The procedure "SetUpColorProps" resets the pot variables to reflect the RGB values of the selected color. The detailed workings of this procedure are explained below.

A call to "GetRGB4" obtains a coded specification of the RGB values for the current color. Each RGB value occupies 4 bits of the number returned. By performing appropriate DIV and MOD operations the values of each color component are easily extracted. For example, if the number returned is 3840 (0F00 in hex), the corresponding RGB values are:

```
B --> 3840 MOD 16          = 0
G --> (3840 DIV 16) MOD 16 = 240 MOD 16 = 0
R --> 3840 DIV 256         = 15
```

So the 3840 represents color Red.

The next step in our computation is a simple "inversion". We subtract the value of the color from 15. This is done simply to make the highest color value occur when the knob is at the top of the gadget's container, that way the color brightens as the knob moves up. The result (which lies between 0 and 15) is then multiplied by 01111 (in hex) - the pot increment. The final result is placed in the appropriate "PropInfo" record and then "RefreshGadgets" procedure is called to update the display.

HANDLING GADGET EVENTS

To make the color requester work we have to handle three different IDCMP events: "GadgetUp","GadgetDown", and "MouseMove". Note, that these were the IDCMP flags specified in the "SetUpWindow" procedure.

Now let's take a look at how each IDCMP event is handled. "GadgetUp" is reported when the user releases a mouse button over a gadget. The "ProcessGadget" procedure deals with "GadgetUp" events. One of the parameters to "ProcessGadget" is the gadget pointer which was extracted from the IDCMP message. The "GadgetID" field of the "Gadget" record tells us which gadget was clicked on. For example, if the "GadgetID" is between 0 and 31, a color selection gadget was picked, that is a different color was selected. In this case we save the color number, redraw the rectangle representing the selected color, and update the prop gagdets to show correct RGB values.

For OK or CANCEL gadgets, "ProcessGadget" just returns notification of the response.

Finally, if the mouse was released over a prop gadget we simply set the current color to the values specified by the RGB sliders.

The "GadgetDown" event takes place when the user positions the mouse pointer over the gadget and presses the button. This event will only be reported for gadgets that have the "GadgImmediate" flag set. In our program the prop gadgets have this flag turned on. The only action taken for "GadgetDown" event is to enable reporting of mouse movements (this reporting will be turned off when the gadget is released).

For each "MouseMove" event we change the current color according to the values of the RGB sliders. This provides instant feedback to the user, since the color will change as the slider moves.

The procedure that changes the color, "ModifyColors", simple extracts the pot values from the prop

gadgets, converts them into RGB values and changes the color accordingly.

MISCELLANEOUS

There were two operations mentioned earlier, that were not explained in detail. First one was the method for figuring out how many colors exist on a given screen and the second was saving and restoring colors maps.

The "GetColorCount" procedure performs the task of determining the number of colors on any screen. If the screen is not WorkBench (which has four colors), we simply use the number of bitplanes that comprise the screen. Each bit plane doubles the color count. So, a one bit-plane screen has 2 colors, two-bit plane screen has 4, three bit-plane 8, and so on.

Two procedures, "SaveColorMap" and "RestoreColorMap" are used to save and restore screen colors. These are necessary, in case the user cancels all the changes. In "SaveColorMap" we use "GetRGB4" procedure to obtain the values of all screen colors and save them in an array (global variable "SavedColors"). In "RestoreColorMap" we call "SetRGB4" procedure to restore the saved colors.

SUMMARY

This completes our discussion of the color requester. Next time we will return to creation of new drawing tools.

-=-

Next Time: New drawing tools!

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Videots DELIGHT

by R. Shamms Mortier, PhD.

And so the AX Amiga moon rises on yet another attempt at prehensile videation (Huh? What did he say?). In this continuing series of articles, we explore many facets of the Amiga/Video marriage, from software to hardware and beyond. The coming year promises to be revolutionary, with new products and processes promised for release.

All of a sudden, the privilege of creating broadcast quality vignettes and near-features has leaked out of the high priced studios and is making its way into the hands of the populace at large, and the only affordable machine that comes anywhere near being ready to face the challenge is... (drum roll and cymbal)... the Amiga. My sources tell me that the Apple orchard is taking desktop video as a passing joke, or a fad at best. That explains why the Mac is so ill-suited for creative video use, unless you have a zillion scads of drachmah to build a still-second-rate system. As for Big Turquoise, they're still so in love with data crunching that their "newest" releases are miles back in this area.

If only uncle Harry (Copperman, that is) can get the media blitz going in time. America is a land of visual obsessives and creators, and the Amiga needs to find its way into the hands of educators and artists alike. I know of no person who is not astounded when brought face to face with the Amiga's potentials. The hard part seems to be arranging that meeting, as far as Commodore's market strategy is concerned. Please, oh heavenly forces and mighty thunder winds, allow time to stand still while Harry's plans for conquest are unleashed on the world!

As I've said before, this column will attempt to answer some of your videotic questions. The first two such questions are bantered back and forth at the end of this article. Keep them coming in! This is the place to send them:

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Bristol, VT 05443

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PO Box 2521
W. Columbia, SC 29171

First the news...

Some news bits before answers. Though I am indeed happy with many of the features and attributes of Progressive Peripherals "FrameGrabber", I am not at all pleased with something it promises to do and doesn't. That is to take input from my B&W Pansonic camera (the one that goes with my DigiView unit) and capture images. I've had it sent back once (the FrameGrabber) and still can't capture images through the B&W lens. It works fine with the Canon Xapshot, which is a blessing. Not too much help from the technical folks on this one, and I dread sending it back yet again. The DigiView unit is still a mainstay of my operation for color still digitizing. I also think the robotic unit that is supposed to act as a servo to turn the filters is little better then a toy. It's a <bleep> (can I say that?)* to calibrate, and needs to be calibrated constantly.

A sort of interesting idea whose time may never come. And speaking of digitizing...

I must rave to you about the Canon B&W scanner and software from Gold Disk. One thing DigiView was never good at (and still gives pukey results at) is black and white line art digitizing. Try how you may, you'll not be able to get rid of those stupid light halos. If you use their "Line Art" setting, be prepared to go insane trying to find the proper balance, and then be equally as prepared to get a result that looks like a scrawl configured by a headless chicken - all that as a translation of your favorite B&W artwork.

But wait! What's that?! In the Sky! It's a bird...no! A plane...No! Your wallet... it's the Gold Disk/Canon B&W scanner package! At $1095 (which ain't very much in today's bloated marketplace) I can at last

Please, oh heavenly forces and mighty thunder winds, allow time to stand still while Harry's plans for conquest are unleashed on the world!

