THE AMIGA NEWS MAGAZINE

JUNE 89 U.S. \$3.00 Can. \$4.00

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Aegis' animation creation and control system arrives

Also in this issue: ASDG's Dual Serial Board EasyLedgers Populous





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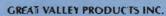
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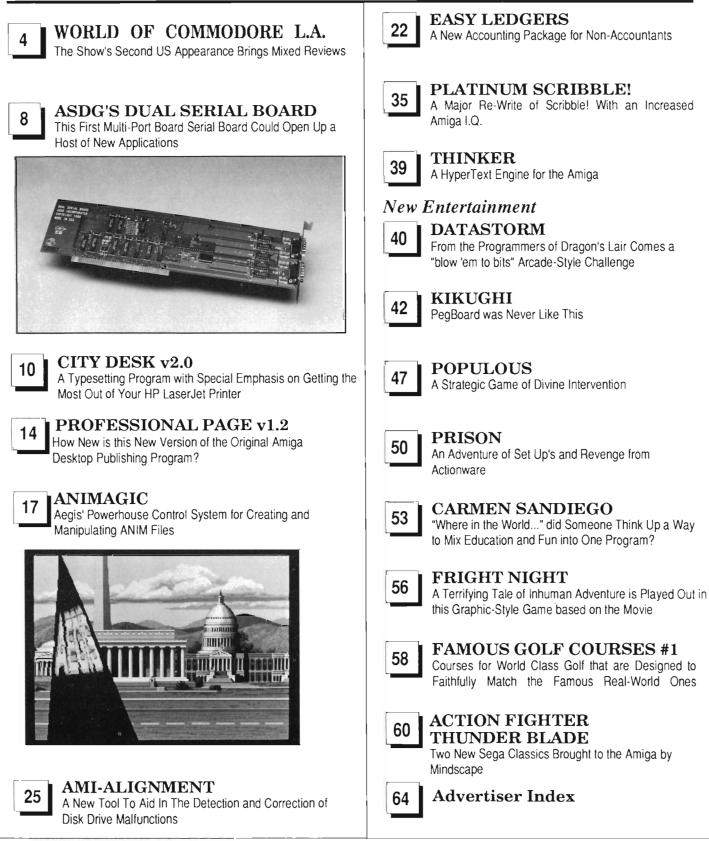
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On Point

Notes from Editor, Tom Bucklin

Some of the very recent developments around the Amiga marketplace are showing signs of great sales potential. With our report of the recent World of Commodore show in this issue, we also bring news of new, real live, see and touch, video products.

Probably most famous at this point, Newtek's Video Toaster represented a bonafide niche market for the Amiga. But uncertain video ram pricing and other factors prevented the Toaster from making its appointed debut when Newtek would have liked it to. The up side of these delays is that it has meant that companies like Newtek have had the time to develop some incredible support products to go along with it upon release. The new wave of 16 million color paintboxes that work in conjunction with frame buffers are powerful tools for the graphic artist as well as the video professional.

Video is the Amiga's chief strong point, and there is probably more professionals using the Amiga for this quality than any other. Now with new products scheduled to arrive from both Newtek and Digital Creations, they'll have the type of tools with which they are accustomed to working with.

At the same time, it is not unreasonable to assume that there will be a corresponding resurgence of curiosity about the Amiga, both from professionals, and from hobbyists. Hopefully, Commodore will be taking the kind of aggressive action towards penetrating this new market.

Publisher & Editor-in-Chief

Thomas E. Bucklin

Senior Editor

Stephen Dock

Production Designer

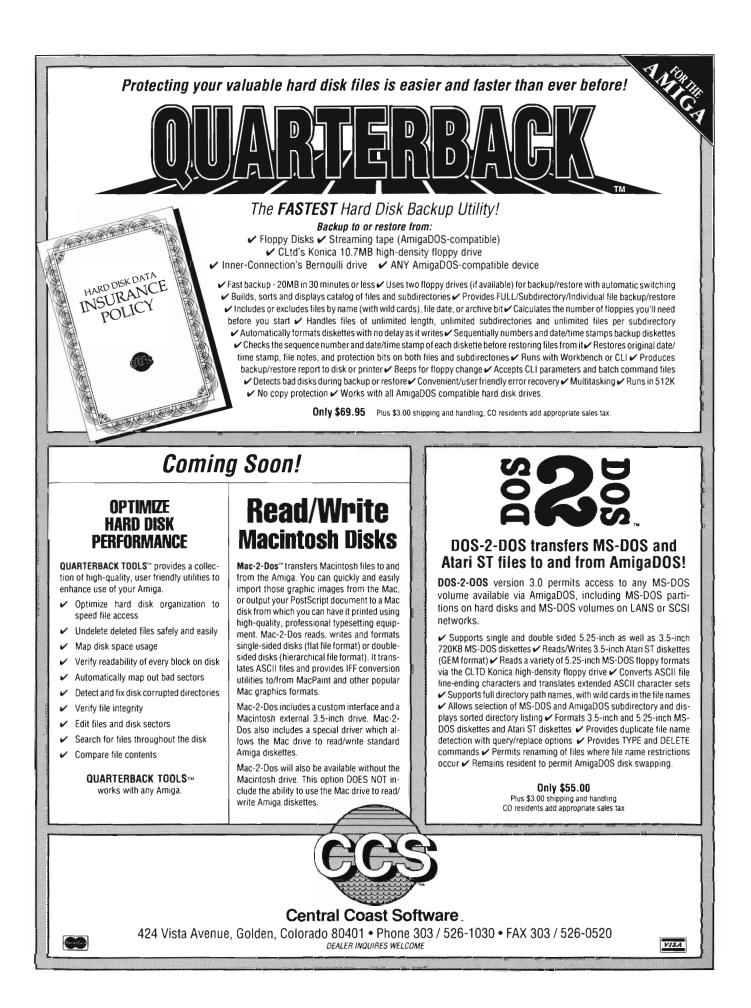
Reve' Valenz

Contributors

Anthony Bevivino Dave Haynie Ed Fadigan Gary Gehman Ken McNeill Paul R. Miller Steve Ushioda Tom Reed Paul Schaffer Walter Steuber Elaine White

Advertising & Dealer Information:

(215) 544 - 6394

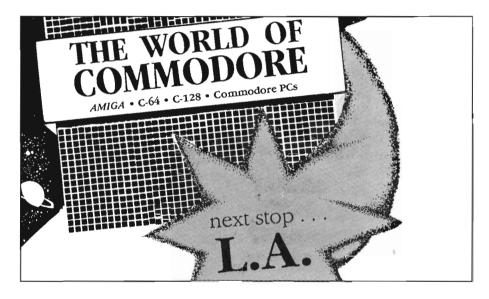


World of Commodore Los Angeles

The Second US Appearance Brings Mixed Reviews

he second U.S. edition of the World of Commodore was held in the City of the Angels (aka Los Angeles) from Friday May 19 through Sunday May 21. We won't be surprised if our Southern Californian readers did not attend the show. Maybe it was due to the teachers strike or maybe everyone went to the beach to catch some rays. In any case, attendance was very light with most of the 7000 coming on Saturday. Unlike the Philadelphia World of Commodore it seemed that at least 75% of those who did come were C=64 and C=128 users. This was doubly unfortunate since 75% of the exhibits were for the Amiga.

Even though the attendance was light, there were still some new things to report on. As you entered the exhibit floor, one of the first things to greet you was the NewTek booth. Yes they were showing the you guessed it, the Video Toaster. What's new about that you ask? Well, they have a nice new color flyer with a PRICE printed on it! During the past years there seemed to be great uncertainty about pricing for the Toaster (granted, part of the reason for this was directly due to the volatile silicon market these past few years). Well the price has now been officially announced as



\$1595.00. Newtek also announced a list of hardware add-ons such as a Dual channel Infinite Window Time Base Corrector. This TBC will sell for under \$1500, which might seem like a lot of extra money to plunk down until you realize that a Time Base Corrector usually costs several thousand dollars by itself. A TBC is required in order to use the Toaster with your home video equipment.

Also listed was an A-B Roll Editor, which lets you do those fancy transitions like you see on the evening news. A handout also listed a D-2 Interface. This refers to the new composite digital video format introduced last year by Sony. A D-2 interface is very high end broadcast equipment that sells for around \$80,000.00. It's interesting to note that the Video Toaster for a few thousand dollars can interface to almost any type of video equipment.

NewTek also listed two software options, the first of which is "Toaster Paint." Toaster Paint is said to allow the Video Toaster to paint in millions of colors and will have many sophisticated painting tools like airbrush and stencil. (Looks like all that programing on DigiPaint III will pay off here, too). The second option is Toaster 3D. This option will let you make 3D animations in millions of colors and will work together with the Toaster Paint package. Availability of the hardware and software options for the Video Toaster was stated as "In The Near Future." Also shown was DigiPaint III

which was looking very good at the show. New features of the HAM paint program include: addition of support for virtual pages (pages much larger than the screen); auto page scroll (when your cursor touches the edge of the page it will scroll the page in that direction if the page is larger than the screen); texture mapping; variable dither computed at 30 bits per pixel; and image processing software for 24 bit manipulations.

Laura Longfellow (alias Maxine Headroom) stated that the packaging for DigiPaint III was completed and that the manuals were being printed, so you should see it very soon. NewTek has plans to entice owners of Dpaint, and Photon Paint to switch by offering an "upgrade" to DigiPaint for about \$50.

Next on my list of things to see and just a couple of isles down was GVP (Great Valley Products) showing off their Impact A-2000-030/25 board. This is an asynchronous 25mhz 68030 board with a 68882 math chip also running at 25mhz. If you are into ray tracing this may very well be the board for you. Lets talk about speed for a moment. Many of you will remember the ray traced animation of the word AMI-GA rotating and passing through a shiny red apple. Well GVP had a demo set up of their 030/25 accelerator board equipped Amiga running side by side with an Amiga 2500. With both systems started at the same time the GVP 030/25 equipped Amiga would finish, then be restarted and finish a second time before the 2500 system would finish the first time.

In all fairness, you can change the math chip in the 2500 and narrow the gap a bit, but to see this kind of horsepower at work is truly amazing especially after waiting for hours to see the same kind of frame rendered on a stock Amiga. (You can see a review of the GVP 030/25 board in the last issue of the Sentry).

While I'm on the subject of accelerator board,s CSA (Computer System Associates) was showing off their new Midget Racer 68020 68881/2 accelerator

"DigiWorks lets you load in...images and turns them into 3D objects, complete with extrusion capabilities"

board. This board is for the budget minded or for those of us who own an Amiga 1000 or 500 and can't use (or afford) one of the other accelerator boards. (By the way the Midget Racer does work in the Amiga 2000 as well). Just what is a Midget Racer? It is a small circuit board that replaces your 68000 cpu with a 68020 cpu and a 68881 or 68882 math chip. This allows you to take advantage of programs that have been written for use with a 68020 and a math chip, programs like Sculpt 3D and 4D, Turbo Silver, X-Cad, and Aegis Draw Plus and Draw 2000, to name a few. I suspect many have found it to be a cost effective solution to their speed-needs. At a list price of only \$399.00 (without math chip) it will fit into a lot of people's budget.

The addition of a 16mhz 68881 math chip can further reduce your ray trace rendering times. Even if your software does not take full advantage of the math chip and 68020, you will still notice your machine will be a lot snappier than before. Next let's talk about genlocking for a minute. Digital Creations was showing off their SuperGen 2000S which offers several new features. First, it fits into the video slot of the Amiga 2000. The 2000S also supports Super VHS (Y/C format) and it has the ability to transcode a Y/C (Super VHS) signal to standard composite or vice versa. These features combined with full 360 deg. SC/H Phase adjustments, separate Y/C encoding and overlay should prove to make this entry very competitive in the Amiga genlock arena. It also includes a remote fader control that can be located up to 25 feet away from the Amiga.

If all that wasn't enough, Digital Creations has announced the Living Color series of expansion options for the SuperGen 2000S. These hardware add-ons include a Frame buffer TBC/ Digitizer. The frame buffer will support a full 16 million color Paint capability, including color cycling and Anim type animations with up to 256 colors. The TBC/Digitizer will give the frame buffer the ability to digitize video in a full 16 million colors and act as a video Time Base Corrector.

Also included with this option is the ability to shrink, zoom, move, and then overlay the digitized video in real time over the input of the SuperGen 2000S. The software products include Paint-Box, Special Effects, Titling, and Animation Software. The suggested list price for the SuperGen S is \$1595. (It looks like Digital Creations intends to challenge NewTek for the high-end video market.)

A Squared, the makers of Live! were showing some new software that does many of the special effects that we've seen on NewTek's Toaster. They even have a new 3D program in beta version. Its called "Mondo Video" and can take any 2D IFF image and convert it (continued on next page)

World of Commodore (continued from previous page)

to a form which will look like 3D when viewed with X-Specs.

Another interesting stop was at the Access Technologies booth. You may know them as the creators of Fancy 3D Fonts for Sculpt 3D/4D and Turbo Silver users. The software they used to create their 3D fonts is now available as "DigiWorks 3D." The World of Commodore was the first showing and sale of DigiWorks 3D. DigiWorks lets you load in digitized (or drawn) images and turn them into 3D objects complete with extrusion capabilities.

In order to accomplish this you just load in your drawn or digitized image (Digiview in line art mode works great) and let DigiWorks auto trace the image... That's right I said auto trace! The auto trace function will do a sophisticated edge detection and place the points around the object for you, if you want the object filled with polygons just select polygon fill and in seconds your object is filled with polygons.

If you want your object extruded it just as easy. If you're into 3D this program would be a great timesaver in the creation of company logos and symbols for your 3D programs. Although you can create entire custom alphabets with DigiWorks, this will take a lot of time and patience. The suggested list price of DigiWorks 3D is \$139.95.

The Font Set Volume One, Master Fonts 3D, was available for the first time at the show from T.S.R. Hutchinson Co. To demonstrate its uses, T.S.R. had an animation running in Deluxe Paint III that had been rendered in Sculpt 4D. The Fontset is in Sculpt 3D/4D format and is designed to support the text type feature of Sculpt 4D.

<u>Companies</u>	Mentioned:
Newtek 115 West Crane Street Topeka, KS 66603 (800) 843-8934 Products: Video Toaster DigiPaint 3.0	Digital Creations 2865 Sunrise Blvd., Suite 103 Rancho Cordova, Ca 95742 (916) 344-4825 Products: SuperGen S2000 Frame Buffer TBC Digitizer
Great Valley Products 225 Plank Ave. Paoli, Pa 19301 (215) 889-9411 Products: 25mhz 68030 Board	A-Squared Distributors 6114 La Salle Ave., Suite 326 Oakland, Ca 94611 (415) 339-0339 Products: Mondo Video Live!
CSA 7564 Trade Street San Diego, Ca 92121 (619) 566-3911 Products: Midget Racer accelerator	TSR Hutchinson 110 West Arrowdale Houston, TX 77037 (713) 448-6143 Products: Master Fonts 3D Mouse Tune

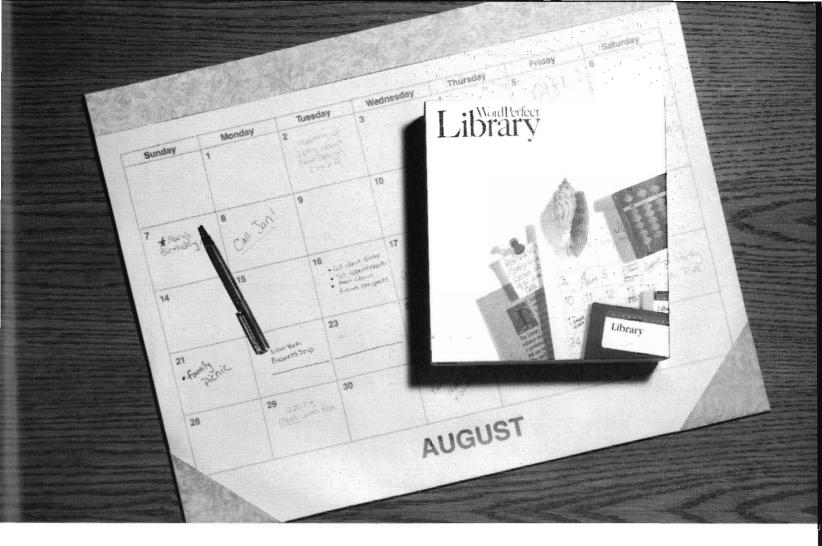
(It will soon be available for other 3D formats). There are 3 typefaces in the Master Fonts 3D set. One is Computer, (sort of like a data font) the second is Lectric (it looks like a lightning bolt) and the third is Digital (it looks like a calculator display). The goal here is to provide users with something other than the usual typefaces and to provide them at a low cost. Master Fonts 3D lists for \$39.95. T.S.R. also introduced a new mouse cleaning tool called Mouse Tune. Although its not new, (we've seen T.S.R at every show for years) the Flicker Master deserves a mention. This is an anti-flicker/contrast enhancing plastic filter which slips over your screen. At \$17.95 list, Flicker Master is worth checking into as a low cost solution to interlace flicker.

Late Spring is generally a slow time for the personal computer market and the overall feel of W.O.C. was also slow. (The developers present had too much time to visit with each other.)

I'd like to wrap this up by discussing one more topic. A lot of rumors have been flying about some of the Amiga developers who didn't display at the AmiExpo New York show a few weeks ago. These rumors imply that not attending every show means that a particular firm is in financial trouble. This just isn't so. More and more developers are having to be choosy about which shows to attend, and its not just because of the money.

Few Amiga developers can afford to send up to three to six of their people to a show and loose their productivity for seven to ten workdays. (You might choose not to attend a few shows and release a product weeks sooner instead).

Still, it was encouraging to see the emphasis on video. This is (and shall continue to be) the Amiga's stronghold in the marketplace.



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The Calendar window shows you the month at a glance. Using the mouse or arrow keys, you can move from today to yesterday, jump to the same day three months before, or move years into the future. Calendar will also calculate the difference (in days, weeks, and months) between any two given dates.

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Calendar is only one of five features inside WordPerfect Library. The rest are every bit as useful and exciting. Please see your Amiga reseller for a product demonstration, or contact



WordPerfect Corporation · 1555 N. Technology Way · Orem, UT 84057 Tel (801) 225-5000 · Telex 820618 · Fax (801) 222-4477 ASDG'S Dual Serial Board Multi-Serial Applications Become a Reality on the Amiga

by Greg Illman

SDG has long been in the Amiga market and has gained a reputation for producing top notch hardware. Their new Dual Serial Board follows in this tradition.

Amiga owners are often looked down upon by their IBM clone owning friends because the Amiga only had one serial port (and for three years, not many practical options for adding more). One good question would be, who needs more than one serial port? For most owners, one port is enough, especially with the Amiga's multitasking talents. It is already possible for the average owner to simultaneously manipulate a file, dump output to the printer, and use a telecommunications program. Now, if you want to run a multiline BBS, or a second serial port printer, or an audio digitizer, or anything else, this is a board to look at.

The board comes packed in a plain brown box with a bold, black and white print sleeve. My first impression was of the supermarket style generic brand products. What is inside is not generic at all. The board is slimmer than the Amiga standard and has very few components on it. The layout is clean and there are no extra traces or jumpers on the board. This is typical for an ASDG board, but is unfortunately not typical for other Amiga hardware manufacturers.

