

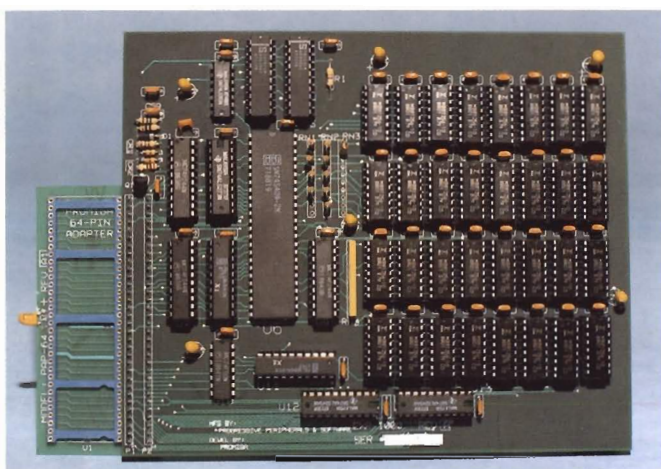
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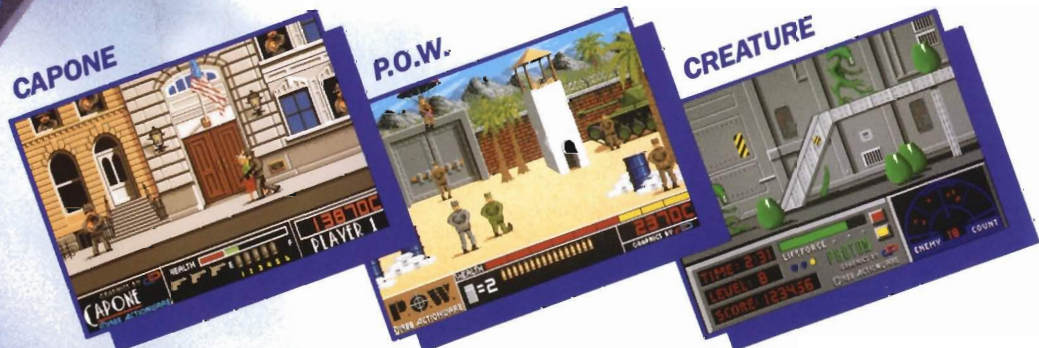
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On Point

Notes from editor, Tom Bucklin

I'd like to start off this month by thanking all of you folks who took the time to call in and write to express your approval of our April WorkBench 1.3 coverage. Many of you said that you felt our coverage of the subject was the most comprehensive of any magazines dealing with the subject. We appreciate your encouragement.

Although 1.3 is a tough act to follow, we feel this month's issue has it all. During April 29th through May 1st, Commodore held its Amiga developer's conference. During the conference, a number of official announcements were made concerning the upcoming evolution of Amiga products. Read about them in our coverage of the event immediately following.

For the video enthusiast, we take a look at Progressive Peripheral's new genlocking device, *ProGen*. As you'll see in Tom Reed's article, we put the unit through some extensive comparisons using sophisticated equip-

ment. Along the same lines, *Deluxe Productions* and *VideoTitrer 1.1* are reviewed this month. Working together, the *ProGen* and these new video accessories can help you to achieve professional production results on your Amiga.

While we're on the topic of productions, guess what those movie-maniacs at Cinemaware have been up to. Their latest effort, *The Three Stooges*, is an incredible piece of programming, graphic, and sound innovations wrapped up into one heck of an entertaining program. While strictly maintaining a professional attitude and a journalistic motive, I "tested" the program just to make sure there was no harmful side effects to extensive game play.

Gold Disk has released version 1.1 of their *Professional Page* desktop publishing system. First on the scene with a product to support the needs of "serious" desktop publishing, Gold Disk has now provided support for the rest of the community by incorporating print-

ing of your documents through Preferences, and its associated printer drivers. You can read about the many other enhancements to the program in our review within.

Well, we've had our share of products developed for the A1000, and now, the A2000 has experienced an onslaught of hardware development recently. A500 hardware products, although forthcoming as well, have not seemed to be coming down that proverbial pike quite as fast. Progressive Peripherals must have been growing impatient as well, because they have just begun shipping their EXP-1000 memory module for the A500. In our review, we discuss not only the performance of the unit, but also talk a bit about what's required in the way of skill level to install such a device.

Until next time, enjoy our June issue.





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Devcon 88

New Product information highlights the Amiga developer's conference in D.C.

by Steve Dock

Over 300 people from 180 different organizations attended the 1988 Commodore Developers Conference, which was held from April 29 to May 1 in Washington D.C. They came to talk to Commodore and other developers about Amiga hardware, software, and marketing. Gail Wellington, General Manager of Product and Software Support, gathered the LosGatos, West-Chester, and German Amiga teams into one place so that questions would receive answers. The three day program focused on Workbench 1.3, 1.4, and new hardware products which Commodore has recently announced. Amiga developers heard about autoboot devices from Bart Whitebook, about printer.device from Dave Berzowski, programming for 68020's from Dave Haynie, and Transputers from Dieter Priess. Of course Dale Luck and R.J. Mical participated in several tech sessions. However, Gail provided more than technical expertise for this get together. Some of the

sessions had to do with marketing. Commodore's PR firm, Fleishman Hillard, was on hand to teach Amiga developers how to "get good press". Commodore personnel staffed several sessions on topics like "So you want to sell your product", and "Expanding your Market to other countries". Given the small size of most Amiga developers, these sessions provided vital information, which was much appreciated by those I talked with.

The conference began with an address by Dr. Henri Rubin, Chief Operating Officer, Commodore International, and ended with a banquet and speech by Gail Wellington. In between, there were product introductions, arguments, and awards. Every attendee left with a 4 inch thick book of technical papers, the Gamma 7 release of Workbench 1.3, and a Kickstart 1.3 ROM. A few lucky ones also received the new Obese Agnes chipset, which lets an A500 or A2000 address 1 megabyte of CHIP ram.

In the April Sentry, we discussed Workbench 1.3 in detail. This update to the Amiga Operat-

ing system has been undergoing final testing and will ship "soon". Most developers have had ample time to test and adapt their products to the new features, and few bugs have been swatted. The only change from our April report is that the recoverable ram disk will be called RAD:, and a command to remove it has been added. Although Kickstart 1.3 in ROM was distributed, no specific marketing information was announced, i.e. price, availability. We did get specification on several hardware products for the first time.

The A23286 AT Bridgeboard will run at 10 MHZ and does include a slot for the 80287 math coprocessor. It also comes with 1 megabyte of RAM on board and a disk controller for both 3.5 and 5.25 inch drives. The A2024 High Res Monochrome monitor will have a 15 inch diagonal screen, and will require an Amiga with a minimum of 512K chip ram and 1 full megabyte of total ram. It supports resolutions of 704 by 200, 704 by 400 and 1008 by 800. All of these resolutions are non-interlaced and limited to four shades of

grey. An official announcement during the conference introduced the ECS, Enhanced Chip Set for the 500 and 2000. This is a new set of Denise, Fat Agnes, and Gary chips which will support the existing screen resolutions, and a new 600 by 400 non-interlaced mode. This new mode will give Amiga owners a flicker-free high-res color display. The video bandwidth of the current machines will limit this new mode to 4 colors from a palette of 64. Other requirements for the non-interlaced mode is a monitor capable of 31 KHZ and Kickstart/Workbench 1.4. Commodore will soon introduce a "BiSync" monitor (A1950) capable of meeting this requirement, and 1.4 is due by the end of 1988!

Much of DevCon focused on 1.4 even as 1.3 makes its way to the marketplace. The 1.4 release of Amiga Dos will include a character mapped console device, bitmap scaling, colorfont support, overscan support, preferences from files, and various changes to the intuition gadgets and workbench screen. Commodore earnestly sought input from the developer community and certainly got plenty. Some of the major areas of contention were: operating system language- Assembler vs. C ; interprocess communication - Arx ; alternatives to .info files for icons ; and support for multiple serial ports and networks. Although I'm pleased to see Commodore devote resources to Operating System improvements, it will proba-

bly take some time using 1.3 before we can really prioritize features of 1.4. Other items of interest from Commodore included a 25 MHZ Motorola 60030 running in a 20000, and an expansion box for the 500 with a 20 meg harddrive and 2 megabytes of memory. These are not yet products but could very well be. One new product was discussed, the A2350 Professional Video Adaptor for the A2000. This device will combine professional a quality Genlock, real time frame grabber, and video digitizer into a two board set (Sounds a lot like the NewTek Video Toaster to me). There were also promises of updated technical documentation by Addison Wesley before the end of the year. A new set of ROM manuals, etc will be current with 1.3. Microsoft is also in the process of updating AmigaBasic.

I should mention that the closing luncheon featured a few awards. Fred Fish was recognized as the person who has contributed the most to the Amiga community, and ten others were recognized for their contributions to BIX and the telecommunication networks. Dave Haynie, Commodore Hardware Engineer, was cited as the #1 contributor in this area. He quickly assured his bosses that none of this work was done on company time.

Not all of the excitement came from Commodore. The developers were given opportunities to show off their latest efforts, and several caught my attention. Ex-

cellence from MicroSystems is a very full featured word processor, and it was very near to completion. Britanica Publications will soon introduce Amiga versions of their educational software. Progressive Peripheral's showed a new 3D modeling package, and announced that they will be marketing the ASDG 0-8 Meg memory board. Mindware's PageFlipper Plus was seen running excellent animated demos. Paul Montgomery of DigiTek was talking up DigiView 3.0, and promised that the Video Toaster will be available for owners of 1000's and 500's soon after the 2000 version. That's very good news. Initially, many thought that high end video would be limited to the 2000 since it has a special video slot not available in the other two Amigas.

Bethesda Softworks, the folks who gave us GridIron, demo'd a soon to be released Ice Hockey game. It will feature multiple coaching options, two player mode, player statistics, and digitized video clips during penalties and fights. The user interface for selecting options was very unique. Using the mouse you can select any option, and by rolling up and down, set the value. The whole game is written in assembler and looks like something special.

ASDG introduced a brand new concept in Amiga peripherals - a bus convertor. Plug this card into your A2000 and you can snap on two MultiBus modules.

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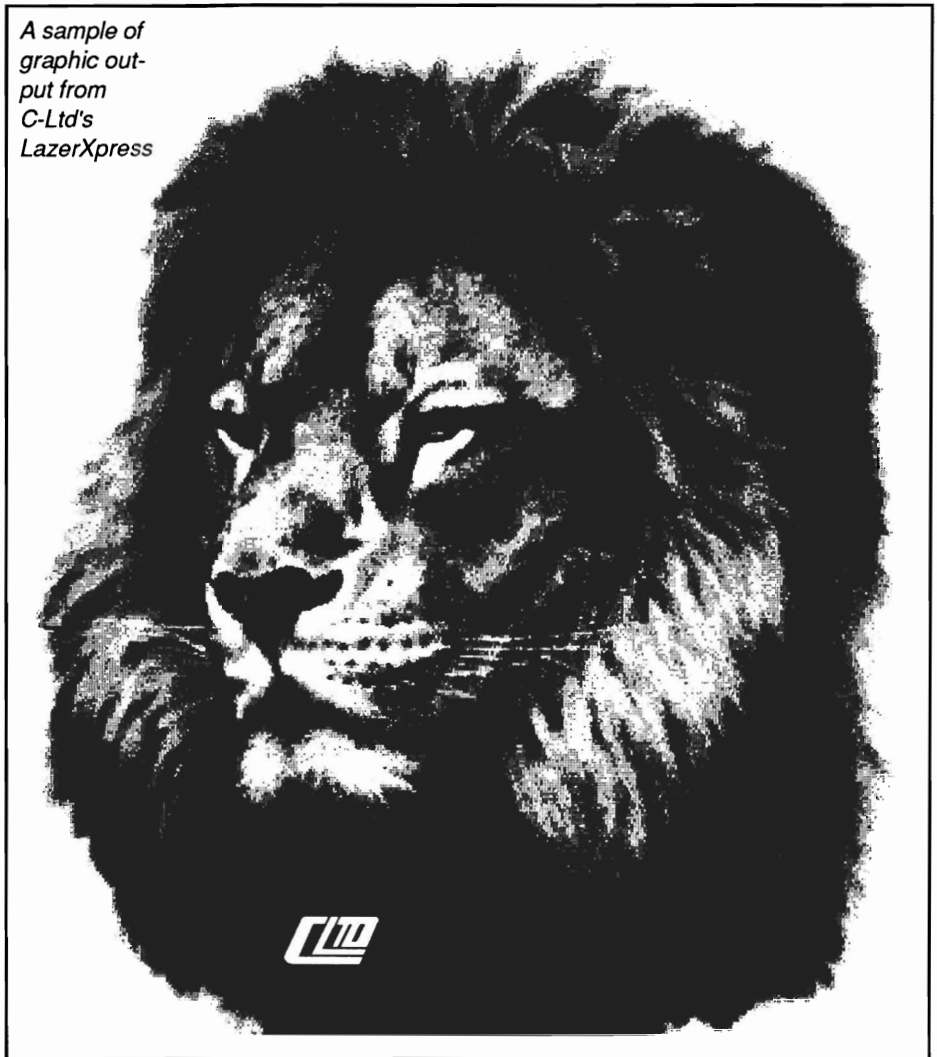
Devcon 88 (continued from previous page)

The Intel MultiBus standard is widely used in process control and industrial applications. What this means is that you can purchase a module with 4 serial ports, or an IEEE 488 controller, a SCSI controller, or many more MultiBus modules and put them to work in your system. This nifty card opens up hundreds of possibilities which would otherwise be uneconomical for the Amiga Market. ASDG has developed software to work with their card, and urged the developer community to take advantage of this project.

The final project I'll talk about is C-LTD's LazerXpress. We hear a lot about the Amiga as a high end desktop publishing system, but C-LTD has put together the first working example I've seen. How would you like to take a page of printed material and read it into your Amiga as ASCII text in a few seconds. Next, transfer a full page drawing into the same Amiga. Now combine them, moving around and enhancing the text with fonts and styles, and print the combined image out on a laser printer in just 8 seconds. Please note that the text will be rendered as 300 DPI fonts. Sound too good to be true? Well, I watched it happen.

Ed Lippert of C-LTD has packaged several stock components, and some very custom software to make this possible. Start with a Dest PcScan Plus scanner. This unit is the top of the line and can do both optical character recognition and bitmap scanning. C-LTD

A sample of graphic output from C-Ltd's LazerXpress



has acquired software to accept the text and images from the scanner and load it into a "virtual page" which keeps 300 DPI resolution for documents of 8.5 by 11 or 14 inches. Ed has developed Amiga Libraries to open a 24500 by 33000 pixel bitmap in RAM and use this bitmap as the virtual page for software operations. When you are ready to print, a special printer driver takes the data directly from the virtual page and drives the laser at 200 KB per second. No recomputation or page construc-

tion in the printer. The result is very fast, very high quality printing. The printer is a RICOH engine with a special SCSI interface. This system requires the C-LTD SCSI controller card, which handles the scanner as well as the printer.

One other key component of Lazer Express is a set of 20 fonts ranging from 4 to 72 points, and including bold and italic, all created by ED in 300 DPI. When an Amiga application uses these fonts and the virtual page, the

quality of printed output is equal to postscript. These are the same fonts which C-LTD sells with the JetSet utility for HP Laserjet owners. Did I mention networking? Since the scanner and laser are connected to the SCSI controller, several more Amiga's could share the same controller to form a publishing network. Even a 512K A500 could run the virtual page software (at 150 DPI), use the hi-res fonts and scanner, and produce high quality output. Each Amiga would have to be equipped with the \$195 C-LTD SCSI controller. "Enough", you say... "how much and when?"

Like most developers, C-LTD is aiming for the Comdex Spring show in late May. The LazerX-

press package, including the laser printer, virtual page libraries, fonts, and three applications, will retail for \$2499. The applications which will be specially adapted for LazerXpress are, Publishing Partner Professional, Express Paint (an enhanced version with keyboard equivalents), and Quick Cad from SoftCircuits. Almost any Amiga software will work with this system, but the special versions will use the virtual page for printing, rather than the Amiga printer device. C-LTD has a special printer driver which will work with preferences, but can not match the 8 second speed for full page complex graphics. The PCScan Plus will also be available from C-LTD with software for \$2499. (This same unit

sells for \$3500 in the IBM marketplace). If it's as easy to adapt software to the LazerXpress as Ed claims, I suspect we'll be seeing a very positive response to this innovative project. Maybe the same concepts could be applied for owners of LaserJets or even 24 pin printers with 300 DPI.

The 1988 DEVCON was an informative and upbeat experience for the Amiga developer community. Commodore is to be commended for a well organized and open conference. The developer community seems ready to take advantage of 1.3 and the growing sales of Amiga. Look out Comdex... 1,000,000 Amigas by end of 1988!!

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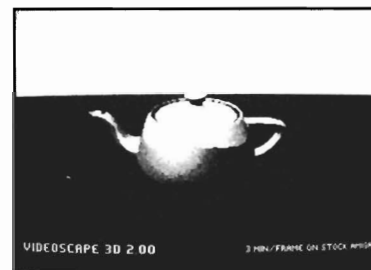
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Deluxe Productions

Hi-Res Desktop Presentation from Electronic Arts

by Paul R. Miller

Deluxe Productions is billed as a video production program for the creation of live presentations for business, education or entertainment, or for the creation of graphics for live or pre-recorded video. Working exclusively in 16 color hi-res mode (normal or overscan),

"Dprod" enables smooth (double-buffered) two-dimensional animation of "brushes" over picture backgrounds, along with color-cycling, a wide variety of transitions ("wipes") for both backgrounds and animated objects, full control of playback with mouse, keyboard, or even remote control, and chaining of productions for lengthy presentations. One of the major achievements of Deluxe Productions is a completely graphic interface

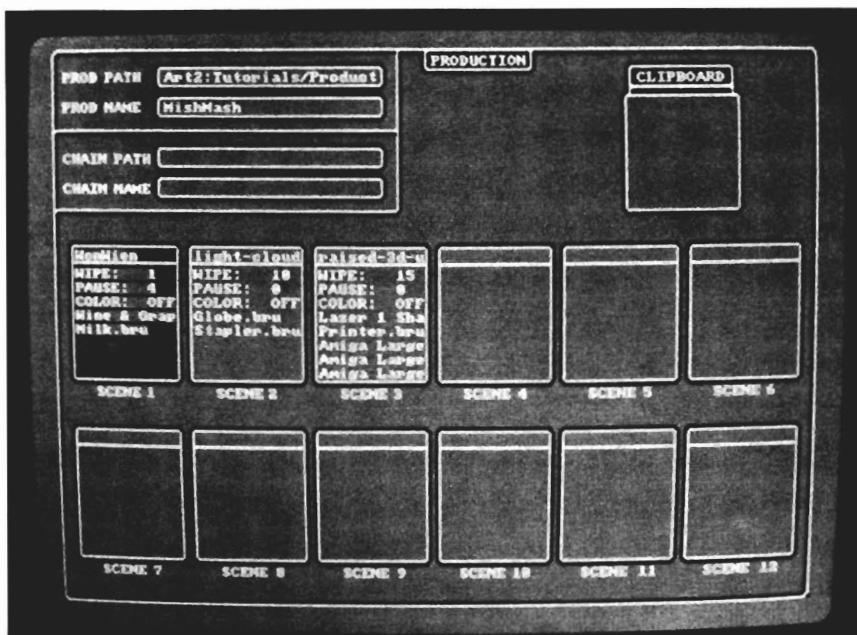
which makes full control of animation paths, "wipes" of backgrounds and objects, speed of movements, duration of events, chaining and looping of productions, editing (cut, copy, paste), control of playback modes, and full preview of all aspects of production easy and intuitive.

Deluxe Productions arrives in the usual handsome box with 4 disks and a 150 page manual in the now familiar "Deluxe" format: Introduction, Getting Started, Tutorial, and Reference sections. The four disks consist of: Program (boot disk), Utilities, and 2 Art Disks (one for tutorials, one for general use). As befits this professional program, there is no copy protection.

Dprod requires a minimum 1 meg RAM, but if you don't want to wait for segments to be loaded from the program disk, you'll need 1.5 meg. You also need to free all the CHIP RAM. The Program disk will take care of this for you, but if you boot from another Workbench, or use a hard drive, you'll need to check startup-sequences to clear buffers to floppies, and make

(continued on page 10)

The main screen uses the familiar story board approach for production layout



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Deluxe Productions (continued from page 8)

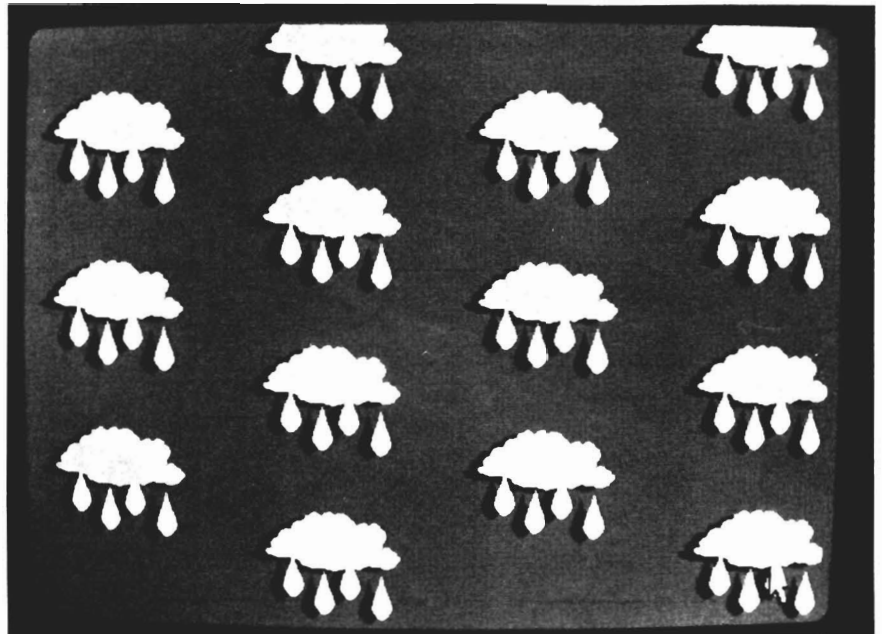
certain your mount list buffers for the hard drive only use fast ram. A program like this will derive great benefits from a hard drive and RAM expansion.