A reader asks about choosing the "right" video unit to purchase for Amiga animations. VHS? Beta? S-VHS? Hi-8? Ed-Beta? 3/4 SP? 3/4 standard? The Gold Standard? The Martian Standard?

get perfect 300 lines-per-inch digitizations of my favorite drawings. For an old pen and ink <bleep> like myself, that is tantamount to being able to live out my most secret sexual fantasies (well, almost). The scanner accepts art in sizes from 8.5 by 11 to 11 by 17 (and will also accept small things like a dollar bill, but as this is not legal, please don't try it).

Once scanned, you can grab brush portions and save them to disk. I've successfully dumped them to PageStream, and the laser printed results are oh so nice. There's much more to show and tell on this and connected issues. Later.

Now for the questions thrown my way on the wings of a snow white dove.

A reader asks about choosing the "right" video unit to purchase for Amiga animations. VHS? Beta? S-VHS? Hi-8? Ed-Beta? 3/4 SP? 3/4 standard? The Gold Standard? The Martian Standard? The Unstandard? Enough already! Part of the answer is related to your level of financial investment (and/or risk). There is no way to give you a straight-ahead answer, but there are inclinations and vague paths to point out. This is because, like the stock market, the video industry can't make up its mind at the moment (maybe we're waiting for helpful hints from Japan). The VHS machines in use for home movie viewing are hardly suitable for broadcast material, though some are better then others if your Amiga dreams are centered upon passing your work around to friends. Normal Beta is becoming very scarce; even buying blank tapes for it (on the East Coast) is becoming a difficulty.

Even where it is in use, Normal Beta is also not a broadcast medium (though the good Beta machines are a jump higher than most of their VHS counterparts). The 1" and 3/4" machines are used in the studios, with 1" being the preferred broadcast standard. They are very expensive. 3/4" SP is the new high-end 3/4" medium, but expense will dissuade most Amiga users from tapping into this alternative. S-VHS is starting to come into play, and is quite affordable. It gives you better all around resolution, but the results can only be shown on a Y/C (Chroma/Luma) monitor. It does produce better copies when dumped to VHS, or especially, to 3/4". Many smarties in the industry are betting on Hi-8 formats, because they give you all the advantages of S-VHS (and some say even more) at a lower price for equally optioned systems. They're also smaller, and fit better into limited work areas. I guess if I have to risk a real pinned-down answer, Hi-8 is my first choice for Amiga work, with S-VHS coming in a close second. The results of either can be dumped to broadcast tape with little signal loss.

And now, the second concern. A question from a user (keep those cards and letters coming in!) centered on the uses of the Polaroid Palette for Amiga slides. Since I've been using the Palette for about five years (first with an IBM/PC, then with my Amiga lover), I am "qualified" (he said, secretly realizing his fallibilities and propensity for boasting) to take a shot at a comment or two. The Palette itself runs about $2500, and the necessary interface (of which you have a choice of exactly one) sells for $500 from American Liquid Light in California. The interface has gone through major revisions since the time it was introduced, and so has the software. With this system, you can import any Amiga picture to the screen, adjust certain parameters, and shoot a slide. HAM work is shot in three filtered segments (red, blue, green), and other art is done in one pass. You can do batch processing, as well as single shots. Your camera, which is attached to the Palette, holds 36- or 24-exposure rolls of 35mm film (I use either Kodak-100 or Fuji-100).

Pluses and Minuses are as follows: Although some of my Amiga/Palette work has had national exposure at presentations and workshops, I realize that this system does not match up to the quality of the higher end systems (Polaroid also has a higher end system that the Amiga can address for about $6000). If you're careful, however, you can produce some really nice slides, especially for lower end clients (instructional usage, and local presentations). The resolution of the Palette is lower than that of the Amiga, and you have to deal with scan lines for Interlace stuff. Burocare, a company in England, is supposed to be distributing (any day now) a software-only interface for the Palette that will actually increase the perceived resolution, but that's the totality of my knowledge.

I still use the Liquid Light/Polaroid Palette a lot at the University of Vermont, because (like you) my budget is severely restricted. I'm waiting to see what else can be afforded that can increase the quality of my work.

When I really need the best Amiga slides I can get, I contact Peter Lullemann at Philadelphia Video Lab. Next month's feature is a long (very long) interview with Peter, and I'll preface it with statements concerning his charges as compared to the Palette, and his quality, which leaves the Palette far behind. Till then, keep those cards and letters coming, and dance the Amiga Videot Samba.

-=-

* NO!

WordPerfect Update

by Mike Hubbartt

WordPerfect Corp. has at last released the long-awaited update to their Amiga version of the WordPerfect word processor. This update is unfortunately not 5.0 (or 6.0) with graphics capabilities that would be compatible with WordPerfect versions on MS-DOS machines. However, the significant enhancements in the update should please many former critics of the program.

The new WordPerfect program disk has a Workbench icon, for allowing users without CLI expertise to upgrade from the older version of WordPerfect. Clicking on the icon will let the system prompt the user for disks to insert for updating the necessary sections. The first prompt asks if the user has a one-drive, two-drive, or harddrive setup, using this information to determine where the user needs to place the different disks for updating old files. The update will upgrade files on WordPerfect Library, as well as on the main WordPerfect disk and on the WordPerfect Print disk.

NEW FEATURES

As for enhancements, gone is the slow, jerky movement of the cursor when running two windows at the same time. I opened three windows, and had no discernible slowdown on text entry while writing letters of 1500 words or less in each window - although the file requestors and menu items appeared more slowly when the files exceeded 2000 words. This problem was one of the main user complaints against WordPerfect, and they corrected this problem to my satisfaction. While writing this article, I had a 2500-word article on the CLI in the first window, wrote this article in the second window, and shrunk the third window containing another 1000-word article and placed it out of the way in the upper right corner of the screen.

The new file requestor is the answer to many complaints voiced about WordPerfect since it was ported over to the Amiga. This file requestor is Amigatized (read: more intuitive and logical than before). The file requestor has gadgets for: Parent, Root, Drives, Sorted By Name, New, Open, Retrieve, and Cancel. It also has the familiar string gadgets for directly entering the full path and filename for any file, just like the older version.

Clicking in one area of the retrieve requestor will bring up files, and then clicking in the smaller box to the right will bring up creation date information for all files listed. The files are displayed much faster than with the older requestor, and the sort-by-name option is equally fast. Additionally, the List Files requestor has (besides those of the File Requestor), the following gadgets: Exit, 1 Mark, 2 Mark All, 3 Rename, 4 Print, 5 Text In, 6 Look, 7 Delete, 8 Copy, and 9 Search.