Also included in the package is a diskette and a folded, 8.5 by 11 inch manual. The manual is clear and concise, but geared more for the programmer than the end user. The installation diskette has a "click on" installation routine that handles all the software setup needed including ASDG's special device driver. The manual goes through a more versatile and detailed installation procedure and it does include some examples, but many will find it confusing, depending upon the users experience with mount-lists and device drivers.

The board simply plugs into an available slot. Probably the toughest thing for most Amiga owners will be getting used to the pair of 9 pin "D" style connectors out of the back of the board. People with PC clone experience will recognize these as "AT" serial port connectors. Adapters for 9 pin to 25 pin are readily available from most computer hardware dealers, but with very few Amiga peripherals adhering to that standard, it would have been a bette Once installed, the necessary device drivers get copied on to your system drive. Hardware compatibility appears good. I tried it with about a dozen different memory cards, hard drive controllers, and turbo boards with no problems. Software

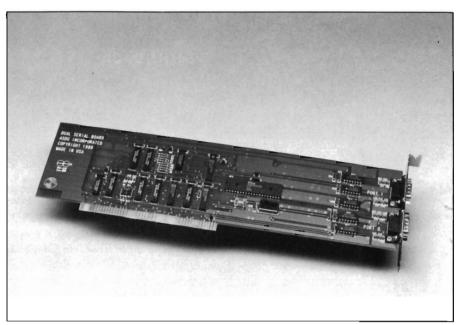
compatibility is slightly more difficult to evaluate. For a long time now, Commodore has not pressed the idea of a standard for multiple serial or parallel ports. As a result, many programs that will support a serial port, automatically assume the built in Amiga serial port. Normally this would mean that the Dual Serial Board could not be used by many packages. However, the special device driver support provided by ASDG bypasses this problem by intercepting the calls to the serial device and allowing the user to select the standard Amiga serial driver or reassign the calls to one of the two DSB ports. There were some compatibility problems encountered here because of programs commonly using more than the ASDG software driver. Some programs that bypass the serial driver cannot be redirected to the DSB. Most notable of these is Online! from MSS. Online! itself cannot use the DSB, but can coexist with other software that can use it.

One nice touch by ASDG is the inclusion of several public domain and shareware programs specially modified or tested to work with the DSB. This little added feature can assure the DSB owner of having a useful board. In the final stages, however, software proved to be the largest problem. Many telecommunications programs make assumptions that only one copy of the program will be running at any given time and this can often cause

confusion resulting in some interesting crashes. Aside from some software conflicts (which will decrease in time as the programmers gain some experience with multiple serial ports) there are some limitations. The basic design of the DSB can support fairly high data transfer rates. The manual states the board will support data transfer rates up to 76800 baud. In practice, I was unable to reach these rates because of the Amiga running out of the computing power to process the data through the software. Using one of the higher power processor boards improved the data transfer rates significantly. Adjusting the task priorities further boosted performance, but I never could match the maximum specified rate of the DSB.

However, my general impression of the ASDG DSB is favorable, but it does have some room for improvement. While the pair of DB 9 connectors coming out of the back of the board are standard, most hardware for the Amiga does not use the 9 pin connector. There is not enough space on the back of the board for two DB-25connectors, but one DB-25 and one DB-9 will fit and alleviate the need for two adapters. The manual could use some additions for the less experienced user, as well. The level of expertise to make full use of the DSB is quite high, and while ASDG may justifiably argue that the people who need more serial ports will be the "power users," they will leave many hopeful BBS system operators confused.

The ASDG serial port driver does greatly enhance the ability to interface the DSB with existing software. There were frequent crashes with software not specifically designed for it and it makes use of automated telecommunications more difficult since the driver prompts you to select a port to use. Granted, it will time out and use the



ASDG's Multi-Port Serial Board

Amiga motherboard port, but it does make running things like a BBS more difficult since the system will be essentially down until the prompt times out. A user selectable timeout delay would be a benefit as well as some better error handling here.

The hardware doe not require any changes, but I would like to see a half card option with cable connectors for some greater flexibility in installation. Most of the problems experienced with the DSB while testing traced back to software. There were some problems I could not readily attribute to software conflicts. It is a reasonable assumption to make that it is probably not the ASDG hardware that is responsible for any of the problems experienced. The most common errors I encountered were illegal instruction or address errors that went to a Guru number. (I did have GOMF 3.0 installed throughout testing, but it never trapped any of the errors experienced). Commodore and other third party manufacturers are working on multiple serial port boards of their own, too. It is my concern that software developers will not take ASDG's efforts seriously enough to try to directly support the DSB until the Commodore board is out. Many of the major innovations in the Amiga market start with the third party developers, though, and it is in the best interests of third party hardware and software developers to universally adopt a standard for multiple serial ports. Multiple ports were a topic discussed at the 1988 developers conference, but a definitive standard seems to have eluded the attendees. The 1989 developers conference will meet in June in San Francisco and I imagine we will see other developers falling in line with ASDG's work. ASDG has long been a leader in the Amiga market from the early days and is known for turning out quality and sound software and hardware designs.

Dual Serial Board \$299.00 ASDG, Inc. 925 Stewart Street Madison, WI 53713 (608) 273-6585

City Desk 2.0

William Barker Walter Steuber

Two City Desk amateurs use the program to discuss their reactions to its new version. Bill uses both an Epson 24-pin printer and a DeskJet, while Walt uses the LaserJet printer that turned out this page. Bill is interested in mixing some graphics in with his text without its taking a lot of effort, while Walt is interested more in getting handsome typography.

ersion 2.0 of City Desk has arrived and we are using it right here! It comes with many exciting new features, but while we were waiting PageStream, for it. PrintScript, AmigaTeX and the DeskJet got onstage. These other players in Amiga desktop publishing have raised our standards and expectations. The field is no longer wide open, but is broken up into niches of specialized use. The question now is just where the new City Desk fits in. The program has a lot of components, both old and new, so it will take a while for the dust to settle, but we have developed a few ideas of just what City Desk's niche is.

Features that we examined closely are hyphenation, handling of graphics, text flow around irregular objects, coordination with printers, macros and text editing. City Desk continues its strong support of the LaserJet printer. This support, which is the major attraction of City Desk for everyone in the LaserJet set, has been made even stronger by the inclusion of some font-management utilities. Version 2.0 is a big rewrite of an important program, so there are still other improvements that we didn't get to look at.

As before, text can be prepared separately in a word processor and then flowed onto the screen into

pre-arranged columns, giving a WYSI-WYG page. In the new version, text can also be prepared from within CityDesk using a built-in editor. In either case, you do not type directly into a column and you do not see what you are going to get until after the text is flowed in. Even then, the coarse Amiga screen gives only an approximate idea of what the printed sheet is going to be. After putting it in a column, a block of text can be shoved around with the mouse and rearranged to taste. However, many details of its formatting are still specified by commands embedded in the text: basic things like spacing of paragraphs and indentation.

Bill: Embedded commands are terrible! Too much trouble. A program should let you format by clicking on the screen, the way PageStream does.

Walt: I like embedded commands. They give you more control.



Digi-View picture of Eileen

HYPHENATION is essential in a proper desktop system. City Desk adopted the hyphenation routine used in TeX, so it starts out with the very best routine there is. Because its coding requires 80 KBytes of memory (sometimes very precious space), City Desk gives you the option of using hyphenation or not. Also included is an option allowing the user to specify how big a whitespace he will accept on a line before it gets hyphenated. (In the City Desk output you are reading right now, the threshold is set at 0.15 inch.) Unfortunately, the City Desk authors somehow allowed glitches to get into the hyphenation routine. It works well most of the time, but occasionally it goes totally berserk with its hyphens.

Bill: Yeah. Besides that, you can see places where it should have hyphenated and didn't.

MACROS are something new in City Desk. The user can give a name to a group of formatting commands and then call the whole group in by embedding the name in his text. These macros can be saved so you can develop a neat little library of personal routines and use them in other documents. With some care and practice, macros can be designed that are very powerful. Building up the library is like developing a formatting language to your own exact specifications.

Walt: They're fun, but they can be frustrating in their demand for time on the learning curve.

PRINTERS are always a key element in any desktop system. City Desk 2.0 does what it can with 9-pin printers, but their output is simply not good enough to be called desktop publishing. CD 2.0 has put a lot of effort into adapting to 24-pin printers. Various models from Epson, Toshiba, and NEC produce 300+ dots per inch, but until now have languished for lack of software. City Desk uses the traditional dump of a bitmap for 24-pin printers, and creates a super-bitmap equal to their resolution. This technique can give beautiful results, but requires a lot of internal memory to work. Another requirement for good 24-pin output is a supply of fonts that are designed to fit their high resolution. The City Desk package, unfortunately, includes only a single font appropriate to a 24-pin printer. It produces a reasonably good-looking product, but you really need to get a variety of fonts from some outside source. We tried out the HP DeskJet as a

> preferences printer and it, too, produced bitmapped output that looked good. Two major drawbacks to CD and high resolution dot-matrix printers are lack of choice in fonts and slow throughput. Expect to wait 18-20 minutes for each printed page!

City Desk shines the brightest in its support for HP laser printers. (An example is shown right here, and we like it a lot.) For every \$5000-plus Postscript printer, there are ten HP LaserJets in use. In the Mac world, Postscript rules, but in the business world Ventura Publisher, PageMaker, MicroSoft Word and others thrive on getting the most from LaserJet printers. Getting the most means using a generous assortment of internal fonts Boxes like this, with optional degrees of shading and shadowing, can be placed any place on the page with simple mouse strokes. A requester gets the information from you and then the pointer can be used to size the box, shape it and shove it around.

intermixed with 300-dpi graphics. In the world of Amiga software, voluminous as it is, ONLY City Desk offers this type of support. And now, CD has expanded its support for the LaserJet even further by including a utility for downloading and managing softfonts. ('Softfont' is a term invented by Hewlett-Packard for fonts that are downloaded into the printer's memory, as opposed to built-in fonts, fonts contained in ROM cartridges or fonts that are treated as graphic images.) Softfonts are somewhat like Amiga font files, but they also contain some data that the LaserJet needs for its operation.

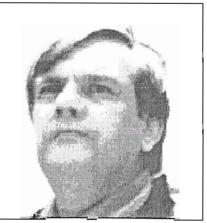
FONTS are, of course, another key ingredient in desktopping. The City Desk package includes a couple of sample softfonts, but they are not enough for most page layouts. They, like the 24-pin fonts, have to be supplemented from some outside source. This article, for instance, uses seven different softfonts. (They came from Hewlett-Packard, but could just as well be from BitStream or C-Ltd's JetFonts.) City Desk will operate the LaserJet with any font you can download to it, giving it an enormous range of choice. Besides that, City Desk contains a utility to generate PostScript fonts. Sorry to say we did not get a chance to try out the PostScript feature, but it clearly is very important for anyone who can use it.

Bill: It's those fonts that make City Desk look better than PageStream.

Walt: Yeah. Commercial fonts for the LaserJet are really beautiful.

The fonts were downloaded from a floppy disk, using City Desk's utility for the purpose. Besides expediting the downloading, this utility generated the tables of character widths that City Desk needs. Since the fonts are stored in the laser printer, printing goes much faster because the software doesn't have to do all the computing associated with PostScript or bitmapped fonts. Plan on printing at close to the printer's rated speed of 8 pages per minute! Any graphic image on the page, though, will slow it way, way down.

Even though the LaserJet is the undisputed champion of Desktop Publishing, we think the future of economical Desktopping lies with the HP DeskJet. Although it takes several minutes to do it, this ink-jet puts out a page as handsome as any 300-dpi laser printer when it is fed the right material from Amy. AmigaTeX, for one, definitely feeds it the right material and consequently is serious competition for City Desk. AmigaTeX does not depend upon downloaded softfonts, but instead generates a super bitmap that it sends to the DeskJet one line at a time. In this way, AmigaTeX uses Amiga's memory and does not require the printer to have more than a small cache memory. It takes more time, but allows an unlimited range of fonts. The DeskJet is understandably becoming a best-seller for HP. It uses the same page-description language as

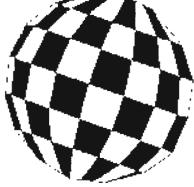


... awesome program, but needs more work.

(continued on next page)

the LaserJet and duplicates its output, but is far cheaper.

City Desk does not directly support the DeskJet, but Steve Dock, Senior Editor of the SENTRY, devised an interesting workaround that made it possible to treat the DeskJet as though it were a LaserJet, using downloaded fonts. (The two printers use similar, but incompatible, softfonts.) He used DeskJet fonts that matched the LaserJet fonts used on this page. He downloaded them into the DeskJet with CD's Laser Utility program and then he used the Utility program to generate .HP files from the corresponding Laserjet fonts! He told City Desk that it was running a LaserJet and got no complaints. It dutifully proceeded to justify and print the lines properly but it printed the columns in three separate non-aligned chunks. Steve then placed each column into a separate City Desk page, and fed the same sheet of paper back to the DeskJet three times. The result was impressive. It looked the same as this LaserJet output. It was the same. The printing routine was greatly different, though. A LaserJet gets the whole page organized in its memory before it starts to print, but the Deskjet starts right off at the top of the page and prints straight down a column. Only one column can be printed this way, of course. To get three columns, the page has to be put back into the printer and City Desk managed so that it prints only one column at a time. Besides



Lots of clip art as optional extra.

that, Steve's DeskJet had to have an auxiliary memory cartridge plugged in so that it could hold the downloaded fonts. All this may seem like a lot of trouble but pages printed out in 3-4 minutes and came out looking good.

Bill: Small desktop systems will just naturally be gravitating to the DeskJet. *Walt:* Yeah. Way to go.

GRAPHICS can be drawn directly in the City Desk graphics editor or they can be imported from DPaint and other outside sources. (Colored pictures will be converted to shades of

Parts of TeX are used in City Desk. In many ways, City Desk is just a simplified version of TeX. Commands are embedded in the text in the same way, but City Desk uses only a small selected subset of the many TeX commands. There are enough to give flexibility in page layout, but important typography controls are left out: little niceties like ligatures, kerning, and elastic line-spacing. (With elastic line-spacing, the bottoms of the columns will come out even.) City Desk is made easier to use by these simplifications, but by the same action,

You first lay out columns, boxes, lines and other objects on bare, new pages. City Desk then flows your text into the columns... Easy.

gray by City Desk.) The photos on these pages, for instance, were low-res Digi-View pictures, and the big V was a DPaint drawing in two colors. After being imported, they were all altered to some extent in the City Desk editor. CD lets us choose how much resolution to print them in, how to crop them, how big each is to be, where to place them, whether to let underlying material show through, and several more options like that. Just about total control with very little effort. The flow of text was chosen to be square around Eileen but irregular around Abe as a further example of the terrific control City Desk allows.

Bill: It's amazing how they manage to flow around irregular objects. You can even specify how close you want the type to fit.

Blocks of text are treated like graphic objects on the screen. They can be moved around, resized, enclosed in a box, edited, and who knows what else. When you resize or reshape a block, the characters don't change, but the space in which they are held does and the lines of type rearrange themselves to fit.

Walt: ... a big plus over AmigaTex. *Bill:* All done with the mouse! it sacrifices many small details in the control of whitespace and general appearance.

Bill: So City Desk may be easier to use than TeX, but it's a lot harder to use than PageStream.

Walt: Yeah, but it turns out a better looking page.

EDITING is a lot easier in the new version. You will still normally use Scribble or Word Perfect to create a separate text file and then flow it onto the pages. But that's not the only way to do it. City Desk now has its own on-screen editor. This turns out to make it quite a bit quicker to write something on a page or to change something. Text changes made on the screen in this way gets printed ok, but do not find their way into a permanent file. Thus, the text editor is a big speedup, but only in printing something you don't want to save and use someplace else.

Bill: Nice for writing a letter.

Walt: Right. On a letterhead that's been stored on disk. Incidentally, the letterheads and forms I prepared with Version 1.1 don't work with the new version.

THE MANUAL has been rewritten and is clearer and easier to use than before. It's a large book, well printed

and well organized, but it still is a tedious thing to go through. Page layout is a tricky subject, and the manual has to address itself to an audience with an unknown amount of previous knowledge. It contains good tutorials to get one started. Some interesting tricks and tips are in there, too, to help you get the most from the program, but these are no substitute for experimentation. And it now (hurrah) has a good index.

Designing a page of type is an artistic problem with lots of layout artists spending full time working on it. City Desk puts a good tool in the hands of us beginners, but that does not mean we will automatically make a professional-looking page. The manual attempts to give some artistic guidance, but taste and style probably cannot be conveyed in any manual, and certainly not by the City Desk people. (Their examples are notably inartistic.) Four diskfuls of clip art are offered to help dress up your page, and these, too, are dreadfully inartistic.

Bill: I didn't like the clip art.

Walt: Me either. It's kid's stuff-not the professional kind of material I hoped to see.

CONTROL of the exact positioning of elements in City Desk is just so-so. There are many good commands to help the user with the typography, but even so, it sometimes was hard to place objects exactly where we wanted them. Things kept getting in positions we didn't quite want them. For instance, these columns start off even with each other at the top of the page but they end up uneven at the bottom. With more experience, we will be better at managing it, but currently we simply can't get a nice even bottom. There are a dozen or so other little oddities of positioning in these paragraphs that a professional typesetter would change, but we were unable to do so, even though we spent an exorbitant amount of time fiddling with the layout.

Bill: That's why I like PageStream. Walt: That's why I like TeX.

NICHE PICKING. You may have gathered by now that we think of City Desk as occupying a niche somewhere between PageStream and AmigaTeX. People who want something easy and are willing to accept imperfect fonts will probably go with PageStream. People who want exact control over their typography and are willing to take even more time will do better with AmigaTeX. Other people will probably settle on City Desk as a compromise between these extremes.

City Desk may not have the ease of control that people with Macs and IBMs are used to, but in the Amiga field it has a substantial place. Anyone with an HP LaserJet and an Amiga will have a hard time finding a program which better uses the potential of their equipment. We recommend that MicroSearch modify the LaserJet print routines to take account of the HP DeskJet. Prompts for multiple passes of the page would go a long way to opening a new chapter in the book of DeskTop printing.

The internal sound capabilities of the Amiga are better than that of any other personal computer. These capabilities mean nothing though, without quality digital sounds, which up till now have been scarce. Sound Oasis gives Amiga owners access to a large library of studio-tested digital samples, by using the Amiga's built in disk drive to read disks made for the Mirage Digital Sampling Keyboard. Sounds can then be played from a MIDI keyboard, the computer keyboard, or saved as an IFF standard file. Mirage is a trademark of Ensoniq Inc.

Transform your Amiga into a professional-quality drum machine with this software package. Easier to use than hardware-based drum machines because everything is displayed graphically on screen. Enter drum patterns quickly and easily in real time with visual feedback and editing. Create realistic drum tracks with any of the 100 drum and percussion samples that are included or use your own unique IFF oneshot samples. Dynamic Drums also has full MIDI implementation and even becomes velocity sensitive when triggered from a MIDI keyboard.

A powerful MIDI sequencer that takes full advantage of the Amiga's sound, graphics, and sophisticated user-interface. Dynamic Studio is perfect for professional applications due to its sophisticated editing capabilities and SMPTE support. It is also ideal for home studios, because in addition to sequencing MIDI instruments, Dynamic Studio has a built-in drum machine, and the ability to playback instruments translated with Sound Oasis.