The structure of a production is a clear 3 level hierarchy that is wonderfully supported by the graphic interface. A single production can contain up to 12 scenes. Each scene consists of a background picture with up to 5 "clips" (moving objects). A clip is the control of a single object's appearance, movement, duration and removal. Object movement is accomplished by plotting a path of up to 10 points (on screen, by mouse movement or number entry). The appearance and transition of background pictures are controlled by "wipes"--there are 40 different types (from simple fades to complex spirals and mosaics). Wipes also apply to objects--here there are 10 variations that are selected for "object on" and for "object off". Editing also occurs at 3 levels:

Production: cut, copy, and pasting of scene order, looping and chaining of productions, load and save, and preview of productions and scenes

Scene: cut, copy, and pasting of clips, pauses, background color cycling, wipes, loading of backgrounds, and previews of backgrounds, scenes and ranges of clips

Clip: control of object path; pauses, object movement speeds; color cycling, on and off wipes,



A variety of effects and smooth scrolling highlight DeluxeProductions' features

and color assignment (more on this later)--again with preview of objects and clip action

Playback options allow "VCR mode" for continuous play (with pause, reverse, and loop options) or "Slideshow" mode, which pauses for operator prompts between scenes and clips (also with forward and reverse options)--good for live presentation with narrative, and useful for overlaying graphics to pre-recorded video. Other options provide for verifying the existence and integrity of productions prior to playback (eliminating the possibility of your embarrassment in front of your audience), audible or visible pause prompts (a handy feature for formatting disks while in the program), and printing of screen graphics or program scripts. The latter are especially

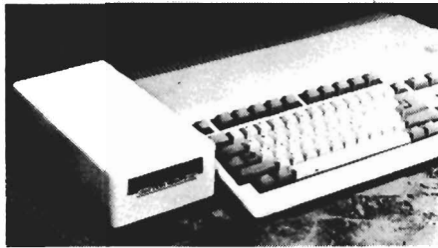
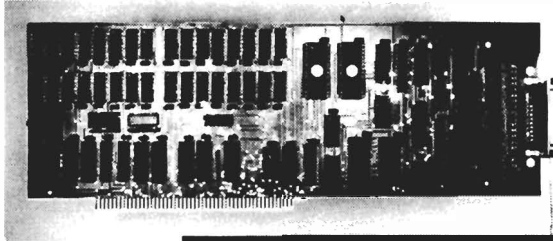
valuable for live business presentations, as you can produce both hard copy screen shots, and have a full production script showing all the scenes, objects and clips with a complete listing of settings of all the parameters to guide you through your performance.

Deluxe Productions provides three tutorials with ready-made backgrounds and objects which are quite well thought-out, and lead the user through all the features of the program in a nice sequence. You can easily do all three in an evening--I had no problems at all and everything worked. I especially appreciated the fact that each tutorial states *every* step and doesn't assume a photographic memory, nor do they require constant page flipping to previous lessons. A typical production sequence goes like



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this: From the production screen, select a scene and load a background picture. Now choose a Picture Wipe (from 40 available). Preview the background and wipe, if you like.

Open the Scene Screen, revealing 5 possible clips. Select the first clip and load an object (a "brush"--limited to a maximum 1/4 screen size). Choose Object On Wipe (from 10); Choose Object Off Wipe (from 10). Choose Plot Path from the Clip menu. The background picture will be displayed along with your object. By moving the mouse and clicking, you then select up to 10 points to determine the movement path of your object. Select Clip Pause and set the duration of the

clip. Now you further refine object movement by opening the clip screen which reveals 10 pairs of X and Y coordinates, along with pause, speed, and time values for each. Here you can set exact numerical coordinates for location, set different speeds for each leg of an object's path, and vary the pause times at each point. Again, preview is available for each increment--this time from the Play Clip menu choice. If you've done several clips and want to try different arrangements, you can select a Play Clip Range preview screen and rearrange and view until you're satisfied.

Because you are working in 16 color hi-res mode, and with vari-

ous backgrounds and brushes, you need a way to deal with color palette discrepancies. If you've preplanned, you would have remapped the brushes. If you haven't, dProd gives you another method (and another nice screen)--the Color Assignment Screen. This screen displays both the picture and object palettes and a double row of assignment gadgets for each color register. Here you assign various colors either to objects or to pictures (dProd remaps for you).

A final touch is the addition of color cycling for your clip. A Color Cycle Requester provides up to three ranges, with control over order and extremely fine

(continued on next page)

Deluxe Productions (continued from previous page)

control over speed. This process can be repeated in a single production up to 60 times (12 scenes, 5 clips per scene), and can be greatly automated through the use of cut, copy, and paste editing at the clip and scene levels.

The Production is completed with the Options Menu, wherein you set the Playback Mode. In the VCR mode, motion and pauses are preset and playback is continuous. You can, however, stop and start, abort and even reverse the play, from keyboard commands. In Slideshow mode, you supply the timing between clips in an interactive mode, as dProd pauses for your response between clips and scenes. Options are provided for a visible pointer, and for visible or audible "end beep" pause indicators. In Slideshow, the left mouse button provides forward/reverse control; the right, pause/resume; both abort clip (move to next clip or scene). Reverse play reverses only the sequence of clips, not the order of movement within the clip. Keyboard equivalents are available, and the package contains a flyer to order a remote device for the ultimate in control.

Lastly, the options menu provides for verification of your production files and printing. Verification involves checking for the existence of necessary picture and object files and their availability. Integrity goes farther and reads each file to certify that it is complete and uncorrupted. Print options will either dump a screen

or provide a complete production script. You will need to supply the appropriate printer driver from your Workbench disk.

As a further bonus, the Deluxe package includes 4 utilities:

The Player Program: Installed on another disk with the appropriate files, it allows stand alone playback. Just select the icon for the production and do a shifted double-click on the Player icon. Playback controls are supported.

The Mover Program: This automates storage of files and production script pathnames to other disks (a copying utility) and shortcuts what would be a tedious procedure by Workbench or CLI methods.

Hard Disk Install: Another nice feature for non-CLI types. DProd is even up-to-date in providing a DJO: gadget in its file requesters and a mouse click option for the assign command. The fonts, too, are all quite nice.

If there are awards for program design, I think the authors of Deluxe Productions deserve a prize. The graphic interface is a joy to use, and it's even pretty to look at. Keyboard equivalents are included and will be welcomed by the seasoned user.

The program won't do everything--it's two dimensional, object paths are segments of straight lines, and there is no sound. But what it can do, it

does well, and in a format that makes it possible for almost anyone to produce quite complex and professional results.

The combination of graphic and numerical controls allows for both ease and precision (when necessary), and the gracious manner with which you can edit, fine tune, and preview means that this is a program that you will actually use. If dProd doesn't offer the scope and flexibility of a program like The Director, that's okay with me, because it's a program that I can put to work right now. With only a few days use, I can already foresee a host of business applications. Deluxe Productions could prove to be one of the most effective programs yet in the introduction of the Amiga into the "serious" business market.

Deluxe Productions
\$199.95

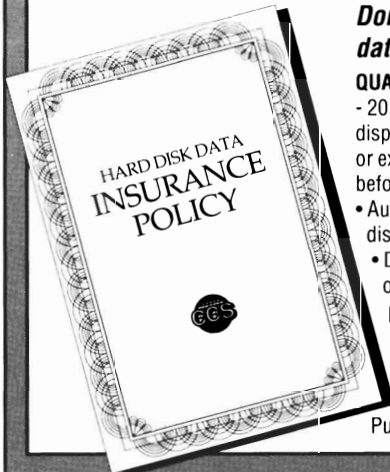
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EXP-1000

Add 1 Megabyte internally to your Amiga 500

by George Rapp

Have you ever had trouble remembering things? Do you lack all the information to solve a problem? Have you ever felt that others expect you to do too many things at once? Have you considered that your Amiga 500 might have the same problem? Your Amiga needs memory

to multitask, run larger programs and use graphics and sound. Progressive peripherals has provided a low cost option for getting another one megabyte of ram internally.

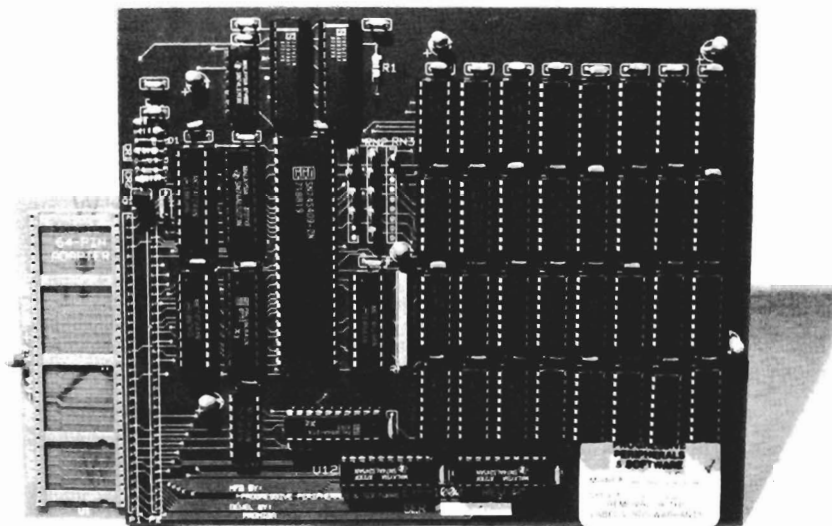
The EXP-1000 is a new internal memory expansion for the Amiga 500. Unlike several internal expansion products for the Amiga 1000, this one auto configures, making it transparent to software and applications. It

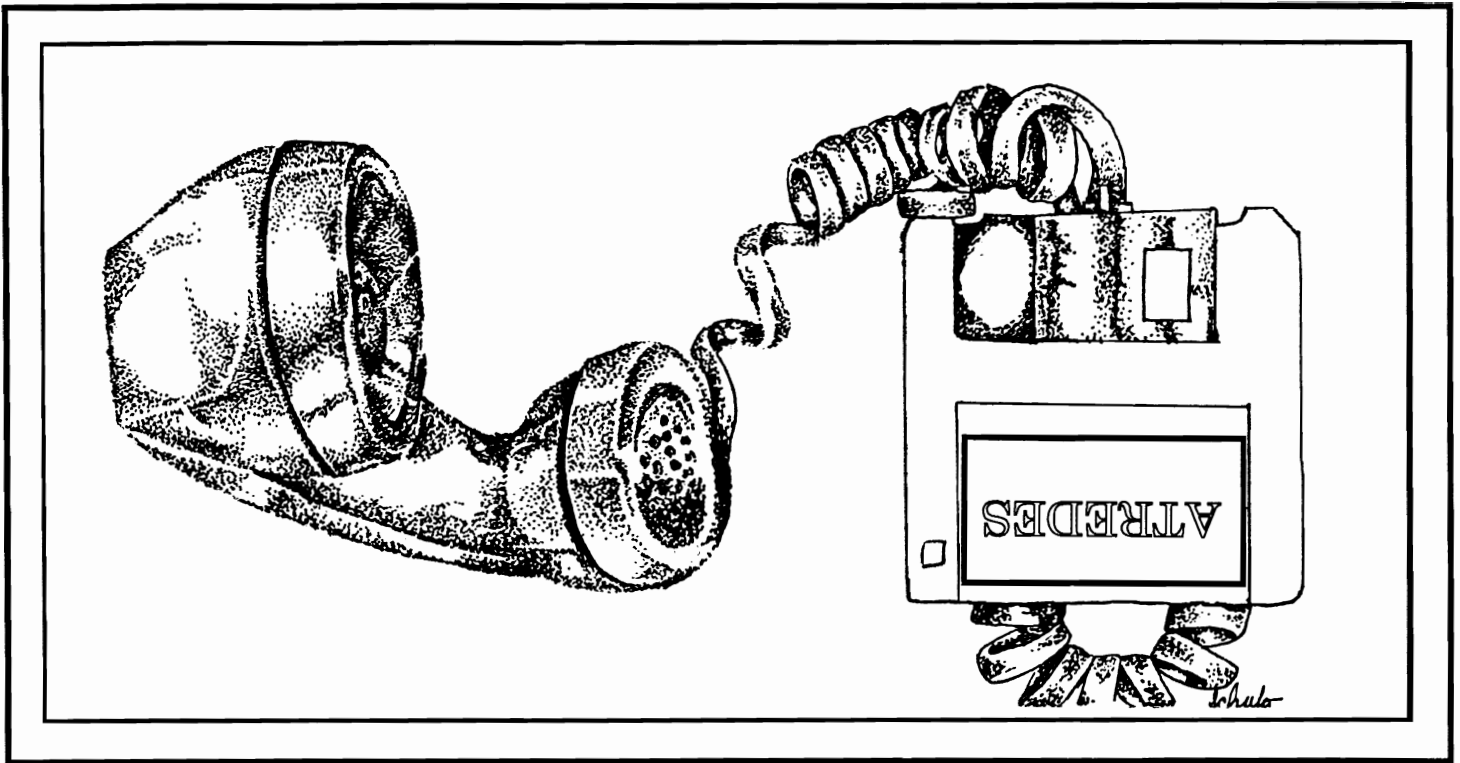
does not interfere with the function of the standard 512K internal expansion card from Commodore or other manufactures. Why pick an internal RAM expansion device? Installation is more difficult, but it can be more cost effective. An external device has to meet FCC limits for radio frequency interference, which means a metalized case, higher manufacturing costs, and sometimes another power supply. An internal device does not require any shielding or special FCC compliance since it fits under the existing shield. It does have the drawback of complex installation, and often requires a replacement power supply for the Amiga 500.

Progressive does recommend replacing your power supply, and also has a suitable one available. It is a small rugged supply with a higher capacity and a short cable between the supply and the Amiga 500. The cable between the power supply and the wall outlet is a standard type with several lengths available, and is the same as the one included with the Commodore monitors. The switch is on the

(continued on page 16)

The EXP-1000 board from Progressive Peripherals, shown with 1 Megabyte of ram installed





Incognito, the newest player in the Amiga software field, is introducing a full line of Amiga hardware and software. This line will include utilities, games, programming languages and a full complement of very affordable hardware for your Amiga 500, 1000 and 2000 computers.

The first of the new software is the Atredes line of telecommunications software. This will include a full Bulletin Board System as well as a well integrated Terminal package. The Atredes system features a fully rewritten serial interface for fast and efficient communications.

The Atredes Terminal package will of course feature an Intuition type phone directory, which will include signon scripts and terminal descriptions. Atredes will support all popular upload/download protocols such as X,Y,Z modem, Kermit, Sealink and windowed protocols as well. Atredes will also feature a "Multi-Link" protocol to allow parallel transfers and access to the host system. This Incognito developed protocol will be released into the public domain. As per the wishes of the authors and Publisher, our Atredes products will be accessible to the

public for customization as desired. We at Incognito feel that our products are only made better by user interaction and modification. That is why the Atredes system is modifiable by our users.

The Atredes Bulletin Board system is the star of bulletin boards. Boasting numerous security levels as well as a full remote sysop access system. Of course the Atredes BBS supports all of the popular transfer protocols as well as our "Multi-Link" protocol to allow the user and the sysop the maximum flexibility a BBS can offer. The BBS terminal library will be available to users to allow expansion of the system for any purpose. Extensions to the system will be available to users through Incognito as well as through other companies. Incognito will announce these products as they become available. Call us for the details on the Atredes way of communications.

Games?

Incognito likes entertainment as well. Introducing the Real Life series of games that are as close to life as you would like them to be. We will be introducing several titles among which include: Dr. Morbid, Of the Flesh, Warlock and California Highway.

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Exp-1000 (continued from page 14)

side of the supply. The EXP-1000 is a two layer board that fits over the motherboard of the Amiga 500 (see photo) and in the place of the 68000 chip. The 68000 is then plugged into the EXP-1000 board.

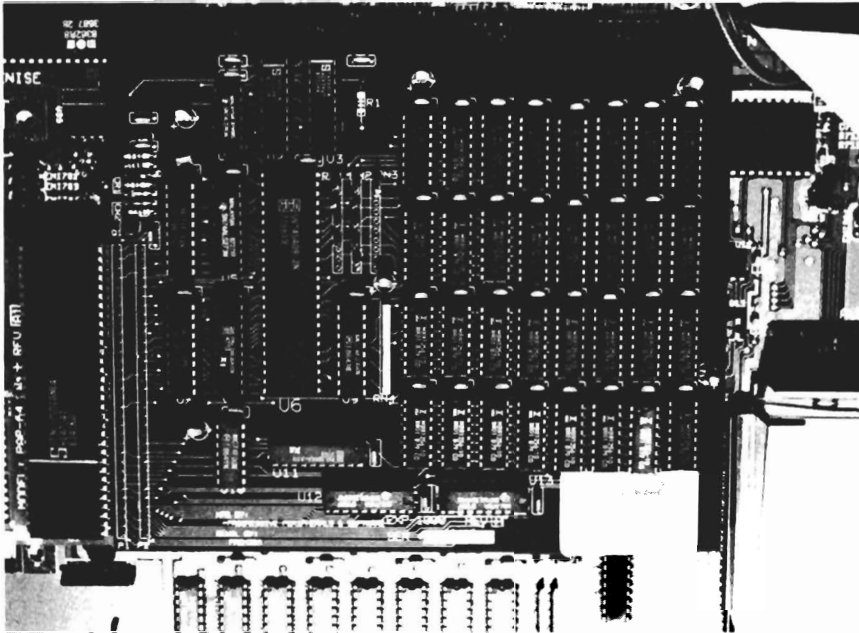
The actual installation is a bit more involved. It does require one special tool called a Torx. This is a fluted, hexagonal variation of a screw driver designed for machine assembly. In a pinch, a more common Allen key

board of the A500. At this point, static can be a real problem, so follow the instructions in the manual to minimize the chance of damaging your machine. The remaining steps are spelled out in the manual for removing the 68000, installing it on the board, and lastly, installing the board.

It was this last step that proved to be the most difficult. The board design itself is well thought out and shows no extraneous traces or jumpers. The

keep this one sample functional was to physically hold it in place. Even the installation of the 68000 on the EXP-1000 proved to be difficult because the spacing of the socket on the EXP was narrower than the A500, which meant lots of careful and sometimes nerve-racking alignment of the pins on a sensitive chip.

The installation in our machine may be an unusual case since the placement of capacitors on our board was the main source of



can work. Once you have the collection of tools, you must remove the screws from the bottom side of the Amiga 500 and flip the machine over to lift the cover off. Next, pry up the tabs of the metal shield and remove the screws that hold it in place. Lift the keyboard up, and then the shield, and remove the keyboard connectors. This will give you complete access to the mother-

manufacturing process was not up to the design standards. The board we received had bent pins and a bow in the smaller circuit board. This made the installation practically impossible. The board sits over the motherboard of the A500. Because of the bent pins and tight space under the shield, the EXP-1000 hit a couple of capacitors which lifted it out of the CPU socket. The only way to

The board plugs into the A500 motherboard at the vacated 68000 socket...

...the 68000 is then replaced atop the EXP-1000

trouble. The bow in the EXP-1000 only compounded an existing problem. Progressive has been a very responsive and responsible company to deal with. If time permitted, I am sure that they would attempt to remedy this one manufacturing defect. The board does show an intelligent and functional design. It has a set of pins that protrude above the board as a possible conduit for

future expansion. It is unique in design in being an internal auto configure device. It does this by having its own subset of the expansion bus circuitry. I was also impressed with the care with which it is packed and shipped. Progressive selected a packing material and method that meets Federal specifications for packaging and packing.

I find it an impressive design, but is it right for the A500 owner? To answer that, you, the buyer, will have to ask yourself some honest questions:

Do you or a friend have the experience necessary to remove and replace large ICs. Do you have the patience to deal with a poten-

tially difficult installation? Do you wish to forget about future additions of an 68020/68881 expansion like the Hurricane Card? Is your machine out of warranty?

If you can answer "yes" to all of these questions, then this is a very good way to expand your machine to two megabytes, assuming you have the standard 512K expansion board already installed, without having to get a second mortgage.

Otherwise, you may be better off with one of the external expansion boards which are now being manufactured by a number of companies. This becomes especially true in the case of the non-mechanically inclined. Real

damage can be done to the A500 motherboard by those not used to working with high-density, thin diameter tracings.

But for those who feel competent, the EXP-1000 can provide you with an additional meg of memory, without adding clutter to your desktop.

EXP-1000

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- INFO Magazine, March/April '88, p45 -

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- Computer Shopper Magazine, January 1988, p318 -

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Professional Page v 1.1

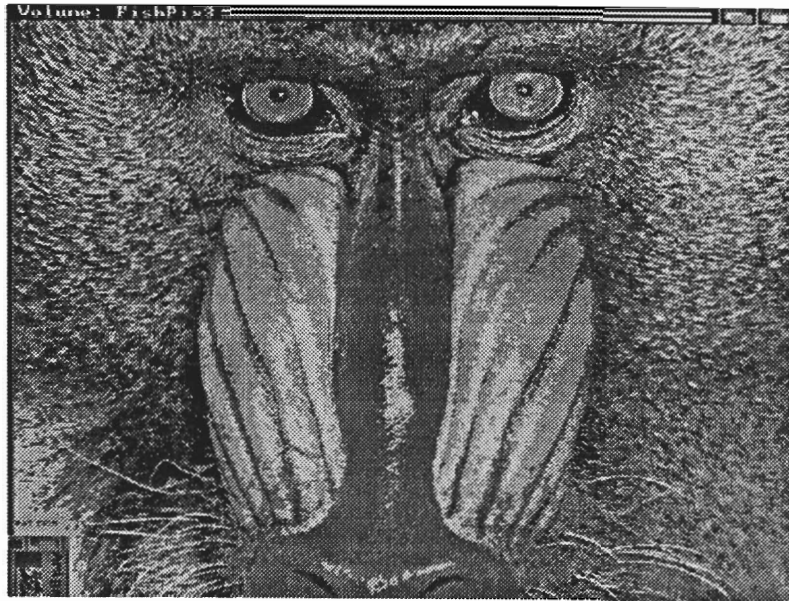
Gold Disk's First Upgrade Boasts Powerful New Features

by Gary L. Gehman

It was just this past March that Gold Disk, Inc. provided the Amiga community with the first truly professional-level desktop publishing program. Professional Page version 1.0 was not only superior to any other Amiga publishing package available, it had a bit of an edge on some IBM and even Macintosh programs. Not content to simply be the best, the folks at Gold Disk have already issued a significant upgrade to Professional Page. Version 1.1 is not simply a bug fix; it has new and enhanced features that should broaden its prospective market while also undercutting some of the desktop publishing giants.

Desktop Publishing now for everyone!