Speaking of new requestors, here is a list of WordPerfect's other new items: Setup menu containing Backup Options menu, which formerly required four different requestors to do the same thing; Set Beep menu, which formerly needed three different requestors; Set Macro Path menu, new to the setup menu, is where all macros are stored; Default Document Path menu, another new item to the setup menu, used for setting a default directory for storing a files unless specifying a different directory for storage; Edit Buffer Sizing menu, another new one to the setup menu, that lets the user set the amount of memory for the file buffer in memory. This is definitely one of the better additions to WordPerfect for users with more than a megabyte of memory; Screen Options menu, also new, lets the user select between use of Workbench or a custom WordPerfect screen as a vehicle to run WordPerfect from; Confirmation Options menu, also new, lets the users decide if they want to be bothered with that pesky warning requestor for both replacing a file and deleting a block of text - another VERY nice addition.

ADDITIONAL FEATURES

The letter enclosed with the update says the spelling checker has been improved, although it was not directly changed by the updating procedure. Furthermore, this update allows Amiga 4.1 files to be converted to 4.2 (MS-DOS format) using the Import and Export menu items, for moving text files across various machines. Nice. To use the new LEARN files, instead of using another disk for the new files, simply filecopy (with the CLI copy command) them over to your old backed-up LEARN disk - this will only fill about 12 percent of it and save you a disk to store all your letters/articles/diary entries/etc written with WordPerfect.

COMPLAINTS

Although macros are easily written to perform the same task, I would still like to see either a running word count or a single menu item (or single key stroke) to select for word count. You still need to access the spell menu, and select word count from the list of possibilites, which takes more time than Transcript (Gold Disk), but less time than with Excellence! (Micro-Systems Software), which requires running the grammar checker before getting a word total.

Although WordPerfect 4.2 has been out for MS-DOS machines for quite a while, we still don't have it on the Amiga, much less the newer 5.0. Why?

Although the cursor moves through text at a nice pace, even through 2500-word files, I would still like to see it move with the speed of Transcript - still the leader among Amiga word processors.

There is still a slowdown of displaying either menus or requestors (but not text) when several window are simultaneously open, although nowhere near as severe as before. I hope a future (if there is one) update will make further improvements in this area.

CONCLUSIONS

This update to WordPerfect comes on three disks (WordPerfect, Print, and Learn), with 45 supplemental manual pages. The changes take care of the majority of complaints I have heard about WordPerfect in the past, and show that this company is still determined to offer what the customers demand - quality for the money. Remember these corrections were made on WordPerfect because of customer feedback, so be sure to be vocal to this and other companies about product changes you feel are important. Amigatizing WordPerfect makes it more fun to use, and it still has all the power that made it the number one word processor in all other computer formats. After switching in the past to a different Amiga word processor that allowed several windows open at the same time, I have happily made the switch back to WordPerfect. This update is precisely what we Amiga WordPerfect owners needed, and is a real bargain at $12.95.

WordPerfect v4.1.9 Update
Price : $12.95 to registered owners of WordPerfect for the Amiga
WordPerfect v4.1.9 (the entire package)
Price : $ 249.95
WordPerfect
1555 Technology Way
Orem, Utah 84057

As for enhancements, gone is the slow, jerky movement of the cursor when running two windows at the same time.

SID: System Info Display v3.00

by Mike Berro
© 1989 by BCS Software All Rights Reserved
13432 Lochrin Lane
Sylmar CA 91342

SID actually allows you to peek into the Amiga's operating system and take a snapshot of what's going on!

This program is provided to us as Shareware. This means that the programmers release their programs for different people to try out. If you like, or often use the program, it is encouraged that you send a $15 donation to the programmer. In exchange, the programmer will send you a version that will not have the "about" window, which will make moving windows go faster (and take less memory). You can send less money (or just write me a letter), but you won't receive a disk in return.

General Description

SID allows you to peek into the Amiga Operating System ("OS") and take snapshots of the current status. This is especially useful for programmers, who must make certain that their programs free all of the resources they utilize when the user exits. You can also analyze what a particular program is doing to the OS. The casual user may get a kick out of discovering things such as that the Intuition Library in 1.2 is up to revision 702, or that WordPerfect calls its tasks "kashmir".

I wrote (and re-wrote) SID to hone my programming skills, and to test some ideas in programming and user interface. I would appreciate comments and suggestions almost as much as the money.

Version 3 Features

SID now gives much more information. The Task list includes priority, flags, state, address, stack pointer, and signals allocated. The Libraries and Devices lists include version and revision, open count, flags, negative size, positive size, checksum and the ID string. Ports reveals the priority, flags, signal bit and signal task address.

Screens & Windows now displays the size and depth of each screen. DOS Devices and Directories now list the priority, the task address, the stack size and the handler name. DOS Volumes now lists the creation date and time, the task address and the lock list.

Memory now shows the largest, and commas add to the readability of the numbers.

An added feature shows all fonts that are currently loaded into RAM, and includes the size, style and flags.

SID now can optionally create its own eight-color screen, with or without interlace, or can open its windows on the Workbench screen. You can jump from one mode to the other via a menu selection. You can force SID to come up in a particular mode from either the Workbench (using ToolTypes) or CLI (default mode is a custom non-interlaced screen).

You can now have up to four SID windows open at once. Each window title tells you the name of the info displayed, and the date and time the info was collected. Now that SID updates a window only upon command, you can visually compare "before" and "after" system states. "Save" and "Print" do not update the window.

Each SID window now updates only when you click inside the window, or change display modes. The time of the last update is displayed in the window title, as is a description of what is being displayed.

The SID printout and saved files are better formatted, and include the date and time that the information was collected.

The SID program is now almost 30K long. Still, that's not too big considering what it does. The "bevelled" look uses only a few hundred bytes, and no extra chip memory, so I'm leaving it in.

Menu Commands

New Opens a new SID window. This selection is ghosted when four windows are open.

Save Saves the contents of the current window. The file name is "SID.docNN", where NN starts at "01" and increments to "99". SID does not detect if the file already exists. The file is created in the same directory as SID when run from the Workbench, or in the current directory when run from the CLI.

Print Prints the contents of the current window. An extra line-feed is added at the bottom, but not a form-feed.

Close Closes the current window. Same as clicking on the CLOSEWINDOW gadget. If it is the last window, SID will exit.

Quit Closes all SID windows and exits.

Continued On Page 68

HILLSFAR

by Mike Hubbartt

While in college, our Friday night game of Dungeons & Dragons meant relief from the week's studies and a chance to socialize. Up to twelve of us played, six regular players and one to six curious friends that would listen to us talk about the games while in class during the week . We used paper to keep track of our characters' statistics, any treasures found, and a map of the dungeon where the action occurred.

Strategic Simulations (SSI) has developed an Amiga product that relieves players of the tedious task of writing down all their information, while still retaining the action and fun of a D&D adventure. This product is Hillsfar, based on the Forgotten Realms adventures from TSR. This game will allow a single person to explore a strange and dangerous realm, without the beer and Fritos expenses of our Friday night get-togethers.