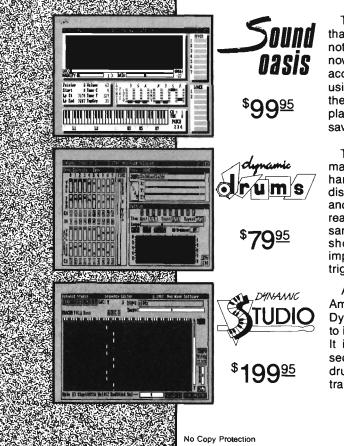
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ProfessionalPage V. 1.2



Gold Disk Supports Professional Draw with their Publishing Software

by Gary L. Gehman

old Disk, maker of Comic Setter and Movie Setter has just released version 1.2 of its desktop publishing package, Professional Page. Considerably less than a full rewrite, the new release has been hurried out the door chiefly to provide for ProPage compatibility with Professional Draw, Gold Disk's sophisticated structured drawing program. Very little else has been changed.

In fact, you have to look pretty hard to see any difference at all between ProPage 1.2 and its predecessor. The basic screen and toolbox look exactly the same. The differences become visible when you pop down the Project menu and examine the submenu structures. Under the Import option there are now separate selection items for Aegis Draw and Professional Draw illustrations instead of the "Structured Drawing" item found in version 1.1.

First, the print options have been combined into a common Output menu from which subsidiary selections fork into Dot-Matrix, PostScript or Thumbnail choices.

The Color Separate selection has been removed altogether, its functions combined into the PostScript configurations requester. Similarly, Gold Disk

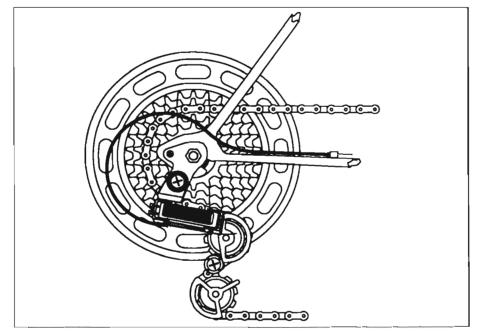


ProPage still imports bitmap images in addition to its new features.

has removed the PostScript and Dot Matrix specifications selections from the Preferences menus.

Two other modifications have been made to the Preferences menu: Memory Warning has been removed, and another item, Interruptable Refresh has been added. There's also a new addition to the list of text formats ProPage will import. ProPage now also accepts text files from Transcript, Gold Disk's newly released entry into the Word Processor sweepstakes. Amiga owners will now be able to work entirely in a unified Gold Disk environment for all aspects of their desktop publishing activities, writing their text in Transcript, preparing illustrations in Professional Draw and, finally, creating their finished pages in Professional Page.

That, however, is where the visible differences between ProPage 1.1 and 1.2 end. This is, of course, far below what most would have hoped for. I called Gold Disk about the 1.2 product and was told that this is a "significant upgrade" to provide compatibility amongst the several Professional Series software titles. Aside from a general cleanup of memory management issues (minor enhancements that should not be visible at all to the average user), there is no other difference. Any new features (and, one would hope, the programmers' response to SoftLogik's PageStream) are at least four months down the road. The Gold Disk rep was not able to provide any details about what those enhancements might include, pending official announcements from company management, but look for a radically different approach to the handling and printing out of text. Alsidering the purchase of both products, but who may not have seen ProDraw, it enables you to create a set of drawings that can span many pages. When you save a ProDraw document, the program creates a "folio" file containing all the pages in the set. Any individual drawing, or a piece of any drawing can (*must*, if it is to be imported into ProPage) be separately selected and saved in ProDraw as another file format: a "clip." Once this distinction



In addition to IFF Bitmap and Professional Draw support, ProPage 1.2 does a remarkable job with Aegis Draw 2000 files.

though European sources have reported seeing advertisements for a ProPage and ProDraw version 2.0, the next release here is to be labelled version 1.3.

How, then, does ProPage 1.2 handle its only new capability? Very well, indeed; as you can see by the embellishments accompanying this review. There is one potential point for confusion, however.

ProPage wants to import Professional Draw *clip* files, not entire ProDraw folio files. For those who might be conis learned, there are no barriers to moving materials from PDraw to PPage at will. Imported clips retain their color characteristics unless the ProPage document into which you are bringing them has already exhausted the maximum number of colors (not a likely case).

As the only structured drawing program available to the Amiga artist, I have found PPage's sister product, ProDraw, to be reasonably flexible and capable of producing stunning results. I might wish for more features, but the ones that are there work very well. Not that ProDraw hasn't got its fatal flaws. The lack of an undo selection is a programming omission that should be punishable by law. Also, the display speed problems common to both ProDraw and ProPage are often enough to send me to the orthodontist to have my jaws unlocked and my teeth straightened.

But the fact remains that the two programs work. And if you need to work in color, with an eye toward the commercial marketplace, the other choices simply aren't good enough. As a powerful tool for the creation of professional quality camera-ready pages, Professional Page is, in my opinion, still the best of the Amiga Desktop Publishing software.

At the same time, the program seems to be completely detached from the other real world of desktop conventions (read that *Macintosh*). While it can handle Aegis Draw and ProDraw files, it still pretends that there are no other file formats out there (like AutoCAD's DXF, Encapsulated PostScript, or even Adobe Illustrator or Aldus Freehand formats). Professional Page 1.2 still supports screen versions of PostScript fonts that most laser printers won't know about and it still can't download those fonts to the printer.

The release by SoftLogik oſ PageStream seems to have caught Gold Disk completely out to lunch. Even though ProPage has been on the market well over a year; even though SoftLogik published its spec sheet nearly as long ago -- it has taken the market appearance of PageStream to provoke Gold Disk to take another look at improving their basic product. By contrast, the makers of PageStream have already written and released import modules for both Aegis Draw files and ProDraw generated EPSF files. The bottom line for Amiga publishers is the same as that for Amiga artists or Amiga animators:

(continued on next page)

There's no one tool that can get you by. For color and precision, you need Professional Page. For typographic flexibility and creative control, or working on more than one page or document at a time, Pagestream fills the bill. For sheer get-it-out-the-door productivity, well, thank God for A-Max.

The happy news is there's no decision to make here. If you bought ProPage within the Iast 90 days, you'll be getting 1.2 as a free upgrade automatically. If you bought your ProPage earlier than that, you will get an upgrade offer in the mail with pricing (Gold disk promises a *nominal* upgrade fee). If you haven't bought any publishing software yet, the addition of ProDraw support is another reason to consider ProPage.

Professional Page v. 1.2 \$395

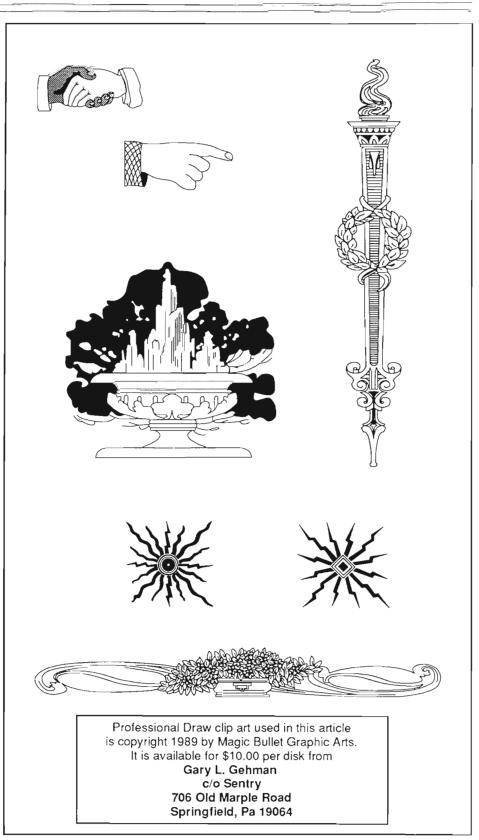
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Mr. Gehman's commercial logo created with professional Draw





ANIMagic

Aegis' New Animation Control System

by Paul R. Miller

ecent software releases like DPaint III and Photon Paint 2.0 have given the animator previously unknown ease in the creation of moving pictures by virtue of their ability to load and edit "Anims." Anims are the compressed "delta file" format that was developed by Aegis/SPARTA, and which has emerged as the defacto standard for Amiga animations. The Anim format for compression of IFF graphic files is currently used or supported by: VideoScape 3D, Modeler 3D, Video Titler, Lights! Camera! Action!, Deluxe Paint III, The Director, Photon Cel Animator, and the Hash Animation Series. Each month, more programs which support Anim are added to the list, and it is officially sanctioned by Commodore Business Machines.

As powerful as these recent programs are, a user is still limited in certain areas: Anim's must have a common palette, and chaining segments, altering timing, resolutions, and the like are either impossible or require tedious step-by-step construction. As a final resort, there are script based utilities that are unfriendly to the average user. Now Aegis, which first introduced the Anim in VideoScape 3D, brings us the equivalent of a desktop video editing console in "Animagic." This one program combines complete IFF and Anim editing features such as adding or deleting frames, altering the color palette or timing of individual or groups of frames, cutting and pasting, and overlaying of sections of Anims. In addition, Animagic provides a whole library of "DVE"'s (digital vid68000 program and DVE libraries, and a "data" disk that also provides a version that supports the 68020/68881 chip set, and drawers of ready-made IFF files and anims for the tutorials. Hat's off to Aegis for yet another release with an 020 version on board. Let's hope that this becomes a more widespread practice. Also included is



eo effects) for the likes of page turns, shatters, spins, and dribbles, which, when modified with the various gadgets, can provide over 9,000 variations for each built-in library function.

Animagic comes with 2 disks: a bootable Workbench with a straight

the latest version of the ShowAnim utility for distributing your finished works with enhanced features for color cycling, ping-pong play, extra timing features for the first and last frames, and appending separate anims. Typical of all Aegis productivity soft-(continued on next page)

ANIMagic (continued from previous page)

ware is the lack of copy protection, but an unexpected bonus is the on-line help feature. Pushing the Help key transforms your cursor into a question mark which will yield an explanation of any button or pop-up menu item on the various control screens. As there are a whole lot of buttons to push, this is a very useful feature and will prevent a lot of annoying page turning. The 88 page manual is surprisingly a fast hard disk will be essential for serious saving and loading of big Anim files. Aegis recommends a 68020/ 68881 co-processor and math chip for serious use, and I concur, as rendering times are typically halved or better. Equally valuable is the 1 meg video ram chip that is now shipping on production Amigas, and will hopefully be available soon to retrofit existing 500's and 2000's. All screen modes and res-

Several demo animations are included on disk for purposes of illustrating how to work with ANIMagic



thorough despite its brevity and offers sections for introduction and configuration, a brief get-acquainted tutorial, two chapters that examine all the features and windows in detail, two more chapters of tutorials, appendices for DVE maps, ShowAnim, technical support and hard disk installation, and an index. Each of the many windows and controls are well illustrated with clear legends and key explanations of the functions.

Magic will work with 1 meg of RAM and one disk drive, but as with all animation programs, the more RAM the better (3 meg or more for starters), and olutions (HAM, HalfBrite, PAL, NTSC, and overscan) are supported, and the program can be run from either Workbench or CLI. Hard disk installation simply involves dragging the program, maps and data drawer icons to your drawer of choice. Aegis includes instructions for creating project icons that will load the program with your preferred default paths, but this isn't necessary if you prefer to keep your hard disk uncluttered by icon files.

Animagic contains a total of 10 control windows, most of which involve sharp high-tech-graphic symbols and gadgets that are a bit daunting at first

encounter. Take heart because you'll spend most of your time in the central control window, The Edit Bay Main Control Panel. By the time you understand the various features of the program you'll have become accustomed to the gadgets (and "help" is only a keystroke away). The Edit Bay controls involve 2 possible "source" buffers and a third buffer for "destinations." First things first. In its "unextended" default state, the Edit Bay arrays a series of buttons which apply only to the Source 1 buffer. This may be a single picture or a series of frames in an Anim. There are several gadget windows including a Source 1 box that lists its contents, followed by a series of numbers stating screen resolution, number of bit planes and number of frames. Two rows of buttons extend along the top of the window, including additional gadget windows that show the current frame number, the frame timing (in "jiffies"), and current beginning and ending frames for your range (as opposed to the total number of frames in the Anim).

Top Row buttons with VCR-like arrow symbols permit: Rewind (display of first Anim frame); Display Start (displays first frame specified in range); Step Back (single click starts a sequence of single frames, a double click goes back one and holds); Palette (brings up color palette for Source 1); Cycle (brings up cycle info for Source 1); Play (plays current Source 1 buffer as a repeating Anim); Step Forward (similar to step back); Display (displays range end frame) and Fast Forward (displays last Anim frame). Directly below, a second row of buttons deals with operations in the currently defined range: Range Rewind (sets start of range to first Anim frame); Range Start (displays first frame in range); Range Apply (sets the currently displayed frame as the range begin-(continued on page 20)

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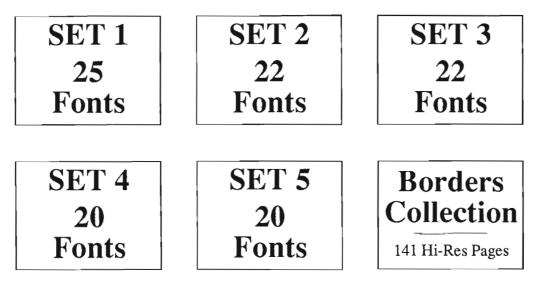
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ANIMagic (continued from page 18)

ning); Range Frame (sets range start to the same frame as range end); Infinite Loop (copies the first two frames from Source 1 to the end to enable smooth looping); Range Delete (deletes frames in range); Range Time (sets timing of all frames in the range to the timing of the current frame); Range Smooth (sets a smooth transition in timing from first to last frame of range); Range Color (sets color palettes for all frames in range to match current frame); Range Smear (changes color palettes for frames in range to achieve a smooth blend from first to last..very nice indeed!); Transparency (opens a window to specify which colors are to be transparent and to what percentage -- used on overlay effects); Range Frame (another, but this sets last frame to first); Range Apply (marks the current frame displayed as the range end) and Range Forward (sets the end of range to last frame of Anim in Source 1). At the lower right corner of this array is a diamond shaped button which activates the extended control window.

In the extended mode we get additional boxes that display the Source 2 and Destination buffers, and boxes for DVE mapping, Map Color palettes, readouts of resolution, bit planes and number of frames for the two additional buffers, range indicators for these buffers, some swap buttons that facilitate exchanges between Sources 1 and 2 and between Destination and Source buffers, and a series of Application buttons. The various source and destination buffers are what permit the powerful effects of Animagic. A simple tutorial example utilizes two picture sources and a DVE map that opens doors of source one, revealing source two behind. The possibilities are legion, including page flipping to reveal another source on the back side, overlays of sources with varying degrees of transparency, and mapping of anims onto rotating faces of boxes. There are tools and options that permit sources with different color palettes and resolutions! The series of 5 application buttons determine your effects (depending on sources, ranges within the sources, and destination) as follows:

APPLY BEFORE inserts the images produced by the DVE map effects working on the sources at the beginning of the destination buffer.

APPLY OVER overlays the source range on the destination range, merging Anims for example.

APPLY AFTER puts the results after the frame specified in the destination range.

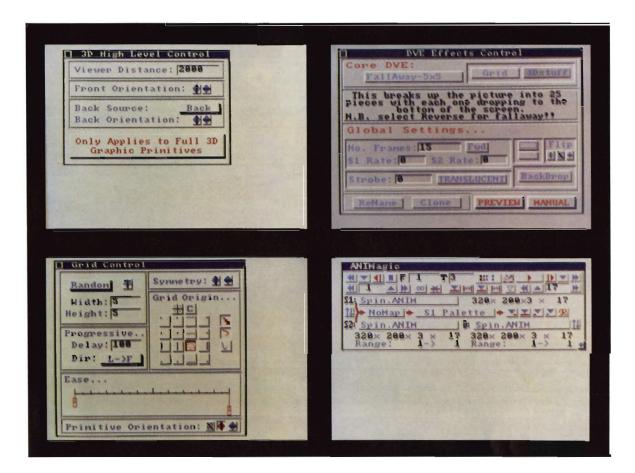
APPLY APPEND ignores destination ranges, attaching at the end of the destination buffer.

RECORD to Disk saves the effect to an Anim file on disk, and follows the standard Aegis procedure of first opening a destination file. Activating the MAP pop-up gives access to the DVE Effects Control Window. The default DVE map is plain, which is to say it simply copies the source to the destination buffer. To access other scenarios you must pull down a menu and load from the library of 23 effects which include: Expansion from a point, rotation around horizontal or vertical axes, spins, squeeze, wrap, boxes (which place various sources on various rotating faces), confetti swarm, corner expansion, doors, dribble, fallaway, page turn, slide-in, tumble, and unfold.

Each map presents a text description of its effect when loaded, to a maximum of 4 lines (which can be edited when you alter and then save your map modifications). Two buttons activate "Grid" and "3D Stuff" windows for variations. Global settings include number of frames, forward or reverse motion, rate settings for sources 1 and 2 (these determine the rate at which the sources are updated with respect to the destination frames), strobe setting (i.e. trails displayed according to the num-

Any number of effects can be applied to an IFF image by utilizing the numerous control functions as shown to the right





ber specified for previous frames) and a translucent button that automatically lightens the value of the strobes. (This effect requires that you have enough colors available in your palette to permit proper shading). Additional buttons provide for Outlines around image pieces and selection of their color, and Flip (horizontal, vertical and diagonal) which change the direction of the overall map effect. Backdrop yields yet another window control panel.

To facilitate your custom DVE map creation, you can activate a Clone button which will then create a copy of the current DVE in memory. After modification settings, you simply rename and then save the map in yet another control window that permits you to enter both a name and custom 4 line text string. The final two buttons activate wireframe PREVIEW or MANUAL preview. Preview includes rewind, fast forward, single step, still render, frame number readout and even a record option that will save a single IFF file or even an Anim (provided a destination file has been opened previously).

From the DVE control you also gain access windows for GRID, 3D, and BACKDROP. In the first you select starting and ending points and alterations in patterns and speeds. Options include Horizontal, Vertical, Zig-Zag, or Random screen fills with options to specify width and height (i.e. whole number entries that determine the number of segments into which the page is divided). You'll also find controls for left/right and up/down symmetry, and a tile option that puts miniature versions of your full image on each section grid piece of the effect! Progressive Delay accepts whole number values that Animagic interprets as fractions of base 1000, which fraction sets the interval for successive appearances of parts of a grid effect. Entering 100, for example, will set a delay effect of 1/10, thus yielding progressive segments every one-tenth of the duration of the total effect. Further variation of delays is permitted via a Progressive Direction pop-up menu that offers last to first, first to last, outside to center, and center to outside ordering of the pieces.

Still more control is available in the Grid Origin Array of 16 separate buttons (with nice graphics) that determine the screen position from which the effects emanate. If these aren't *(continued on next page)* enough possibilities, you can also create a custom grid path (creating, dragging and re-sizing an origin box). Do this and you get three more variation buttons to boot: Grid Path Size (to start small and expand), Horizontal and Vertical Grid Curve (to make the effect curve outward). We're not through yet. You also can activate EASE controls to compress or expand movement of pieces between each frame of an effect (especially useful with strobe trails to vary the relative distance of the trails over the range of the animation). Finally, you also get three more buttons called Primitive Orientation that orient the motion of the various effect maps with respect to vertical, horizontal or diagonal axes.