One of the major complaints about ProPage v. 1.0 was that it completely ignored dot-matrix output. Having begun life targeted as a *professional* desktop publishing system where the deck is already stacked against conventional dot-matrix modes of output, there might have seemed little point in providing support for such print-



Professional Page's handling of Amiga's phenomenal graphics is not only stunning; it's unmatched by any other system!

ers. Even though a 24-pin printer like the Epson LQ series is capable of better than 250 dots-per-inch of graphic density, it still has no way of emulating the magic performed by the PostScript page description language. After all, it's PostScript, and not the individual printing device, that allows for a typefont to be scaled and rescaled to any size. It's PostScript that treats pages as collections of layered objects that can block or "clip" other objects; that can place rules and tint blocks and make other forms of graphic embellishments.

Nevertheless, the number of people who use Amigas and have access to laser printing services is considerably less than the number of similar Macintosh users. So, perhaps it does make some sense to try and make every prospective user happy.

Professional Page 1.1 uses the new Workbench 1.3 printer drivers and Preferences utility to provide some very sophisticated dot-matrix features. These include faithful reproduction of halftone and color graphics, and even reasonable rendition of Pro-Page's own screen fonts.



Amiga designer Jay Miner at 300 dots per inch.

Things fall apart, however, when attempting to scale fonts much beyond the sizes at which they were designed. Dot-matrix printed headline fonts, for instance, still have all the jaggedness of PageSetter or any of the other such programs. This is a fault of bit-maps *per se*, and has nothing to do with Professional Page.

Users who wish to see high quality typeset documents scrolling out of their Seikosha SL 80s or Hewlett Packard DeskJets will still be disappointed.

On the other hand, those who will use their dot-matrix printers for proofing a complex document, or those who maintain a healthy respect for the limita-

tions of dot-matrix/bit-map technology will find that ProPage's dot-matrix output compares quite favorably with any other program.

Still, the process of printing out dot-matrixed documents can be quite time consuming. Even with the latest, fastest printer drivers, some graphically dense documents can take 18 to 20 minutes per page. Despite the wait, results are nothing less than spectacular; especially on color ink-jet printers.

But a more damaging deficiency is the lack of any "landscape" option for dot-matrix

printing. Pages designed to read horizontally cannot be printed in the current version; not even if you set it through Preferences. Since brochures and foldovers of all kinds rely on developing pages across their length, Gold Disk had better remedy this problem very soon.

Color Separations? Move over PageMaker!

The most important new feature of Professional Page, however, is the addition of color separation technology. I consider this the more important because there are no Macintosh programs that will perform this essential task. Some of the newer versions of established Mac page composition programs provide for *spot*

No other DP system provides for the breaking down of color photographs! And that means there will be people buying Amigas in order to do work no other system can perform.

color, or the use of color lines or type or variously hued tint blocks to spice up a page. None allows for the

breaking down of color photographs! And that means there will be people buying Amiga systems in order to do work no

(continued on next page)

other system can perform.

Full-color mass duplication printing is a costly undertaking. Not only does it require a press with four print heads (or multiple passes through a single-head machine), but there is a lot of expensive darkroom work involved in the physical decomposition of color artwork into separate plates for each of the process ink colors. If the computer can perform this essential function, a major barrier has been broken.

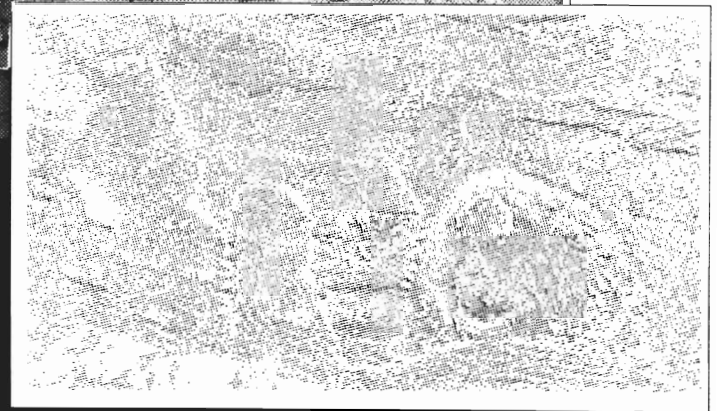
Each plate must then be screened into a halftone and each screen must occur at a slightly different angle. This ensures that the tones will be uniformly distributed on the paper and that there are no unexpected *moiré* patterns.

Professional Page 1.1 separates yellow, magenta, and cyan plates; or red, green and blue negative plates. It will also print mirror images or plates reversed left-for-right. It will automatically do the screening, at a frequency of 75 lines-per-inch and at 90, 75, 105 and 45 degree rotations; yellow, magenta, cyan, and black respectively. These are the default values, but each can also be individually set.

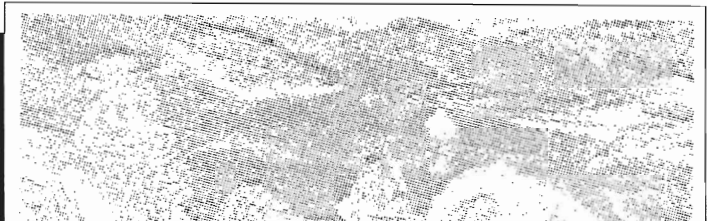
Professional Page will also apply registration marks to the separated document (registration marks are hairline targets used by printers to align the color plates), but, since these must occur outside the printed page area, you will never see them unless you print small page sizes on larger



M



K



C

Y



format materials.

Professional Page seems to perform all of these tasks admirably. I still experienced bugs in the printing functions of both PostScript and dot-matrix operations; evidence of persistent problems in the newer drivers.

In dot-matrix mode I got repeated assertions of printer trouble when trying to use my JX-80 with the 1.3 EpsonX driver; requesters that went away as soon as I clicked them, but would come back time after time after time. Eventually the document printed and the program resumed smoothly. When I substituted my old Epson JX-80 driver, everything worked flawlessly, even when left unattended for hours. Using the new driver for my Quadram Quadjet, I got stunning, electric-quality printouts, but the program would never come back up once the printing was done.

Single PostScript pages seem to print out just fine, no matter how complex they may be. Attempting to color separate a whole document involving a series of spreads, and especially an out of sequence series, however, sometimes failed to produce any result at all.

I attribute some of the program's slowness to contentions between graphics and I/O procedures, both of which must reside in Chip RAM. When Commodore finally releases its 1

Megabyte version of Fat Agnes, I suspect that these problems will go away. Kill off the flicker with the new Denise chip and Professional Page 1.1 could rule the roost.

As it is, ProPage could easily keep a small ad agency in business, though there are a number of features that need to be added: First of these is the ability to rotate text or graphic blocks on a page. It should, at the very least, be possible to turn objects 90 degrees or flop them 180 degrees. Publishing Partner, from SoftLogic has been advertised to allow 1 degree increments of rotation.

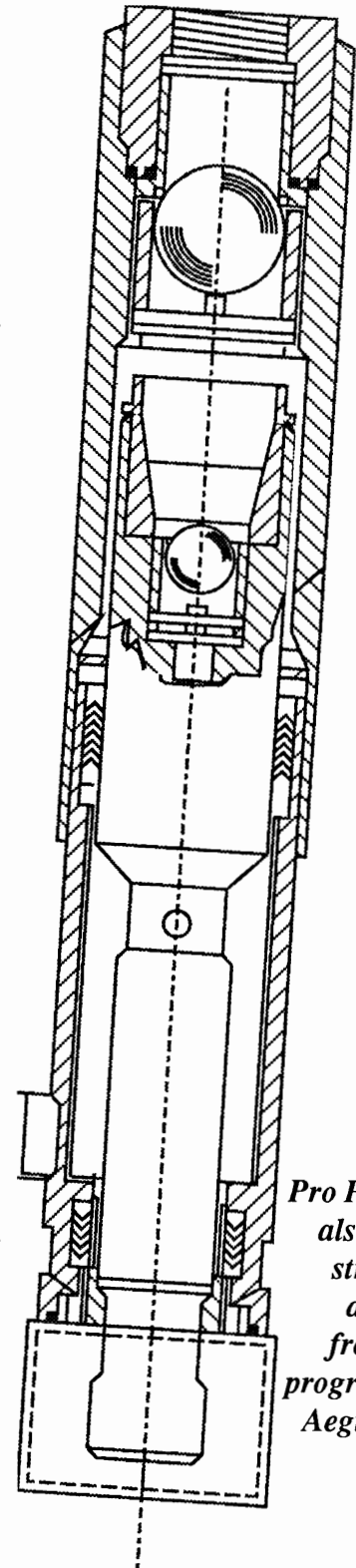
Another is the treatment of text blocks as graphics, permitting the creation of new type effects by altering X-scale and Y-scale.

It should also be possible to view two facing pages side-by-side. This is an invaluable tool for the creation of coherent spreads. Other programs also allow for several documents to be open simultaneously.

But those are things we can wait a few more months for. The dot-matrix landscape feature needs to be added NOW!

Professional Page V. 1.1

Gold Disk, Inc.
P.O. Box 789, Streetsville
Mississauga, Ontario
Canada L5M 2C2



Pro Page will also import structured drawings from CAD programs like Aegis' Draw Plus.

ProGen

The new Genlock from Progressive Peripherals

by Tom Reed

ProGEN is a genlock system designed for the Amiga 500, 1000, and 2000 computers. A genlock allows you to combine any NTSC signal (video camera, tape deck, television, etc.) with the screen graphics of your Amiga, and then record this synchronized signal to video tape.

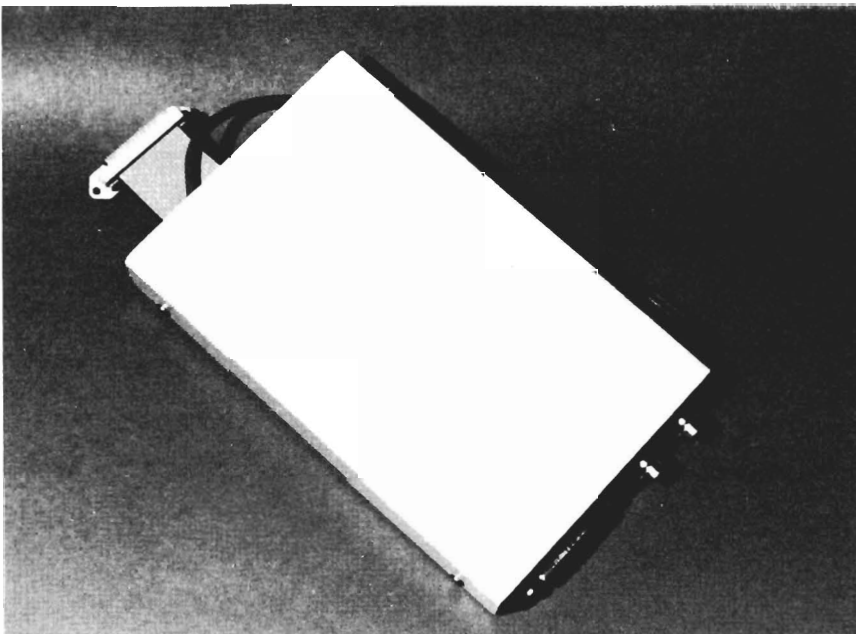
This lets Amiga owners add titles and graphics to video productions. This ability to add graphics and titles to video productions was the exact reason that I purchased my Amiga. The first advertisements said the Amiga computer had a composite video signal output. This would be perfect for my video applications.

Instinctively, I knew that this was the machine for me. It was just a machine to me because at

the time, I knew nothing about computers. My order for an Amiga 1000 and a 1080 monitor was placed immediately. Even a heavy snow storm the day my Amiga arrived in the store could not keep me from picking it up. The good news was the exciting potential of the Amiga and its video applications. The bad news came when I transferred graphics to video tape. The results were less than stunning. Like many others, I waited for over a year for the Commodore 1300 GenLock to get better quality video signals. Alas, the 1300 did not produce the crisp clear signals we were waiting for.

Thankfully, the hardware and software for Amiga video applications have come a long way. ProGEN is a step in the right direction. Genlock systems work by taking the supplied input video signal and splitting the signal into its component parts. The genlock unit takes the video timing signals for line, frame, and color burst and uses these to 'lock' the Amiga onto the external video source which is currently being used. This synchronizes the external video source and the Amiga display signal. After the 2 video dis-

*ProGen offers high quality video output,
plus an RGB pass through*



plays are locked together, a very high speed video switch alternates between the Amiga graphics display and the external video source when supplying this new information to the screen. This ensures that both of the signals are writing to the same place on the screen at the same time using the same color palette position. The result is a combining of the two displays into one. This allows you to use your Amiga graphics with a variety of video sources.

As I mentioned, the most common application for genlocking is to add titles to video productions. In my case, I also use the combined Amiga display and an incoming video signal to make slides and prints to be used for

publication or business presentations. To do this, a Polaroid freeze frame unit is excellent or you could photograph the resulting screen display directly. ProGEN comes with a 5 pin DIN connector, warranty card, 3.5" floppy disk and a 19 page manual. The ProGEN unit is 7 1/2 inches long by 4 3/4 inches wide. One end of the ProGEN unit has a 23 pin connector on an inch and 1/4 length of ribbon cable and a mode control line. The 23 pin connector attaches to the Amiga video or RGB port. It was curious to note that the 23 pin connector had been made by cutting two pins from a 25 pin connector. This same end has what the people at Progressive Peripherals call a mode control

line, which terminates in a 5 pin DIN style plug. This connector is used only if you choose to use the optional control software which is included on the supplied disk. If you do choose to utilize this software, you must make the mode control cable yourself. Progressive supplies the 5 pin DIN connector and you must supply a DB25 connector, a connector hood for the DB25 connector and a 12 inch length of 4 conductor phone cable. Since this unit retails for about \$400, this \$5 cable should have been supplied with ProGEN.

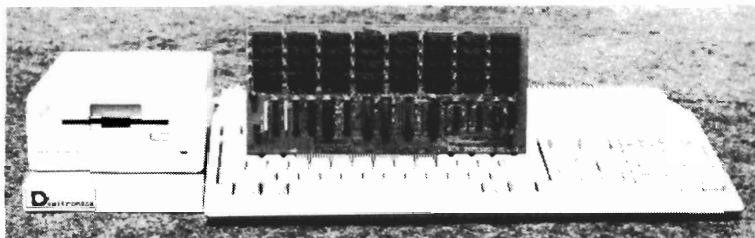
The other end of the ProGEN has 3 connections: a 23 pin connector which carries only the Amiga video signal, and two

(continued on next page)

4 MEGS FOR YOUR AMIGA!

RC4 RAMCARD

- ✓ No wait-state "fast" memory.
- ✓ Uses standard 20 pin DIP DRAMs (256k x 4).
- ✓ All 32 RAM chip locations are socketed.
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- ✓ Configurable as low as 1/2 meg, up to 4 megs!
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- ✓ Fully assembled and tested.
- ✓ Includes board diagnostic test and recoverable RAM disk software.



A500 ADAPTER

- ✓ Allows the Digitronics RC4 Ramcard to be used on the Amiga 500.
- ✓ Quickly connected by simply sliding it onto the expansion connector.
- ✓ Self powered via its own external supply.
- ✓ Automatically powers itself on/off with the A500.
- ✓ Completely enclosed low profile metal case.

As every new Amiga owner quickly discovers, memory is the key to unleashing the full power of their machine. AmigaDos' multitasking operating system needs room to flex its muscles in order to run today's more sophisticated larger programs. Consequently, memory is usually first on every Amiga owner's shopping list. So, what is the best path for upgrading?

For the A2000, a 2 meg board may seem the cheapest way to add memory, but it's too quickly maxed out. The sticker shock of an 8 meg board populated with its minimum configuration of 2 megs makes this route unappealing as well. The Digitronics RC4 Ramcard solves these problems.

For the A500, the same RC4 Ramcard designed to plug into the A2000 can be plugged into the expansion slot on the side of the A500 when installed in our adapter box. This means that if you should ever upgrade to an A2000, your RAM board can go along.

RC4 Ramcard (assembled and tested) \$225.00 (0k RAM)

Call or write for pricing of boards populated with various amounts of RAM, or for information on our do-it-yourself kits. Dealer inquiries invited.



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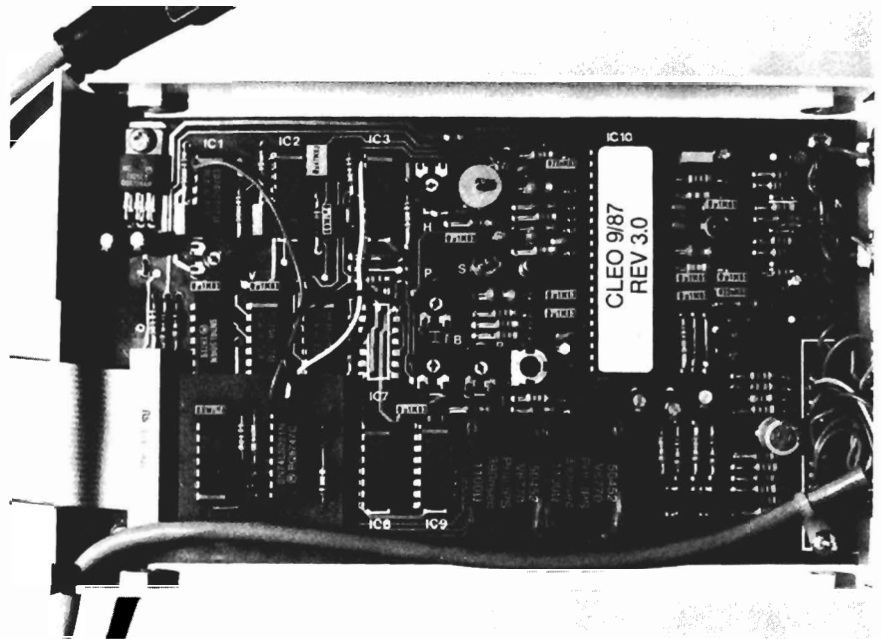
Progen

(continued from previous page)

BNC connectors for video in and video out. These connections are not marked in any way. It would have been nice to have had some indication on the unit as to which connection is video in and which is video out. Having to look up in the manual which BNC connection was video in and video out was a bother.

Nicer yet would be to have all connections labeled. Because you have only the inch and a fourth cable connecting ProGEN to your Amiga, it must lie flat behind the Amiga or dangle down behind the desk. Hanging the unit off the back of your computer is not the way it should be done, but space behind a computer can be hard to come by. Keeping the ribbon cable length short is a good idea electrically, but a different design would have been helpful. To utilize the ProGEN software you must have made the mode control cable. ProGEN works well without using the supplied software, but three additional video modes are available with this software; video only, Amiga only, and foreground. When you use ProGEN without its software, the background color is always transparent and displays the external video signal.

The ProGEN software comes in two versions, ProGEN1 and ProGEN2. ProGEN1 uses the Amiga function keys to control the modes, while ProGEN2 has you use control key combinations (If you are multitasking with software that uses the function keys, you can use ProGEN2 to access the same modes using the control keys). Video only and



An look at ProGen's interior view

Amiga only modes should be self explanatory.

The foreground mode needs some explanation. Instead of allowing the video signal to be seen through every part of the picture that uses color 0 (background mode), the ProGEN switches every time it sees black, regardless of whether that color is color 0 or not. The foreground mode defines black as any color with red, green, and blue values less than 7. Foreground mode comes in two versions. The only difference between foreground modes 1 and 2 is that colors less than (7,7,7) which are transparent in foreground mode 1, become solid in foreground mode 2. The function keys or control key combinations are used as toggle switches and can access five different modes. The combinations are as follows:

Mode F1 F2 F3 A.
Background Mode: 1 1 0 B.
Video Only Mode: 0 1 1 C.
Amiga Only Mode: 1 0 1 D.
Foreground Mode1: 0 0 1 E.
Foreground Mode2: 0 0 0

The additional modes certainly add to the overall utility of ProGEN. After connecting ProGEN to my Amiga I found that I could not get any RGB Amiga signal to pass through to my monitor. I shut down the computer and double checked the hook up. Everything looked fine but still no picture.

A call to Progressive Peripherals had another ProGEN on its way by Federal Express. The new unit yielded the same results. Another call to Progressive Peripherals and the problem was diagnosed. My early model 1080 monitor did not have a buf-

(continued on page 26)

These Companies and 15,000 Amiga Users Joined AmiEXPO, The Amiga Event in New York and Los Angeles

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ProGen (continued from page 24)

fering device which was necessary to permit the Amiga RGB signal to pass through. The technical support people at Progressive Peripherals told me that this problem existed on early 1080 Amiga monitor models and all 2002 monitors. There is no indication of this problem noted in the manual. However, I was assured that later versions of ProGEN will have the necessary buffering built in to enable ProGEN to work with all Amiga monitors. This problem only affects the RGB pass through and does not hamper the operation of the genlocking itself.

I was forced to view all output on my monitor in composite mode even if I was not using the genlock itself. This is not fun to do! But the real question is: How well does ProGEN function? I approached this question in two ways: (1) make a test tape using four different genlock units and (2) test the output signal of the four units on a wave form monitor. When ProGEN arrived, I made the necessary arrangements to have the unit tested with professional analysis equipment. But before any measurements, I examined the quality of ProGen's output visually to get a feel for the overall quality of the unit while in use.

When looking at video signals on your Amiga, it is not a fair comparison between the RGB analog signal and the NTSC color composite signal. Most of the differences that you see are due to differences in the bandwidth between the two signals. The bandwidth restrictions (less high

frequency information) of the NTSC color composite signal will cause a loss of fine detail in the resulting picture (Genlock systems on the market use NTSC color composite output).

I located a Supergen genlock unit and a wave form monitor. The owner of these sought after devices produces videos professionally, and was anxious to look at ProGEN. For comparison, we used two ProGEN units, a Supergen, and a Commodore 1300 Genlock.

The input for all four systems was the same: color bars from a Sony DXC M3A camera, hi-res lettering from TV Text, a Panasonic 8500 tape deck, and a waveform monitor. With a technical comparison in place, we studied each of the four signals. The waveform monitor reading for the two ProGEN units and the Supergen were virtually the same. A noticeable difference, however, occurred in the readout when the Commodore 1300 signal was analyzed. These signals were then recorded and viewed. The tape recordings showed the same results as the live tests, namely, the picture quality of the two ProGEN units and the Supergen were virtually the same, with the 1300 showing considerable picture quality loss.

