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THE AMIGA<sup>®</sup> NEWS MAGAZINE

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# On Point

*Notes from editor Tom Bucklin*

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I heard a rather humorous story the other day as I was speaking with an Amiga acquaintance. Now for those of you who are uninitiated in this kind of terminology, an Amiga acquaintance is a person that you have come to know through the Amiga, whom you are quite sure, under different circumstances, you may not have come to know at all. This is a strange phenomenon, and there must be a technical term for it; or at the very least, a sniglet.

Anyway, we were engaging in our usual industry small talk when he blurted out, "so I understand that you guys own a printing company". Imagine my surprise to find out that I was suddenly in the printing business! When I told him that this simply was not true I detected what I might actually call disappointment. Well, I was just too intrigued to let this one slide, and after some probing for an explanation I found that he had been speaking to several other industry types who told him that this is how we are able to get the news out about the latest Amiga happenings so fast!

Well you could imagine my relief to know that all those 24 work days (literally) and incredi-

ble phone bills were now going to come to an end. No more deadlines; no more lead times; just turn on the switch and out the new issue comes!

Well, those of you who have been following the Sentry for a number of months know that we take pride in bringing you newsworthy items in an extremely timely manner. In many cases, you can read a complete review of a product in the Sentry before it appears on retail shelves. But there is no magic to it.

What does happen is that we end up with one burnt out group of people at the end of a monthly deadline. There is really no way to provide you with this kind of information in this kind of time frame without the main ingredient; work beyond the call of duty from the entire organization.

Anyone who has had to put out so much as a regular newsletter can tell you that it's no picnic. It requires strong dedication on the parts of all the people involved. In many cases, a four or five page newsletter may take weeks just to gather up the necessary information to cover a given subject. Even after all this effort, you still have to allow time to format these bits of information into a presentable form; a

task which can be most unpleasant under pressure. That's why computers are playing such a big part in these operations today. Word processors and desktop publishing tools can help to take some of the burden of these jobs off the people who do them. But like anything else, they are just tools. They still require creativity and diligence to use them effectively.

Professional Page from Gold Disk represents the beginning of high end DP products for the Amiga. In our review of this product, we tell you how some of the unique features of the Amiga shine in this application.

In this issue we also take a look at Publisher Plus to determine whether its new PostScript support can move the program into the the realm of serious desktop publishing.

So, the next time your friend asks you how you know so much about what's happening with the Amiga, don't hedge; tell him the facts; tell him you saw it in the Sentry.



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# AmiExpo LA

## *The Expo for the Amiga goes west*

During the weekend of January 16-18, over 7800 "Californians" attended the second AmiExpo event at the Los Angeles Westin Bonaventure hotel. A strong winter storm on Sunday brought heavy rains, strong winds, and record tides from Malibu to San Diego, but those who braved the weather were joined by 70+ exhibitors, various Amiga luminaries, and Commodore executives in another all Amiga exhibition. Like the

first AmiExpo in New York, this one saw many new product introductions and some special events.

When you spend three days on an exhibition floor and inside the same hotel, it's hard to keep your perspective. Unfortunately, we weren't able to break away from the Bonaventure, see the studios or visit Hollywood, but the exposition included plenty of star quality products and personalities. Picture yourself at the Hollywood bowl as we present our nominees for AmiExpo awards:

Video products dominated this AmiExpo once again. Every aisle included several vendors with video products. In the category of "Best New Video Hardware", the nominees are:

### **NewTek's Video Toaster**

This add-in special effects board for the A2000 drew admiring crowds as it wrapped images around spheres and created venetian blind effects in realtime. (The NewTek booth featured the Toaster, the soon to be released DigiPaint 2.0 as well as the popular DigiView).

### **Digital Creations SuperGen**

This new professional quality Genlock produces extremely accurate RS170A signals and syncs with a wide range of input and output sources. This booth featured many monitors wired to one SuperGen, all showing exceptional images of external video mixed with Amiga screens.