If you've loaded a VDE map that involves three-dimensional space (like a rotating box), you may then access the 3D High Level Control window. Here you set your relative viewpoint distance, Front and Back Orientations (up/down and left/right), and the Back Source. As you turn an image in space the back source options determine whether you will see the backside of your image, alternate images from Sources 1 or 2, a backside filled with the background color, or a hidden backside.

If all these permutations haven't yet induced dizziness, consider that there are still five more windows and an alternate palette menu! Backdrop Control allows you to specify blank backgrounds or the contents of the two source or the destination buffer for your effect. You can further activate drop shadows (with control of color, offset and even degree of translucency). Cropping choices can be activated also for both sources and the destination buffers, with permutations that

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permit the introduction of nonoverscanned source images into overscanned effects, and custom cropping to achieve panning and scrolling.

From the Main Edit Bay you activate the Palette Window, presenting a familiar set of controls for copy, spread, etc. As each Anim frame can have a unique color palette associated with it, Magic provides you with tools to set a particular palette to a range of frames and even effect a smooth transition between two different palettes over a specified range of frames! Yet another window lets you establish up to eight separate color cycling channels with varying speeds and direction. Cycling, however, must apply throughout the entire animation. Yet another Edit Bay button will yield a Transparency control window. Here you are allowed to set up to 4 degrees of transparency (from 0 to 100%) and to assign the var-

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 - Monitor timed events and display appliance status.
 - · Review, sort or odit stored events.
 - 'Freeze' or 'Unfreeze' stored events for occasional use.
 - Set `solar' events relative to sunrise or sunset.
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 - Includes CLI based program with batch capabilities.

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The SAM series sampling systems are peripheral cards which plug into your \$2000 or A2500 expansion slots or into the side of your A500 or A1000. BNC commentary allow you to connect various probes to your AMIGA for data sampling at rates from 0.3 samples/see to 5, 10, 20, or even 50 MSamples/see (model dependent) in DIGITAL OSCILLOSCOPE MODE, or as long as days in DATA ACQUISITION MODE. ACTOC empline, 1.5 Mohm 1 6pF input impedance, voltage ranges from 1v to 20v are characteristic of all models. Up to 8 channels can be used for multi-channel simultaneous acquisition Software is included providing a middle driven environment of pull down menus and push buttons. A fullscreen high resolution 640x256 window is capable of displaying all quantization levels. Waveforms can be panned, samples can be drawn connected rendering a smooth display, or drawn individually showing each sample. Time and voltage measurements can be made with point and click simplicity, FFT generation capacity provides 2 dimension plots (Frequency ve. Amplitude) or 3 dimension mesh plots (Frequency vs. Amplitude vs. Time) with user selected viewing positions. Digital filtering can be performed on a signal providing Low Pass, High Pass, Band Pass, or Band Stop functions. When you are done yoy can print out any of the displays and save all your samples to disk. Only SAM makes it possible.

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ious levels to the array of colors in your palette (with the limitation of one level of transparency per color). Depending on your overall palette, Animagic will pick the best available choices to simulate a transparent effect for the Source 1 image. (This works best, obviously, in HalfBrite or HAM). Finally, a pull-down menu choice yields the Alternate Palette Menu with sub-choices for editing: Assigning this palette to either sources or destination buffer; Choosing to have the program optimize by selecting a new palette (to resemble the permutations of current alternate palette), source or destination, between sources, between source choice and destination, or between all three.

Take my word for it, it's not anywhere near as tough to use as it is to try to describe. The manual includes 9 tutorials that lead you step-by-step to minimize

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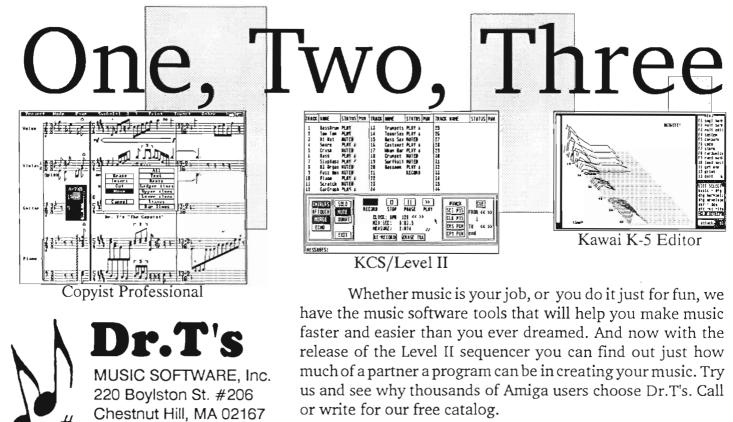
page flipping, and while they can't begin to illustrate all the possibilities, they make you comfortable in short order. It quickly becomes apparent that you could, with a little imagination, achieve just about any effect you desire. There are, however, a couple of things that it doesn't do, namely antialiasing, smoothing, and stencil effects. Of course, we have paint programs to handle these, and in the case of some of the simpler effects like spin and rotate, you will find that DPaint III will do the job much quicker.

I found only a few problems. One bug is in the simple spin map. This requires you to save and reload Anims with more than 4 bit planes after you change frame timing in order to play them. I also had some trouble with legibility of cycling and transparency window buttons with certain source color palettes. Also, I wouldn't mind a few keyboard equivalents, chief among them being a keystroke that would activate Anim play. This would be handy for video recording sessions.

For under a hundred bucks, Animagic represents an spectacular value and ought to find a wide audience. The combination of long needed Anim editing tools and the vast array of DVE effects in a user-friendly control environment is an essential package for anyone who uses the Amiga for more than elementary video production. It's also an ideal companion to the latest paint/ animation programs. All I need now is an extension to my life span so I can master the possibilities.

Animagic \$99.95

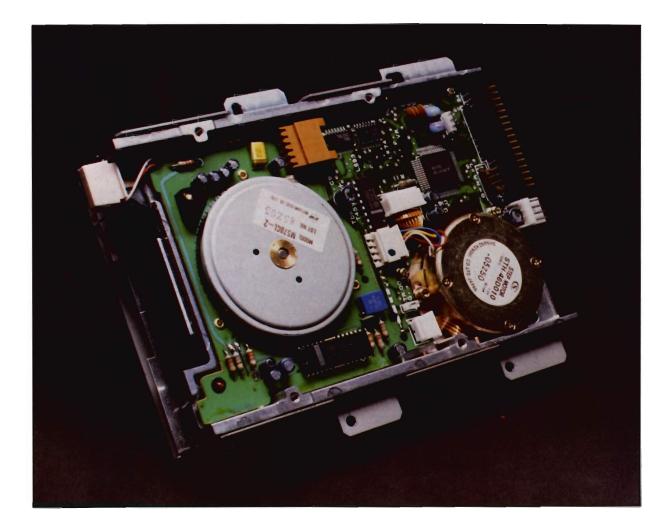
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We define MIDI music software!

The Amiga's 3 1/2" disk drives are high quality data storage devices that are relatively trouble free as compared to some other systems.

Up until, now, there has been no good way for the user to evaluate the vital parameters of a drive. Enter Ami-Alignment System...



Ami-Alignment

Free Spirit's Utility to Combat Flaky-Floppy Syndrome

by Walter Steuber

oes your Amiga ever show signs of "Flaky Floppy Syndrome?" Things like a disk drive re-reading a file several times or an unexpected DISK CORRUPT requester? Or even a total refusal to read a disk? These dread symptoms may indicate a drive that is out of alignment, or one that is not running at quite the right speed, or maybe a dirty read head. The trouble may simply be a bad disk, but it could also be a bad power supply or Amy running in 68020 mode. To sort out these possibilities and pin down what the real trouble is, you can now use the AMI-Alignment System.

The AMI-Alignment System turns your Amiga into a test instrument. It consists of two disks and a 38 page manual. One disk is a program that will autoboot (or can be run from a harddrive) and the other is a calibration disk. After booting up, your

The Ami-Alignment system uses a control panel type of interface



screen becomes a control panel with switches and things that make it a modern electronic gadget dedicated to trouble-shooting Amiga floppy drives. The manual clearly explains the many switches and displays, so that after a very short period of bewilderment, you can quickly run any of four diagnostic tests on your drive. The manual also details how to interpret the results of the tests, so that you know exactly what the trouble is when Flaky Floppy Syndrome strikes. The manual even explains what to do when trouble is found. It might be a software problem that is cured by running their program to unstick the head. On the other hand, it might be a misalignment of the drive that can be fixed only by tearing your machine apart and adjusting the position of the stepper motor. Whatever it is, you'll find a brief, but clear, procedure for what to do to fix it.

The Calibration disk is not tricky. It simply is a normal disk whose tracks you can be sure are in the right place. (When your disk behavior has been slowly getting flaky, all your regular disks are suspect, so it is nice to have one you can be sure of.) In the old C-64 days, it seems all we talked about at club meetings was misalignment of our disk drive and analysis of it with an elliptical test disk. A disk with elliptical tracks was hard to come by, but it gave a nice quantitative measure of how far we were from per-*(continued on next page)* fect alignment. The AMI-Align System does not do this, but instead it simply indicates SATISFACTORY or NEEDS ALIGNMENT. It would be much more informative to be told how much off your drive is, and in what direction, but that would require a test system substantially more elaborate than AMI-Alignment.

Amiga drives do not give anywhere near as much trouble as the C-64 drives did, so the subject is rarely chewed over now. The possibility of misalignment is always lurking there, however, and can lead to misbehavior that may get attributed to something else. I think it's good computer practice to check one's drives occasionally, and now it can be done easily and quickly. Not only is the Alignment System quick and easy, it's fun to play with. The impressive control panel, the sound effects, the control over the drive's motor and track position are really enjoyable, even when you don't need the results. A printed report will be generated by the AMI-Align System, if you ask for it. Otherwise, the results of each test are displayed in a window on the control panel. The first step is to click on the button that selects which drive you want to test. You then have a selection of buttons for the four basic tests the System offers:

1. Align. In this test, the program reads Tracks 0, 39, and 79 one after the other and reports the time it took and whether it found the alignment satisfactory. It continues to cycle automatically through these three until you tell it to stop. It can be reading any disk you want, but if it is the calibration disk and it reports misalignment, you know right away you're in trouble.

2. Manual. You can test the alignment of some other track, if you want, by clicking on the "Manual" button. In manual mode, you can turn the motor on or off and you can leave it running on the chosen track as long as you want.

3. Speed. The rate at which the disk rotates is precisely measured in this test. It should run very close to 300 RPM, with a slowdown as little as 5 RPM indicating trouble. The manual lists several possible causes for a slow-down (or a speedup) and tells what to do about it.

"Not only is the Alignment system quick and easy, it's fun to play with"

4. Performance. This test destroys data, so you run it only on a scratch disk. It first writes test tracks on the disk and checks them for integrity and proper location. A flaw in the disk's magnetic medium will be immediately revealed during this phase of performance testing, but its intent is more to test the reading and writing functions of the disk drive. The rate at which the computer system transfers data to and from the disk is then measured. If the writing rate gets much different from 5000 bytes/second or the reading rate gets much different from I2000 bytes/ second, you must take stern measures with your machine. Again, the manual guides you.

Sometimes the remedy is fairly simple and your aching drive is again like new. At the other extreme, the doctor may tell you it is terminal flakiness and you should get a new drive. At least, you know and you don't continue to nurture a lost cause. I'm very happy to report that the AMI- Alignment System gave my particular disk drives a clean bill of health. I don't worry and wonder now, when something odd happens, whether it might be a disk drive misbehaving. I did have a disk that was acting suspicious, so I put it through the AMI tests, expecting to find a bad spot in the medium. No bad spot, but the speed of turning fluctuated between 300 and 290 RPM. This information led to a closer look and the discovery that it was slightly bent. After straightening, it tested at normal rotation speed and was put back into service.

I like the AMI-Alignment System and the satisfaction of giving my drives a periodic checkup and thereby eliminating them from the list of possible causes of unexplained system misbehavior. I would feel even better about the product if its calibration disk had elliptical tracks so that it could tell me how close to the center of the track I was reading. I liked the manual, but I'd like it even better if it were less cookbook and more tutorial in style. The 40 page manual is old-fashioned typewriter output, and really should be typeset, especially in this day of desktop publishing. If you make lots of copies for your user group's PD library, or store most of your important Amiga data on floppy disks, I'd recommend the AMI-Alignment System. Although this is something you would use only a few times a year, it could prove to be an important tool to ensuring the integrity of your drives as well as your disks.

AMI Alignment System \$49.95

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EasyLedgers Intuitive Amiaa Way

Business Accounting the Small

by George Graves

f the American marketplace doesn't take the Amiga as a serious business machine, then who will? The Australians of course. Sybiz Software from Adelaide is out to prove that the Amiga is (as every owner knows) the best generalpurpose microcomputer in the market. From down under, via Los Gatos, CA, Brown-Wagh Publishing presents EasyLedgers Accounting. EasyLedgers claims to be, as do Nimbus and B.E.S.T., THE accounting system for small business people who don't understand accounting. On many points, it hits the mark.

Features:

The EasyLedgers accounting package consists of a manual of nearly two hundred pages, a single floppy disk, a software registration card, and a sample form with no apparent clue as to what it is or where to obtain more like it. All this is packaged in an attractive white plastic slip case. This program may be operated conveniently on a

The EasyLedgers accounting system strives to take the mystery out of the accounting process by using simple, intuitive setup screens

Database Title : [Sample Accounts Operator's Password : [SY] Supervisor's Password : [BIZ] Letterhead Line 1 : [AnyCompany International Letterhead Line 2 : [123 Any Street Letterhead Line 3 : [AnyCity Letterhead Line 4 : [Phone 123 4567 Fax 234 5678	1
Letterhead Line 1 AnyCompany International Letterhead Line 2 123 Any Street Letterhead Line 3 AnyCity Desterhead Line 3 Phone 122 A567 Fax 224 5678	
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Trading Terms :[Net 30 days Please Processing Date :[1-Jan-88] Next Invoice # :[1253]	1
)iscount Column 🖾 Sales Analysis	

single-disk system with 512k or more of memory, a real plus for the very small or part-time business with limited budgets.

The concept of the system is that which is the basis of all accounting systems, no matter how complex. A series of books of ledger paper called journals are maintained by a bookkeeper. All financial records are kept in these. One of the books is a General Ledger, which is the heart of any accounting system. The General Ledger contains records of all financial transactions, some in summary and some in detail. Additional books are also kept. Purchases are usually tracked in a Purchase (or Accounts Payable) Book. Sales are tracked in a Sales (or Accounts Receivable) book. These books are common to all accounting systems. A fourth book is also used in a great many businesses, especially retail, wholesale or manufacturing. That is the Inventory (or Stock Control) book.

EasyLedgers uses these books as a metaphor for its system. When the system is started, four books appear on the screen, labeled Purchase Book, Sales Book, Ledger Book and Inventory Book. By clicking on the cover of any of the four or by using the proper shortcut keystrokes, the book will open and its contents will be displayed. Accounts are setup as entries (continued on next page)

Easy Ledgers (continued from previous page)

on a page in each of the books, and the each book has a "tab" system by which accounts can be grouped into categories (for example, Retail, Wholesale and Government customers). Each of the books contains a different type of account, and has slightly different characteristics, but the look and feel is very much the same when going from book to book.

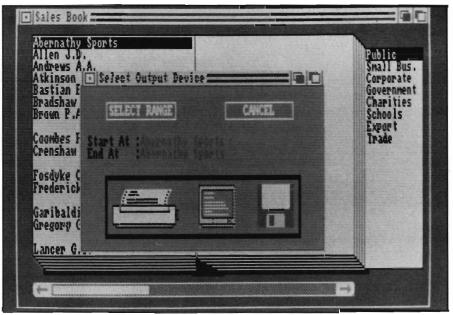
Accounts are set up in the General Ledger (Ledger Book) by clicking on the book's cover or

using shortcut keys. Once the book is opened, an account may be set up by selecting Open from the project menu or by keyboard shortcut. All that is needed to establish a new account is an account number and a title. Optionally, a prior year closing balance, a year-todate budget amount and a monthly budget amount may be entered. The account numbers used in the system are allowed to be as long

the books are kept in balance. For me, it's usually best to let my accountant tell me exactly what to enter in each category and then to do exactly what he says. Most accounts in the Ledger Book are posted automatically by transactions entered in the other books.

Reports produced by the Ledger Book section include a Trial Balance, Chart of Accounts, Income Balance Sheet, Cashbook Listing, Account Hisdigits), up to three levels of pricing (for instance Retail, Trade and Vendor), last purchase unit cost, unit of measure, economical reorder quantity and lead time. These items can simply build a well-working inventory replenishment system. Also included in the inventory item setup is a "Tax Applicable" field. This seems to be of marginal value since different items are taxable in different states, however for a business selling in one state this presents no problem. Since most inventory trans-

The system offers output to your printer, screen, or disk with just a click



as 10 digits, which will accommodate most transfers from other smaller or manual systems.

Once an account is established, its current balance and budget amounts may be examined by double-clicking on the account name. The general ledger is able to handle payments, receipts and journal adjustment entries. Payments may be in the form of cash or manually issued check or the system will print a check for you. Journal adjustments are done one entry at a time, and it's up to the bookkeeper to see that these entries are done properly and that tories, and list each of the other books. Where the B.E.S.T. accounting system has a report writer for customized reports, EasyLedgers has a "Dump to Spreadsheet" feature. With this feature, essentially all information may be dumped to a file in either ASCII text mode, Lotus 1-2-3 format or MaxiPlan text format. From there, obviously, the file may be loaded and any report produced or any analysis done.

The Inventory Book contains information about goods for sale. The information to be entered at setup time includes Product Number (up to ten

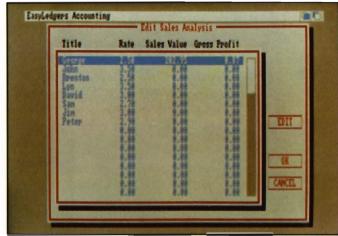
actions will be automatically generated as the result of purchases from manufacturers or sales to customers, there are only two transactions available in this book, Goods In and Goods Out. These are for tracking inventory movements as the result of breakage, transfer or receipt of goods without an invoice.

Reports available with this book are Inventory Listing, Sales and Value, Movement History

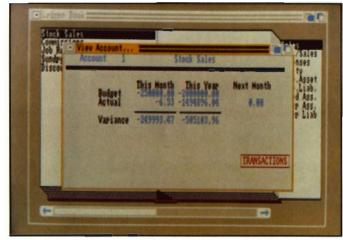
and Physical Count Entry. Also included, are several Reorder Reports including listings for items below reorder level, below monthly stock and those items which will be sold out before replenishment based upon lead time to restock. As with the Ledger Book, all inventory information may be dumped to any one of several spreadsheet formats thereby allowing the creation of any desired report.