For a further confirmation of our our findings, I then showed the recording of the tests to three video professionals. These professionals were asked to pick out the "best" picture from the test tape. All commented on the poorer quality of the 1300 picture signal, and were at a loss to

choose the best picture from the other three. A local television studio looked at the tape as well and the resulting output signal on their waveform monitor. The same results were achieved as on the previous tests. So, when the signal of the ProGEN is looked at, and the picture compared to the more expensive Supergen unit, the product holds up very well.

To summarize: ProGen produces a very high quality output signal and effectively genlocks all three Amiga models. The quality of the video signal is equal to that of competition which sells for twice the price. The software provided with ProGen allows keyboard control of several video modes, including "foreground mode", which lets the user produce custom effects. The aspects of ProGEN that I did not like were: the space requirements behind the computer, having to make a cable to use the full capability of the system, and the fact that it does not work well with some Amiga monitors. (It worked fine on all of the other monitors except mine.) Since the A1300 sells for about \$200 and only works with A1000 systems, and Supergen sells for \$800 and is designed for the A2000, Progressive Peripherals seems to have a real winner with ProGen.

ProGen \$399.95

Progressive Peripherals
464 Kalamath Street
Denver Co. 80204
(303) 825-4144

CAPONE

Actionware heats it up with this new arcade style shoot 'em up

by Carl Bennett

Actionware... In this case the company name says it all. Arcade quality action, better than arcade quality graphics, and sound effects so real that they'll make your neighbors duck. To top it off, you can buy a substantial feeling light-gun to blast your enemies from up to 15 feet away. Capone takes place in the Chicago of the roaring twenty's. You are an undercover cop whose cover is blown. As you walk down an ordinary street, the sound of glass shattering alerts you to danger. A hood in a grey fedora appears in a window across the street, draws his gun and shoots at you. You aim, shoot back and he's history. Suddenly you realize that this is just the beginning. Windows shatter continually as the entire mob tries to rub you out. The objective of Capone is to survive and thereby score points.

The game provides three levels; cadet, rookie, and captain. Increased difficulty comes from

faster action and distractions. A cadet need only learn to aim and shoot to master the scenes. The rookie must deal with innocent bystanders in the street and exploding dynamite left by hoods. As a captain, you also have to master breakneck action, and avoid shooting dogs, cats, and the kid on a skateboard. Points are awarded for each hood, and points are subtracted when a bystander is hit. You begin with three lives and lose one whenever

a gangster is faster and more accurate than you. You also lose a life if you shoot an innocent person in a window. Another complication is the number of bullets you have left. I tried a "strategy" of constant shooting, but soon ran out of ammunition.

After Capone boots, you'll be presented with a title screen and a series of selections. One player can use a mouse, one or two
(continued on next page)

Health and armament are monitored and displayed below the play field



Capone

(continued from previous page)

players can take turns using the light-gun, or two players can compete simultaneously if they have the special adapter and two light-guns. Owners of the A1000 are left out of this last mode due to machine limitations. After you make your selections of game and entry level, Capone begins.

During your first game, you'll probably loose at least two lives while admiring the scenery. The life-like detail of the Chicago street is captivat-

ing. The action sequences are smooth and the people look like colorized snapshots. After a few seconds admiring the view, the shooting begins. If you're using the mouse, you'll find a circle with a crosshair serves as a sight when you aim. Press the left button and BLAM.. The realism of the gunshot took me by surprise.

At the cadet level, you have time between the window shattering and the gangster shot, but once several windows are broken, look out. Good reflexes and peripheral vision are a must. Just when you have the street mapped out, your screen will scroll to the next scene. There are five scenes in all, the grocery store, the barber shop, the bank, post office, warehouse, and interior of the warehouse. The sequence of scenes never varies. In each scene, you have to eliminate seventy or more villains to move on. This provides plenty of target practice. Fortunately, when you

die, you have eight seconds to press the fire button before Capone returns to the opening scene. One of the more interesting features of Capone is machine gun mode. Every so often, an image of a classic tommy-gun appears on the sidewalk. Shoot it, and your trusty revolver becomes a machine gun.

“ During your first game, you'll probably loose at least two lives while admiring the scenery ”

Turn up the volume and bass now, and you can quickly get a visit from the local police. Actionware must have gone to an army base to get these sounds! Although machine gun mode is useful and fun, you must remember that ammunition is limited. Other extras include the inside of the warehouse which is stacked to the roof with TNT. Don't even think of using the machine gun here. Gangsters pop up and out from behind boxes and barrels and you must aim extra carefully or.... BOOM. Again the stereo sound is a blast. Choose rookie or captain as your level of play, and the innocent bystanders become a factor. That rapid trigger finger you've developed can be costly. Is that head a hood? Four different faces appear in the windows at random intervals. Shoot them and you loose lots of points.

Well, you get the idea. Capone is chock full of action and pro-

vides a feast for the eye and ear. But if you really want to experience a GAME, spend the extra \$50 and purchase a light-gun. Plug the gun into port 1 of your A1000 or port 2 of the A500 and A2000. Push your chair back a few feet and experience Capone as its designer, Richard Parry intended. A red circle glides across

the screen as you take aim. This requires much more skill than the mouse crosshair. Press the trigger and the screen flashes as the shot fires. Moving from target to target is

much more realistic and challenging using the gun, although it does feel heavy in your hand after a while. If you've received an extra large refund check, spring for the Actionware dual gun interface and second light-gun. Now you and another player can blast away together in competition for the highest score. Two gun mode works very well, and the sound and sights must be seen to be believed. This has to be the ultimate competitive action available on the Amiga, or any personal computer for that matter.

The great graphics in Capone are the product of Digital Concepts, better known as Brian Williams and Dana Dominiak. Some of you may have seen the Williams art disks. If so, you know what to expect. I was curious about the innocent bystanders, so I asked Richard Parry if they were modeled on real people. Sure enough, Richard, Brian,

(continued on page 30)

AVAILABLE NOW! StarBoard2

If you've owned your Amiga® for a while now, you know you definitely need more than 512k of memory. You probably need *at least* double that amount...but you might need as much as an additional two megabytes.

We want to urge you to use **StarBoard2** as the solution to your memory expansion problem –and to some of your other Amiga-expansion needs as well!

It's small, but it's BIG–

Since most of you want to expand your Amiga's memory without having to also expand your computer table, we designed **StarBoard2** and its two optional "daughterboards" to fit into a sleek, unobtrusive Amiga-styled case that snugly fastens to your computer with two precision-machined jackscrews.

The sculpted steel case of **StarBoard2** measures only 1.6" wide by 4.3" high by 10.2" long. You can access the inside of the case by removing just two small screws on the bottom and pulling it apart. We make **StarBoard2** easy to get into so that you or your dealer can expand it by installing up to one megabyte of RAM on the standard **StarBoard2** or up to two megabytes by adding in an Upper Deck.

This card has decks!

The basic **StarBoard2** starts out as a one megabyte memory space with 0k, 512k, or one megabyte installed. If you add in an optional **Upper Deck** (which plugs onto the Main Board inside the case) you bring **StarBoard2** up to its full two megabyte potential. You can buy your **StarBoard2** with the Upper Deck (populated or unpopulated) or buy the Upper Deck later as your need for memory grows.

And you can add other functions to **StarBoard2** by plugging in its second optional deck –the Multifunction Module!

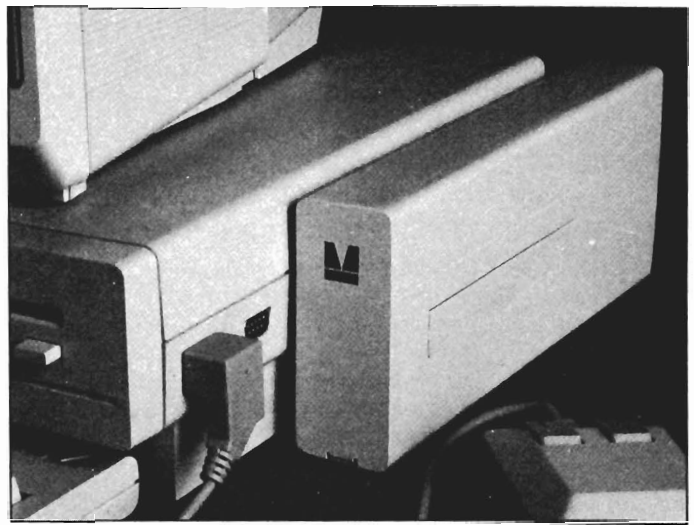
StarBoard2: functions five!

If we count Fast Memory as one function, the addition of the **MultiFunction Module** brings the total up to five!

THE CLOCK FUNCTION:

Whenever you boot your Amiga you have to tell it what time it is! Add a **MultiFunction Module** to your **StarBoard2** and you can hand that tedious task to the battery-backed,

**Auto-Configuring
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real-time clock/calendar. A small piece of MicroBotics software in your WorkBench Startup-Sequence reads the clock and automatically sets the time and date in your Amiga. And the battery *is* included (we designed it to use an inexpensive, standard AAA battery which will last at least two years before needing replacement).

THE FLOATING POINT FUNCTION:

If any one aspect most characterizes the Amiga it's *fast* graphics! Most graphic routines make heavy use of the Amiga Floating Point Library. Replacing this library with the one we give you with your **MultiFunction Module** and installing a separately purchased Motorola 68881 FPU chip in the socket provided by the Module will speed up these math operations from 5 to 40 times! And if you write your own software, you can directly address this chip for increased speed in integer arithmetic operations in addition to floating point math.

THE PARITY CHECKING FUNCTION:

If you install an additional ninth RAM chip for every eight in your **StarBoard2**, then you can enable *parity checking*. Parity checking will alert you (with a bus-error message) in the event of any data corruption in **StarBoard2**'s memory space. So what good is it to know that your data's messed up if the hardware can't fix it for you? It will warn you against saving that data to disk and possibly destroying your database or your massive spreadsheet. The more memory you have in your system the more likely it is, statistically, that random errors will occur. Parity checking gives you some protection from this threat to your data residing in Fast RAM. Note that the Amiga's "chip" RAM cannot be parity checked.

THE IMMORTAL MEMORY DISK FUNCTION (STICKY-DISK):

When you've got a lot of RAM, you can make nice big RAM-Disks and speed up your Amiga's operations a lot! But there's one bad thing about RAM-Disks: they go away when you re-boot your machine. **Sticky-Disk** solves that problem for you. It turns all of the memory space inside a single **StarBoard2**

into a Memory Disk that will survive a warm-reboot! When your Amiga attempts to grab a **StarBoard2** in **Sticky-Disk** mode, a hardware signal prevents the system from acquiring the **StarBoard2** as **FastRAM** (and thereby erasing your files) –instead it is re-recognized as a Memory Disk and its contents are preserved intact. If you want to work rapidly with large files of data that are being constantly updated (such as when developing software) you can appreciate the **Sticky-Disk!**

Fast RAM –no waiting!

StarBoard2 is a *totally* engineered product. It is a ZERO WAIT-STATE design, auto-configuring under AmigaDOS 1.2 as **Fast RAM**. Since AmigaDOS 1.1 doesn't support autoconfiguration, we also give you the software to configure memory in 1.1.

Any applications software which "looks" for **Fast RAM** will "find" **StarBoard2**. And you'll find that your applications run more efficiently due to **StarBoard2** on the bus.

A passing bus? Indeed!

What good is an Expansion Bus if it hits a dead end, as with some memory cards? Not much, we think –that's why we carefully and compatibly passed through the bus so you could attach other devices onto your Amiga (including another **StarBoard2**, of course!).

The sum of the parts...

A really nice feature of the **StarBoard2** system is that you can buy exactly what you need now without closing off your options for future expansion. You can even buy a 0k **StarBoard2** (with a one megabyte capacity) and populate it with your own RAM (commonly available 256k by 1 by 150ns memory chips). When you add **StarBoard2** to your Amiga you have a powerful hardware combination, superior to any single-user micro on the market. See your Authorized Amiga Dealer today and ask for **StarBoard2**

SUGGESTED RETAIL PRICING:	
StarBoard2, 0k (1 meg space):	\$349
StarBoard2, 0k (2 meg space):	\$395
StarBoard2, 512k (1 meg space):	\$495
StarBoard2, 1 meg (1 meg space)	\$595
StarBoard2, 2 megs installed:	\$879
StarBoard2, 2 megs & MultiFunction:	\$959
Upper Deck, 0k (1 meg space):	\$ 99
MultiFunction Module:	\$ 99
<i>also available:</i>	
Standard 256k memory card:	\$129
MAS-Drive20, 20 meg harddisk:	\$1495
MouseTime, mouseport clock:	\$ 50

M **MicroBotics, Inc.**
811 Alpha Drive, Suite 335, Richardson, Texas 75081 / (214) 437-5330

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Capone (continued from page 28)

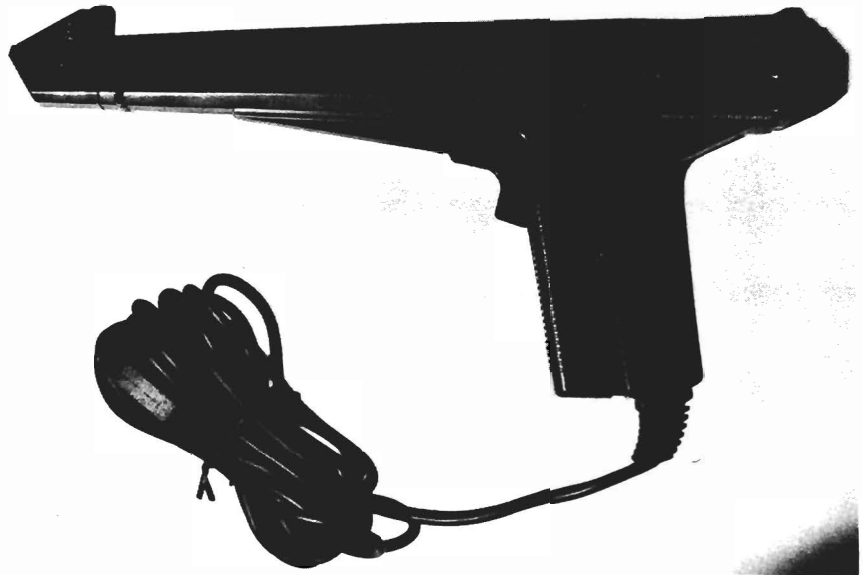
Dana, and Pierre Maloka the programmer, are the poor victims of your overeager trigger. Another nice touch.

Capone is the first in a series of games from Actionware. All can use the light-gun, but they are different in concept. Where Capone is a shoot-em up with linear action, *POW* is a Rambo like adventure with multiple paths and conclusions. *Creature* is an Aliens take-off which requires ingenuity and resolve, as well as good aim. I've seen screen shots of these two, and look forward to their release.

My only complaint is the fear that the disk-based copy protection in conjunction with high scores being saved to the original disk can bring on disaster. Hopefully, Actionware will support its customers in case of trouble. The staff in Illinois were certainly helpful when I called. An 800 number also indicates commitment to service. If very high quality action games turn you on, don't delay. Capone is state-of-the art. For the ultimate experience, you'll want to pick up the laser gun too.

Capone \$39.95
Phasar Gun \$49.95

Actionware Corporation
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Battavia, IL 60510
(800) 848-2333
(312) 879-8998



The Actionware Phasar, purchased separately, adds a new dimension of realism to game play

Light Guns

The Strange Case of the screen shooting the gun

Once you use the Actionware light-gun for some time, you'll want to know how it works. Fortunately for Actionware, the designers of the Amiga included circuitry and software for a light-pen. All three systems include this capability, but the 500 and 2000 have been revised from the original 1000 specs. If a suitable device is plugged into a mouse port, software can be written to "read" locations from the monitor screen.

A light-gun is simply a light-pen with a lens and barrel which can focus much more light. Richard Parry contracted for a custom light-gun and developed the soft-

ware to use it. A light sensitive diode sits at the end of the gun barrel and waits for you to pull the trigger. When you do, Capone will flash the screen to provide a bright light source to the diode. The diode will then signal the Amiga that it has received light from the screen, and the exact horizontal and vertical location of the video beam at that instant will be made available to the program. So the screen shoots light to the gun, and the gun triggers an event inside the Amiga. The application program reads an X and Y coordinate and determines where you were aiming. All this happens in a fraction of a second, and you're sure that the gun is shooting the screen, not the other way around.

The 3 Stooges

The latest interactive "movie" from those mad magicians at Cinemaware

by Kevin Ray

The Webster Unabridged Dictionary defines stooge as; "(a) an actor stationed in the audience to assist a comedian by heckling him; (b) an actor who assists a comedian by feeding him lines, being the victim of pranks, etc." And as everyone knows, they work better in

three's. Cinemaware has chosen The Three Stooges as the stars of their newest action-packed interactive movie.

Those familiar with Cinemaware are already used to the description of a game as an "Interactive Movie". In a very real way, that is a very honest description. We, the players, are treated as members of an audience that not only view a performance, but also manipulate

the characters to affect the outcome of that performance. This release is definitely an "A" film. The software is well polished, and gives the sense that a great editor has built on the central theme, while not detracting from the arcade-style scenes. And the graphics... Cinemaware's debut title, Defenders of the Crown, caused Oooo's and Aaaahh's to flow abundantly. This latest release from Cinemaware, is without a doubt, the crowning achievement thus far.

The digitized opening screen immediately suggests that you are in for no ordinary gaming experience



Beginning with the packaging, the game scores well. The box has great scenes of the game on the back, that are true representations of the high quality of graphics, and the system requirements are clearly and accurately spelled out. Opening the package reveals two disks, labeled "Reel 1" and "Reel 2". There is a Quick Reference card, printed on heavy stock, that very concisely explains loading instructions, the theme or goal of the game, and a brief synopsis of each of the arcade style scenes within the game/film. Inside this two page card is a map of "Stoogeville", but this is seldom

(continued on next page)

3 *Stooges* (continued from previous page)

needed. The box also contains a booklet explaining some interesting trivia and history about the Stooges. Although brief, the booklet contains everything that a novice Stooze fan wants to know, as well as some things that may surprise even the most die-hard fan. For instance, did you know that both Shemp and Curly were actually brothers of Moe? And, that their real names were Harry Horowitz (Moe), Jerry Horowitz (Curly) and Samuel Horowitz (Shemp). Larry's real name was Louis Feinberg. And a little something that may come in handy later: Curly used the line "Woo Woo Woo", because he'd forgotten his lines! The instruction book also offers expanded explanations of the different aspects of the game. One special note: It is very helpful to read this book PRIOR to playing the game. It won't take more than a few minutes, and will prepare you to answer the trivia questions that occasionally pop up!

Assuming you have a two drive system, place the disk labeled "Reel 1" in df0: and the other, labeled "Reel 2" into df1: and reboot the machine (ctrl-Left Amiga-Right Amiga). If you're using a one drive system, insert "Reel 1" into df0: and continue with rebooting the machine. It will actually be quite a while until you are politely prompted to exchange disks. The screen flickers and then.... what the heck?! Your screen fills up with the familiar "Defenders of the Crown" logo, and you hear that familiar



In their adventure, the stooges must raise big bucks before the evil banker forcloses on the orphanage

theme music playing in the background! Some idiot at Cinemaware must have... what in the... Suddenly, three fantastic caricatures of the stooges, walk out onto center stage. You hear the digitized voice of Larry say "Hey, this looks like a kids game!", and then Moe replies "You Idiots -SMACK-", as he delivers two Head Slaps and the screen fades to black. Almost immediately, there is a fade into the Stooge's old familiar B&W title screen from the hundreds of stooze short films. *GREAT BEGINNING, CINEMAWARE!!*

Next come the intro screens which are simply FANTASTIC. Loads of music and digitized clips of Larry, Moe, and Curly arguing and Nyuk, Nyuk, Nyuking. The familiar "Three Stooges" theme song plays, and the

scenes fade-in and fade-out extremely smoothly and in time with the animations and sounds. As is typical with Cinemaware games, the first screens are modeled after movie credits. These, however, are done with some of the best animations, graphics, and sound that I've seen on the Amiga to date. An interesting credit is given to Richard Ditton for "Video Compression" and to Larry Garner for "Sound Compression". After seeing the complexity and number of scenes, and hearing the variety and clarity of sounds, there is no doubt, these two have performed some new programming wizardry. It's amazing that all this works on 512K systems. As the Stooges walk past the credits, they come upon "Ma's Orphanage". Ma, who is sitting on the steps crying, explains to the boys that the Evil

Banker (Mr. Fleecem from Skin and Flint Finance Company) is demanding the balance of the mortgage and unless she has \$5000.00 in thirty days, he'll tear the place down. In typical Stooze fashion, Moe says "Don't worry Ma. We'll get the money for you!", and with that, the game takes off.

The goal of the game is now clear. Our boys, (and therefore you) must wander down the main street of Stoozeville in the hopes of getting oodles of cash. You need \$5000.00 to save Ma's Orphanage, \$10,000.00 to fix it up, and \$20,000.00 to marry Ma's three beautiful daughters!

When the screen fades back in,

you see the boys huddled together holding a map. At the top of the screen, an enlarged section of sidewalk appears, made up of exactly six squares. Each square has a different picture on it, which corresponds to that location on the map. Under the diagram of the sidewalk, there are three numbers. The left one shows what day it is (remember: you only have 30 days to save the orphanage). The number on the right shows how much money you have so far. The number in the middle is a timer that counts down from 9 to 0. As soon as the timer drops to 8, Moe's hand appears and moves at random from one square to another. When it lands on a square that appears advantageous to the

boys, you press fire and the hand stops moving. The boys then move to that square, and must complete whatever task is required of them. Upon completion, a day has passed, and again they must stop the moving hand on one of the six squares. This first sidewalk shows Boxing in square 1, Moe jabbing his fingers in Curly's eyes in square 2, a large question mark in square 3, a huge mousetrap in square 4, a help wanted sign that reads "WAITERS" in square 5, and a large dollar sign in square 6.

The layout of Stoozeville never changes, but there are a total of 180 squares in the game. Other items that can occupy squares

(continued on next page)

Looking For More "Byte" For Your Dollar?



Here is the answer, the model **PPI-1000** Expansion Unit for your Amiga 1000 by **Palomar Peripherals**.