### **Live! by Asquared**

Attendees walked away from this booth with tangible evidence of Amiga's impact in Video presentations. The folks at Asquared were capturing realtime "snapshots" of attendees to disk, then passing the disk to S. Anthony Studios who shared the same booth. Their Laser Up! Print software was used to translate the IFF HAM image into 600

*Aegis seized the opportunity to introduce their latest release, Ports of Call*





DPI postscript output. (see review in this issue). There was plenty of award quality animation and graphic software in evidence too. The nominees for "Best New Video Software" are:

#### **Very Vivid's Mandala**

Mandala was actually being sold at AmiExpo, and at a much lower price than previously announced. At \$395.00, many aspiring video performers can now purchase Mandala to produce their own video spectaculars. At a special presentation David Bray demonstrated Mandala controlling and displaying images from a Laser Disc video system. This is another first for Very Vivid.

#### **Animate 3D from Byte-by-Byte**

This is the companion product to Sculpt 3D which adds sophisticated animation capabilities. Several impressive demos were running, including the best computer generated basketball player I've ever seen. (See review in this issue.)

#### **Photon Video Cell Animator and Photon Paint from MicroIllusions.**

Photon Paint promises to be the first of a new generation in Amiga paint programs with fast HAM drawing and many new features. Cell Animator is the first of a series of Video software and hardware products which is slated to produce professional quality animations. MicroIllusions premiered their new booth and it was a spectacular. There were about 10 Amiga workstations showing their best and newest products in many fields. A large telescope drew attention to the new **Planetarium** software, a

tower of electronic music equipment occupied one section, and large monitors showing games and graphics seemed to be endless.

**VideoTtiter** by Aegis Development. One of the other exciting displays on the floor was Aegis. They had booths on either side of an aisle and connected them with activity, balloons, and imagination. VideoTtiter is a recent addition to the product line which lets you add high quality text and effects over your HAM images.

#### **InterChange by Syndesis**

This new product meets a growing need to translate among animation object formats. We've gotten so used to IFF standardization for still images, that we expect similar abilities among Sculpt-Animate, Videoscape, Forms In Flight, Silver, Animator's Apprentice, etc. John Foust's new company provides easy to use modules for Sculpt 3D, Forms in Flight and Videoscape. (see review in this issue)

#### **Express Paint 2.0 by PAR**

The addition of postscript support to a full featured graphics package is a first and was just one of several postscript additions which appeared in Los angeles. The PAR booth also featured a scrolling demo of a single IFF picture which was 8000 pixels wide by 200 tall! The ability to create images of this size is another unique capability of Express Paint. Other graphic and video products included an Animation Stand from Hash Enterprises, PageFlipper Plus from Mindware, TV Show and TV Text from Brown Waugh, and The Graphics Studio from Acco-

lade (See review in this issue). AmiExpo also introduced the **Video Gallery** where Amiga Art was showcased. This Feature will be expanded in future AmiExpos.

Along with lights and cameras; sound and music were prominent in Los Angeles. Keyboards, drum machines, librarians, sequencers, and synthesizers abounded. During this same weekend, the semi annual NAMM convention was taking place in Anaheim. In addition to Los Angeles' position as the center of the music industry, the timing of NAMM focused additional attention on Amiga music. The nominees for "Best New Music Products" are:

#### **Dr. T's KCS**

Dr. T introduced his new generation sequencer for the Amiga. This full featured professional product has been eagerly awaited by many Amiga Musicians (See review in this issue). Dr. T also presented a special after hours session where they played and explained MIDI.

#### **Dynamic Studio 1.1 from New-Wave Software**

This sequel to their hit program *Dynamic Drums* includes a high powered MIDI sequencer, as well as a built in enhanced version of their drum machine. Continuous performances on the Roland D-50 at this booth kept everyone's feet tapping.