The Purchase Book records purchases from suppliers. In addition to the normal Supplier Number, Name, and Address fields, On-time Payment Discounts, Trading Terms and Transaction Currency are allowed. Vendors may be dealt with on a Balance Forward or an Open Item method. Purchases, Returns and Payments are handled as well as General Ledger adjustments. Purchases and returns may be done for both inventory items and for ledger The purchase of inventory items. items updates the inventory file automatically. Item selection for purchases is the easiest of any accounting system I have ever encountered. If the line item on the purchase order is for an inventory item, the inventory book is opened and the item desired is selected with a mouse click. If the line item is

stance, agrees to write off a disputed amount. that amount would be accounted for in this manner. Reports available in the Purchase Book include a Suppliers' List, Mailing Labels for Suppliers, Outstanding Balance List, Suppliers' Statements, Transaction History and Purchases and Payments Journal.







a ledger account, the Ledger Book is opened and the proper account is selected by a mouse click. The selection is done by account or item name, not number, thereby reducing the chance of error significantly. Purchase payments on Open Item accounts are handled similarly. If a payment is to be posted, each of the open invoices is displayed and payment may be applied to that particular invoices. Balance forward accounts are handled by simply filling in the payment amount to be applied.

Journal Adjustments may be made for any supplier. If a supplier, for inAs with the other Books, any or all information may be dumped to spreadsheets.

The fourth and final book is the Sales Book. This book has the greatest number of transactions and options.

The basis of this book is the customer record. Information entered for each customer in-



(continued on next page)

cludes Customer Number (10 characters), Name, Address, Contact and Phone Number, Prompt Payment Discount, Payment Terms, Credit Limit, Resale Number (15 characters), Open Item/Balance Forward flag, Price Basis (Price 1, Price 2 or Price 3) and the Sales Tax Code. After information for each customer is entered, sales entries may commence.

Sales and credits may be either on an invoice or cash basis. Sales may be taxable or tax exempt. A sales analysis code, such as Salesperson Identification, is optionally kept for each transaction. This makes it possible to calculate commissions on sales, for instance.

Receipts on customer accounts are also processed in this book. Depending upon the method of account payment selected when the account was initiated, payments are applied against either open items or against a balance forward. These function similar to the payments in the Purchases Book.

Reports available from the Sales Book include Customer Account, Mailing Labels, Balance List, Transaction History, Customers' Statements, Sales Tax, Sales Analysis, Sales and Receipts Journal, Transaction Log and a System Status Report.

In addition to the four Books, the entry screen has a Utility Menu which allows the entry and/or changing of information such as names, addresses, starting invoice numbers, discounts, sales tax charts and the like.

Performance:

This program performs adequately from either floppy disk or hard drive. A separate database is required for each business, and each database is stored in a separate directory. Data entry is straight forward and editing is simple. The menu system is likewise straight forward and most commands can be executed from keyboard shortcuts. The "Book" metaphor is well implemented and logical to use. The program is written in C. On my hard disk system, response was nearly instantaneous.

Overall I, judged the performance of the product as good.

Documentation:

Documentation consists of a one hundred ninety-four page manual which includes screen replicas of most of the screens encountered in the system. Included with the system is a sample data base and a thorough tutorial on how to use it. Installation instructions are sim-

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Denny Atkin - AmigaWorld (Feb. 1989, pp. 92-94)

"The user interface is wonderful..." Info Rated: 4+ stars David Martin - Info Magazine (Sept/Oct 88, p. 16)

Project D: The Disk Copier... Plus!

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JUNE 1989

ple, complete and easy to perform, but arc slightly marred by some typographical errors. Plenty of tips for use are sprinkled at appropriate points throughout the manual.

Obviously documentation of this brevity is not intended to make you into an accountant, but many if not most "real world" problems are addressed in the manual. A thorough discussion of system capacities, system checklists, sample printouts and an index are included as appendices to the manual.

Although basic in nature, the accounting information is adequate for the level of the program. Anyone purchasing this program should have access to an accountant to be sure of the setup before investing the time to work up the full implementation in a business. (The field of accounting simply cannot be covered in two hundred pages.)

Ease of Learning:

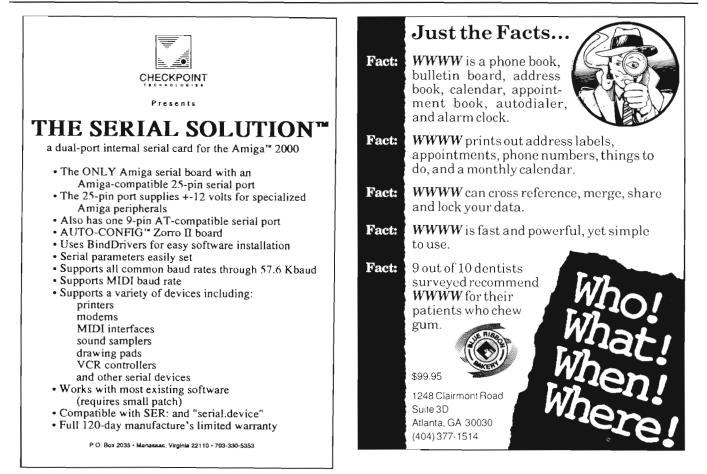
Easy Ledgers is simple to learn and use. The graphic book metaphor is intuitive. After about thirty minutes with the manual and the sample data bases included and you'll be ready to start your own accounting system.

Ease of Use:

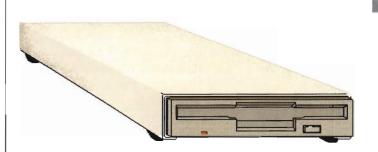
This product has to be the easiest accounting system I have ever used. The book concept with indices allows for logical groupings of accounts much as you would put index tabs in a looseleaf notebook. The product did exactly what it should as long as I entered information correctly.

The icing on the cake, however, is the elimination of codes from the interface. You can keep books completely and accurately and never have to know an account code or a product code or a customer number once the system is set up. This makes it simple for a bookkeeper to accurately sell and keep track of inventory items about which he or she knows nothing. It also makes it possible for sales to be conducted in a language understood by all ... a Panasonic KXP1124 printer can now be inventoried and sold as a "Panasonic KXP1124 Printer". not as а "PANKXP1124".

Data entry is simple, and forms can be copied which duplicate screen forms exactly and used for data entry, thereby further reducing problems. The instruction manual gives two approaches for system startup, one for the situation in which ledger books are already up to date, and one for which ledger books are partly prepared. The blend of Amiga graphics and text entry are lovely to *(continued on page 34)*



CSI 3200 SilentDrive



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> sounds in IFF format for use in any music program that supports IFF or 8SVX sounds, such as Deluxe Music, Sonix, Soundscape,Dr. T's KCS 1.6A, Dynamic Drums, and many more!

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



Centaur Software, Inc. 14040 Tahiti Way, Ste. 528. Marina Del Rey, CA 90292 (213) 821-5995



see and to use. Graphically, this program is a joy to use.

Error Handling:

The only frustrating part of using this program is in the error handling. Not computer errors so much as human errors, but errors nonetheless. My greatest complaint comes from the fact that the system cannot be closed if the Ledger Book is out of balance. There doesn't seem to be any way to suspend, terminate and reopen the files in this situation. Although the authors know about the problem (it is mentioned numerous times in the manual) they have done nothing about it. I created an outof-balance situation and tried to terminate. The system would not allow that. So I powered off and on. When the system came up again there was no mention of the out-of-balance condition, but my accounts were a little wacky. If there is no warning that

things are wrong when they are wrong, an error can be turned into a financial disaster.

Support:

Via Brown-Wagh, the publisher. No support after hours, no answering machine.

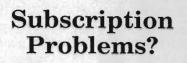
Conclusion:

I rate EasyLedgers a good value based on its price and performance. If error handling were more capable, it would be an excellent value.

EasyLedgers \$295.00

Distributed by:

Brown-Wagh Publishing 16795 Lark Avenue, Suite 210 Los Gatos, CA 95030 (800) 451-0900



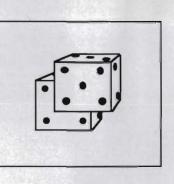
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Platinum Scribble! MicroSystems Teaches a Favorite Dog Some New Tricks

by Steve Dock

cribble! was one of the very first commercial software products for the Amiga. It's been at least three years since Scribble! became my primary word processor and like those who stick to WordStar in the MSDos world, I doubt that I'll ever completely switch. MicroSystems has improved Scribble! several times, but has kept the software essentially the same. You won't find multiple fonts, several columns per page, tables of contents, or index generation here. (MSS produces Excellence! for those who need that level of word-processing.)

Instead, Scribble! excels at creating correspondence, short to medium documents, and mail-merged form letters. It is a fast and predictable tool which doesn't require a Megabyte of chip ram and multitasks exceedingly well. Earlier, MSS introduced "The Platinum Works," which is a collection of four popular programs integrated into a single package. One of these called WORD, has now been released separately as Platinum Scribble!. Although it looks a lot like Scribble! and works a lot like Scribble!, it is in fact the first complete rewrite of Scribble! since its introduction. MSS is offering the Platinum version as an upgrade to Scribble! owners and marketing it as an alternative to Word Perfect, Excellence!, ProWrite, and the many other word-processors available to Amiga owners. Should you upgrade? Is Platinum Scribble! the word-processor for you? I'll try to highlight the differences and strengths of this new software.

The new package consists of a 140 page manual and two non-copy protected disks. The manual is professionally packaged in a three-ring format and includes table of contents and index. It begins with installation instructions, two tutorials and ends with a reference section. The documentation is a distinct improvement over previous materials and even explains the "Dot Commands" fairly well. One of the disks is a WorkBench 1.3 disk with the main program. The other contains the dictionary and thesaurus. An excellent Hard-Disk installation program ensures that all the needed files will be placed correctly and that your startup-sequence will include the necessary Assign: statements.

Although Platinum Scribble's Icon looks the same, the program opens its own custom screen which can be set (continued on next page)

One of the most noticeable enhancements to Scribble! is the addition of an extensive thesaurus



for two, four or eight colors. This is different from Scribble! 2.0 which opened on the WorkBench Screen. The significance of this comes into play when non-standard resolutions are used as with the Moniterm 1008 by 800 monitor or with the upcoming WorkBench 1.4 resolutions. Software must support a WorkBench mode in order to make use of these higher resolutions.

Once the display opens, it looks just like Scribble!. There are proportional gadgets for horizontal and vertical scrolling, a status line which shows page, line, column and mode, and window gadgets for closing and moving the current document to the background. The document window includes a drag bar and resizing gadget as well as the document's title. Your cursor is positioned at line 1 column 1, so start typing.

Press the right mouse button, and the differences appear. There are still five menus but several new options and sig-

nificant rearrangement of old ones. The Project menu handles loading and saving documents, as well as setting Scribble! preferences and quitting. (The old Scribble! included search and replace in this menu which has been moved to the document menu.)

Instead of the confusing term "Archive," Platinum Scribble offers separate New, Open, Close and Save options. Select open or Save-As and the file requestor will open. This latest version seems much quicker then the original. MSS has also finally acknowledged that Amiga owners have more than one disk drive by including a drive gadget. Click here and the files from each device which is known to your system will immediately begin to show. As you select a drive for storage vou will also find a display of the free space available. The Project Preferences option combines several options which were spread around previously. Here you can set the foreground and background colors (previously called paper and ink) and choose to create

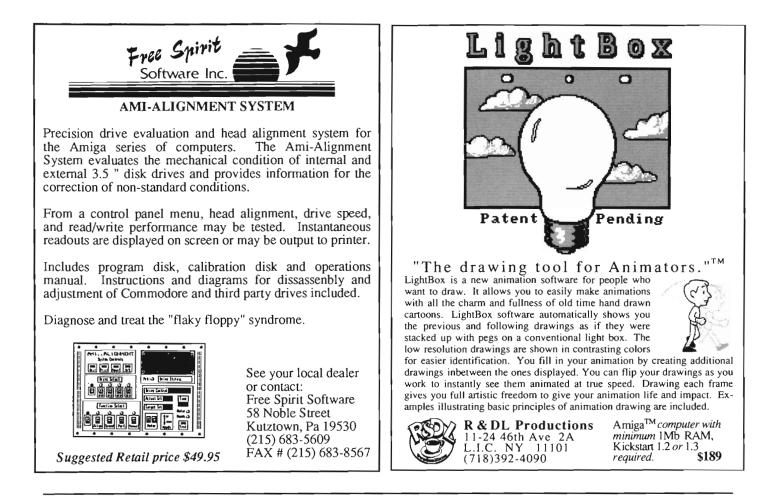
icons or not. New options let you choose to use horizontal and vertical overscan and hi-resolution interlace. Interlace uses the 640 by 400 resolution and is subject to flicker, but doubles the number of lines you can see at a time. Horizontal overscan uses spreads your screen by using the border areas and adds two or three more characters per line. Vertical overscan gives you an extra line on the standard documents window. Once these selections are made, they are stored in a disk file and automatically loaded the next time you start the program.

The next menu is also labelled Preferences. Here, a user can specify line length, justification, tabs and page layout here. These selections can be saved as a .FMT file and used again for other similar documents. Platinum Scribble now lets me store my preference of typing mode; insert or overtype and has added a significant selection to the Print Setup menu. Select Print Setup Special from this menu, and you will be presented with a requestor in which you can type printer set-up commands for Plain, Bold, Underline, Italic, superscript and Subscript modes. If you are using a printer which is properly supported by Preferences, you may never need this option. However, your printer may have multiple font capability which Preferences doesn't support. You can type the proper font selection codes into the super and subscript lines and use your internal fonts!

Other uses for this setup option are for those who own laser printers which are poorly supported by preferences, or for printers which lack printer-drivers entirely. MSS continues to offer a "fileformat" option which deals with the difference between the Amiga line ending and other computers. This is most useful if you are creating text which you want to exchange with someone who owns an IBM PC. The third menu

Platinum Scribble's preferences are stored in a special file that is read upon startup

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is now called MODE. It is identical to the TEXT menu of older Scribble! with one exception; "Spell" is no longer in this menu. You will find toggle options for text style, and Cut and Paste operations here, as well. These continue to use Amiga's Clipboard, so you can exchange text with other programs which also make use of the standard system resource. There are also two new styles which appear on this menu, Superscript and Subscript, and as previously mentioned they offer a work-around for using multiple builtin printer fonts.

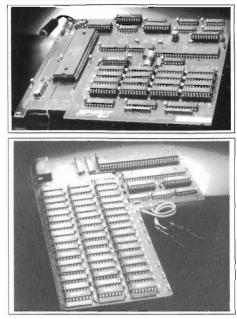
The Document menu is next and it controls Find and Replace options as well as the spelling checker and new thesaurus. If you were used to pressing Amiga-S to search for a word, you will have to retrain. "Search" has been replaced by "Find" and Amiga-F starts this function now. (You can use Amiga-S and F4 to save a document now.) The text find and replace function works identical to Scribble!, that is you can change one-by-one, skip, or make a global change. My impression is that these routines have been speeded up considerably.

The Spell checking function has been enhanced significantly. The dictionary now consists of 104,000 words provided by Merriam-Webster. As before you can check the spelling of a word, window or document. However, the word list which appears is much smarter. You will find spellings that are close to the word as typed, and sometimes other choices which are common typing errors. Double click on one of the suggestions and the word will be replaced immediately. You still can ignore, correct or learn any word as with previously versions. One new feature that I like happens when a list of suggested words is on-screen. Highlight one of

the suggestions, and click on the Guess button, and a new list of words will appear. MSS has combined the spelling and thesaurus functions into one seamless whole!

The final enhancement to spell checking is the Continuous choice. Select this option and your words will be verified as you type. Either the bell sound or screen flash will notify you of an error. If you are a fast but sloppy typist like me, this option is a must. The implementation of this feature in Platinum Scribble is the best I have ever used. A simple menu selection and vou're off. Platinum Scribble! includes a 470,000 word thesaurus also provided by Merriam-Webster. Place your cursor on any word and press Amiga-A. The resulting window will offer a definition of the word and one to ten alternatives. Double-Click on one of the (continued on next page)

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Platinum Scribble! (continued from previous page)

alternatives to replace your original word. Click on the Next, Previous or Find buttons to display additional words and definitions. I found this particular thesaurus fast, accurate and useful. By highlighting one word in a list then clicking on Next, you can quickly refine your thought and avoid repetition.

The last menu controls printing. You will still find options for an on-screen preview, printing to a file, and printing forward from your current position. You can also set paper type, line spacing and number of copies from this menu. One new selection is print quality. If your printer supports NLQ and Draft modes, you no longer need to change your WorkBench Preferences. Here again long-time users will have to learn a new keystroke, Amiga-T initiates immediate printing. (The old Amiga-G is used Guess the spelling of a word.)

Scribble! continues to rely on "dot" commands for advanced formatting features like headers, footers, and hanging indents. (Press F2 and the same list of Dot commands appears). Dot commands are also used to perform mail-merge and this function has not been changed. Press F1 and a summary of keyboard functions will appear. These include center line (F3), and a wide variety of movement operations which use the Left Amiga key or Alt key in combination with the arrow keys. Getting quickly to the top or bottom of a document is of prime importance to me. Platinum Scribble! is even faster in its movements than its predecessors.

One interesting new feature is Platinum Scribble's ability to print IFF graphics. A single page in the manual describes a new dot command ".IP". With this command you specify the file name, left margin, height and width of the picture, and graphics density. Scribble will then print using the printer.device and graphic capability of your printer. This may seem like a useful addition, but there is no way to wrap text around or alongside of your picture. In practical terms, you are limited to full width pictures unless you like large areas of white-space on the page. I was impressed with both the speed and quality of the images produced by this new option. Compatibility with existing Scribble! documents is complete. Current owners have nothing to lose other than a little confusion at the four keystrokes which have changed. Given the improved speed, file requestor and spell checking, combined with the excellent thesaurus Platinum Scribble! is a winner. I've retired Scribble 2.0 and expect that you will too. The broader issue of purchasing Platinum Scribble! compared to the alternatives is much tougher. In its use of rulers, Mac-style requestors and production of excellent dot-matrix multiple-font output, ProWrite has to be the selection of those who need to produce Mac-like documents. WordPerfect and Excellence! will battle for the dollars of those who produce scientific and term papers with WordPerfect having the advantage of speed and Excellence! the advantage of Font and Graphic support. I'd still recommend Platinum Scribble! to those who use word processors daily to produce business documents and value rock-solid reliability and economy of function. There are many choices for different needs, and in my opinion, Scribble! is one of the best.

Platinum Scribble! \$149.95 Upgrade from 2.0 \$49.95

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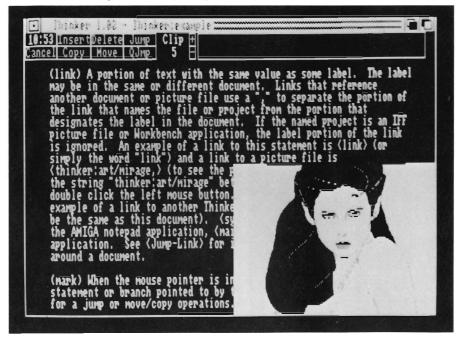
A HyperText Engine for the Amiga

by Gary Gehman

Veryone, I'm sure, has, at one point or another in their scholastic career, spent a rainy afternoon word-tripping through the dictionary. First you look up a word that might have been giving you problems for some time. As you read the definition, you encounter another evocative word and off you go, looking up yet another reference that only leads to a third and then a fourth. By the time you finally look up, it's 90 minutes later and you have completely forgotten why you turned to the dictionary in the first place. But neither has it been a waste of time.