- Full auto configuration
- Meets Zorro specifications
- Amiga buss pass-thru
- Built in power supply
- Power on/off controlled by Amiga
- Real time clock with battery backup
- Fast RAM
 - 2,4,6 or 8 megabytes
 - No wait states
- Disk drives
 - Supports up to 2 drives
 - 20 or 40 megabyte hard drive(s)
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3 Stooges (continued from previous page)

are: a large TRIVIA sign, a help wanted sign that reads "DOCTORS", the nasty banker, a trophy with the word "CRACKERS" or the word "SAFE!". If you accidentally press fire while the hand is on a mousetrap, you will get one of your four fingers snapped off. When you lose all of your fingers, the day of reckoning for Ma's Orphanage comes, even if it's only day ten. Be careful, careless loss of fingers early on will almost always spell early failure and homeless orphans. If you stop on square 1, with the word "BOXING", the boys will walk over to the gym, where a cash prize is being given to anyone that can knock over Killer Killduff in less than 6 rounds! This scene is inspired by the Columbia short, "Punch Drunks". Moe tells Larry to play "that weasel song and Curly can't lose". And, as in the short, Larry busts his fiddle at the last moment! Now the arcade action begins! Using the joystick, you guide Larry down the street, hurdling garbage cans, fire hydrants, and weaving in and out of open doors, sign posts and numerous other obstacles in his path. The graphics are GREAT! The joystick response is the best of any Cinemaware piece (excluding other scenes from this game) and the sound is FANTASTIC! It's difficult enough getting to the radio store, and retrieving the "Pop goes the weasel" blaring radio before the end of the sixth round, but, doing it fast is VERY DIFFICULT. This is a key point to this game. The arcade scenes are

progressively more difficult, and how much money you earn depends on how well you've mastered that skill. In other words, you can keep getting better and better with practice. This is a critical aspect of an arcade game, and seldom seen in an adventure game.

The second square has the famous eye-poke with Moe jabbing Curly in the eyes. Landing here will send the Stooges to a seemingly empty square. However, this is one of the most important squares in the game. After yell-

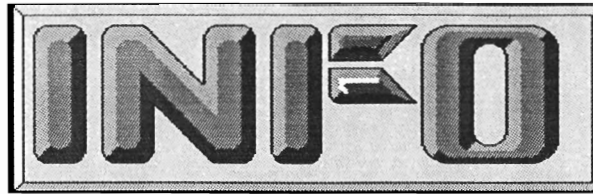
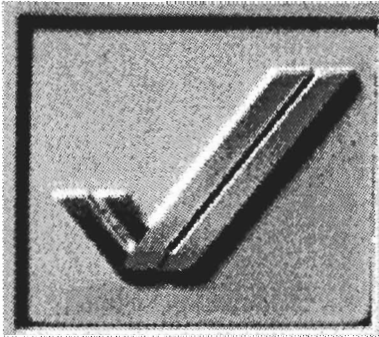
“ As is typical with Cinemaware games, the first screens are modeled after movie credits. These, however, are some of the best animations, graphics, and sound that I've seen on the Amiga to date ”

ing at Curly and Larry, a graphic appears at the top of the screen with a horizontal bar graph labeled "SPEED". One of the challenge factors of the game is the speed at which Moe's hand moves. This speed increases as the game continues leaving little room for skill as the hand flies at incredible speeds. You are left with prayer as your only aid in stopping the hand where you want to go! There is an alternative to prayer. Just use the joystick to slap around Larry and Curly. Yes, Moe's success in bullying the brothers is crucial to

mastering the game. The array of movement choices is amazing; Eye fakes, Ear pulls, Eye pokes, Face slaps, Stomach kicks as well as others. As the manual states: Faking is critical to Moe's success! As you slap around the boys the bar graph decreases, and the timer will then move slower. But, if you miss, or are blocked or get hit back, the bar graph increases and you'd better hone your prayer skills! If you stop at the third square, with the large question mark, you'd be landing on CHANCE. As in other games, chance seems to be a random square that can be just about anything.

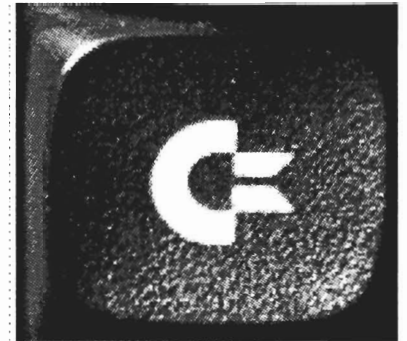
The Help Wanted square with advertising for WAITERS is probably the most enjoyable square. Landing here will send the boys to the "Hoiti Toiti" club, where they are mistaken as caterers, and asked to serve pies to the guests. This scene is based on a short from the late 30's, "Hoi Polloi", a take-off on "Pygmalion". The scene opens with a grand dining room, complete with oriental carpet, chandelier, and old oil paintings covering the walls. To one side are three guests standing behind a long table, and to the other are Moe, Curly and Larry behind a similar table. The guests demand their pies and the boys, of course, decide to "give it to 'em". Using the joystick, you make the boys throw pies at the guests and duck beneath incoming pies. If you're hit with five pies, you're fired and back out on the street

(continued on page 36)



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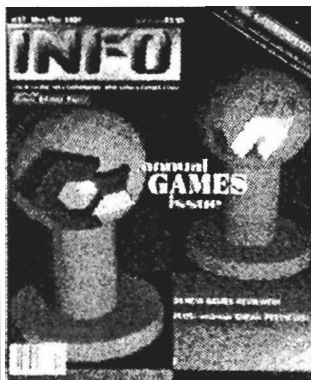
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3 *Stooges* (continued from page 34)

you go. If you throw all of your pies without being fired you get double pay! In the upper left corner of the screen, a cash register shows how much you've earned tossing pies, and in the upper right are five light bulbs, that light, one at a time, if you are hit with a pie. This scene shows off the fine polish of *The Three Stooges*. The pies fly on a seemingly endless number of paths to their final target, and the splattered pies build on top of each other as they destroy the oil paintings. As in the other scenes, the play-ability is fantastic, the sounds are totally first class, the graphics are great and the difficulty makes it true arcade quality!



The control screen is a horizontal roulette which you can stop on the desired selection, but only with fast reactions

Landing on the sixth square shows a large dollar sign. This sends the boys down the street where they happen on a few hundred dollars just lying on the ground. The scene is humorous, and well done, with smooth animation and good use of digitized sounds. The TRIVIA square lets you try your hand at answering some stooge-trivia. This is where having read the History Booklet prior to landing pays off.

If you skipped it, don't bother trying to look up the answer now. Buzz... Times up!

The Evil Banker, Mr. Fleecem, is never up to any good. You are either forced into paying a 10% tax, or at best, must waste a day with him telling you you'll never make it. The second Help Wanted sign, labeled DOCTORS, is based on another Columbia

short, "Men in Black". The Stooges show up at a hospital after graduating from Medical School ("We graduated with the highest temperatures in our class!") and find three midget racecars. You guide the trio behind a nurse racing down the corridors of a hospital trying to get to the operating room as fast as possible. En route, the nurse tosses things off her cart, and you can pick up some quick points recovering the lost items. Watch out though, other patients are roaming the halls, and if you get into five accidents you're fired! This is another great scene. The graphics are staggering. As you weave down the hall, the boys thrust out their hands in turn signals. And when they hit patients, the patients spin about with hilarious expressions. An excellent piece of work! The

CRACKERS Trophy represents the Annual Oyster Orgy and Cracker Eating Contest at the Porcupine Lodge! Curly is entered and it is your job to move his spoon over a large bowl, grabbing out as many crackers as you can. The problem though, as in the 1941 short, "Dutiful But Dumb" on which this is based, is that the oysters have a different plan in mind, and they do everything possible to eat the crackers before Curly can. Don't be afraid to fight for a cracker and watch out for the oyster that sprays! The final square that we've seen so far is labeled "SAFE". It's short, simple and very well done. I'll leave this one for you to discover on your own, but save some aspirin just in case! After cruising the sidewalk for 30 days, the boys return to Ma's orphanage, where they

give Ma the money and find out how well they've done. Hopefully, they could pay the mortgage. It would be nice if they fixed the place up too.

Congratulations if you've earned enough to marry the beautiful daughters (they kind of look like cabbage patch kids). After a few practice rounds, you should probably be able to get \$5000.00 within the required 30 days. It may take a few more games for \$10,000.00 and more than \$20,000.00 is pretty tough. Something else that is really neat is to try to stop the hand at the sixth square every time. It can be done, and it's the only way to reach the 180th square. The game is heavily copy protected, but can

be copied onto a hard-drive or ram-disk, by simply following the instructions on the READ.ME file on "REEL 2". In this situation, the disk labeled "REEL 1" acts as a key disk. These provisions let power Amiga users take advantage of their extras and should be an example to all game publishers.

The system requirements for this game are minimal. You **MUST** have: An Amiga with 512k minimum and a joystick. This game, however, **WILL NOT** work on the European PAL systems.

Without a doubt, this game is going to be a classic. It combines great action, fantastic ani-

mation and graphics, plenty of music and great digitized sounds and is built around a great theme.

I hope that Cinemaware has the resources to continue producing software of this quality, and I hope the computer and software stores have placed large orders on this. It would be ashamed to fight over the last copy (but totally worth the bruises)!!!

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Diskmaster

"Diskman" comes of age

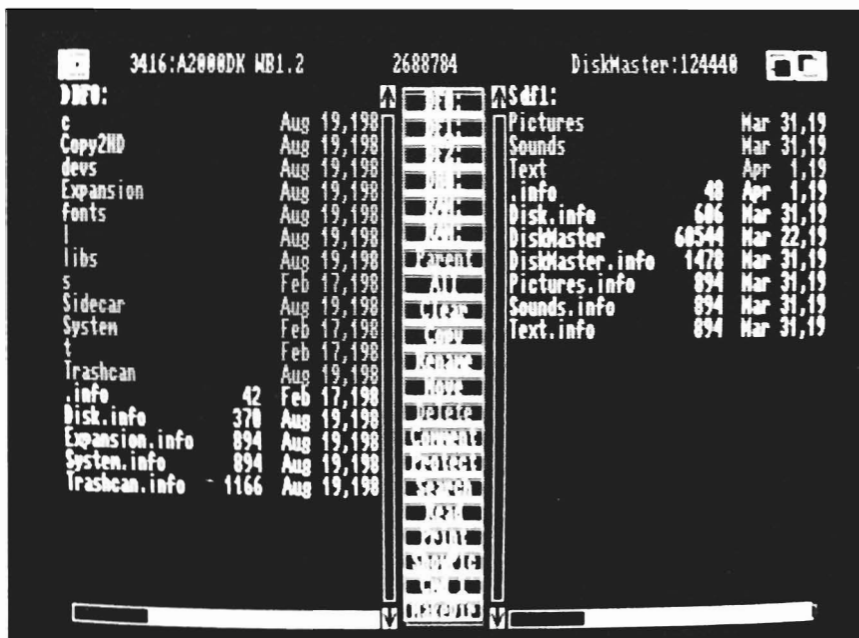
by William A. Barker

For the new owner of an Amiga computer, nothing can be more frustrating than trying to unravel the mysteries of CLI. It is impossible to avoid having to learn how to use it, and there have been numerous utility programs to help both the inexperienced and advanced user. DiskMaster,

from Progressive Peripherals and written by Greg Cunningham, is one of these file management utility programs. Experienced users will recognize this program as an enhanced version of Greg's famous "DiskMan" program, which many, including myself, still use. However, Greg Cunningham has added many new features to make this new program both easy to use, yet allow for individual customization, so that one is able to con-

figure the program to one's own taste. The program requires a minimum of 512K bytes of memory and version 1.2 of Workbench or higher. It is compatible on all Amiga models from the 1000 to the model 2000. The manual is printed on the packaging of the program which is an 8.5 by 11 inch card stock folded into a four panel presentation. While this is unusual, the program is simplicity in ease of use and the documentation is quite adequate.

Controls are located between source and destination screens for easy access



The program and its Icon may be readily copied to your Workbench disk or to your hard drive and may be run by clicking on its Icon or run from CLI. When started, the program displays a title bar and two large panels separated by a vertical column of twenty-one buttons or gadgets. It is this column which occupies the center portion of the screen, that contains the main functions of the program.

In use, the user can display the directory structure of a single disk (device) or of two disks (devices). It allows the user to copy files and directories from one disk to another disk or to

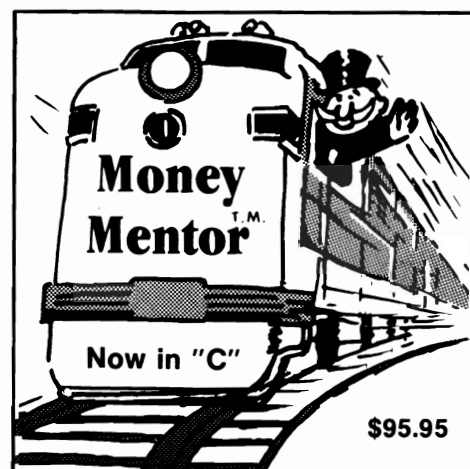
move files from one directory to another directory or subdirectory. The user places the disk or disks he wishes to access in the disk drives, and selects the appropriate device gadgets. The two panels are displayed as "source" and "destination". These change, depending on which window is selected as the active panel, by clicking with the left mouse button. The windows for displaying the files and directories show the directories in a contrasting color to differentiate them from the files. Both file windows contain a vertical scroll bar to allow you to scroll through the files, and the scrolling is smooth and instantaneous. Along the bottom of each window is a horizontal scroll gadget which allows the contents of the window to be scrolled left or right to display all the file information. This information includes the filename, size in bytes, creation date, the protection status of the file, and file comments.

To enter a directory, you merely double click on a chosen directory, and that directory's files are displayed in the window. To return to the previous directory/file level, you merely select "Parent" from the operation gadgets in the center of the screen. The program runs much more quickly with FACC II from ASDG, which buffers the information making repeated access times extremely fast. The other operation gadgets allow the user to rename files, create new directories, delete files and directo-

ries, change file comments, change the protection status for any or all files, and to search selected directories for a given pattern when selecting files for processing. The final gadgets allow text files to be displayed, and a new feature allows IFF images to be displayed or sound files to be played. One feature that is new is the ability to delete an entire selected directory without having to first delete its contents. This was available only on CLImate, a competitive product also from Progressive Peripherals.

Located second from from the bottom of the gadgets is the "Cmd1" gadget. This is user configurable and allows the user to use his favorite commands such as Blitz, Run, Ed, TxEd, CED, Execute etc. The user may choose up to six different commands by selecting Cmd1 from the configure menu and typing the command in the requester. To enter additional commands, you select the Cmd1 gadget using the right mouse button, which scrolls the commands one at a time, and repeat the process of selecting the Cmd1 (or Cmd2,3,4 etc) selection from the configure menu.

The first six gadgets are for the selection of logical or physical devices such as: DF0:, DF1:, DH0:, RAM:, VDK:, VD0:, DEVS:, FONTS:, etc. They come predefined but may be reconfigured for your own selection of devices. This is accomplished by selecting "SET
(continued on next page)



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Diskmaster

(continued from previous page)

DEVICE" from the Configure Menu and then clicking on the device gadget you wish to change. A requester appears and allows you to enter a new device name, and having done this, the new device name is shown in the selected gadget. Although there are only six device gadgets shown, in actuality the program allows 12 such devices to be defined; the second set is accessed by clicking the right mouse button on any of the device gadgets, which displays the second set.

The CONFIGURE menu contains various selections for setting up the user environment and may be saved for future use by selecting "Save Config" from the menu. The screen colors can be changed by using "set colors" as well as the choice of screen resolution from low to high. There is also a choice of normal (default) or narrow width fonts, which allows more information to be displayed in a window. The PROTECT menu selection sets the status for the protect gadget, which changes which protection bits it sets for files when the gadget is selected. This feature is more powerful than other file management programs which merely lock or unlock files.

One of the nicest features is the ability to configure the three archive gadgets so that you can use the archiving utilities of your own choice such as ARC, ZOO, PKAX or PAK. Although these utilities are not contained on the disk, they are obtainable from BBS boards or user groups. It is

a pleasure to be able to PAK or ARC as many files as you wish by merely selecting the files and then choosing the appropriate archive command from PROJECT menu. Once this is done and the destination path set in the requester (in this case I selected the ARC add command) the Diskmaster screen is sent to the back of any other screen, and the progress of the archiving is displayed in the output screen. This feature alone is worth the price of the program, especially for those individuals who modem files to various BBS boards.

The program also has some real "goodies" which I have not seen in any other utility of this kind, namely the ability to format disks and do diskcopies. The Format selection from the project menu allows you to format a disk in drives df0: to df3:, and to select, verify, or install the disk. The format without the install option is similar to the PD version "fformat1.1" in speed. There is also the option to Clear a formatted disk, which erases the file structure in the blink of an eye. So there is no need to delete files from a disk or to reformat a disk, if all you wish is to have an empty disk. The Diskcopy selection allows you to copy an entire disk from one drive to another without having to go to CLI or to use a special program like "QUICKCOPY". These programs are resident when Diskmaster is started.

Another useful feature is the ability to set the pattern that is

used by the ALL command in the operation gadgets, in other words, you configure the program to select all files or directories that meet a certain pattern, including the creation date of the file when the ALL gadget is selected.

The DiskMaster program also includes a few other niceties such as the ability to read text files or to print directories to your printer, but I think I have given you enough of the major areas to make you realize that this program, which started as shareware, has now become a full featured commercial product loaded with numerous features. It will benefit anyone who does a great deal of work copying files or rearranging files on their favorite programs. This program could be considered expensive in relation to others of this variety. However, for all of those file copiacs out there, it may prove to be worth every penny.

My only complaint is the choice of highlighting around the gadget buttons. I still prefer the nice look of the the original "Diskman" program, but this is a minor inconvenience.

I feel confident in recommending this program, and it has proven to be pleasure to use.

DiskMaster \$59.95
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The Big Deal

Robotics meet fast food

by Kevin Ray

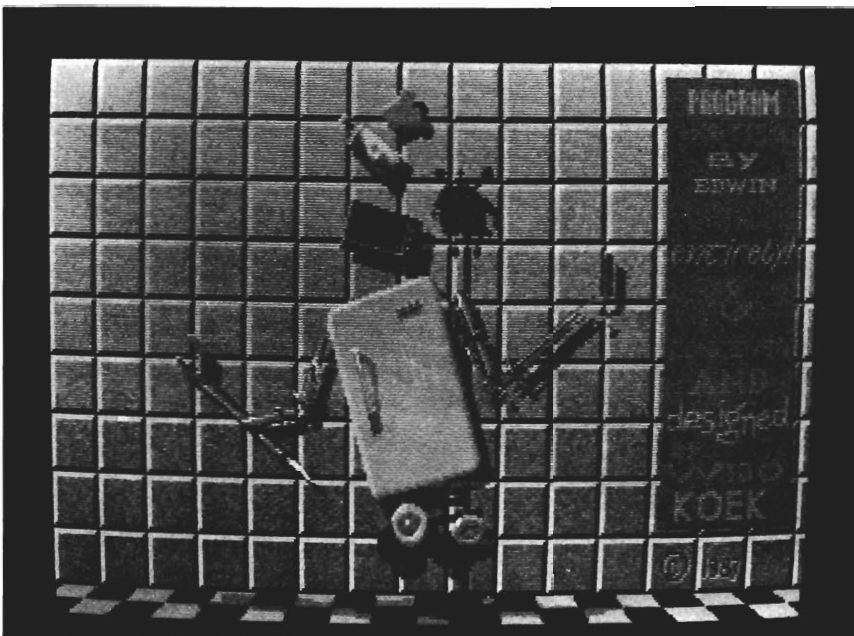
The B.I.G. deal is an arcade game from Digi-Tek which gives you the unique opportunity to be a short order cook and operate a robot. It all started one day when the folks at Neutronics Device Corporation, a robotics company, designed a robot that will completely revolutionize

the fast food industry. This robot will be able to handle the work of the entire kitchen crew, in any kitchen setting, and quickly and efficiently prepare the customers meals.

The B.I.G. (Best In Gastronomy) restaurant chain is impressed with the idea, but would like to see a prototype model before committing to the investment. If they like it, they'll order 32,000+ of the units, making

you a very big cheese with the boss. The problem though, is that the robot, Floyd, is as dumb as wood. He has no intelligence, and must be shown exactly what to do. Fortunately, he can remember everything that he is shown, and repeat it as often as necessary. When Floyd has worked the entire day successfully, he is promoted to another restaurant of the B.I.G. chain, until he finally arrives at one of their 5-star hotels. He must succeed during a five day trial period or the BIG DEAL is off.

An art-deco rendition of "Floyd" greets you in the opening screen



Before you begin the game, you must read the manual. It explains how to operate Floyd, and more importantly, it explains the recipes required to get through your first day. These include Roast Beef Sandwiches, Hamburgers, Egg and Onions, Tongue, Omelettes and a lengthy list of other concoctions. Most of the items require only a few modularized ingredients, (2 to 6 things per dish), however there may be several preparations to be done to complete that dish. Washing, Cutting, Frying, Baking, Roasting, are all steps in-

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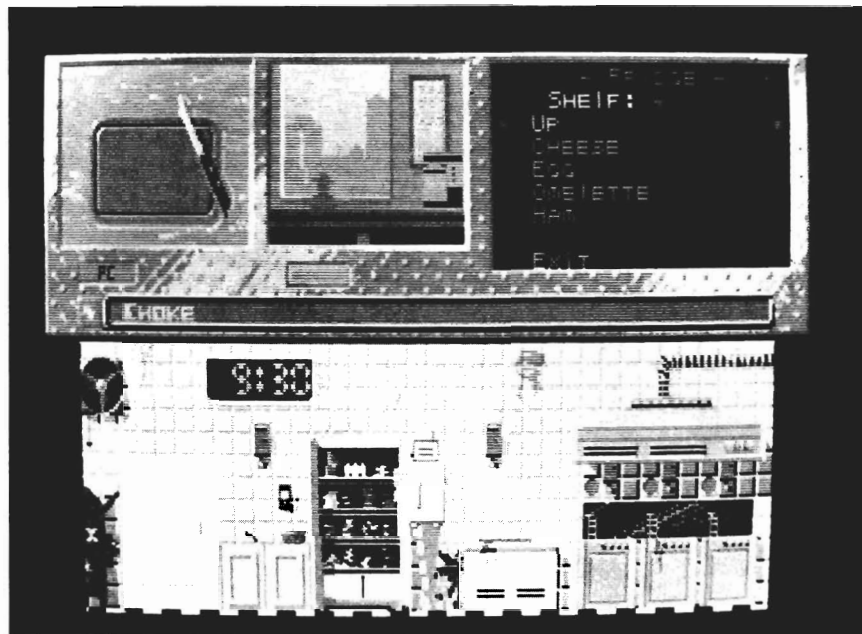
Big Deal (continued from previous page)

involved in the science of fast-food-cookery. None of this is easy but the most difficult part is getting the controls down. Floyd is a robot who moves across the screen left to right and back. He can also elevate himself to operate the different stations, like fry bucket, oven, sink etc. Floyd must be in a very precise location before he can operate a station, and these locations are rather small.