Where do you get your characters for the adventure? There are characters already generated, one of which you can select. Import a favorite character from the SSI Pools of Radiance game, if you wish to continue an adventure with an old friend. If neither of these options appeal to you, then create a new character from scratch.

Each character has a race such as Human, Elf, Half-Elf, Dwarf, Halfing, or Gnome. Both sexes are present in this world, so choose whether your character is male or female. Another important stat is the class of your character, which includes Cleric, Fighter, Magic-User, Thief, Cleric/Fighter, Cleric/Magic-User, Cleric/Fighter/Magic-User, Fighter/Magic-User, Fighter/Thief, Fighter/Thief/Magic-User, and Magic-User/Thief. Plain Clerics cannot use sharp instruments, so they are not the best fighters to have around. Thieves can get into places where you want to go, so make a good choice - how about using a halfing thief named Baggins?

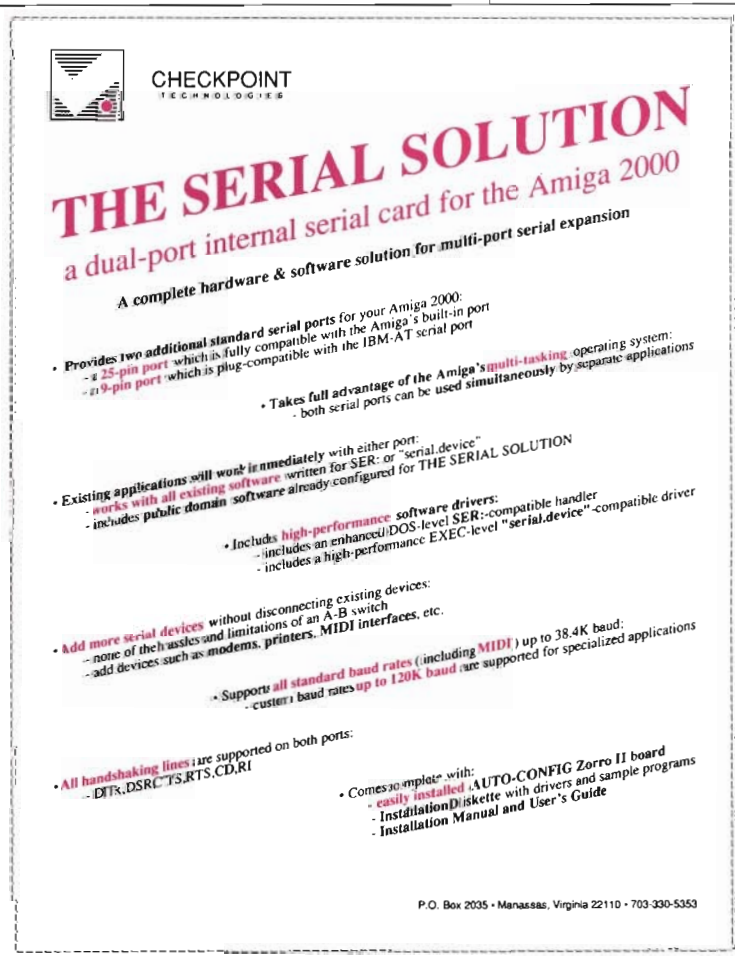
Characters need a good, evil, or neutral alignment, and have quite a few choices on how they are aligned. Choose your character's alignment from the selection: Lawful Good/Neutral/Evil, Neutral Good, True Neutral, Neutral Evil, Chaotic Good/Neutral/Evil.

The familiar stats of Strength, Intelligence, Dexterity, Constitution, and Charisma are generated after choosing the character's attributes. The range for these stats is 3 to 19, and you can have the program re-roll if you do not like what you first see for your character. You also receive hit points (how much damage can you take), Gold (money to buy stuff), Exp (experience points), and Level (of advancement). These values are based on the different choices you make, so think about it before making your stat selections.

Your adventure starts with you riding to the city of Hillsfar on a horse. Dodge obstacles like fences and ditches with the joystick, or your horse will throw you and can leave you stranded. If stranded, you may either walk on or return to the starting point, look for another horse, or wait for someone to carry you on. Walking is dangerous, since all sorts (like bandits) are probably in the woods looking for someone like you to rob, so think carefully before choosing any option. This part is not too difficult, but keep in mind that

Continued On Page 70

Your adventure starts with you riding to the city of Hillsfar on a horse. Dodge obstacles like fences and ditches with the joystick, or your horse will throw you and can leave you stranded.



Carmen is a detective caper. You as a rookie, must face some of the toughest capers, along with your trusty crime computer.

Where In The World Is Carmen Sandiego?

by Mike Hubbartt

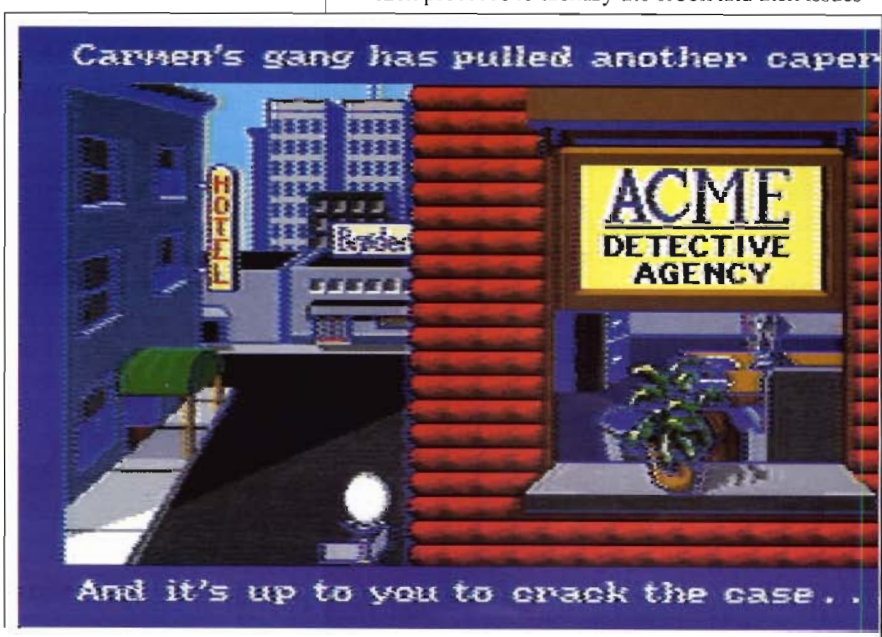
Who says learning new facts should be painful? The best educators in any level of school are those that make a subject both easy and fun to learn. I had a teacher in high school who had a love for interesting facts about other countries, and he was able to interest the entire class in an otherwise boring subject.

Most computer programs for educationsl purposes teach by rote learning - the OLD way of learning by repeatedly covering the material, no matter how boring it becomes. Finally, a software company has an Amiga educational product both fun to use and very beneficial for people of all ages. The program is Where In The World Is Carmen Sandiego, from

Brøoderbund Software.