The experience just described is the most common form of a class of inquiry called HyperText. The first such HyperText medium to make its way onto Amiga Screens is Thinker, by Poor Person Software. Thinker is a full HyperText word processor, outliner and connection-making engine. It can even load and display IFF bitmaps and launch other, secondary, Amiga

By clicking on the desired word of interest, Thinker can provide you with a quick link to related subject matter



applications like notepads or telecommunications programs. Despite its stunning capabilities, Thinker is delightfully simple to operate. Scrolling occurs smoothly and with blitter assistance. The real difference between Thinker and a plain word processor is it's ability to link ideas together.

For instance, say in reading through a passage on theoretical computing you encounter a concept called <Artificial Intelligence>. [note: the < and >characters are used to group multiword strings into a single Thinker label.] If it intrigues you, click twice with the mouse on the words Artificial Intelligence and Thinker asks if you want to switch your current context or open a new window. Here you find a reference to Neural Networks and click twice again. This time you opt for a new window and a smaller one opens, providing a separately scrollable, sizable sidebar discussion of Neural Networks. You can now pursue both trains of thought simply by activating the appropriate window and clicking on keywords of interest. When you're finished, simply select the Jump menu Origin option to be returned to your starting point. If, in the text you see a notation something like <Thinker:art/flow chart,>, that's a tag for a picture. Click two times with the mouse to open either a screen or new window displaying a bitmap of a flowchart representing the hierarchical (continued on page 62)

DATASTORM

High Flying Arcade-Style Action

by Ken McNeill

f your local physician recommends that you avoid stress and high degrees of stimulation, then you should think twice about playing Datastorm, the new "blow'em to bits" arcade game from Visionary Technologies. The box describes the game's scenario as follows:

"The explosion of the planet Xerxes plunged its eight orbiting colonies into deep space. Forced to rebuild their shattered civilization, they are seeking out a new home planet. You must guide and protect the eight survival pods through their dangerous voyage and lead them to sanctuary." Although this is an interesting introduction to the game, the game's concept is very similar to the popular coin-operated arcade game, Defender. However, regardless of the origin of concept for Datastorm, I can safely say that it is the most exciting. skillfullyprogrammed, and playable arcade/ action game that I have seen for the Amiga. With that in mind, let's take a look at Datastorm in more detail. Da-

The action begins in Datastorm with the ships realistic-looking interior control panel



tastorm requires an Amiga with at least 512K RAM and one joystick in port 2, but if you have a friend with good hand-eye coordination and a fast trigger finger, plug a second joystick in port 1. Upon booting, Datastorm causes some non-standard disk drive noises and then proceeds to blank out the red power light on the Amiga 500. I've never understood why this was necessary, but perhaps the programmers are just doing their part to conserve energy. In any case, the game is definately copy-protected.

Some roaring combat noises soon follow, and the player is presented with an impressive full-screen image of the imaginary "Datastorm city." The sound track to Datastorm is upbeat and impressive, making full use of the audio power of the Amiga. Pushing the fire button calls up the main menu from which the player can choose skill level and player mode. Skill level can be "slow" (which is actually pretty darn fast), "normal" (which is extremely fast), and "fast" (which is next to impossible). The four playing modes are single player mode, two player mode with one joystick, two player mode with two joysticks, and team mode. The latter, team mode, puts both players on the screen at once playing cooperatively. Team mode is one of the best features of the game -it allows two players to share resources and cover for each other throughout the game, providing double the fun.

Pressing the button at this point will begin the game. If the button is not pressed, the game will cycle through its instruction screens that outline each type of energy and other helpful hints for playing effectively. How do you play Datastorm? You do hand stretching exercises first, and then you fire away. You must direct your sleeklooking ship around the screen as fiery exhaust trails behind you. The idea is to fly around and pick up the little rolling "pods" on the surface and fly them one at a time to the "portal," which looks like a satellite dish with a light beam projecting from it. The background screen is a sky of twinkling, multi-colored stars that scroll by quickly and smoothly.

Your laser cannon is fired when the joystick button is pressed in rapid succession, and your "smartbombs" are activated when it is held down for a longer duration. Lasers do a pretty good job of cutting down your adversaries one-by-one, whereas smartbombs blast everything on the screen to bits. Who are your adversaries? If I tried to describe every bad guy on the screen, we would have a novel rather than a game review. Suffice it to say that there are enough enemy creatures in various colors and shapes to satisfy those with the most warped imaginations. This aspect of the game is truly enjoyable.

At the bottom of the screen is the radar box which depicts your position, as well as the locations of all of the monstrosities and UFO's. To the sides of the radar are meters for monitoring your "shield" level, and the status of other "special powers" which you may collect during the course of your attempt to rescue those poor little pods that plod along the surface. Among the five special powers are "supershield," which provides temporary invulnerability beyond that of your standard



When your screen gets this busy, you'll definitely have your hands full

shields, "missile," which I will explain soon, and my personal favorite, "autofire," which is like the machine gun of the laser age. These "special powers" keep the game interesting and addicting and make the coin-operated arcade games seem extremely boring in comparison.

The "missile" power mentioned above automatically fires a missile whenever a "Lander," an enemy UFO, picks up one of your pods. This means that while you are flying around trying to save these pods. Landers are trying to digest them, and if they are successful, the Landers become even stronger and meaner. When all of the pods for a certain level have been either rescued or destroyed, that particular level is finished, and you receive bonus points for those pods that you managed to save. You receive a 50% shield replenishment for the next level, and extra men are awarded at 10,000 points. Datastorm's manual is a two-page overview, but most of the instructions are provided on-screen in an entertaining fashion. The graphics in this game are detailed and colorful, and the explosions shoot rainbows of debris across the screen. Your enemies are in the habit of materializing themselves without warning. The action is smooth and incredibly fast -- even with two players on the screen at once, and the sound effects are eerie and authentic.

Basically, Datastorm is a feat of programming, and I applaud Visionary Technologies for not porting an old idea into a cheap program, but instead pushing their imaginations to the limit, and coming out with an impressive game. If you are an arcade action game lover or if you get an itchy trigger finger after a hard day's work, Datastorm will keep your pulse high. It's sure to become an Amiga arcade lover classic.

Datastorm \$39.95

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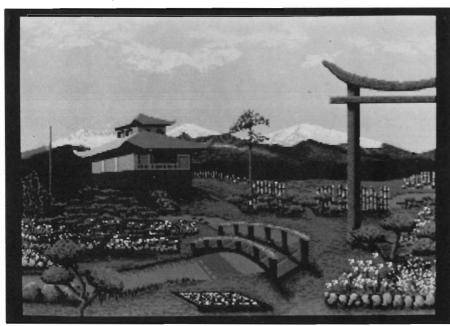
Pegboard Was Never Like This

by Walter Stueber

ou may not know the name, but you surely know the game. It's what we grew up calling Pegboard. An array of pegs sits in a board. You pick up a peg, jump it over an adjacent peg and stick it into an open hole, removing the one you just jumped over. You start out with lots of pegs on the board and you remove them one at a time. With some moderate foresight, you will end up with only three or four pcgs left stranded in positions where they can't be jumped over. With enormous foresight and planning, you will end up with only a single pcg left on the board, thereby winning the game and flushing with satisfaction.

The people at Image Tech have Amigatized this venerable board game with good graphics and sound. They have also expanded it into fifteen variations on the same theme. You can either start with the familiar configuration or you can choose an easier grouping or a more difficult one.

Kikugi opens by setting the scene with this Japanese Landscape

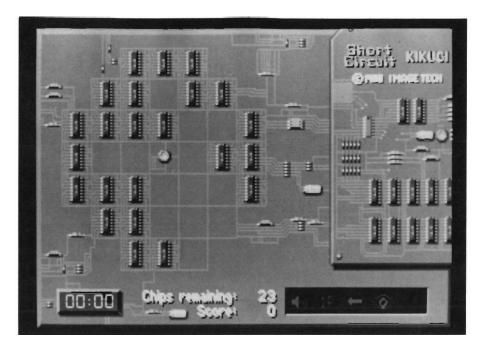


Game control is simple. You select which version to play from a pulldown menu and make your jumps by dragging a peg with your mouse. Everything operates smoothly and quickly. In fact it works better on the screen than it did on the old-fashioned pegboard.

I prefer to call Kikugi a puzzle, rather than call it a game. The word "game" implies something with an adversary and a bit of happenstance or luck during the play; or maybe skill and quickness with a joystick. None of these elements are involved here. All the computer does is to present the playing field and remove the pieces as you jump over them. It does not make any moves itself or enter into the play in any way (other than to yell at you if you try to make an illegal jump.) You are entirely on your own in working out the puzzle. The whole object is to plan your jumps so that pegs don't get isolated someplace where you can't remove them by jumping. This may sound ridiculously simple, but it really does take concentration and it really is engrossing. A person of any age can enjoy it, but it seems to me it would appeal mostly to someone who is ten to twenty years old.

The configuration of pegs that I grew up with starts out with 32 arranged in the shape of a cross with a single open space at the center. They call this configuration, on the pull-down menu, *"Each of the fifteen boards has a different shape and color...One of them looks like a circuit board and its pegs look like microchips"*

Original Kikugi. The disk boots up ready for you to start playing Original Kikugi, but you can elect to change over to one of the other variations. For instance, it is easier on the ego to start with Beginner's Kikugi, a 4x5 rectangle of 19 pegs and one open space. Although Beginner's is much easier to win, it still is no pushover. Or, if you



want something tougher, there is Classic Marble Kikugi, starting out with 104 pegs and a single opening. In the Original Kikugi, a jump may be only vertically or horizontally, but in some (continued on page 46)







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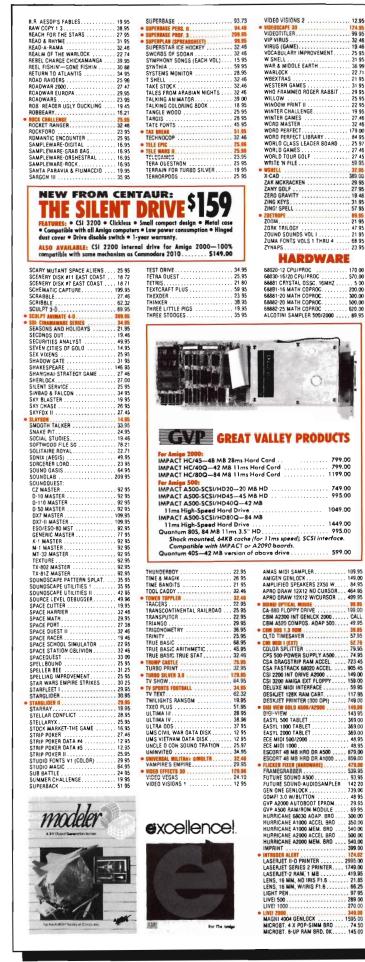
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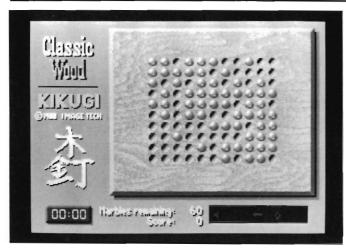
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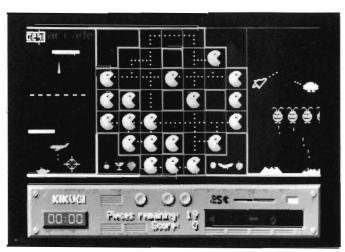
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Kikugi (continued from page 43)







of the variations, diagonal jumps are also permitted. In some of the fifteen different forms of the puzzle, the starting lineup includes many more pegs and more openings. Sometimes, the pegs look like seashells or marbles. Each of the fifteen boards has a different shape and color, all nicely decorated. One of them looks like a printed circuit board and its pegs look like microchips. Most of the boards, though, retain an ancient Japanese appearance and are decorated with mysterious kanjis. In all of them, the objective and the moves are the same.

In the way of computerized extras, there is a take-back button. By clicking on it, you can roll the sequence of jumps back to whatever previous position you want. A partlyplayed game can be stored on disk to be recalled and continued at a later time, if you want. (It takes only a few minutes to play, so there isn't much occasion to stop in the middle.) Oriental-sounding cymbal music plays every once in a while and the sound of pieces being moved and clicking into place accompanies the jumps. The package comes with a small attractive manual, but it is hardly needed because the whole operation is so simple and self-evident.

The disk can be copied, but it is protected by a look-up scheme. A card printed with 676 tiny squares of color comes with the disk. Before the action will start, you are asked, for instance, what color is at the T7 intersection on the card. You look it up on the card and give your answer by clicking on the screen. If you get it right, you are asked to look up another color, and if you get that one right, you are asked to look up a third color. The little squares of color have an optical tendency to dance around and will look alike to anyone who is colorblind. It does not actually take very long to go through this startup requirement, but it isn't very pleasant.

I played the program in most of its variations and truly enjoyed it, even though puzzles like this don't rivet my attention the way they did when I was a teenager. The problem of how to plan jumps continues to be an intriguing one and the computer makes it extra easy to try out different approaches. The only serious flaw I came across was an occasional unexpected GURU that required going through that tedious lookup scheme again. If you are looking for something challenging, but not too taxing to do while your Amiga is compiling, ray-tracing the ancient "game" of Kukugi may be just the thing.

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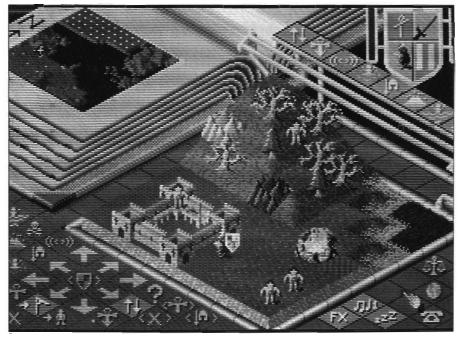


by Anthony Bevivino

Populous is a new release from Electronic Arts that at first might seem like a remake of a tired old idea. You must make the correct decisions so that your people grow stronger than your enemies and defeat them in battle. Sounds simple, right?? Sounds like thousands of other games out there, right?? WRONG!! In Populous, you play God, the supreme divine being, and your opponent is the Devil, the supreme infernal being. You have tremendous power to alter the fate of the world, but so does your enemy. Populous is much more than your average "fight & conquer" game, and attempts to raise an old game theme to new heights.

The graphics for Populous are both different and unusual. Don't expect a visual masterpiece, Populous is not an arcade-graphics game. Be prepared to see clear, sharp figures, interesting scenery and bright, vivid colors. The graphic format for the game is well suited to long play, and to ease of interpretation. What I liked best about

In Populous you play a divine being who oversees the ever-building civilations



the graphics was the layout of the screen. All of the graphic information you need is on the screen at once.

In the upper left of the initial screen is the Book of Worlds, a general map of the entire world you are active in. A large portion of the remaining screen is taken up by the Closeup Map of the part of the world in which you are active. There is an Information Shield in the upper right which tells you information on what you have selected. In the bottom right are technical icons for pausing, turning off the sound, etc. The lower left is the location for your Command icons, movement arrows, and Power icons. This arrangement works very well for playing the game. There is no switching between screens or windows to get in the way. So we are not only given clear, sharp graphics, we are given this in a wellorganized and clearly thought out manner, a trend which continues in many other parts of the game.

Going hand-in-hand with the graphics is good animation. The movements and changes that occur in the game are done smoothly. Your men move smoothly, buildings spring up quickly and cleanly, and even the fights, done on a small scale, are clear. Granted, everything is not liquidsmooth, but the animation is more than adequate for this game.

(continued on next page)

Populous (continued from previous page)

The sound for Populous is done in my favorite format: a lot of quality and just enough quantity. There is a very well done background theme, and a faint heartbeat constantly pulses to tell you how well you are doing. The sound effects are just enough to let you know you did something, but not enough to blow your ears out. One of the nicer options is that music and sound effects can be turned off and on with ease.

Populous is controlled by the mouse. This is not a fast paced game, so the mouse is definitely the best choice. It is also interesting to note that BOTH right and left mouse buttons are used. All game controls are very precise and add to the sense of power that a GOD should have.

Now that we have covered the game's technical aspects, it is time to cover the heart and soul of Populous: the gameplay itself. It is this area that Populous truly excels. There are three modes of play possible, Tutorial, Custom, and Conquest. Tutorial lets you play with all the game options and gives you a feel for the game. Custom lets you build your own world to any specifications. Conquest, however, is the major portion of the game. There are 500 pre-made worlds, each more difficult than the last, and you must fight through many of them to finally win. It is this mode that we will concentrate on.

As stated before, in this game you are God, but you are *not* all-powerful. You get your power from the prayers of your people. The more people you have, and the stronger they are, the stronger you become. Unfortunately, this also holds true for your opponent. You start out with a few of your people, called Walkers, on a wild terrain. As these people find flat land, the settle and build buildings. The more flat



land, the larger the settlement they build. As time goes on, the people in the buildings reproduce and send out another Walker. This cycle of building continues until you win or lose the game. You must have a building or a man in sight to build, so you do not have infinite control over the land. Remember, however, that these rules apply equally to your opponent.

As your people multiply, you gain more Mana, or spiritual power. The question that now arises is: "What good is it all??" Well, as you gain more Mana, an arrow on the power bar moves up, and as it reaches a certain segment, you get to do God-like deeds. You can place your Papal Magnet (more on this object later). You can cause Earthquakes that devastate the land, create Swamps that suck up hapless Walkers. Make towering Volcanoes that really tear up the land, flood the entire world and last but not least, call forth Armageddon to do the final battle of Good versus Evil. You can also create Knights to go forth and kill

your enemy and destroy his settlements.

Just because you have these powers does not mean that you are guaranteed a victory. Your enemy does not necessarily have all these powers, either. At lower levels, you are favored on the power scale, and at upper levels he can do more. You must also choose wisely as to which powers to use. Flooding the world when it will kill your people is not a good idea. You can also use these powers on yourself, so don't make a Volcano on your own lands! You must also be careful not to go Power crazy. Using too many powers will result in lowering your Mana until you can do nothing.

The Papal Magnet is your direct link to the worlds. It is where your Power comes from. It serves many purposes. Once you place it, a Walker will come up and touch it. He appears to carry a small version of the Magnet and is your Leader. He is themost affected by your commands. He is also

The markings on the floor are actually icons that controls many aspects of the game

the one who will become a knight if you choose that option. It is always good to have a Leader among your people. The enemy frequently has one also, and this is his strongest Walker, to be sure. This Evil Leader will do the most damage to your encampments and should be dealt with quickly.

As God, you have a certain amount of control over your people, and this control is given by the Influence Behavior icons. The most common behavior is to go forth and settle, to build and multiply. You can also make your people band together. When you do this, your Walkers will merge into a single, stronger Walker. This decreases the number of Walkers you have, but makes the existing ones stronger and better able to survive. The people can be directed to fight, in which case they will search out enemy Walkers or buildings and fight to the death. You can also make your Walkers go to the Papal Magnet. This option serves a variety of purposes. It lets you create a leader. Also, if you want to make a lot of Knights, keep sending Walkers to the Magnet, and as Knights form they

join with the Walkers and become stronger. A trick that the computer uses very well is to put the Papal Magnet in the heart of enemy territory and send your Walkers towards it, letting them wreak havoc along the way.