To begin the game, insert the disk in df0: and reboot the machine (ctrl-Left Amiga-Right Amiga). An average quality graphic intro screen appears accompanied by average intro music. Press the left mouse button to continue. A better screen appears showing good detail of Floyd himself.

To begin with, we'll use the right mouse button and select from the pull-down menus. Your choices are to Begin a new game, Load a procedure, Save a procedure, Or hear the story. Select the last and you will see a brief slide show about Floyd and the B.I.G. company. We'll cover the Load and Save options later, and if you select them now you'll just get an error, so select the Begin New Game.

When the program continues you will see the screen divided in half. The bottom of the screen will show Floyd standing in the kitchen of a pretty sleazy B.I.G. Restaraunt, and at the top of the screen are the Robot's computer displays. There are several of



Floyd at work

these displays on the screen. One displays all of the stations as Floyd sees them. Another is the Main control monitor, which displays ingredient lists, and is the interface between you and Floyd.

There is also a single-line sign, referred to as a trailer, that shows the current order being placed. And also, there is a window which opens onto the waiting line where you can see the customers coming and going and unfortunately, doing a lot of waiting.

The joystick controls are concise, but not as easy to master as this writer likes (note: there is a large difference between sloppy or slow joystick movements and difficult joystick movements. These are very clean movements, just not the simplified motions typical of arcade games).

Joystick Control Movement

UP Floyd Up -or menu up
DOWN Floyd Down -or menu down

LEFT Floyd Left

RIGHT Floyd Right

UP + FIRE Shows Menu

DOWN+FIRE Prepare TV

Dinner

LEFT+FIRE Action ie;

Open

Insert

Get

RIGHT+FIRE Operate Right

Arm + Put food
on conveyor

* Press fire to select a menu item.

Get ready, the first customer that comes in will place an order which will appear on the trailer. This is order 1. A few moments later another customer will place

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order 2, whether you've finished the previous order or not. As many as 5 orders will be up at once, and it may be necessary to be working on all of them simultaneously. You must move from station to station, first retrieving the ingredients for each recipe. Next you must prepare the item (s) using the correct cooking technique.

Finally you must serve the waiting customer. It takes some time to master each recipe and much more to handle them under pressure. If you make a customer wait too long, or serve the wrong food, watch out. He's liable to get angry enough to throw something at Floyd and that can damage him!

When you've got a good feel for how Floyd operates, and you're ready to make life a little easier, select the option Save Procedure 1. This will start a recorder in Floyd's brain that will allow him to memorize that procedure. Do yourself a favor and memorize the procedures that require more than 3 steps but less than 5. These are the most frequent and most bothersome. In order to advance you must build a library of procedures and use them to keep up with the never ending hoard of hungry people.

Overall I found The Big Deal to be very nice. It has good graphics and motion and requires a great deal of skill. If you remember Floyd the Droid from the 64

with fondness, then Big Deal is a must.

Even if your wildest nightmares don't include a robot short-order cook, check this one out. Fast action and pressure which doesn't involve bloodshed is a rare commodity.

The Big Deal \$34.95
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Video Titler 1.1

Aegis releases the new version of their titling program

by Paul R. Miller

VideoTitler 1.1 is an updated and expanded issue of Aegis' recently released video titling and special effects package. This is actually a package of two programs:

VideoTitler--which allows elaborate effects for the creation

of titles and backgrounds, along with the programs animation capabilities.

VideoSeg--(acronym for Special Effects Generator), which allows production of slideshows combined with animations.

It's a combination that grants immense power and flexibility, and, although easy to learn and use, is a little daunting to review after only a week's exposure--

because I feel I have only scratched the surface of its potential. On the other hand, real mastery would probably require some months use, so I'll just blunder on.

VideoTitler requires a minimum of 1 meg and 2 floppy drives, but the serious user will want 1.5 to 2 megs (to create ANIMS). A good VCR, a genlock, and a hard drive would also round out the list. A word of caution on the matter of hard disks:

The hd.device software that was shipped with the Commodore 2090 controller card is incompatible with overscan--causing crashes. Commodore has announced a fix (version 33.54 of the hd.device) which can be copied into the expansion drawer (no need to reformat) and will support overscan up to 704 pixels wide--with no guarantees beyond that. Before you install VideoTitler on your 2090 controlled hard drive, make sure you have updated the driver.

Being a video program, Titler supports the Aegis standard overscan of 704 by 440 (hi-res),

The "NeonSparta" example, which is included on the Videotitler data disk



but also offers just about every other possibility in both NTSC and PAL modes:

NTSC:

Lo-Res 320x200 352x220
384x240
Video-Res 320x400 352x440
384x480
Med-Res 640x200 704x220
768x240
Hi-Res 640x400 704x440
768x480

PAL:

Lo-Res 320x256 352x276
384x296
Video-Res 320x512 352x552
384x592
Med-Res 640x256 704x296
768x296
Hi-Res 640x512 704x552
768x592

Aegis has introduced the last column, called "severe overscan" to correct any possibility of borders appearing on composite output (they provide a test pattern which illustrates the borders of actual TV on the Amiga screen). Aegis points out that the Video-Res mode will be most useful for TV productions, as it combines the potential for 64 colors with interlace (for compatibility with TV editing), and that Hi-Res is wasted on composite anyway, as television can't resolve that many pixels. The question of which overscan mode to use is now more complicated--I await with interest the emergence of a standard, and reports from the first brave soul who tries "severe"

with a hard drive. Titler works with standard IFF pictures and brushes, and supports the Sparta ANIM standard and versions of ShowAnim 4.0 and later. Sixteen colors are available in med and hi-res modes, with 64 available in lo and video to those with EHB chips. Titler's manual incorrectly identifies "early 1000's" as having the EHB Paula chip; it is, in fact, just the opposite. The manual redeems this error with the proper part number, however, and the program has a half-brite test screen. For lucky owners of a SuperGen, Titler includes built-in support for controlling the ratio of Amiga graphics to external video. What Titler is all about is fonts, and here it supports all Amiga font formats (including ColorFonts), as well as its own special "PolyFont" format. These are essentially object mapped fonts and shapes (as opposed to standard bit-mapped fonts) which can be manipulated like the objects in VideoScape 3D.

Here's a brief outline of what these programs will do:

VIDEOTITLER FEATURES:

- * Tile creation in all screen formats with all font formats
- * Utilization of IFF pictures and brushes as backdrops and fills
- * Styling of all fonts (plain, 3d block, edged, neon, embossed, refracted edge, spread, etc.) with 20 built-in options, or with

custom editing

* Justified, bold, outline, italic, underlined, drop shadowed, smear shadowed, and gradient filled text

* Kerning, stretching, skewing, mirroring, of PolyFont text and shapes

* Clipping and pasting of IFF images and color gradations with sizing, distortion and perspective effects

* Creation of still or sequential IFF files or recording of compressed ANIM files (text and background animation, 3d rotation, moving text highlights, etc.)

* Multitasking with VideoSEG and other programs

* Support for foreign keymaps

* Keyboard or menu commands

VIDEOSEG FEATURES:

* Automatic or manual slideshows combining IFF frames and ANIM files

* Over 50 transitions with testing and preview

* Multiple view port mode--split screen with 2 palettes and independent color cycling

* Scrolling ANIMS

* Larger than screen backgrounds with multiple positioning and transitions

(continued on next page)

VideoTitler

(continued from previous page)

* SuperGen support for controlling rati on of Graphics to external video

* Optional pointer display

* Frame Specification Requester format for editing scripts

When you work in Titler you are either in the "foreground" plane for text entry and editing, or in the "background" plane, wherein you employ the elaborate cut-and-paste effects. Text entry is simple and direct. After you boot, any Amiga font installed in df1: can be loaded into a memory resident directory of up to 10 fonts (for quick access). When you enter the text mode, a set of crosshairs and cursor appears on the screen, from which characters flow (left, right or bi- directional) depending on justification choice. You can move the text with the

mouse and enter keyboard commands for further justification or centering. Each line of text is remembered separately and can be selected or deselected at will for further action. The arrow keys will sequence through the various lines in the order that they were entered, but you can use the mouse or even rearrange the sequence in memory. A series of key strokes will also program carriage returns for automatic offsets in lines. The key concept is that you can alter character emphasis defaults, justification, font, shadows, and style for any given text string at anytime with a simple keystroke. PolyFonts work in a similar manner except that they are capable of even more manipulation. Titler offers 5 styles (all with bird names) that emulate an Art Deco font, a serif "Souvenir" type, a "Helvetica" clone, a boxy "Toucan" that's

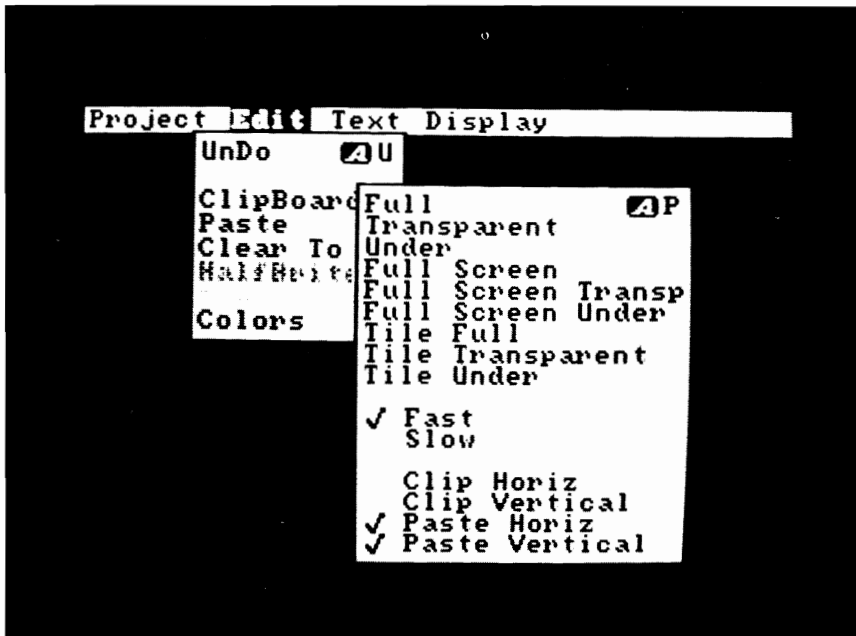
good for 3-dimensional effects, and "Swan", a 50's style flowing script that's especially effective in the styles that emulate illuminated or refracted letters. You also have a full set of symbols and shapes to enhance your graphics.

When you enter Poly text the cursor surrounds an expanding shape that can be dragged, re-sized horizontally and vertically, rotated or tilted, even to the point of reversal. Unlike the standard bit-mapped fonts, PolyFonts can be kerned with very fine control (as small as 1/10th of a character).

The fun really begins when you start to style your text. There are 20 built-in styles that can be applied to any font: Plain, 3D Block, 3D Block with raised edges, Thin and Fat Edged, Thin, Fat and Outline Neon, Offset Edge, Embossed, The 4 "refracted light" styles, 3D Outline, and 5 more, designed primarily to enhance the "Swan" PolyFont. For seasoned users, Titler offers an Expert mode complete with multi-function requester to make your own styles.

Wait, there's more. Any 3D style can have its raised portion oriented in the eight cardinal directions. And there are shadows available, either dropped or attached (the amount of drop or length of offset is variable) and in any of eight directions. Or the shadows can be smears of predefined color ranges. On the matter of color, Titler gives you complete control. Built-in options include a "user" palette of colors that work well on straight non-

Extensive editing capabilities are a key factor of the power within VideoTitler



genlocked, non processed composite output, the VideoScape palette, the palette from ArtPak (the "best" colors to emulate nature), a ColorFont palette, and the option to call up a full HAM palette to choose whatever you like. The HAM requester is the best of its kind, and has to be seen to be appreciated. Letters can be any color you select and, depending on the style, this selection can involve up to four colors relating to the various components of the font style: cap, raise, letter, drop and shadow. Palette controls include the usual sliders, copy, switch, and spread. The remainder of the foreground controls involve activating and deactivating text, rearranging text layers, stamping text

to the background, and refresh and clear functions.

The other aspect of Titler involves manipulation of the background. Project menu controls allow loading and saving of pictures, brushes, palettes, "scrapbook" data (IFF files in a RAM directory), and FrameData—a combination of foreground and background for separate editing.

You can also save and load Setting Files that provide user defaults for fonts, screen format, palettes, open directories, and text styles. With a minimum of 1.5 meg memory, ANIM recordings can be made (essentially similar to VideoScape 3D meth-

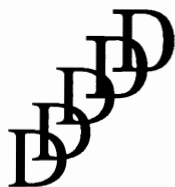
ods) which simulate the fancy effects of broadcast television:

- * Poly Text size change and movement
- * Cell animation
- * Spelling out letters one at a time
- * Moving highlights through text
- * Moving cut and paste to simulate picture flipping

Through the Edit menu, "clips" of images or text or color gradations can be manipulated and pasted in opaque or transparent modes, with options for local, full screen remaps, or repeated

(continued on page 63)

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A Drum

Is it live or is it Adrum?

By Ken McNeill

The excitement of the crowd grew higher and higher as the music became louder. The concert hall was packed to the rim with raving fans cheering and clapping their hands. The guitarist ended his solo with a captivating crescendo that shook the amplifiers. Now it was my turn to take the spotlight. I pounded

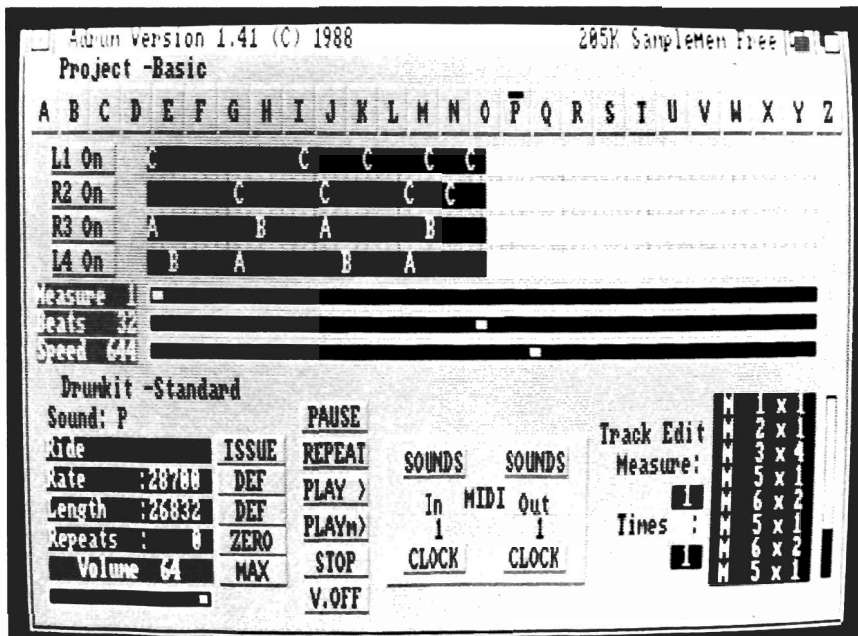
on the bass drum seductively while I began to hit a few of the snare drums for added beat. Then I let loose. I had 26 drums at my disposal, and I unleashed them all in a furious drum solo that rocked the crowd into a frenzy. I never knew that I could be this good...

I snapped out of my daydream and found myself seated at my Amiga with Adrum, a new drum machine program from Bullfrog Productions. Adrum is a four

voice stereo drum program that uses IFF formatted sound samples from disk, and then lets you write and play songs using those "instruments".

After entering the correct access code from a specified page in the manual, you find yourself at Adrum's control screen. The screen is split into different sections, with each section having its own job. At the top is a row of boxes containing each letter of the alphabet. Each letter represents a different "drum" or "instrument", and you may define each letter's sound to create your custom drum set. Below this row of boxes is a set of four long slots accompanied by four corresponding speaker control boxes. Songs are made and edited by placing or erasing letters within these slots. Each row is a separate "channel", and the four voices together make up each measure of a song. The speaker boxes lay to the left, and special stereo effects, such as panning, can be accomplished by controlling each track's speaker output, granted your Amiga is connected to a stereo system. Three drag bars control the scrolling of the measures through a song, the

From Adrum's work screen and pull down menus, you control all the action



beats per measure, and the speed at which the song is played. Across the bottom of the screen is the Sound Control, the Playback Control, the Midi Control, and the Song Sequencer. These will be explored as we go along.

If you're like me and want to jump right in and make some music, it's easy to get going. First thing's first; you need to choose "load" from the drumkit menu at the top of the screen in order to load a pre-defined set of sounds into memory. I chose the "standard" drumkit, but there are a few others from which to choose (Is it live, or is it Adrum?) With the CAPS LOCK key activated, press any of the 26 letter keys and you're playing the drums! In my drumkit, the "A" key is the bass drum, and the "O" is the cymbal crash. There is an assortment of drums and sounds in this drumkit, including some snare drums, a highhat, some bongos, and a clap. (The total set of samples included with Adrum are very good, and very diverse: there's everything from a bass drum to the sound of running water, to weird laughing sound). At this point, you could arrange the drums differently on the keyboard to suit you, load in some new sounds to replace the less favored instruments, or load in a different pre-defined drumkit. For now, we will be satisfied with our drum set, and begin to write a song.

There are two basic ways to make a song: Live recording and "clicking" the beats onto composition bars. To perform the lat-

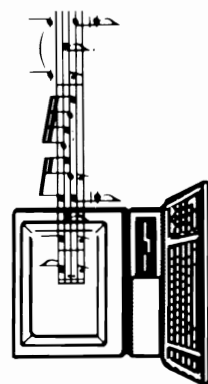
ter, you simply click on the desired drum letter box, then place the tip of the pointer (a drumstick) in any of the four black rows, and click the left mouse button once again. This places a letter in that spot, and if you look closely, you can see tiny dots along the edges of the four bars, marking off a place for each beat to go within a maximum of 64 beats per measure. The first time I experimented, I chose each letter in succession, and scattered a few beats among the four channels until I had a big mess of alphabet soup in the measure editor. Here is where the Playback Control comes in. The playback options include buttons for playing a measure, playing an entire song, stopping, pausing, and repeating. I selected the play measure and listened to my masterpiece. It sounded like it looked: spastic and not at all rhythmic. I did not despair though, because all that I had to do was go back and place my magic drumstick pointer on any note, and with a click of the right mouse button, erase it. There are other editing features other than the default put/remove setting for editing a measure. Also included are Delete, Insert, Replace, Copy Measure, and Live write. Each of the features makes it easy to manipulate the sounds and beats within a measure.

Exploring the power of Adrum further, I chose "New" from the Project menu to clear my previous song from memory. I then selected "Live write" and one of

(continued on next page)

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ADrum (continued from previous page)

four voice bars from the Edit menu, and limbered my fingers. Clicking on the play measure button on the playback control plays the pattern in the measure bars (if there is one), while a cursor highlights the beat being played. In my case, there was no sound, but as the highlighter traveled across the measure bar, I played my drums on the keyboard and their corresponding letters were placed in the slots. I then re-played that measure and sure enough, my previously recorded beat was now playing. It is easier to write and play rhythmic patterns when the beats per measure setting is relatively low so that the program won't let you place beats erratically. For the advanced rhythm maker however, more beats per measure means more flexibility for more complex beat patterns. I find it best to shorten the beat allowance in order to lay down a simple guide beat, then raise this setting to create more interesting accompaniments. I also find it beneficial to employ both the Live write, and the regular editing functions in the creation of a piece.

The Sequencer is a black square in the bottom right-hand corner of the screen. In this box, you create a song from the different measures that you write. By clicking the mouse, you enter the order and repetitions for each measure. For example, if you wrote three measures, you might specify the sequence 1x2, 2x1, 3x2, 1x1, 3x2; this would denote a song that would play measure one twice, then measure two

once, then measure three twice, then measure one again, and finally the song would end with two repetitions of measure three. The second to last thing yet to examine is the sound generator. This is a black square in the bottom left corner that has five small sections. There is a window containing the presently selected instrument, and then five changeable settings for that sound. The frequency of the sound can be changed, along with its volume.

The Length of the sound sample can be decreased to play a smaller part of the sample. Lastly, the number of repetitions of the sustain portion of the sample can be altered for echo or non-echo effects. All of these settings can be returned to their defaults with a click of the mouse. The last feature of Adrum is its MIDI capability. There are options for MIDI channels IN and OUT, and an option to help synchronize clock pulses.

There is an obvious comparison to be made here. Anyone who owns Dynamic Drums knows that it is an excellent drum program. Where do they differ? In a direct comparison, Adrum supports 26 instruments at once, as compared to Dynamic's 10.

On the other side, Dynamic Drums provides 100 sound samples on disk with greater diversity than Adrum's. I also found some of Dynamic's samples to be of a higher quality. Since Dynamic Drums has 10 drums at a given time, it can fit a small

drum map on the screen, which is very helpful in the live write mode.

In general, Dynamic Drums is a easier to work with. It also has the advantage of a proven history. Dynamic Drums 1.1 is a much enhanced update to the original, and demonstrates New Wave's commitment to product support. At this time, we can only speculate whether Bullfrog will maintain the same kind of advancing evolution to their product line.

Adrum can be useful for longer endeavors, however, and also has the capability to alter the sound samples. It can, of course, use IFF samples from anywhere, which makes it fully expandable and portable. It sounds terrific, and will keep the drummer in you entertained forever, even if you never make it to the concert hall.

Adrum is a tribute to the Amiga computer's audio power. Let's hope Bullfrog Productions continues to bring us products like this one.