Carmen is a detective caper. You're a detective from the Acme Detective Agency, after the infamous Carmen Sandiego and her gang (V.I.L.E.) which are out to rob the world's treasures. You start out as a Rookie, progressing up to Ace Detective - where you face the toughest cases in the world. You have a trusty crime computer for aiding your investigations, although you only see messages output to a "printer" instead of a CRT. The crime computer gives the initial clues to go on, and it's up to you to follow them.

Start out in the city where the theft occurs. Move around to different sites in the city to ask questions about your suspect. You don't need to ask any questions, *per se*; the program assumes you would ask about the suspect where ever you go, so it saves all the extraneous typing. You must first identify him/her using the clues from witnesses that see the thief, before issuing an arrest warrant, which is a must for such a law-abiding citizen as yourself. Use the police dossiers for all the gang members to find identifying characteristics that might make your thief stand out from others with similar characteristics. The clues are entered into your crime computer, which proceeds to identify the crook and then issues



a warrant for his/her arrest.

Carmen Sandiego is an equal-opportunity employer, regardless of her other shortcoming, so there are both male and female gang members in V.I.L.E.. The gang consists of Merey LaRoc, Dazzle Nocker, Lady Wayland, Red Bulk, Scar Graynolt, Nick Brunch, Fast Eddie B, Ihor Ihorovitch, and Boom-Boom Drib. Rarely has such a hard-boiled group assembled under one leader, and you can bet Carmen is one mean cookie herself!

This gang of undesirables will go anywhere in the world to steal treasures. Where in the World has thirty cities that you must cover, from Sydney, Australia to Reykjavik, Iceland. The crooks can move from city to city, and you will spend some time flying around yourself in search of the elusive crook.

Instead of providing a simple on-line help option, Brøderbund went the further step by including a World Almanac and Book Of Facts. The current book is included, not a cheaper out-of-date version. This thick book is chock full of interesting facts, even covering pro football statistics like Dan Marino's records. This almanac is the place to turn to when looking up the clues from the game. The witnesses may say that the crook asked about perfume manufacturing, or how to grow vanilla beans. Use the almanac to find where vanilla beans grow best, or which key city where perfume is traditionally made.

The manual itself is small, although it provides enough information on the members of V.I.L.E. to help you get started. The included almanac is an outstanding feature of the program, and may stimulate game players' interest in reading this fascinating store of facts. I heartly recommend Where in the World without any reservations. It even supports users with expanded memory, providing a faster game.

Where In The World Is Carmen Sandiego?
Price: $44.95
Broderbund Software
17 Paul Dr.
San Rafael, CA 94903-2101
800-527-6263

The gang of undesirables will go anywhere in the world to steal trasures!

Prospector - Continued From Page 46

You must collect all the balloons to complete a level, so be sure not to destroy any or you will need to start all over. How can you destroy the balloons? It's quite simple. There are charges of dynamite that you explode by dropping boulders on them, which open sections of the maze. If any balloons are nearby when dynamite is exploded, bye-bye balloons. This is a part of the game I didn't like, since it requires restarting the maze from scratch.

Be alert, since there are decoy balloons out there just waiting for you to stop by. There are also four pieces of the maze map somewhere out in the maze, which highlight a different section of the map after your characters find and pick them up. Another obstacle encountered is the sphere, which can be bumped and moved into other items, unless they are up against a wall and your character can't get behind it for a push. The teleporter occasionally helps when stuck in one part of a maze, although I would like to see a few more on the starting levels to help the newer players.

There are quite a few mazes to play, for the beginner to advanced player. If you liked Dig Dug, you'll love how Xor plays. The screens and characters are very well done. My main complaint about this game, was that it is a matter of learning the moves exactly, if you want to win. Xor is very unforgiving, so arcade addicts that love to know all the exact moves for a game will love this one. This game will please arcade game addicts to no end, since ther are so many mazes to learn.

Prospector in the Mazes of Xor
Price: $39.95
Eurosoft International
70 Woodfin Place, Suite 400
Ashville, NC 28801
704-255-7590

This game will please arcade game addicts to no end since there are so many mazes to learn.

Distant Armies: A Playing History of Chess

by R. Shamms Mortier, Ph.D.

Even now, there are a number of chess tournaments in which computers play each other, and others in which they confront human master players...

Chess and computing share a small history. Chess has always been thought of as one of the ultimate tests of planning and visionary skill, and also as a metaphor for thinking itself. Little wonder then that the dream of many inventors throughout history has been to create a machine that could mimic human intelligence by becoming a master at the game of chess. In the eighteenth century, a metal, chess-playing automaton (dressed as a Turk) amazed crowds of onlookers by beating them at chess. Few realized that the robot was automated by a man hiding inside.

The fascination with machines' being able to compete in games of chess and bettering human players was reinitiated in the mid-1950s by several scientists investigating the realms of artificial intelligence and computing. Even now, there are a number of chess tournaments in which computers play each other, and others in which they confront human master players. The game of chess is seen to be a measure and a gateway to creative mental activity and thinking itself. It's no small task to write a program on a computer that allows a player to be truly challenged in a chess match. The Nickersons, creators of Eagle Tree Software's Distant Armies, have bested this challenge - by ten times.

Distant Armies at first glance is just another, or rather ten, games of interactive chess. There are several other chess playing programs on the Amiga that have better graphics, and one that even boasts superb little animation vignettes in which the pieces actually go through the movements of dispatching each other. So, who needs another chess game? Well, if you like chess enough to collect different versions of the game, this package just could be your cup of Turkish Coffee. The ten chess games that Distant Armies presents are selected from the long and diverse history of the game. Some will be quite easy for you to learn if you've played the game of chess before, and some will seem quite arcane and complex. All are fun, and are accompanied by the kind of effects that Amigans expect on the screen.

All of the screens are in Lo-Res, probably due to the massive space required for the programs themselves. The graphics suffer a bit of the jaggies accordingly, but obvious attempts have been made to work in that resolution in the best ways possible. All of the pieces have been designed to give you a feel for the history and geography of the periods represented. The ten chess-based games have been researched from a multitude of cultural surroundings:

1. Chaturanga, and Indian game that many consider to be the progenitor of the game.
2. Burmese Chess, which dates to the fifth century in the common era.
3. Chinese, which some consider to be in competition with Indian Chess for the rights to its initial heritage.
4. Shatranj, which dates to at least sixth century Persia.
5. Byzantine, an alternate Islamic version of the game played on a round board.
6. Mediæval, which can be traced at least as far as Spain in the eleventh century.
7. Courier, which is the German forerunner of modern European varieties.
8. Turkish Chess, which had some historical moves that were extremely destructive.
9. Decimal Chess, another Persian version played on a 10 by 10 square grid.
10. Los Alamos, which dates to a recent period (the 1950s), and is one in a prestigious line of versions of the game that pits human against machine.