#### **Music X by MicroIllusions**

Although this product was not complete at show time, a prototype was showcased by musician Matthew Nathan. His rack of instruments included several key-

( continued on next page )

## AmiExpo LA *(continued from previous page)*

boards, a drum machine, a MIDI bass module, and more. Music X will include librarian, sequencer, and keymap editor. If you looked carefully, you could also see the prototype of MI's forthcoming MIDI interface for the Amiga.

### **Deluxe MIDI Interface by Hyper-tek/Silicon Springs**

This new MIDI interface features high quality and flexible connections including serial port pass-thru, midi in, and two switchable midiout/midi thru ports. (see re-

view in this issue). The color separation module and Comic Setter products were not complete at show time, but will be forthcoming according to Gold Disk.

### **Word Perfect Library**

The folks from Utah are quite pleased with the success of the Amiga version of WordPerfect.

full featured Calendar/NoteBook system with autodialer, Calculators, and the most powerful File Manager seen on the Amiga to date. These will all work with WP to produce secondary merge files so you can print your appointments or business records with full WP formatting. The file manager includes string searches and/or logic, date searches, logical devices, and works very quickly. The price for Library will be \$129 and will ship in March.

### **Publisher Plus-Brown Wagh**

This update adds postscript support, faster scrolling, more patterns, and fonts which can be sized from 2 to 120 points. All this while reducing the price to \$99.95 and removing the dongle protection! (see review in this issue)

### **Assempro and AmigaBasic Inside & Out - from Abacus.**

Abacus made a welcome entry into the Amiga marketplace with the first integrated program development environment for the Amiga, Assempro (see review this issue), and a new book on AmigaBasic. They were also featuring their recently released DataRetrieve and Textpro (see December SENTRY).

### **Publishing Partner Professional by Soft Logik**

This soon to be released product has been a winner in the Atari ST marketplace for more than a year. Soft Logik has targeted the Amiga version squarely at industry leaders PageMaker and Ventura Publisher. Features will include support for postscript and other printers, scalable fonts, color graphics, templates, ease of use,



*Microillusions premiered their new booth and demonstrated all their latest releases*

view in this issue).

Another highlight of the show was productivity software. This area included desktop publishing, word processors, and database systems. The nominees for "Best New Productivity Product" are:

### **Professional Page by Gold Disk**

After the seemingly endless wait, Professional Page is here at last. Gold Disk intends to push desk-

While the Mac version suffers from delay after delay, WP Amiga made back its entire development cost within 30 days of introduction! Not content with bringing the best selling word processor to the Amiga, Todd Ashman, manager of Amiga products for WP, will soon introduce a companion product called Library which includes a



and more. The early prototype at Los Angeles was impressive in its speed and completeness. Targeted release is March 1988.

#### **Quarterback V1.2 from Central Coast Software**

CCS introduced this full featured, fast hard disk backup software at AmiExpo. Backup 20 megabytes in only 40 minutes! With more Amigas equipped with hard drives, this category of software is growing in importance. (see review in this issue).

#### **GOMF 2.0 by Hypertek/Silicon Springs**

GOMF is an acronym for Get Outta My Face and is designed to prevent GURU meditation errors forever. By installing itself in your system, GOMF lets you cancel a software error without crashing, protects from low memory crashes, cancel any task or device, and more. An Amiga with GOMF installed is a much more solid multitasking environment.

#### **Pro-Net and Pro-Board by Prolific Inc.**

Professional quality printed circuit design comes to the Amiga. Of course, you should be able to use a computer to design a computer circuit, and now you can. Menu driven, and with extensive parts libraries, these two products place the Amiga into a new and important commercial marketplace.

#### **Aztec C3.6 with Source Code Debugger from Manx**

The latest release of Aztec C should be shipping as you read this. Demo disks were provided to us with the debugger included. Debugging tools include multiple windows, tracing line-by-line or

by function, conditional breakpoints, structure operations using structure names, back tracing, macros, and more. This really could be the "most advanced source code debugger in the world".