ADRUM \$79.95

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Turbo Silver

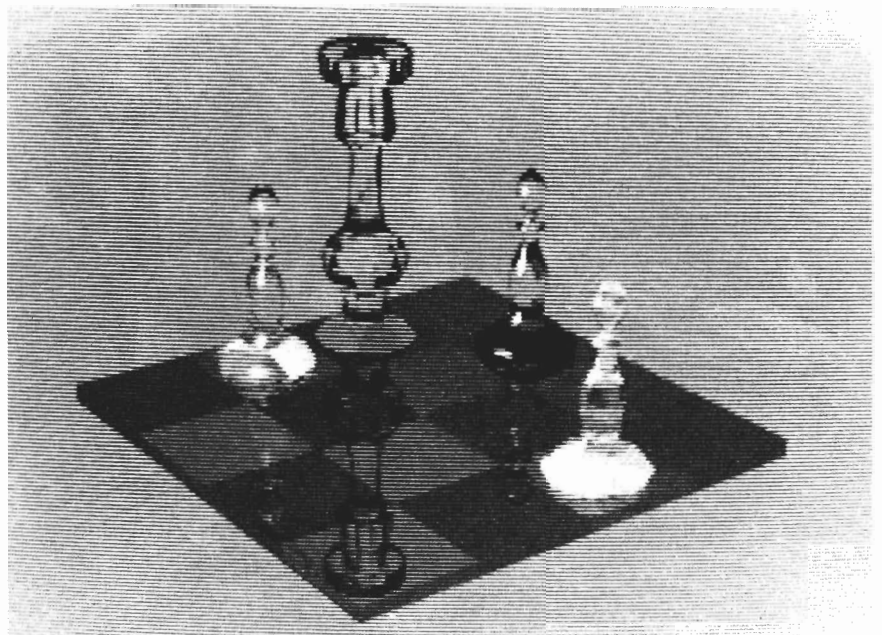
The Successor to Impulse's paint/animation program

by Mark Smith

In little over a year, the 3D animation and ray-tracing market for the Amiga has seen many entries and updates. Each one brings a new level of capability to this competition.

This time it's Turbo Silver that's the new program in town, and it is likely that it may steal the show. It is fast and impressive. The program Silver was introduced in late 1987 by Impulse. It promised speed, but had limited flexibility. Turbo is a major enhancement to the original product, which gives even more speed, and much more flexibility.

Anyone who has experienced ray tracing knows that it takes a long time to see the fruits of your labor. It can take hours (we are talking ten, twenty, or even thirty) to complete a complicated scene. My preference is to start tracing and go to sleep for the evening. Turbo, however, uses a new method for rendering images which dramatically cuts the



This 3D chess board and playing pieces was produced with Turbo

time required. I don't want to mislead you into thinking that rendering with Turbo will take minutes, but the time saved is impressive. Using the Octree method, which traces only necessary areas of affected space, Turbo can now do in three to four hours, what previously took twelve to fifteen hours to produce. With the Octree method in use, a 68020 with it's 68881 math board will only give you about a 4% to 10% boost in

speed, which at this point doesn't really merit the price of the board. Like all 3D rendering packages, there is a lot to Turbo. It's not overly complicated once you orient yourself to the 3D world. The manual is your saving grace and is well written and produced. This documentation is funny and almost enjoyable to read if that's possible for a manual. It is full of unique ideas that will boost the thought process. It

(continued on next page)

Turbo Silver (continued from previous page)

only suffers from the lack of an index. Turbo consists of two main screens, one controlling the world that you create, and the other to take slices of time and mold them into a "Silvermation". When you first boot up Turbo, you will see the main screen. This is where the individual cells are assembled to complete your animation. It is possible to have 999 frames of data! By creating each cell with small differences from the next, you give the impression of motion. It helps to think of your animation as a film. Impulse reinforces this by displaying your work as a piece of celluloid, complete with sprockets holes.

Double click on any one of the cells to enter into the work area where you begin designing your scene. The first thing you will do is to create objects. With Turbo, you can create any object that you require. Using the extrusion command, you can take a two dimensional set of points that you have set down with the mouse, and stretch them into the third dimension. This is quite handy for building a 3d letter or number.

You can also SPIN a two dimensional set of points into a three dimensional existence. Imagine laying down a set of points and then SPINing them around the Z axis until it returns from whence it came. You now have a 3d representation of that object. This is an exceptional technique for creating chess pieces, vases, table legs, and the like. Think of it as a computer lathe that carves

pieces out of anything that you like! Unique to Silver is the ability to take IFF brushes and use them as Stencils and Brushes. BRUSHES can be imported from a paint program and used to do amazing things. Imagine a brush that is a digitized picture of your own face. That Picture can be mapped onto any object. Your picture could be mapped to a sphere for instance, distorting you face as though you were taking your picture and printing it on a bowling ball. Although this type of mapping can be found in Photon Paint, Turbo exceeds this

***“ Turbo Silver
is an extensive
program.
It produces a
plethora of tools
to turn your
imagination into
a 3D model. ”***

by letting you assign many other attributes to that sphere. Mapping your image on a crystal ball, or a cube made of water creates a dizzying set of possibilities. Stencils are basically the same, but cannot be mapped into 3d. Think of stencils as two dimensional objects. The attributes that you can associate with objects include reflectivity, refraction, and specularly. These can all be placed upon a stencil.

There are many other items unique to Turbo. One that I am impressed with is the index of re-

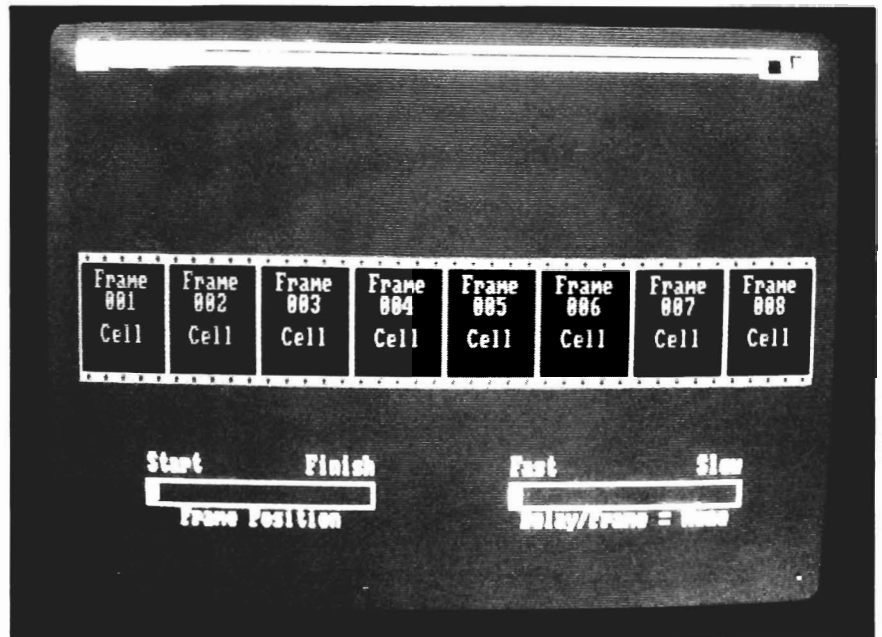
fraction slider gadget. Every substance on earth has an index of refraction. This value is based on physics and chemistry and can produce screen objects that are refracting light just as the real world materials would. There are several presets that can automatically adjust your objects. These are air, glass, water, and crystal. You may recognize these as the materials that most ray tracings use, because they are impressive. With the custom option, you can choose a refraction value from salt and iron, to ruby and diamond. The problem is you need to know the index of refraction for that material. Impulse has thoughtfully supplied a source for a handbook on those indexes.

Once you have created an object or set of objects in a frame, just point and shoot like the commercial says. Sounds good, but this is not always easy to do when you must use a coordinate method. Turbo has a unique feature that is fantastic for those like myself who just can't line up a picture to save a life. If you select an object, you can TRACK that object and follow it wherever it goes. This always places the TRACKED object in the center of the screen. You can TRACK an object throughout an animation, or change to another object at anytime. TRACKing an object throughout an animation, while moving the camera, lends itself to spectacular "fly-by" effects.

Turbo provides two basic ways of building animations. One is the old fashioned "build it

frame by frame method" of getting the job done. In reality, you aren't doing that much work. After the first cell is complete, copy it to the following cell and alter it slightly. As a rule of thumb in the Silver world, movements of ten units give a very satisfactory difference between the cells. This process of copying a previous cell's information into the following cell, and then altering it is quite simple, yet it yields good results. I subscribe to this method for its simplicity. The other technique for accomplishing an animation is hierarchical in nature. This method involves assigning an object to a path. This path, which represents movement in 3d space is the parent of an object. After designating a certain number of cells for the animation, the path is figuratively laid down on the celluloid strip for that number of cells. The starting point and ending point of the path corresponds to the first and last cell. The object moves along the path a certain distance each time, making even and equal movements according to the number of cells assigned to that path. It sounds like a mouth full, but is actually simple and can yield an amazing amount of power.

My work with Turbo has not been 100% satisfying. One complaint that I have is the fact that there is only one light source in Turbo. Although this light source is quite flexible, more would be better. Impulse has changed the object geometry from Silver 1.1 to Turbo. If you want to use objects which you created previous-



The frame control screen allows you to adjust speed and starting positions

ly, you will need a conversion utility. I also felt that creating your own objects was a little awkward at first. I can honestly say that this is not my choice of user interface for designing custom objects. It includes powerful tools and does grow on you, but I'm glad to hear that Syndesis, the makers of Interchange, will be coming out with a module for Turbo in the very near future. This will let me create objects in one package, and use them in Turbo as well!

Turbo Silver is an extensive program. It provides a plethora of tools to turn your imagination into a 3d model. I have used all of the competitive programs in the Amiga market, and my first choice is now Turbo for its flexibility and possibilities. In my conversations, I got the distinct

impression that Impulse is committed to making Turbo the leader in the field of ray tracing animation. They even provide a hotline for registered users who need help.

There are plans in the works for additional Turbo modules that will generate text and fractal landscapes. If you haven't purchased a 3D ray tracing and animation package yet, I recommend you start with Turbo Silver. It's going places.

Turbo Silver

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Deluxehelp for Calligrapher

New help for understanding the colorfonts creation process

by Art Warsell

Once received a present that, inside a large, beautifully wrapped box, contained a smaller beautifully wrapped box. Inside the smaller package was an even smaller one, and so on. I labored through seemingly endless wrappings and boxes till at last I uncovered the precious gift. Calligrapher is like that.

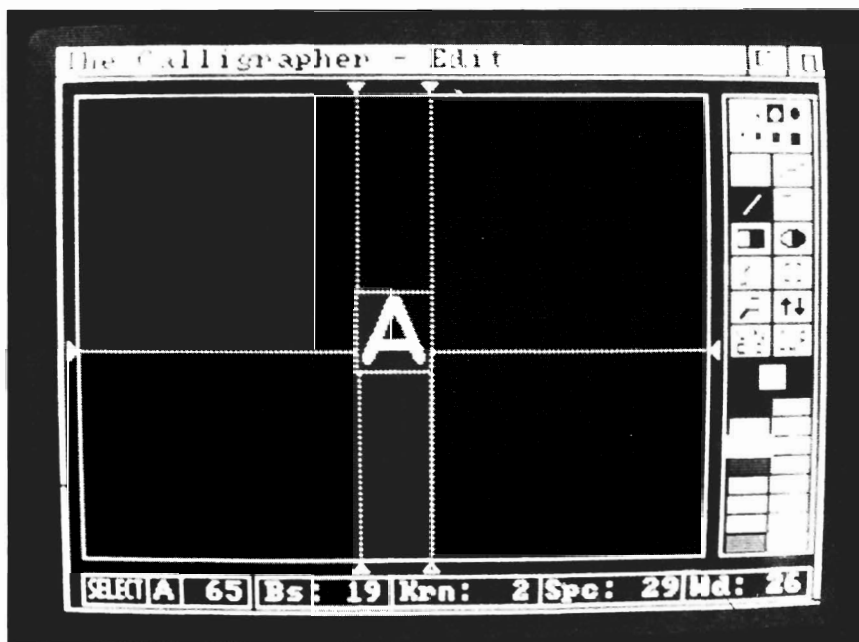
You open the box, scan the Introduction section of the manual, boot up and start trying to figure out how to get through layer after layer of Font Editing, Styling, Transforming and Patterning. Sometimes you wonder if you'll ever reach the gift inside. You might feel that you need a sword to cut through the Gordian knots of program complexity. What you need is Deluxe Help for Calligrapher from RGB Video Creations, also known affect-

tionately as CalligraHelp. CalligraHelp comes on two disks, and doesn't have a manual. It doesn't require one. All you need is two drives, a meg of RAM, and the single page of loading instructions.

After an impressive procedure AutoLoads both CalligraHelp and Calligrapher into RAM, the screen invites you to select a lesson from the pull-down menu. Each lesson begins with a text explanation, and is followed by a guided tour through a particular aspect of Calligrapher, hosted by a talking mouse pointer. A "Jump into Calligrapher" gadget can be activated between lessons, providing the opportunity to experiment with your newly acquired knowledge. On/Off toggles allow you to bypass either text or tour, a useful feature when you return to a lesson to clarify a specific technique.

I had to run through a few lessons to become oriented to CalligraHelp's method of presentation. In fact, I experienced a moment of panic when soon after selecting my first lesson the speech synthesizer announced "Voice off". This was followed

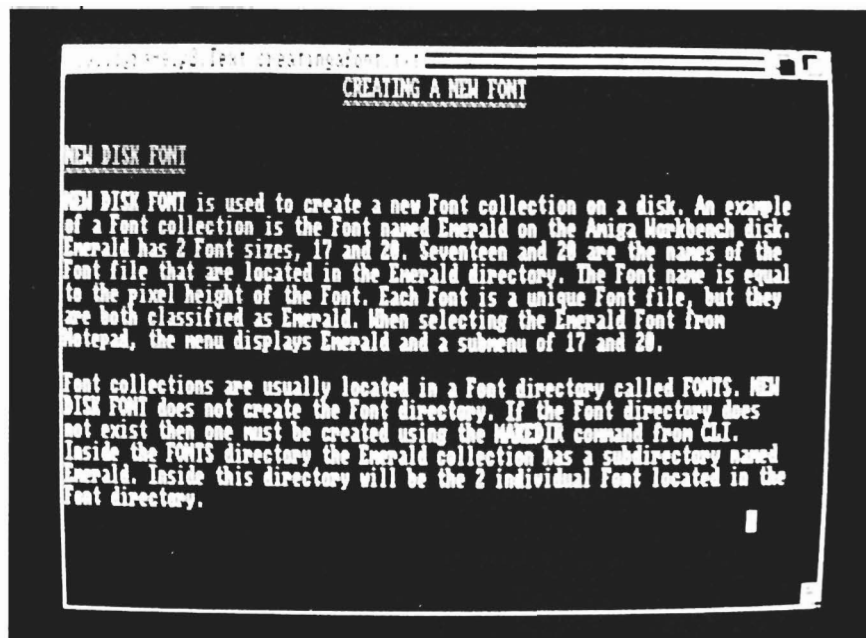
Calligrahelp automatically takes you through extensive font creation processes



by the pointer rapidly and silently making selections from various Calligrapher menus. I was torn between (a) hitting function keys in hope of restoring the voice, (b) attempting to take control of the pointer with my mouse, and (c) staring helplessly at the monitor. I opted for (c), and was eventually relieved to hear "Voice on" as the appropriate selections had been completed to enter the actual lesson.

CalligraHelp offers a tutorial on almost every option of each Calligrapher menu. The text usually (but not always) touches all the bases for a beginning user. The tours move quickly with the speaking mouse pointer making a terse commentary on its own actions, typically "Right button, drag, release". While working in Calligrapher, you can access CalligraHelp by touching the Help key, or by pressing left Amiga and N, or by selecting the front to back gadget. You may then select the right lesson to help you unravel your current knot.

To gain the most thorough understanding of all Calligrapher's complicated functions, I recommend going step by step through Deluxe Help's text and tutorials with the Calligrapher manual close at hand for reference and experimentation. Make sure your CalligraHelp disks are set on write-protect, and delete any Fonts, Styles, or Patterns you have loaded before requesting another lesson. This process, though time consuming,



Text files accompany each lesson for further clarity

will make you gasp with delight at the techniques you acquire.

Let's take a look at one of CalligraHelp's tours:

When we click on the Create A Style lesson, Mousetalker says "Voice off", quickly loads a palette, the "Digital" font, and informs us that the voice is active again. "Digital" is a 41 pixel high, 2 color font that looks like a digital display formed of LCD segments. CalligraHelp types a few numbers, selects New Style from the Project menu and names the style. Then the fun begins as the mouse pointer adds, sizes, and positions colorful new layers to the original font. The results, when reviewed on the Select screen, are already spectacular. But we're not done yet. CalligraHelp selects a brick pattern to fill the first layer. The letters are

now constructed of bricks and surrounded by glowing neon halos of orange, yellow and green. We are spellbound.

The lesson continues as the mouse pointer clicks on the option to transform the font to this style. A message window appears, informing us that the font has too few colors for the transformation to be completed. CalligraHelp responds by demonstrating how to add more colors, and we are finally treated to a mind boggling view of our new style. But wait! Because of the added width of the extra layers, the letters now overlap. The talking mouse concludes the tour by showing us how to adjust the kerning for proper spacing between letters. I purchased my copy of Calligrapher several weeks before acquiring Deluxe

(continued on page 62)

Obliterator

Get ready for a "Drak" attack

By Ken McNeill

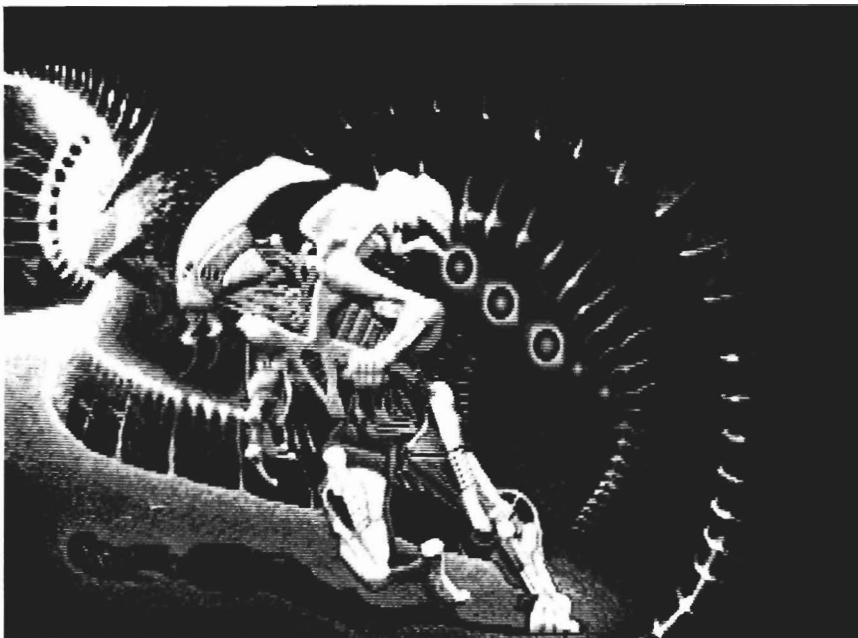
You are Drak, the last of the Obliterators, the ultimate warrior. The Earth is under attack by an alien warship of awesome power. Your mission: to enter the sinister alien battle cruiser and, armed with whatever this habitat can provide, you must cripple the alien vessel, thus allowing its destruction. What

awaits? ...The Earth lies exposed. You are its last defense!

The first page of the manual for the new game Obliterator from Psygnosis sets the stage. Obliterator is a fast paced, arcade style action game which places you, the Obliterator, within a dangerous alien spaceship armed only with a laser pistol and a limited supply of ammunition. The game offers spectacular sound and graphics, along with plenty of challenge. Your goal

is to find and take five different objects that resemble puzzle pieces. According to the playing instructions, four of the components disable certain parts of the alien craft, while the fifth piece activates your escape shuttle. Along the way, you must defend yourself against the various space creatures and traps that are in almost every room. Drak is equipped with a personal energy shield that depletes when he receives blasts from his adversaries.

A somewhat unpleasant foe

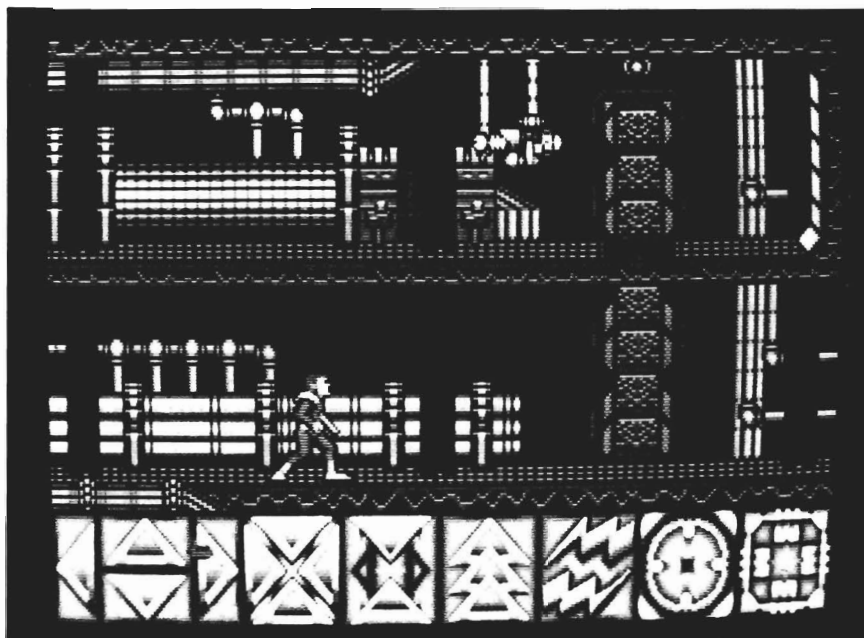


If you are lucky enough to find a "Shield Regenerator", you can replenish Drak's shield. Since Drak's small pistol isn't very effective against some of his more formidable enemies, there are three different, more powerful weapons that can be found in certain rooms during the game. When using the heavier artillery though, less ammunition can be carried. For example, the rifle is fairly powerful, and Drak can carry 25 projectiles for it; the bazooka is more powerful and can penetrate anything, but only three projectiles can be carried at any time. After an impressively animated introduction, Obliterator plays eerie suspenseful music

and you find yourself materialized somewhere within the vicinity of the alien space vessel. The "Obliterator" is shown as a muscular, hard-boiled man with tension on his face, and a laser pistol in his hand. At the bottom of the screen is a row of mouse-control icons for Drak's movement, and attack. The game control is very close to that of Barbarian, an earlier action game from Psygnosis. There are seven directional icons for moving left, right, up, and down, as well as icons for halting movement, jumping, and entering doorways.

There are buttons for firing Drak's weapon and picking up objects. Lastly, there is an icon labeled "defend" that causes Drak to assume a temporary defensive position against the wall in order to attempt to avoid oncoming enemy fire. There is a second panel of icons that is toggled with the space bar. This strip displays the current score, a shield strength indicator bar, an inventory of all weapons, ammunition, and components that you are carrying. You may change weapons from this control panel as well. Hitting the space bar again returns you to the action control strip.