Graphically speaking, the pieces would look a lot better if rendered in anything but Lo-Res, but then there would probably have to have been at least a two-disk set. Some of the games look better then others as far as clarity of the sculptured pieces is concerned, but taking the whole game screen at a glance, the design is suitable enough to get you involved in the game. In all of the games, you can choose who plays who: you and the computer, the computer against itself, or two human players. Games can be saved for later continuance too.

Continued On Page 74

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SID - From Page 62

The Display Menu selects what info is to be displayed in the current window. The info is not interpreted; it is "raw" data. Check the RKM for more information on what it all means, or just experiment. You cannot change any system parameters using SID.

The Options Menu selects whether SID opens windows on the Workbench screen, or creates its own custom screen. "SID Screen" creates a 640x200x3 screen, "Interlace" creates a 640x400x3 screen. If you are unable to open four windows in interlace mode, you have probably run out of CHIP memory.

Default Startup Options
From CLI, add the letter "I" for interlace mode, or "W" for Workbench. From Workbench, use the Info menu slecetion to change the Tool Types field. Set "FLAGS=I" for interlace, or "FLAGS=W" for Workbench.

Miscellaneous Information
SID displays no error messages, but errors (insufficient memory for a new window or file save problems) should not cause problems.

If you want to permanently change the SID custom screen colors, filezap the program and look for the ASCII text "Colors". The next 8 words comprise the color map. Please don't distribute a modified version.

In case you were wondering, SID uses its own fast text routine, which includes its own font for the data display.

SID windows are GIMMEZEROZERO and SMART_REFRESH, which makes them slow memory hogs. However, it makes the scroll gadgets fast and easy.

SID has been tested on the 68020 and 68030, and on the Super Agnus, and seems to work fine.

SID is 100% assembly language. Most of the routines are reentrant, so I suppose I could eventually make SID resident.

-=-

CHAOS - From Page 30

tronic circuits, and quantum mechanics.

Fractals and Dynamic Equations

The dynamic equation can draw many similarities from fractal equations. The main difference however, is that in dynamic equations we are using real numbers, in fractals we use complex numbers that are composed of a real and imaginary part.

The Chaos Game

The PBS station in N.Y. had a special on Chaos a few months ago. During the show a mathematician, Micheal Bamsley, introduced an interesting phenomenon he dubbed the Chaos Game.

How the game is played is simple. We use one die and a sheet of paper. We draw three points on the paper, as if they are the three corner points of a triangle. Each corner is labeled with two numbers of the die. So, for our first corner we use 1,2, second corner 3,4 and third corner 5,6. Now we start to play, choose any point randomly, anywhere on the paper to start from, and throw the die. Whatever face turns up, you draw a point between the point you are currently at and the corner of the triangle identified by the number on the die face. So if you threw a four you'd use the (3,4) corner to draw to, or if you threw a 6 you'd use the (5,6) corner. To continue, this new point becomes the current point. Now you throw the die again and continue in the manner just described.

Now after you have thrown the die a couple of thousand times what kind of picture do you think will appear. Well if you're like most people you wouldn't think any image would show up, just a bunch of random dots in the shape of a triangle right? Naw, if thats all it did would I go through all this trouble to play the Chaos Game?

Fortunately, we don't have to sit around throwing a die all night, we have a computer that could plot it out in a minute or so. Run Chaos Program 3 and take a look.

The image generated is a fractal called a Sierpinski triangle (or gasket). Oh as you read the code you may notice I used just one number per corner instead of two, which is equal to a three sided die. It doesn't make a difference if you use three numbers or six. The game was originally played using six numbers because dice have six sides. A three-sided die is hard to throw in the real world, it's even harder to make.

IFS Graphics

Now that you've played the Chaos game, let's enter the hot topic of IFS graphics and see how it relates to the Chaos game. First, IFS stands for Iterative Function System. This system is being developed by Michael Barnsley (you may remember him from the previous chapter) and Alan Sloan, two mathematicians from the Georgia Institute of Technology. The U.S. government Defense Advanced Research Projects Agency (DARPA) has provided funding in this area. This system achieves a 10,000 to 1 or higher image compression ratio.

As I stated before self-similarity in nature is the rule. The IFS system capitalizes on this fact to generate images. The basic operation of the system is as follows. You start with an image and find a IFS fractal code that represents a portion of the image. This image portion that is coded should be replicated a number of times through out the image. As an example you could code one leaf of a tree, then generate a thousand of these on tree branches. These IFS codes are affine transformations that, when run through a random iteration algorithm, will regenerate the original image.

Chaos Program 4 is an example. The IFS code is the 16 numbers contained in the data statements. The rest of the program is the random iteration algorithm. The random iteration algorithm can be used with other IFS codes. Let the program run for 15 minutes or so, and you will find a near photo-realistic image of a fern on your computer screen. Although the technique for computing the IFS codes is too detailed to cover here quickly, I'm planning another article just on IFS graphics with a code and decode BASIC program.

For now let's jump back and discover the relationship to the chaos game. Chaos game three also used a random iterative algorithm to generate the Sierpinski gasket. Examine the code to both programs and see how the previous coordinate becomes the current coordinate to generate the next coordinate.

That's it for now, keep those dice rolling.

Flight Simulators *- From Page 13*

Geneva, Zurich, Chicago O'Hare, and Indianapolis. The $89.95 price tag makes it the most expensive Amiga flight simulator, but it's well worth it to those who need to practice on a B727 - unfortunately, that's not a lot of us.

When covering non-arcade flight simulators, should you consider space shoot-em-ups? I've included a couple, since they take advantage of flight, although in a different setting than that normally seen on earth. Let's start with Brøoderbund's Star Wars. In this game, you fly a rebel X-wing fighter against the Emperor's Tie fighters, led by Darth Vader. The first part of the game is flying against these Tie fighters; survive the encounter and then head down to the death star to do battle on its surface. Blast the towers as you dodge their counterfire, before flying through the maze of obstructions in the slot on the Death Star's surface. You need to dodge obstructions and enemy fire long enough to fire a charge down a vent shaft into the nuclear reactor, causing the Death Star to explode. There are many levels of this game, although each level gets more difficult, since new obstructions appear to prevent it from becoming a boring repeat of the last level.

StarGlider II is a fun space flight simulator with a few unique twists. First of all, it uses a novella to set the pace of the game, instead of relying on a dry owners manual to explain the options. This novella provides reasons why you are on a mission, instead of just 'to shoot the villains' as with most other space games. Another nice touch of StarGlider II is the use of 3-D instrument gauges. Only a few are viewed in 3-D, but they enhance the game to no end.