New Horizons was showing **ProWrite 2.0** which will be released when Workbench 1.3 with improved printer drivers is introduced. Two important productivity products were not shown on the exposition floor, but private showings we attended certainly merit your attention.

MicroSystems Software will soon introduce **EXCELLENCE!** a very full featured word processor. Demonstrations of this WY-SIWYG product featured a 90,000 word spell checker, grammar checker, built-in hyphenation, 1 to 4 column support, index and table of contents generation, multiple fonts, IFF graphics, and of course Postscript support. The product was impressive, even in it's Beta form; and with marketing by Brown Waugh, it may have major impact in the word processing arena in 1988.

**Superbase Professional** is another long awaited product release which was most recently delayed by dongle production problems. We have studied the manuals, and this product should be a database powerhouse. Another of their much anticipated products we saw in action was the 8 meg internal expansion board for the Amiga 500. The board is designed to go into the A500 so neatly that the RF shield fits back on top with no problem. This particular board was sport-

ing a 68010 and a 68881 chip, and there was a custom power supply in place of the standard A500 model.

Progressive Peripherals has a long list of new hardware and software products coming, so their absence from the exhibit floor was surprising. Which brings up to the topic of conspicuous absence. No show can expect every developer to attend, but two other major Amiga developers were missed. Mimetics, was listed in the AmiExpo program, but were not to be found. Their AmiGen and Frame Buffer are eagerly awaited, along with the modules for the SoundScape series of music software.

If they were based in Boston rather than San Mateo, Electronic Arts might be excused for not attending. As it is, we can only wonder if E/A's initial enthusiasm for the Amiga market has died down.

There was no shortage of new hardware developers on the floor. Our nominees for "Best New Hardware" are :

#### **68030 Board by CSA**

As usual, CSA is making the latest in 68000 processors available on the Amiga. The 68030 is Motorola's latest and hottest processor, and the 68882 is the corresponding math coprocessor. This latest CSA product is available for the A2000 and fits over the 68020 board from CSA. The board is priced at \$495.00 without the processor chips, and provides sockets for the 68030 and 68882. It is compatible with existing Amiga software, and was running under Workbench 1.2

*( continued on next page )*

while computing mandelbrots. The processor is a 16 MHZ version which is clocked at 14.32 MHZ for the Amiga, while the 68882 can be any version up to 35 MHZ. The 030 board painted an entire high-resolution mandelbrot every 6.9 seconds while nearby, an Amiga with the 68020 took 12.1 seconds. A standard 68000 system without a math co-processor takes over 1 hour for the same plot. Other CSA introductions included an 800 Mega-Byte WORM optical disk drive, and a 32 bit DRAM memory board for the A2000 which can be populated up to 32 Meg.

### **Inner Connection 20 MB Bernoulli Drive**

This Brandywine Md., company has brought high speed (40 ms) **Iomega** hard disk technology to the Amiga. The unit fits in the 5 1/4 drive slot in an A2000 and provides infinite storage capacity through removable 20 MB cartridges. The drive is fully Amiga-Dos compatible. Inner Connections claims to have the first access to an MS/DOS partition through an Amiga disk controller. Imagine having a fast 20 MB storage medium for each large animation, composition, or other project. How have we gotten along without it? The unit sells for \$1695 and requires a SCSI controller.

### **Hurricane Accelerator Board - from Finaly Technologies.**

This is a 68020 accelerator card for the A1000 and A2000 with adapter. By adding the 14 MHZ 68020 with its on board instruction cache, and the 16 MHZ 68881 you can turbo-charge your Amiga. Ray tracing can be 4

times faster than a standard Amiga. The board can be purchased with both processors for \$1045. (see review in this issue.)