Once you've become familiar with the controls, the game is all reflex, coordination, and fun. Perhaps the best way to get a feel for the game is to describe an example adventure. After I had played a few times, I wanted to really push Drak to the limits. I loaded Obliterator and found my-



Control is accomplished by clicking on the the appropriate icons below

self in a strange looking room. I noticed the various innards and piping of the spacecraft. I clicked the move left icon and made the open-air elevator in three swift strides. Clicking the up arrow sent me slowly upward in the unknown. With a downward scroll of the screen, I was in a different room. I didn't have much time to admire the scenery though, because right in front of me was a green lizard-like creature riding a cosmic motorcycle and aiming a nasty laser cannon at me. I slid my mouse over and nonchalantly clicked the fire button, activating my pistol. My adversary turned into a ball of destruction, but not before sending me a little present. With a deftly timed mouse click, I hit the "defend" icon, and watched my enemy's projectile fly by me. That was close! What was that in the cor-

ner? I went over and picked it up. It was a blaster; a weapon much more powerful than my puny pistol, but I had no blaster ammunition. I decided to save it. I exited the room through the doorway and reappeared elsewhere.

A hovering robot immediately came towards me. I fired at it, but my pistol had no effect. I was about to leave when I was blasted off my feet by the robot. That took a toll on my shields, but I had no time to check them at present. I tried to get up, but was blown through the air again. If I only had some blaster projectiles, I could fight back, but my shields were degenerating, and I couldn't make it to the door...

As with most programs, there are a few areas which need some

(continued on page 62)

Z O O M !

The new fast action game from Discovery Software'

by Glen Hecht

Hear ye, hear ye, Step right up. Get your ticket here to the Ball Society's Annual Pop-Up Drop-Down Show. Ya can't see the show without a ticket and ya can't get yer tickets anywhere but here..."

Boot the disk, sit back , and enjoy. The honkie tonk music,

cheers of the crowd, and entertaining animation in the opening sequence of Discovery Software's newest release is almost worth the price of the software. After you have had your fill of the opening sequence, press the left mouse button, and you're ready to play. The game loads entirely from disk (no waiting between levels), there is an abrupt change in the music, and the wire frame Zoom! logo spins through space. You can choose

from three different playing modes. F1 for one player, F2 for two players taking turns, or F3 for competition mode which allows two players, each with his own Zoomer, to play at the same time. The first two modes require a single joystick in port 2. The competition mode requires two joysticks. You can chose to start at any of the first ten levels of play.

Finally, the game itself. A three dimensional grid spins to a stop and the various inhabitants of this reality pop into existence.

Your character is a small smiling ball, which spins onto the center of the grid. A pair of sticky looking lips begins chasing your ball around the grid while two bouncing mushrooms move around with no apparent reason for existence. Your task, for each level, is to avoid being eaten by the mouth while you surround all of the squares formed by the grid with a track that is laid down behind you. It's simple, for the first couple of levels. The shape of the grid varies at each level and new monsters are introduced. There are green robots that eat your track as you lay it down, and

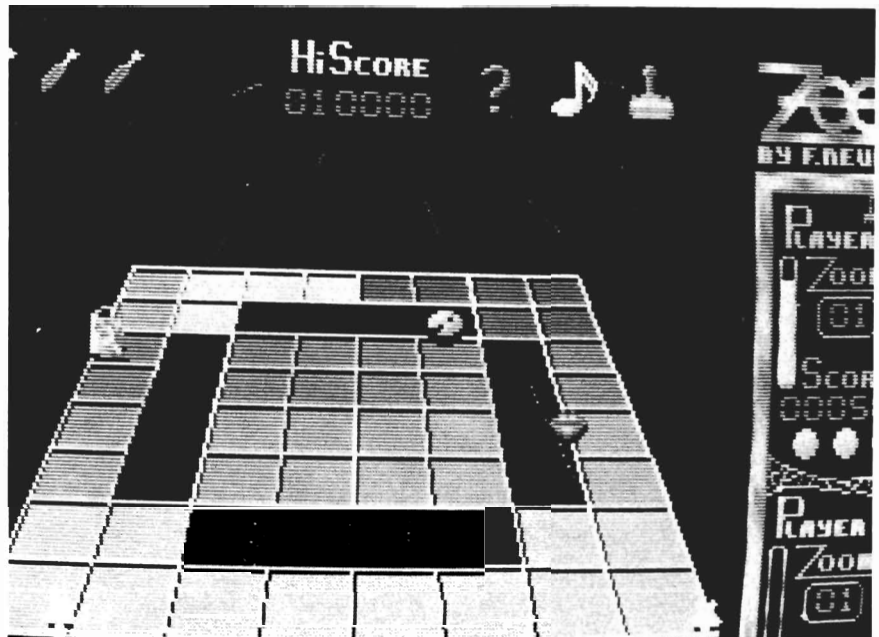
An entertaining, rowdy, stage performance comes before game play



spinning groups of balls that stay on a single line making it tricky to surround squares. In the higher levels, holes open up out of nowhere to suck you into oblivion. By planning so that you can complete two squares simultaneously, you enter the high scoring mode in which you score 100 points for each surrounded square rather than the normal 50 points.

The obstacles would be unsurmountable if you didn't have some kind of help and indeed there is help available. At random intervals in random spots, any number of goodies can appear to help you with your task. Ice cubes freeze the monsters for a time and a can of glue slows them down. There is a vial of magic potion which makes you immune to all monsters, and a piece of candy which lets you move more quickly. There are bags of money (bonus points) and a piece of fruit which automatically fills any squares it touches. There is even a rocket ship that advances you to the next level. When a question mark appears it could hide any one of these goodies, but beware, it could also be a monster in disguise.

The game play of ZOOM is very good with lots of variety and no apparent pattern to the movement of objects. The three dimensional grid takes some getting used to. Friends who tried the game found that changing direction was tricky because you have to be lined up exactly on the



You must travel the grid, highlighting areas as you go, while avoiding a collision with your foes

grid to turn, and the 3-D graphics made it difficult to be sure where you were. I found this to be a problem at first, but after several hours of play, movement seems more natural. The sounds are fantastic, among the best I've heard in any game.

My major grudge with this game is, as usual, the level of copy protection. High scores are saved to disk, and yet there is no way to back the disk up. Discovery Software, who also produce Marauder II, a disk archive utility, will offer a second copy of the Zoom! disk to registered owners for a small fee. With a disk that must be left unprotected in order to play and save scores, I wonder how long it will be before a read/write error means the end of Zooming.

Zoom! is a good game with ad-

dictive playability and excellent sound. This is the stuff computer widows are made from. It was written in Germany by assembly language wizards and is being marketed in the US by Discovery Software.

Zoom!

Discovery Software International
163 Conduit Street
Annapolis, MD. 21401

(301) 268-9877

Harrier Mission

Learn to fly this VTOL jet fighter from the cockpit of your Amiga

by Eric Hunt

Over the centuries, the British have come up with some really far out ideas. Things like Monty Python, Danger Mouse, selling the London Bridge, and the Sea Harrier. The latter is a modern day "Jump Jet" that actually leaps into the air from a fixed position (no runway is re-

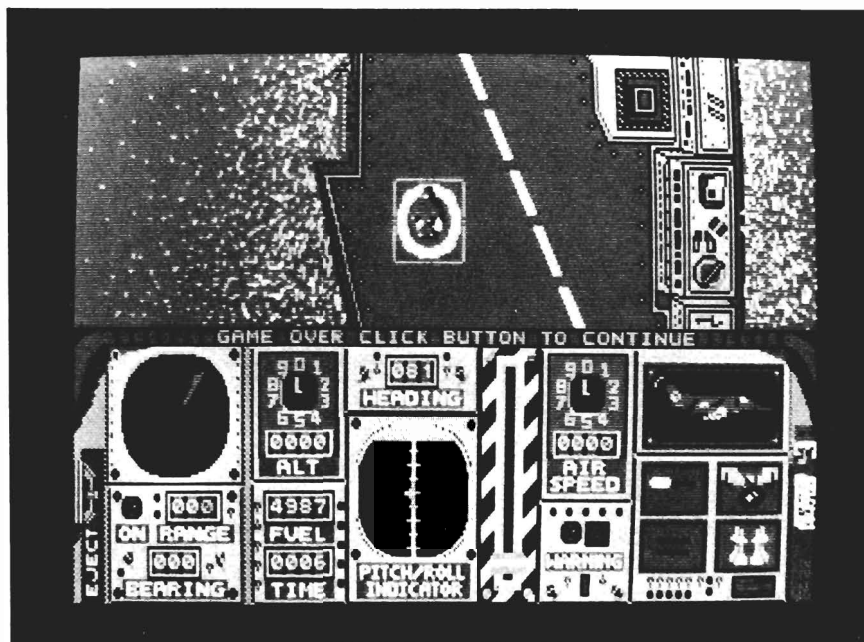
quired for takeoff). The folks at ANCO have imported a British flight simulator based on this unique aircraft. Since my previous experiences with FS II were less than thrilling, I was not initially thrilled with this assignment. To my surprise, Sea Harrier immediately captured my imagination. Maybe it was the idea of jumping up into the sky and staying put; maybe it was the idea of starting in the middle of the ocean; maybe it was the

British touch... But let me first tell you some of the facts you will want to know before you go running out to buy the Harrier Mission.

First, the program comes on one disk (meaning no disk swapping), boots on a standard Amiga of any sort (requires Kick Start 1.2 for A1000), and is full featured with sound and graphics. Next, the manual is not cluttered and technical. I had no problem reading and following the directions. In contrast to other simulators that tend to be accompanied by thick, boring, technical manuals which require a deeply felt commitment to master. The Sea Harrier comes with three pages of instruction. Three pages. I love it! Also, there is an 800 number that you are encouraged to call if you get stuck, or have any questions about the game.

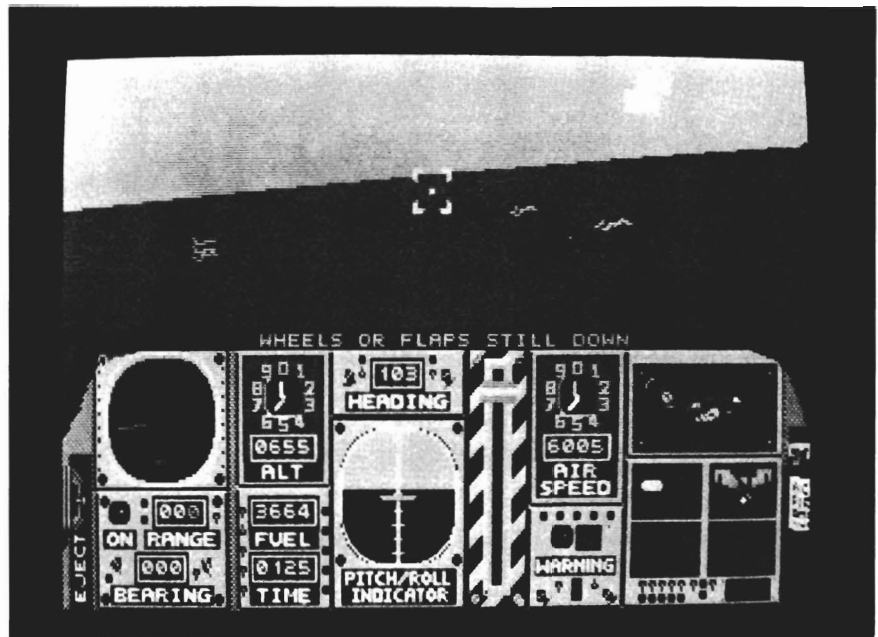
Now, for the neat stuff. The Sea Harrier opens new dimensions into flight that I had never dreamed were possible. This plane has the ability to alter the angle of its jet nozzles. Directing its nozzles downward, causes the Harrier to lift, thus giving it the ability to hover at take-off and landing. A conventional air-

Before you can embark on your mission, you must learn the technique of vertical take-off



plane is lifted off the ground by a combination of speed and lift which is provided by the aircraft's wings. Once the aircraft becomes airborne, it must maintain a certain speed or it will stall out. Additionally, the Harrier is equipped to handle like a conventional plane once speeds of 180 knots have been attained - by pointing the nozzles rearwards. Amazing as it may seem, the Harrier's ability to alter its jet nozzles into different directions causes the plane to lift from a standstill, hover like a helicopter, accelerate and maneuver like a conventional aircraft, come to a screeching halt (reverse the direction of your jets), and land like a flying saucer. The Harrier can fly sideways and backwards too. Lest this seem too far out, remember that this is a real combat jet of Her Majesties Navy, and recently the US Marines have purchased some.

I practiced several of the maneuvers (briefly mentioned in the instructions) until I could perform well enough to take-off, accelerate, circle around, and bring myself in for a successful landing. Landings are the more peculiar feats that require mastery before you can really go on into more advanced flight scenarios. My first few attempts were really poor. I paid plenty of attention to all the wrong things. I couldn't do anything right until I got used to the layout of the controls and the strange take-off from a complete standstill. You'll probably find yourself in a similar adjustment phase for the first couple of flight attempts. One



Over the open sea, the gauges indicate your flight attitude with remarkable responsiveness and accuracy

mistake you won't have to make is not realizing that you have made a mistake. Watch that your flaps go down and stay down before you attempt your take-off. This is important. My flaps went down and my lingering finger (just a split second too long) caused the flaps to go right back up - the plane was not behaving just right thereafter.

As a Flight Lieutenant, you will be expected to have mastered the difficulties of flying the Harrier, and to concentrate on the difficulties of protecting your carrier ship. As you take-off from the ship, you have to track the enemy and destroy them before your ship is damaged or destroyed. As a Lieutenant, you are allowed nine warnings for such problems as low fuel, excessive height, forgetting wheels, forgetting flaps, ap-

proaching the carrier with your gunsights on, or slow speeds with nozzles directed rearwards. I thought I was ready for my first attempt at Flight Lieutenant after about fifteen minutes of the practice level. Wrong. I had accrued nine warnings and lost my carrier in about two minutes. My second attempt wasn't much better. I went back to the practice level and brushed up on some of the things I had previously ignored.

One ingredient that is not provided by the game makers is your own abilities. This game is a challenge for you. You must have good eye-hand coordination, an ability to learn from a brief description of flying the Harrier, and a desire to keep at it (practice) until you can advance on to the more interesting aspects of the game. The game does pro-

(continued on next page)

Harrier

(continued from previous page)

vide everything else that you'll need. Finally, I thought I might again try for Flight Lieutenant. My first attempt was nerve racking and frustrating. I still wasn't able to spot an enemy in time to save the carrier from destruction. I re-read the instructions and found that I had missed something, mentally prepared myself for an enemy encounter, took-off, and engaged my aiming device and spotted my enemy. Too bad I couldn't maneuver quickly enough.

So, I'm not a Group Leader yet. I'm still trying, and I still like this flight simulator much better than any other I've seen. I'm not counting the simple arcade style games. Harrier Mission is two good products in one.

First, there is the challenge of flying a Sea Harrier. You have gauges to monitor and controls to use. If you master these and have the talent, then you may progress to part two. The combat challenge is much more exciting than learning to fly. However, you have to master flying first. If you skip lessons, you'll find that combat runs will be extremely short - you'll loose your carrier or your plane real quick. If your giving thought to purchasing a flight simulator package, I recommend that you give Harrier Mission a try first. This one simply has everything you will be wanting.

Harrier Mission \$24.95

ANCO Software Inc.
P.O. Box 292
Burgettstown PA 15021

Calligraphelp

(continued from page 55)

Help. If these tutorials had been available to me from the beginning of my efforts, I would now be a far more expert font designer. Now, after having worked with both, there are two ways in which I feel that Deluxe Help for Calligrapher could be improved:

(1) Instructions on importing fonts for modification, saving to disk, and exporting the fonts you've created are sketchy. There is an informative essay on font file structures, but no how-to directions.

(2) While the talking mouse pointer is useful, it leaves many gaps of comprehension to be filled in by trial, error, and repetition. A much quicker and better continuity of understanding could be achieved through a digitized real human voice narrating the tours.

That said, I find CalligraHelp to be an essential partner for anyone learning to use Calligrapher. The price is low for the value, and the education is priceless. RGB's concept of providing interactive tutorials while a complex graphic program is running is one of the best uses of multitasking to date.

**Deluxe Help For
Calligrapher
\$44.95**

RGB Video Creations
2574 PGA Blvd., Suite 104
Palm Beach Gardens, FL 33410

(305) 622-0138

Obliterator

(continued from page 57)

improvement. For one thing, Obliterator can slow down. Drak's movement and animation is realistic and well done, but when there are many things moving on the screen at once, it seems as if Drak is playing in slow motion. Another complaint has to do with the program's "intelligence". When I kill an enemy or pick up an object in one room, proceed to a different room, and then return to the previous room, the object or adversary is there again. This doesn't occur all the time, and sometimes can be beneficial if you want to stock up on ammunition.

Finally there's the copy protection. This disk is heavily protected and causes your disk drive to emit weird noises as data is read from the non-standard tracks. One can't help worrying about the long term effect of these strange noises.

Regardless of these criticisms, I can highly recommend Obliterator to any Amiga owner who enjoys exciting action, and has a good trigger finger. Watch out though, because between the unusual music, and the bizarre creatures, you many find yourself addicted, and your friends may start calling you *Drak*. As for me, I still need to find some blaster projectiles....

Obliterator \$39.95

Psygnosis
1st floor, Port of Liverpool bldg.
Liverpool, England L3 1BY

VideoTitler

(continued from page 47)

tile patterns. Pastes can also be "under" the background so that only those areas of the background defined as a transparent color will reveal the image. In halfbrite mode, semi-transparentcies can be defined for a color tone overlay effect.

The effects you can achieve with VideoTitler are really quite spectacular and are not just limited to those relating to text styling (though one session with neon PolyFonts would probably suffice to sell anyone on this program). Some of the image editing techniques are unavailable on any paint program, and the combination of page flipping, slideshow transitions and ANIM segments are not available in this easy to use format anywhere

else. The combination package of Titler and VideoSEG represents what I think is a bargain, and will be useful to all Amiga graphics applications, not just video. My complaints are relatively minor, and are more directed at Aegis than this program. First, there are the manuals--well, three actually. There's the Titler manual, and VideoSeg, and then the addendum for 1.1 upgrades. It's the usual Aegis paperback format, so you have to break the backs to get them to lay flat. Then there's the keyboard command reference card that's printed in non-photo blue (to discourage photocopies?) and induces severe eye strain. Oh well, no matter, I'm still waiting (7 months now) for the manual

for DrawPlus that was promised at the time of purchase, and maybe someday Diga! will get debugged and get some real instructions. Speaking of bugs, Titler's addendum states that all known bugs of the early release were fixed, but right at the start you'll find a new one--double clicking won't open the disk icon or the program icons. Just revert to the old procedure of single clicking the icon, then pulling down "open" from the workbench menu.

VideoTitler \$149.95

Aegis Development Inc.
2210 Wilshire Blvd., Suite 277
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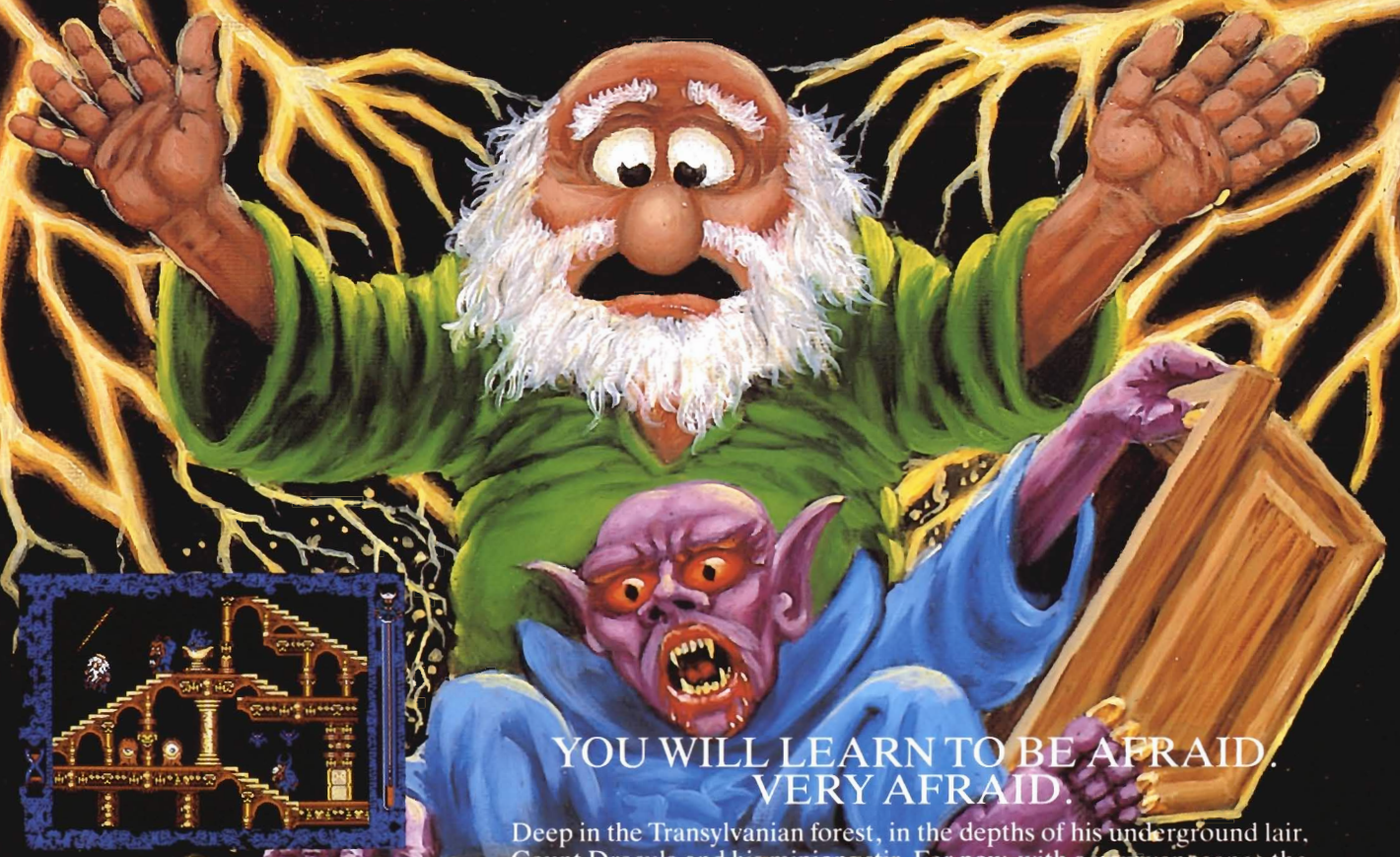
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