The Query icon is also of significant use. When you click on this icon, you get a shield instead of the usual pointer. Place this on any Walker or building, friend or foe, and you can see its stats. In the Information Shield in the upper right is the strength, weapon level, and other assorted information on whatever you clicked on. This icon is very useful in upper levels, in letting you decide when to fight the enemy, and how to gauge the general strength of your Walkers and buildings.

The final icons to be considered are the Zoom icons. These icons let you switch the view instantly to certain strategic positions. You can zoom to the Papal Magnet, to a Knight, to a battle in progress and to your Query shield. This lets you quickly shift to important locations without wasting time. Truly the strength of Populous lies in this kind of gameplay.

Populous is normally a single player game, you versus the computer. If you want to play another human opponent, you have two options. If you are fortunate enough to have two Amigas in your house, you can set up a null modem and play. If not, you can use the modem and play via telecommunications. Just dial your opponent and go. One player is Good and one player is Evil. Both of these modes are supported by the software itself, and no external software is needed. It is also very simple to use either method. The only problem that may arise is length of playing time, but the save game option handles this problem nicely.

I continue to enjoy playing Populous. It is a well done game in every aspect. The sound, graphics and animation are all rock solid and suited to the game. It is a very involved and evenpaced strategy game, but it has a very broad appeal. Populous has been available in Europe for several months and has been greeted with much success. The authors have tapped into an almost universal desire; the desire to play GOD. More than this they have programmed all the elements in a style that feeds this illusion and will bring the player back hour after hour. No matter what kind of game you like, I feel that a game of such high-quality as Populous deserves at least a trial run. and I am sure you will have trouble putting it away after that first game.



Populous \$49.95

Electronic Arts 1820 Gateway Drive San Mateo, Ca 94404 (415) 571-7171

SENTRY/49

Prison

New Escape Adventure from Actionware

by Tim Kahler

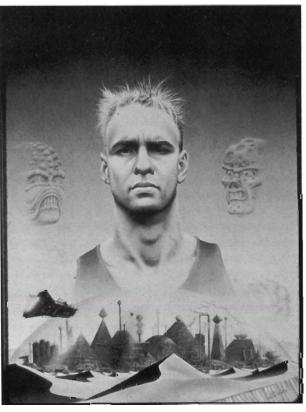
y name is Goor, Father of the Galactic Federation bidding you welcome to a world unlike your own - mysterious, deadly where only the brave survive, where the weak perish, where iron nerves and ruthless skills are your only friends. Come with me first and listen

to my story, then close your eyes and teleport yourself through imagination into my world and begin the adventure that has no turning back - no surrender - only escape from... (Prison)"

This is the story of Jag Edwards, an undercover cop working in the 22nd century. A time when the law meant nothing to criminals. When riots were an everyday event. It was Jag's current assignment to bust a large drug distribution operation. They were using a bakery as a front to distribute heroin.

Jag had been keeping constant surveillance of the bakery for several months. Keeping track of whom was making the deliveries and when. Studying the layout of the building, its entry and exit points. The word came down from his superiors, "make your move Jag. It's now or never." Later that night Jag returned to the bakery to carry out the "Termination Five Objective." Fully armed, he entered the building. In a fierce shootout, Jag wiped out everyone in the building, leaving the heroin covered evidence on the floor.

The security forces arrived immediately at the scene and arrested *Jag*. He was charged with killing 10 innocent



flour covered bakers. Jag knew he had been set up, but who and why?

After a brief trial, the Star-Judge read his verdict, "you have been found guilty, and are hereby sentenced to life abandonment on Altrax." Why hadn't his superiors come to his rescue? Why was this happening to him? These questions were on his mind as he was transported to the awaiting Sprinter. Jag tried to remember all he could about Altrax. It sits alone in quadrant

> seven of the Federation Territory. It's totally isolated from all colonies, space ports, and habitable planets. It has long since been abandoned by the miners, who striped it of it's mineral and plutonium deposits. Altrax's orbit creates longer nights. During the trip, Jag listened to the guards exchanging rumors about Altrax. "If the street gangs don't kill him, then the lone runners will. Yeah, the only time anyone is seen again is when they find your body floating in low orbit...ahh...ha."

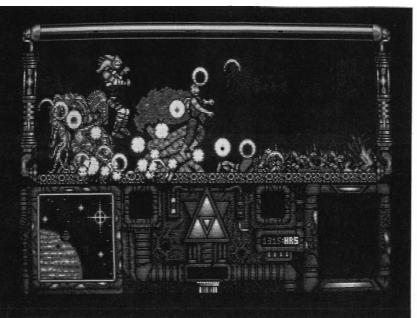
> It was time. A voice echoed through the chamber, "we are within tele-matt range." Jag was moved to the tele-matt pad. A crude and painful form of teleportation. He was thrown into a red field of light. A beam of energy tore his body apart, atom by atom. The trip was quick, but the

pain lingered on for several minutes. Jag lay on the planet's silver surface. He could sense death behind every shadow, it's smell on every breeze. A story he had heard sometime ago came to mind. Over two years ago, a pleasure ship ventured into Altrax's restricted air space, and had crashed onto the planet's surface. The ship was completely wrecked, but there was no sign of the one-man escape pod. Rival alien gangs are still fighting each

other to be the first to find the pod and escape. If the rumors are true, then Jag knew he must be the one to find the pod and escape. Then he would find the answers to his questions.

Prison is the latest game from Actionware, the makers of Capone, P.O.W., and Creatures. On the front

cover is an artist's conception of Jag Edwards looking real unhappy. Below him is Altrax; a glass dome enclosed city. On the back cover are several screens images of actual game play, and a list of game features; over 300 screens, superb graphics, ultrasmooth animation, total joystick control, multiple escapes, and time of day lighting. All this sounded pretty impressive. Opening the box reveals; a small manual, a single copy protected disk,



and an Actionware sticker with the motto "Are you ready to combat evil." Booting the disk resulted in a Guru error. After several tries with different combinations of expansion peripherals. I found that Prison would not work with my 68020 based machine. While this was no real problem for me, because I could disable the accelerator.

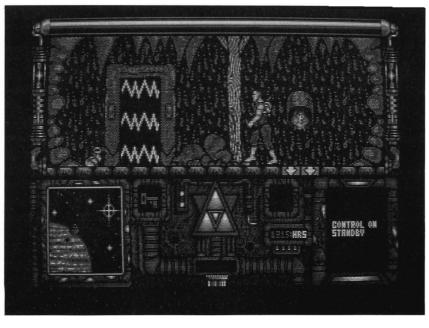
There are Amiga owners who have replaced their 68000s with either a 68010, 68020, or 68030 accelerator. So with the 020 disabled, I continued. The game finished loading in 18 seconds. I was then presented with an image of Altrax in the early morning, as the sun rises, the view of the city becomes clearer. The music that accompanied the intro was top rate.

You are first given the choice of either loading an old game, or

starting a new one. The next screen that appears is divided into nine parts; message tube, game window, escape craft status, menu window, pocket 1, pocket 2, lives/energy indicator, score, and time. Status messages appear in the Message Tube from time to time. For instance: "Your search reveals nothing. A security code plug was stashed in-

> side the case." The Game Window contains a view of Jag and his surroundings. All control in the game is provided by the joystick. You are able to walk, jump up, punch, and kick. There are six pieces to the much sought after escape pod. As you collect them, they are displayed in the Escape Craft Status window.

> Complex actions are obtained by using the Menu Window. (Pressing the fire button and (continued on next page)



Prison (continued from previous page)

joystick forward simultaneously will allow you to see an action you can perform.) Moving the joystick up or down will scroll through the options available. Objects that you now have in your possession are displayed in Pocket 1 and Pocket 2. You cannot carry more than two objects at a time. You have three lives in which to complete the game, and each life is displayed as a pyramid. Eating food restores your energy, while time and injury depletes it.

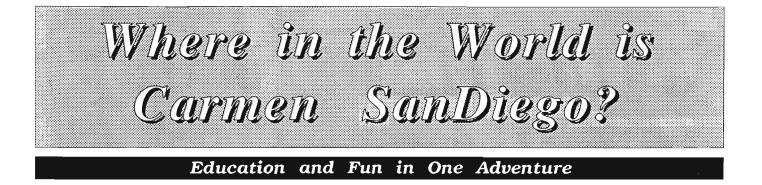


Your Score is at the bottom of the screen in a digital display. The Time indicator is blank until you find the watch and strap it to your wrist. Keeping track of time is very important. Mostly, though, it is being out at night that is extremely dangerous and should be avoided. Beware of the many hazards that line the city's streets. Mines, acid pools, gaping trenches, and aliens are just a few of the things that will try to end your game early. If you do encounter an enemy, you can either run away, or put up a fight. Attack him with a volley of kicks and punches. If you get caught in a strangle hold, wiggle the joystick left and right to get free. Not all of the population of Altrax is out to get you. Some of the inhabitants may aid you after you perform a task, or trade them goods.

Winning the game is no easy task. Practice fighting before you go into the city. Search anything that looks different or out of place. Drawing a map may help you to transverse the city easier, but it is not necessary. I found the graphics to be top-quality. Each screen was finely detailed and colorful. The animation of Jag and his combatants was smooth and life-like. However the screen-to-screen transitions were rather poor. When you move Jag to the edge of the window, the scene fades to black, then fades to the new scene with Jag at the opposite side of the screen. I think players would have preferred a continuous smooth scrolling playfield. I felt the manual could have used a little more detailed about game controls as well as a more extensive dissertation about the 22nd century, as well.

Prison \$39.95

Actionware 38 W 255 Deerpath Road Batavia, Illinois 60510 (312) 879-8998

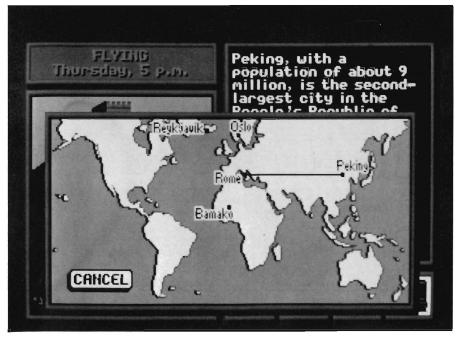


by Nancy Dock

here In The World Is Carmen Sandiego?, the award winning educational software from Broderbund, Inc., is now available for the Amiga. It is a fast moving, challenging game which middle- grade children and their parents can enjoy. I first met Carmen on an Apple II computer and was so impressed by my child's reaction that I purchased a C64 version. We've been waiting for some time, but at last Carmen is available in Amiga format.

American school children are woefully ignorant about their own country and the other nations of the world. Recent newspaper articles on the state of U.S. education have cited the remarkable lack of geographic knowledge even our better students display. This game is one painless way to increase your child's "GQ" (geography quotient). Broderbund calls this a "mystery exploration game." The premise is that a member of an international crime syndicate (known as V.I.L.E.)

By clicking on the city of your choice, you will be flown there from your current where-abouts



has stolen a valuable object. It is the job of the player to track the thief to one of thirty cities in which he or she may be hiding and to apprehend the culprit.

The detective must unravel clues to find the identity of the thief and his/ her hiding place. To do this the player relies on background knowledge or the World Almanac and Book of Facts. A recent copy of this expansive resource book is included with each game and the player receives instructions in the manual on how to use the World Almanac.

The search begins, as you would suspect, at the scene of the crime. A bulletin on the left side of the screen details the location and the specifics of the robbery. (One young assistant reviewer was tickled by the authentic rat-a-tat-tat of typewriter keys as the initial scenario appeared.) Players are given a time limit to solve the mystery. Rookie and sleuth levels have a deadline of seven game days from the date of the crime. The main screen always gives the players' their present location and tells what time and day of the week it is.

Each new city screen features a capsule description of the country in which it is located (valuable clues!) and a colorful picture of a notable landmark or typical scene. Four icons (continued on next page)

Carmen SanDiego (continued from previous page)

in the lower right of the main screen aid in locating and arresting the suspect. One icon allows a player to choose to see a list of all possible destinations which may be reached by connecting flights from the present location. Another reveals a window displaying three specific locations to investigate (e.g. the hotel, the marketplace, and the embassy). By using a third icon the player may depart for another city. The screen will display a world map with a blinking dot showing the player's current location. Click on the destination city and a dotted line represents the journey to the new locale.

While the player is busy chasing the elusive thief, the game clock is constantly being updated. It is important to make wise decisions and not to linger in one city too long. When the player feels he's gathered enough clues to identify the criminal, he should use the fourth icon to display the Interpol Crime Computer. The Crime Computer lists various identifying characteristics for an individual profile. By entering those characteristics revealed by the investigation, the player can generate a profile of the thief and narrow the list of suspects to one prime candidate. At this point the computer issues an arrest warrant and the player may return to the search confident that the suspect will be arrested when found.

For each successful mission, the player gets closer to a promotion in rank. There are five levels in all, from Rookie through Ace Detective. The higher a player's rank, the tougher the assignment. It will take a couple of cases to master the basic approach to solving the mystery and the increasing difficulty will match your improving skills.

Several clever sound and visual gimmicks add to the excitement of the



chase. When the detective is on the right track a mysterious melody plays and a V.I.L.E. henchman will sneak across the screen. Knives and hatchets fly across the screen with appropriate sound effects when the criminal is

nearly cornered. The actual arrest occurs off-screen, to the wail of police sirens. A cute little Keystone cop nabs the suspect or - if you've neglected to get an arrest warrant - slinks dejectedly across the screen.



The Ambassador was no help, so you'll have to keep looking

The total package consists of one copy-protected disk, a twenty page user's guide and a 928 page World Almanac. (You can purchase a back-up disk for \$10 with your registration form). The same booklet style manual is used for the Amiga, Apple IIgs and Mac versions. The only machine specific parts refer to loading. The remainder clearly explains game play, and how to use the Almanac. There is a two page world map with known locations of V.I.L.E. and picture portfolios of criminal suspects. All this is designed to entertain while informing and it does the job well.

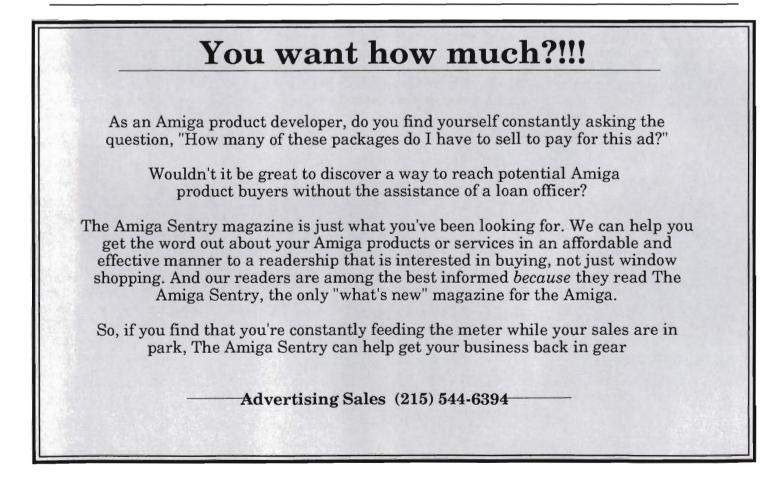
Broderbund has made special provisions for those who have more than 512K of memory. You simply change a setting in the Icon tooltype to make use of extra memory and lessen disk access. Harddisk owners can also install Carmen. To do so, you must create a drawer named Carmen World then drag the contents from the floppy disk.

Next, special fonts are moved from the original disk to your system Fonts: directory. A utility called Font Mover has been provided to make this operation easier. The harddisk version will require insertion of the master disk at game start, but will run from then on from the harddisk.

WHERE IN THE WORLD IS CAR-MEN SANDIEGO? has won the Software Publishers Association Certified Platinum Award three times and has received the Outstanding Software Award from Classroom Computer Learning. My family enjoys playing Carmen on our 64 and Amiga. The Amiga version has better sound and crisper graphics, but the enjoyment continues to come from the well constructed challenges. You and your children can learn valuable skills in using references materials, many facts about the world around us, and have a good time in the process.

Where in the World is Carmen Sandiego? \$44.95

Broderbund Software Inc. 17 Paul Drive San Rafael, CA 94903 (800) 527-6263



This Night Really Bites

Fright Night

by Ken McNeill

"Very our moved into this neighborhood because it was quiet and peaceful. Just what you need, since you sleep during they day. Now your neighbors have gotten together and are planning a little surprise for you. All this trouble just because of an unfortunate misunderstanding. After all, it's not as though the people whose blood you took are actually dead..." Fright Night is a new game from the folks at Microdeal. It places you in the unusual role of the vampire. Yes, that's right, YOU are the bloodsucking fiend. But your neighbors aren't very nice, either. They are trying to exterminate you with such deadly items as crosses, garlic, and holy water. Fright Night is based on the motion picture from Columbia Pictures. Loading Fright Night is somewhat frightening for your floppy drive -- the repeated grinding and knocking caused by the copy protection scheme scared me even before I played this hair-raising game. Once again, my

This opening screen from Fright Night conveys something of what this challenge is about



Amiga's power light is extinguished in this process, leaving *me* in the dark.

The first impressive aspect of Fright Night is the title screen. The scene shows the night sky in which there are ghostly cloud formations that have ghouls woven in them. Below this, there is a wonderfully spooky-looking house that looks like it came right from the classic movie, Psycho. Actually, the whole scene comes from Fright Night the movie, and it effectively sets an appropriate mood for the game. Once I had finished admiring this fascinating image, my ears caught notice of the eerie noises that seemed to ooze out of my speakers. The high quality sound effects that accompany Fright Night reminded me why I decided to connect my Amiga's audio output to my stereo system. Pressing the fire button of a joystick plugged into port 2 begins this nightmarish adventure.

The game takes place within various rooms of an old and decrepit mansion. You, Mr. Vampire, begin the game on "Monday" by exiting your coffin in the basement. Your fiendish character is detailed and horrific. You may direct him using the left and right joystick directions. The button, when used in unison with the up and down directions, cause your vampire to jump or crouch respectively. We'll see shortly how imperative these two movements are to your survival. At the bottom of the screen are three indicators: a moon, an image of your head, and a pentagram. As time passes, the moon wanes, and if you have not "disposed" of your "enemies" by morning, you will perish (everyone knows that vampires don't care much for the sun).

The color of the pentagram becomes brighter according to the relative "faith level" of your adversaries. If your adversaries have a high degree of faith in the weapons (garlic, holy water, etc.) they bare, these items are more damaging to you. It is therefore necessary to dodge these projectiles if you want to survive until the next day.

The third indicator mentioned above, the image of a head, gradually deteriorates into a bare skull if you do not acquire enough blood by biting your victims. It also decays when you are hit with a weapon or touched by the floating ghost of one of your victims. And oh yes, bony hands have been known to pop up from the floorboards and grab your ankles! The mansion has many rooms, and you must travel around to find people to bite. The rooms are graphically intricate and very colorful. I was very pleased with the visual excellence of Fright Night. The decor of the rooms is what I might call "neo-gothic corpse," with foullooking debris scattered about and ominous paintings hanging from the decomposing walls.

When you find a room with someone in it, you must approach him or her with caution. The other characters aren't as ugly as yours is; they're just your average neighborhood folks who don't seem to like you that much. This is evidenced by the weapons that they throw at you when you approach. Well, they leave you no alternative -you'll just have to dodge these projecYou definately don't want to bump into this guy when he's hungry



tiles. As you approach, you automatically head for the neck and soon afterward, your adversary fades away. After you have successfully disposed of all of your neighbors for that night before the moon has set, you must return to your coffin in the basement, and you will receive points according to your performance. Then the next day at nightfall you begin again, but this time, there are more people and more hindrances, such as ghosts and unfriendly corpses. For every successive night that you survive, the next is more difficult and FRIGHTening.