Other interesting hardware products included the **Courier HST 9600 baud modem**. We're just getting used to 2400 Baud! These units were being sold by AMIC for a show special \$695.00. **MICRON technology** was exhibiting their 2 Meg memory boards for the A2000 and A500. These are very clean low power units and should be considered best buys. **Hewlett-Packard Paintjets** were in evidence at many booths. This a recently introduced color inkjet printer which produces outstanding graphics and text when used with the Amiga. **ASDG** was showing their line of memory and expansion products, but the Satellite Disk Processor was not yet complete.

Recreation was not ignored by Amiga developers. In fact, one of the trends we noticed was the appearance of four new game developers. Our nominees for the "Best New Games" are:

### **Ports of Call**

#### **by Aegis Development**

A highly detailed simulation of the competitive world of international trade. Excellent graphics by Jim Sachs and R.E. LaBarre. (see review in this issue)

#### **Ebonstar by Microillusions**

A pre-Release version of this action game set in the year 3000 where you pilot your spaceship in a duel to the death; while avoiding death in the black hole.

One of the new game entrants is Anco (Burgettstown, Pa.) who were just shipping **Karting**

**Grand Prix and Grid Start**, both of which feature fast driving action and Las Vegas for casino action.

In any crowd a few people always stand out. Anyone who attended AmiExpo LA had to notice Leo Schwab in his famous cape. His flowing presence added color and class to many a seminar. The two programmers responsible for Publishing Partner from Soft Logik strolled the floor in genuine straight jackets. After several conversations, I'm pleased at the good judgement of Soft Logik management.

The presentation by Rich McIntyre, Commodore's VP of marketing contained some interesting nuggets of information. The recent Test Flight promotion is considered a success with over 50,000 phone calls to the 800 number. Of those who actually borrowed the Test Flight tape, 50% purchased an Amiga. Some product plans for 1988 include the release of Fat Agnes which will use 1 meg available on the A2000 and A500 motherboard. Workbench 1.3 is expected soon, with the ability to boot from harddisk and improved printer drivers. Workbench 1.4 may also arrive this year with design objectives for higher resolution and less flicker. Commodore also announced a 1988 Amiga Developers Conference for April in Washington, DC. If you want to keep up with the latest development in the Amiga marketplace, plan to attend AmiExpo Chicago from July 22-24 at the Hyatt Regency. We'll look for you there.



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# Professional Page

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## *Gold Disk delivers their high end publishing software*

by Gary L. Gehman

Before we jump into this review with both feet -- a thing I've been waiting to do for quite a few months now -- let me introduce myself by way of establishing my credentials as a reviewer of this particular piece of software. I have been involved in so-called Desktop Publishing virtually since MacWrite introduced the word "Font" to the general public in 1984. It was a natural professional investigation

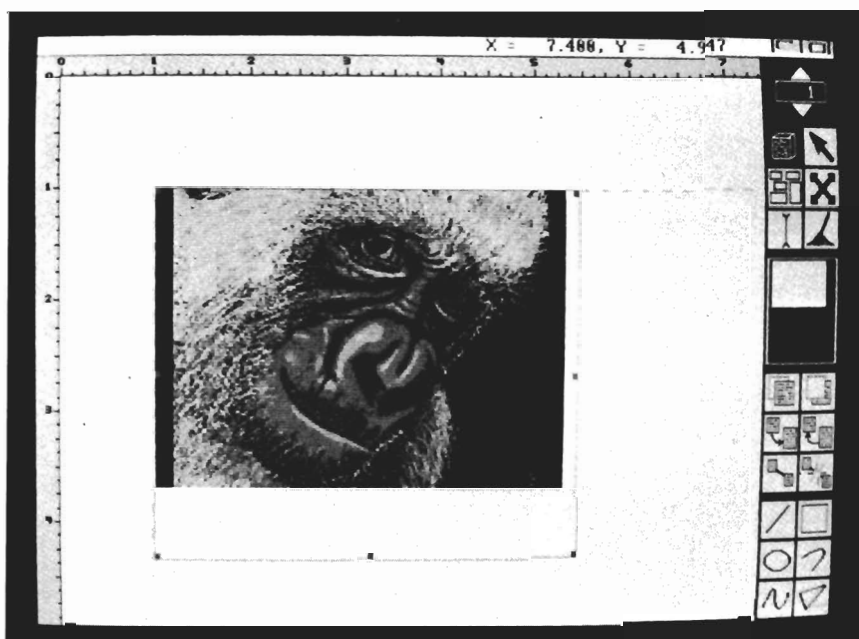
since I was, at the time, a printer. Today I teach publication graphics at Temple University in Philadelphia and publish my own magazine and periodic special issues out of Magic Bullet Press in the Kensington section of Philadelphia. I have used virtually all of the Desktop Publishing (DP) packages available for microcomputers and have generally found them all lacking. I was prepared to find nothing of worth in Gold Disk's Professional Page.