The final arcade flight simulator is SkyChase from Maxis, producers of the acclaimed SimCity. This program has the largest variety of planes to choose from, for all Amiga flight simulators. Choose between: F-14, F-15, F-16, F-18, Mig-27, Mig-31, and a special (don't laugh - its not bad) paper airplane. This program uses the split screen format, similar to TopGun for the C-64. The planes are rendered in wire-frame - the main reason this program joins the arcade simulators instead of non-arcade ones. One or two can play, flying head-to-head when two compete. Like F/A-18, the manual is smaller than I like to see with this type of product.

All things considered, buy an arcade if you want a game easily learned and still fun to play. Arcade games are cheaper, averaging $10.00 less than the more serious simulators. Buy a serious simulator if you want to experience the joys of flight without the expenses normally incurred with a trip to the airport.

Flight Simulator II
Price: $49.95
Jet
Price: $49.95
subLogic
501 Kenyan Road
Champaign, IL 61820
217-356-4166

FA/-18 Interceptor
Price: $49.95
Electronic Arts
1820 Gateway Drive
San Mateo, CA 94404
415-571-7171

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Jet Instrument Trainer
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Precision Approach
207 East 3rd
Prophetstown, IL 61277
815-537-2211

Star Wars
Price: $39.95
Broderbund Software
17 Paul Dr.
San Rafael, CA 94903
415-492-3200

Star Glider II
Price: $44.95
Medalist International
180 Lakefront Drive
Hunt Valley, MD 21030
301-771-1151

Sky Chase
Price: $39.95
Maxis
953 Mt. View Drive
Suite #113
LaFayette, CA 94549
415-376-6434

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StarGlider II is a fun space flight simulator with a few unique twists, using a novella to set the pace of the game instead of a dry users manual.

Jet Trainer - Continued from page 15

learn more about the joys and difficulties of jet-powered instrument flight.

This program will NOT teach you how to fly a 727 to Paris. It assumes a level of knowledge found from extensive use of either real flying or Flight Simulator II. Since I am not rated on a jet, I went to a former military pilot for his perspectives on Jet :Instrument Trainer, and this review reflects both of our opinions.

What flight profiles does JIT have? How about Normal Takeoff, Normal ILS, Non Precision Approach, All engine Go-Around, 2-Engine Approach and Go-Around, 1-Engine ILS and Go-Around, Flaps Up Landing, Steep Turns, and Approach to Stall. The diagrams in the manual show each maneauver, and the general instrument settings needed to perform them. Run through these maneuvers with or without wind turbulence for more realism.

Lets take a look at a normal 727 take-off. Turn on the power (naturally), setting next the airspeed and then the maximum deck angle of 15 percent. After reaching 1000 feet, reduce the angle of ascent for a rate of climb of 500 to 1000 feet per minute, adjusting the flaps according to current speed. At 2000 feet, increase speed to 250 knots, maintaining a climb angle that produces a climb rate of 500 to 1000 feet per minute. Thats it. Not as bad as you might have thought, eh? All profiles have these general instructions, but they don't tell you how to set all the instruments to specific values, so you can experiment to get the feel for them.

The manual has illustrations of the instrument panel for those of us unfamiliar with the layout. The instrument panel contains the following: Airspeed, Attitude Indicator, Altimeter, Power Indicator, Clock, Speed Brake Indicator, Landing Gear, VOR, Heading Indicator, and RMI. Nav 1 and Nav 2 is additionally displayed.

The main purpose of Jet Instrument Trainer is pilot familiarization with instrument scanning. This program has both jet and prop modes. The manual comes in a three-ring binder, which is simple enough to keep open while approaching the Paris runway for a landing. The manual contains authorized Jeppesen charts for Dallas, Athens, Belgrade, London, Paris, Guadalajara, Mexico City, Geneva, Zurich, Chicago O'Hare, and Indianapolis. The manual has a few sample flights for you to get familiar with the program, and they are simple enough to follow.

I can and certainly do recommend this product to any pilot or SERIOUS flight simulator pilot, but not to the ocassional arcade pilot that is simply curious.

Jet Instrument Trainer
Price: $89.95

HillsFarr - Continued from page 63

your horse won't jump unless he has a bit of room before the obstacle.

After (or should I say "if") you arrive at Hillsfar, the screen displays a map of the city, your attributes, and a smaller view of what you would see. Move through the city using the joystick, exploring buildings as you come across them (some with treasures) or just get a feel for the city. Stop at the archery range and practice a few shots if you wish. Whether visiting one of the guilds, the bookstore, a temple, a healer, or the haunted mansion, there is plenty to keep you busy while in Hillsfar. Occasionally, people will approach you with wares for sale, or to offer their services to you (such as a thief). A thief along on your adventure can be helpful when you come across a locked chest, and you won't have to control his movements - the program does that for you.

The graphics in Hillsfar are well done and realistic. Whether picking a lock or fighting an Orc in the Arena, the action in this Dungeone & Dragons style game is superb. I have been in touch with my old "D & D" gang, and we are talking about getting together to play another game, and they all want to see how well the computer version plays. I have enjoyed this better than the older Amiga Dungeons & Dragons style games, and look forward to exploring all aspects of it before heading on to the next in the series (Curse of the Azure Bonds - not yet available). I can certainly recommend this game for either experienced D & D players having a hard time getting together with a group of people, or to those just curious about what this D & D craze is about.

Hillsfar
Price: $49.95
SSI
675 Almanor Ave
Sunnyvale, CA 94086
1-415-964-1353

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Distant Armies - From Page 66

You can also tell the system to print each move or all moves in step by step algebraic notation, if you're into that depth of professional need.

To aid you in your quest for Chess Glory and to help you learn the moves of the more arcane games, you can select either a beep or a narrator's voice to warn you concerning "illegal moves". You can also select to "show legal moves", and every time you grab a piece, your optional moves are highlighted on the board. I found this a great help in learning the moves. There is also a list of the rules that you can access at anytime, but this is more helpful for the first two or three times through a game, being too time consuming otherwise.

If the computer delays too long, you can choose to "Force Computer Move" which will speed things up. If you're really anxious, you can also display all the present dangers by selecting "Show Threats". Moves can also be "taken back" in one step or as a repeat of the whole game. Some of the games have more than one possible list of rules (Mediæval Chess, for instance, allows choices between Spanish, French, or English versions).

As if it wasn't enough just to learn all these games, this software is a lot of fun. It lets you manipulate the quality of the narrator's voice in a very complex requester that allows you to toggle between male and female, set the speed, and determine the pitch. Some choices enhance clarity, while other selections are hilarious. All of the games pop up on the screen in 2D, as if you were staring at the board from overhead. Just a touch of the menu however brings you into 3D, as if you were sitting at a gaming table across from your opponent. Want to see what the game looks like from your enemies' standpoint? No problem. Just select "Switch Sides". If you're a visually oriented person instead of a mental perceiver, this can be very handy, and it also allows you to play yourself. You can also "set up a position" when the game begins, in order to rehearse getting yourself out of classically tight spots. Pieces can be moved with a cursor hand or arrow. All of this should be enough, and at this point, your money can be said to be very well spent. But there's even more.