The graphics and sound in Fright Night are outstanding. The concept is also a novel one. These aspects of the game made it entertaining to play when I first began. My only complaint is that there are a limited amount of options, and game play becomes repetitive after a while. The rooms don't change, and the people are always placed in the same locations on a certain day of a certain game. Despite the above criticisms, Fright Night still remains an above average rating, mostly due to the graphics and sound quality.

Fright Night \$39.95 MicroDeal 576 South Telegraph Pontiac, MI 48053 (313)334-8729

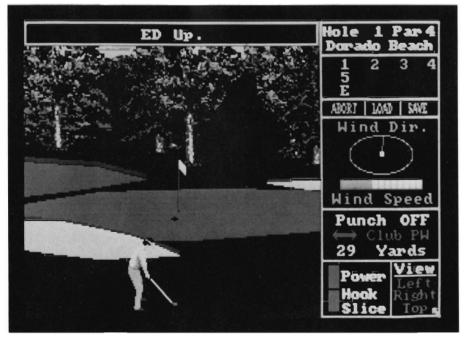


WCLB's Famous Course Disk

New Faithfully Reproduced Real-World Golf Courses

he crack of the club on the ball, the soft impact of the ball on the fairway, and the beautiful scenery surrounding a golf course are some of the allures of the game. World Class Leader Board is perhaps the best of the computer golf games at capturing these aspects of the game. Still, WCLB has some limitations in that there are a finite number of ways the ball will travel. An ideal shot on the same hole will always go the same way. This makes "learning" the course possible and removes much of the variety of the real game. One obvious way to bypass this problem is to add more courses to the game, reducing the chances of any one course becoming to familiar or over played. To this end, Access software has released for the Amiga, "Famous Courses of the World, Volume 1." This is a diskette with four new courses added to give the WCLB aficionado more variety and even more challenge. One of the new courses provided is Dorado Beach in Puerto Rico and comes complete with palm

Dorado Beach is one of the new courses that our computerized golfer likes to play



trees. This course is of medium to long length and has many traps and some tricky water to get around. The course seems to favor a player who has mastered long drives and a "fade" in their shots.

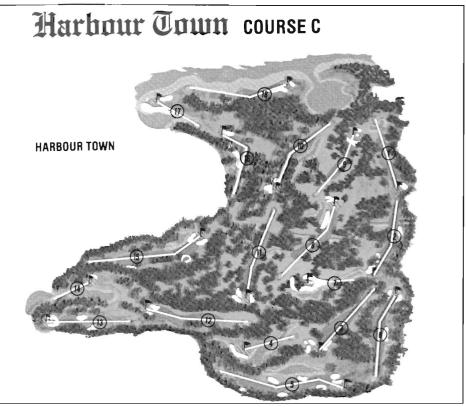
Sunningdale is a traditional european course with flat terrain, fewer trees, and more use of traps and rough to challenge the golfer. Since the terrain is more important here, placement of the tee shot is critical to setting up successive shots. Often, the long ball here is not the best one to use.

Harbour Town is one of my favorites from televised professional golf matches and from a rendition of the course in Mean 18. The reproduction of the course is good, and it seems straighter here than the Mean 18 version. This course is a tough one to play with fairways lined by trees or framed by water. There are more sloping greens here than in some of the other courses, placing higher demands on putting skill, but a straight hitter will have an advantage here.

The last course, Pine Ridge is not a real world course. Rather it is a golfer's nightmare dredged up and rendered for others to share. Greens are the size of postage stamps and in a few holes, scuba gear is more appropriate than a golf cart. Precise control of distance and slice are needed even to survive. On most WCLB holes, I manage to shoot in the 70's. Pine Ridge shot that up to the 90's and left me feeling lucky (and frustrated) with that!

From the Workbench, Famous Courses has a pair of icons for the course architect and for the main game. These are only loaders for the game disk and you will be required to put the original game disk in the internal drive. Once started, there is no way to get out if the game disk is not available other than rebooting the computer. An installation icon would have been better to move the complete game with all the courses to one disk. The course architect probably could be left on the original disk since it is not used nearly as often as the program disk. There are no directions nor installation icons for those with hard drives. This was a small surprise considering the detailed instructions provided with the game disk. If you have followed the directions for placing WCLB on a hard drive, all you really need to do to get the courses available is from the shell, type in: copy "FC #1:wclb/courses" wclb:wclb/courses to transfer all the courses to the right place on the hard disk. What did come in the package is an eye pleasing course map of all four courses, a registration card, and a full page size advertisement for other Access products.

A fundamental question centers around the worth of the courses. In one respect, Access limited the marketability of additional course disks by including a course architect program with the WCLB game disk. The course architect is essential for WCLB since its major competitors, Mean 18 and World Tour, have them. In recent months, I have seen some excellent renditions of local courses placed on the bulletin boards for free. Versions that are stored with the Zoo archiver



A map depicting the individual course layouts is included with Famous Courses

even have had the path names included to easily install the new courses on the existing disk

In view of the Access's "competition" from other owners of WCLB who are making and posting courses for free, Access had better improve their package. Better installation instructions and something other than a simple loader that prompts you for the original disk in df0: (and then locks up the machine till you supply it) are a must. There is enough space on the disk for more courses as well. The cost of reproducing disks and packaging is the same regardless of the number of courses supplied. It would be better to offer two Famous Courses disks for about the same price with six courses on each rather than three disks with four courses each. With the current pricing structure, three course disk will cost more than the program disk did

(and it is the program disk that reflects the programmers time and development costs). The course disks should be an added feature to help promote the program, making it more desirable than the competitors; not a strong profit maker.

WCLB needs to have as many courses as possible to keep it entertaining so the Famous Course Disk *is* a valuable addition for the frequent computer golfer. I am not comfortable, however, with the amount of money required to add these courses when weighed against some of the very excellent ones created by other users and available for the downloading.

Famous Course Disk Vol I \$ 19.95 Access Software 545 West 500 South Bountiful, Utah 84010 (800) 824-2549

Action Fighter Thunder Blade

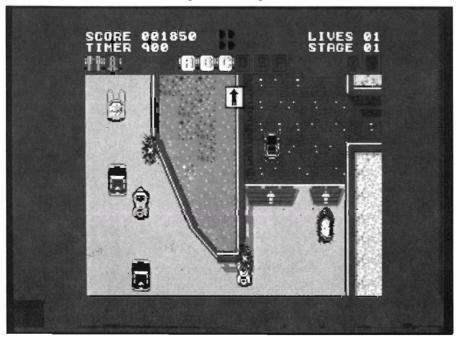
Two New Ports from the Sega Arcade Hits

by Anthony Bevivino

ega has added two new games to their sizable and growing list of "arcade hits." Now they have put out both Action Fighter and Thunder Blade. In Action Fighter, you are the pilot of a transformable combat vehicle. You start out as a motorcycle, then upgrade to a sports car, and finally a flying car. As you go through the screens to your final objective, you can pick up additional armaments and defenses to help you survive. In Thunder Blade, you are the pilot of a state-of-the-art helicopter, the most sophisticated chopper ever made. You must use this machine's incredible maneuverability to fly through cities, in a 3D perspective, to destroy all terrorists and then to reach the gigantic enemy headquarters where you will face the ultimate test.

While there are many similarities between these two games, they are also very different. Both are arcadestyle action games, with constant movement, and little strategy or longterm planning. I am familiar with the

Sega's Action Fighter



arcade version of Thunder Blade, but have never played Action Fighter in an arcade. Action Fighter will, however, seem familiar to many arcade players because it bears a striking resemblance to the arcade game "Spy Hunter." With this in mind, it is now time to evaluate both of these games.

The graphics in any arcade game are critical, and these games are no exception. The graphics in Action Fighter are simple, yet effective. This is not a visually dazzling game, yet it has bright, attractive colors, and a fairly good amount of variety in graphics. There is not much detail present, but it is easy to see the enemy, the scenery, enemy fire, etc., and this makes a great impact in the upper levels of the game, where the going gets fast and furious.

The graphics for Thunder Blade are of a different type entirely. This game is done in a simulated 3D perspective, and the graphics were designed to produce this effect. In the arcade version, the graphics make you feel as if you are in the pilots seat. In the Amiga version, the graphics make you feel as if you need glasses. While it is not easy to make good 3D graphics for an arcade style game, I feel that Sega did not try very hard to make quality 3D for Thunder Blade. The screen is filled to overflowing with graphics, but because of the poor quality, it is very hard to define exactly what you are seeing. The entire game suffers tremendously for this. The sound in both games has both good and bad points. In Action Fighter, there is a very noticeable lack of sound. There is no background music, which I consider a major oversight, and the sound effects are short and to-the-point. The sound that was present was well done, and was very appropriate for the game. Thunder Blade is once again the exact opposite. I was constantly bombarded with sound, which made sense considering I was engaged in helicopter combat, but there was so much, it became a jumbled mass of noise. After a while, it all blended into a constant roar that made no difference in the game. So while neither game pleases me entirely with the sound, I feel that Action Fighter is the better of the two.

Both games are joystick controlled, but Thunder Blade can use keyboard and mouse, also. For the most part, the control in Action Fighter was good. In a simple game such as this one, all that is required is smooth movement in the eight directions, and Action Fighter has just this. My complaints arise because movement is not fast enough for tight maneuvers, and because of the firing mechanism. In this game it is important to fire quickly and constantly, but this can only be done by repeatedly pressing the fire button from start to finish of the game. I have a rapid-fire attachment on my joystick, and while it works with almost all of my other games, it did not work with Action Fighter. What this means is that I soon had a tired hand and a very sore thumb.

The controls in Thunder Blade, on the other hand, are extremely poor. No matter what method of control you use, joystick, keyboard, or mouse, you will not be happy. Since the game is in 3D, movement is into another plane besides that of the screen, but the controls do not let you do this well. The



An overhead view of Thunderblade

joystick is, in my opinion, the lesser of all evils, but it is certainly not satisfactory on any level. In a game such as Thunder Blade, pinpoint control is a must, but this is just not present in any way.

The playability of these games is where the true differences lie. Action Fighter is a simple, well-done game, and while it may not be the best, it is still fun to play. It delivers exactly what it promises, a quick, actionpacked game that never lets up. Every once in a while, I felt the urge to load it up and see if I could get past that one obstacle that killed me last time. This is, of course, the test of a good game. Thunder Blade, on the other hand, was an instant turn off. The combination of poor control and confusing graphics made this game next to impossible to play, and totally impossible to enjoy. Each game resides on one disk. They also both have disk-based copy protection, which does not interfere much with the operation of the disk drive. The documentation for both was a bit on the skimpy side with just a small pamphlet that gave the bare minimum of instructions. This made little difference for Action Fighter, but made Thunder Blade much more difficult.

Sega has put out some very good games in the past, bringing true arcade quality to the Amiga. Unfortunately, neither Thunder Blade nor Action Fighter is up to those standards. Neither of these games is excellent, but at least Action Fighter is fun to play. The graphics and control for Thunder Blade are terrible, and make the game a nightmare to play. In short, neither of these Sega efforts are a reason to break your budget, but if you are a Spy Hunter fan and have some extra cash, Action Fighter is worth a look.

Thunder Blade \$49.95 Action Fighter \$39.95

Mindscape, Inc. 3444 Dundee Road Northbrook, Ill 60062 (312) 480-7667 structure of a hypothetical Neural Net in an Artificial Intelligence system. By now you are beginning to realize: ALL WRITTEN MATERIALS SHOULD BE LIKE THIS!

Thinker uses the concept of a "Statement" to represent any whole, logically contained thought or entity. This can be a single line, a paragraph or several pages. Statements are given hierarchical relationships by placing them After other statements, Up or Down, imputing equal, superordinate or subordinate value respectively. Statements that lead to numbers of subordinate statements are called "Branches." Any given statement can be linked to any other statement simply by providing a "Label." A label is placed within parentheses and located at the beginning of a statement. So, if I wanted to link the word superordinate in this paragraph to its definition, I would click on Insert, specify After (to assign equal hierarchical value to the new definition), and type:

(superordinate) Having priority over. To come before. As paraphrased from the latin: "First in order."

The word superordinate has now become a distinct label and also a link to any other occurrence of the word anywhere else in the text.

Thinker's Project Menu contains selections for Create New, Apply Modifications (the same as Save but remain active), Discard Modifications (but stay active), Close Project, Print, Export Text, Import Text, Update Icon and Make Index. The Edit menu offers the basic functions you would expect: Cut, Copy, Paste, plus the ability to Search/Replace for statements or labels, and Next and Step selections for moving throughout long documents.

A wide range of configuration options

are provided under the Options menu. Clip defines the amount of detail that will be shown. With Clip set to 1, you will only see the lead topics of the document. By increasing the Clip value, more and more of the logical subtopics become visible.

In order to do its business, Thinker keeps the active copy of the document in RAM at all times, writing out to disk only when asked to and reading new material from disk whenever necessary. On floppy systems, this can provoke a noticeable lag and there's a Read Cache provision in the Options menu to create a buffered read space. The Thinker document explains that this function works essentially the same as ASDG's Floppy accelerator II, but that FACC is much more efficient, so if you have that program, use it instead.

Flag Forced affects whether or not your document displays indications of hidden subsections below the set clip level. Hide Labels removes from the screen all statement labels (the item headings contained within parentheses). In the case of complex or permuted labels, this can add noticeably to the readability of a document.

In the upper right corner of the main window, an Error Message Box keeps a close watch on your actions. If you try to jump to a non-existent statement or reference something that has yet to be defined or linked, the Error Message Box will report back the reason for the failure of your operation. The menu allows you to turn off this box to increase your on-screen viewing area.

Enable See-Thru and Make Local Copy are two recent additions undocumented in the provided Thinker manual, but detailed in a second Updates! Thinker HyperText document. See Thru links are ones that contain nothing but references to Statements in some other place (like a separate document). By using See Thru links, you needn't bother defining anything that is already defined elsewhere -- even if it's elsewhere in a completely unrelated file.

Thinker also includes a 33,000 word spelling dictionary that is activated and operated through the Spell menu. Once the dictionary is loaded, spell checking is extremely fast. As new words are encountered, the program can be instructed to learn them, although these additions will not automatically be added to the permanent dictionary unless you say Save. There is a welcome Free option for purging the dictionary from RAM when it's no longer needed.

Finally, Thinker also keeps a continuous watch on available memory and this is always ready for display under the Memory menu. It might be useful to have this figure broken down into Chip and Fast RAM, but Thinker seems to use its resources very intelligently and never seems to run low on Chip RAM unless you are trying to display several full-screen IFF files.

Virtually every function of the program is available at one or two clicks of the mouse. Also, like some of the recent text editors, when a requester appears, it is always directly beneath the mouse pointer with the most often selected, or most logical option ideally located for immediate execution. All in all, the interface is among the most intuitive I've ever seen and is evidence of a high degree of care and forethought.

In actual operation, Thinker is somewhat more problematic for authors than it is for readers. While reading a HyperText document is almost effortless, it takes a lot of planning to develop original HyperText. That is to say, it is quite easy to write a bad HyperText document, and much harder to write a good one. The program allows you to create instant links to other statements as soon as they pop into your mind. If you're not careful to finish one thought before branching into the next, you may find the only way to read the whole document is through repeated forward and backward jumping. No document should have to be read linearly, but it should at least be possible to do so.

One thing that annoys me about Thinker is its insistence that I use the mouse. Granted, clicking on something is a very intuitive and direct way of executing some control operation.

But I should have an equal measure of control through my keyboard, as well. There are some keyboard equivalents for some of the most common commands (thankfully, Insert and Jump commands are provided), but the codes seem almost randomly distributed. Thinker forces the HyperText author to stop, find the mouse, and physically click on the next operation. It does appears that Thinker's publishers are continuing to expand the keyboard equivalencies. Several entries in the Updates! file mention that new keyboard shortcuts have been added at various levels of program revisions. I think we can expect more to appear in the next update. Another missing item is a vertical scroll bar along the right screen edge. There are up and down arrows for moving statement-bystatement, but no provision for moving more than line-by-line within a single statement. These are really minor gripes, though, considering the power and grace otherwise exhibited by this program. Thinker, while I believe it to be a superbly crafted HyperText environment, better in some ways than HyperCard, comes with little more than a few skeletal samples and a lot of promise.

Thinker \$80.00

Poor Person Software 3721 Starr King Circle, Dept10 Palo Alto, Ca 94306 (415) 493-7234

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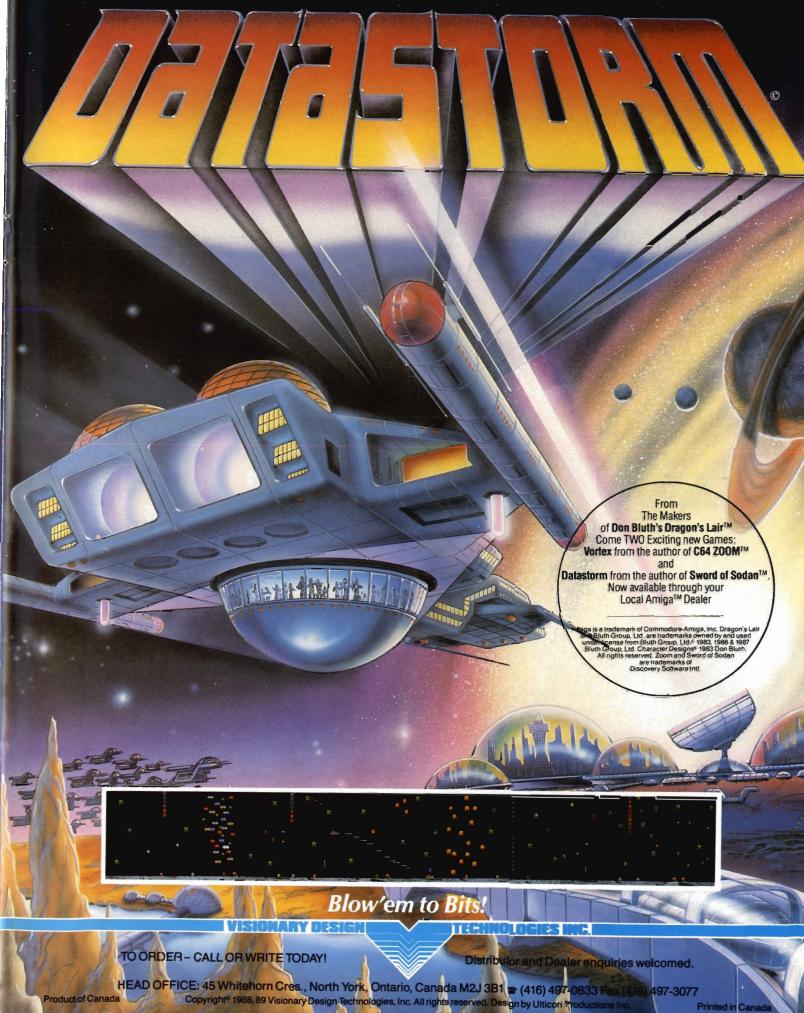
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