Not only is Distant Armies a whole list of challenges for novice and master chess players, it's also a superlative history lesson.

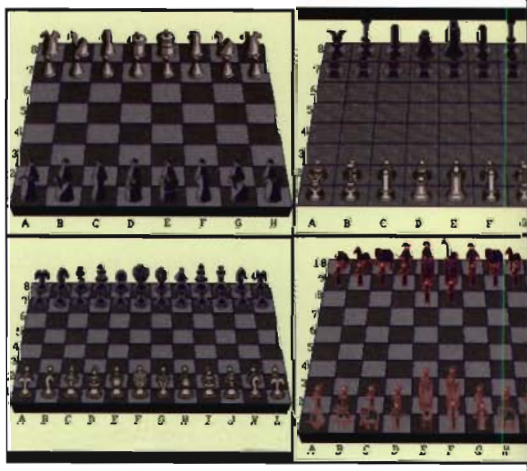
Not only is Distant Armies a whole list of challenges for novice and master chess players, it's also a superlative history lesson. All of the games have accompanying historical and cultural text to ground the game in definite time periods and geographical places. Attention is paid to connective data, showing how speculation insists that this or that movement of cultures may have influenced the playing of the game in different areas. Humorous anecdotes are included as well. Some of this text is so complete, it'll make you think you're studying for your doctorate in social symbolism and anthropology. All of it is so interesting, though, you'll scarcely feel the academic sting of schoolbook learning. It will at least give you a host of facts with which to amuse your friends and delight your peers. When games are saved with "Label Game", the names of the players and short comments can accompany the process.

The list of extra features continues. If you desire to change the colors, just bring up the palette requester. Before you know it, you're moving gold pieces on a fuchsia and mauve background. Ctrl/Left Amiga/"N" also brings up Workbench, allowing all the multitasking that memory will permit. The difficulty level of each game can also be set. There is a Glossary and Source list available in the menu bar.

The "manual" is hardly that - just a couple of pages that quickly give the essentials. I can only think of two things that I would like to see, and they are admittedly not that crucial. One is some graphics in the manual that depict various games and menus. This might help the non-chess-experienced gamer. The other is the ability to save palettes from game to game while you tour the program screens, although if you save a game, that is also included. In general, I find computer games either boring or frustrating, but I find chess to be a continual challenge. With this software, I both enjoyed chess and learned a good deal of history. Because it can multitask, it's perfect to have up on the screen at the office, as it can be quickly hidden just in case the boss rounds the corner.

Distant Armies: A Playing History of Chess
by Scott and Jerrell Nickerson
Eagle Tree Software
P.O. Box 164
Hopewell, VA 23860
804-452-0623
Suggested Retail Price: $44.95

-=-



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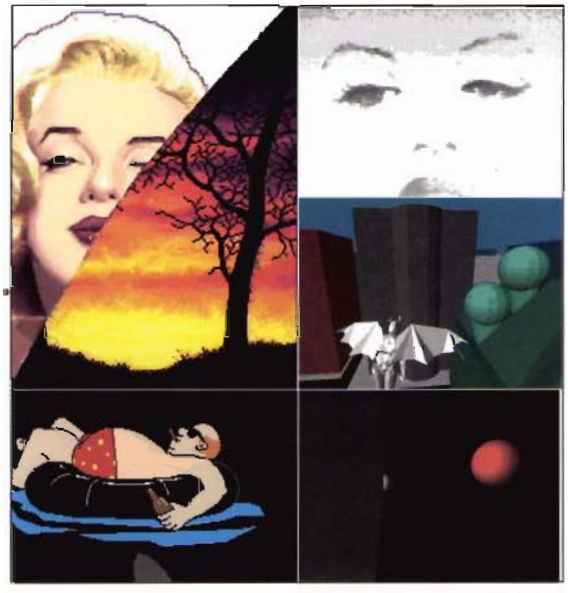


Animation Program Included so you can try your hand at animation!

Covered This Issue

- *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 far 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: Zoëtrope
by Mike Hubbartt
Here's a look at one of the newer Amiga animation products on the market, Zoëtrape. 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 Hubbartt.

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 Hubbartt
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 Hubbartt
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 Aml 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 Manroe 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 aut 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 explaination of how the Marilyn animation was created. This was not just your average frame grabbed animation. Several consideration 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.

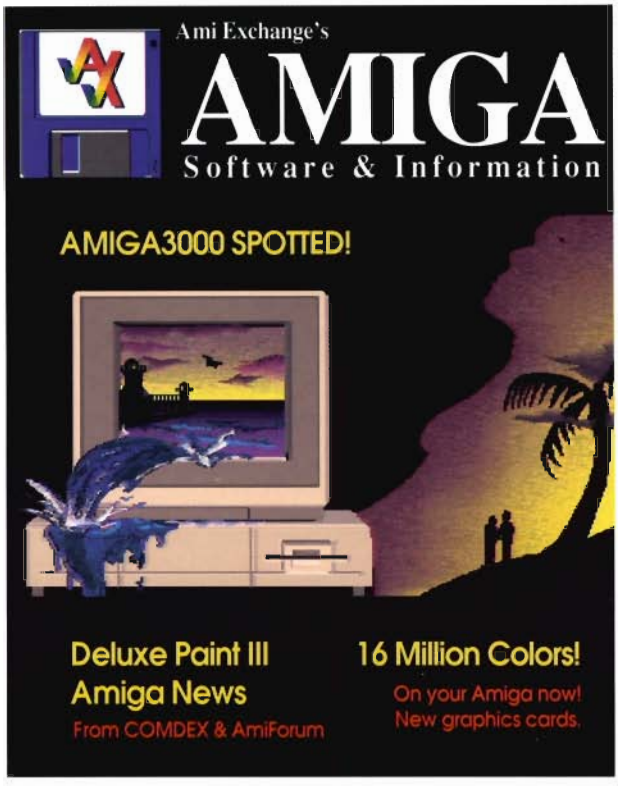
Selling Your Animations
by Jay Gross
After you get all the hardware and all the software you need, and after you gain all the experience and skills you need to do animation on the Amiga, what then? You don't have to sell your animations, of course, but if you want to, here are some suggestions for marketing your work, your services, ar 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 demastration animation was produced.

MovieSetter Animation: AX Movie
by Chris Bailey
This MovieSetter animation shows off the smoothness af 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 stick animation, so the saunds have been omitted from this demonstration.

You can order this Special Issue with your Order Form, or by calling 1-800-284-3624.

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 dongerous 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 VirusX3.3 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 Azziz

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. Romspott

Introduction X Window System
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