Thank heaven I was wrong!

Specifically, happily, I have found Professional Page to be a better, more capable program than Xerox Ventura Publisher, and virtually every other DP application for MS/DOS. And it even has an edge on some of the Macintosh applications.

It was hard to take seriously Gold Disk's claims when they announced the product last August, and even harder when I managed to crash their demo software at AmiExpo in New York this past October. But now that I have the released product in hand, I have been able to delete the Mac Plus from my personal computer wish list. I don't need it any more!

### *Professional Page excels in its ability to gray scale imported images*



For those unfamiliar with the techniques of Desktop Publishing on a personal computer, I will say only that you build a page with layers of boxes into which you load type or graphics or gray-scale pattern fills (called tints or tones). The whole thing is very much like cutting out slips of paper and moving them around on a sheet of graph paper until they make an attractive arrangement.

The people at Gold Disk have given us a generous complement

of tools for creative layout. Moreover, its Amiga-given ability to import and use high resolution and HAM bit-mapped images gives Professional Page a competitive edge over even the best of Macintosh based DP packages.

But before we begin to discuss the software's strengths and weaknesses, let's talk a bit about hardware:

Professional Page is aptly named. It is a program for people with a definite, probably commercial, interest in publishing. It comes packed onto two disks and requires a megabyte of memory and a PostScript\* driven laser printer. An optimum workstation would also include 2 megabytes of expansion memory and a hard disk drive for the storage of fonts, graphics, program resources and intermediate files. However, with these kinds of resources, Professional Page will perform on a par with the best Desktop Publishing systems around! I have been using the program on an Amiga 2000 2-floppy drive system with 1 megabyte of memory at the office, as well as my home-based Amiga 1000, with 2.5 megs and a hard drive, so I can report on it's performance characteristics in both a minimal and an optimal environment.

In a 1 megabyte environment, the program generally behaves itself well, but it is easy to run out of memory pretty quickly. Anytime you import two or more IFF screens as graphics, you should

save at every opportunity: No matter how well behaved the program, there is simply no saving a machine that has burnt up all of its Chip RAM. I set out to test its ability to handle long, difficult documents by preparing a 20 page document of linked text blocks (two columns on an 8 1/2" x 11" sheet turned sideways) and filling it with 24 chapters of an episodic thriller I wrote. While it held together in both memory configurations, the program's text formatting operations slowed down to an intolerable pace (>5 minutes for a global style change). This is exactly where DP programs on other machines also choke, but never to such an extreme extent.

Professional Page requires you to work in the Amiga's interlace mode, so a flicker-free monitor is also highly recommended (I'm using an inexpensive amber TTL monitor on the A2000 at work. It is kind of sickly to look at, but provides a rock-steady work surface most preferable to the 1080 color monitor's flicker. Careful shoppers will no doubt be able to find black on white composite TTL monitors for very little money, and professional users may want to purchase Commodore's reportedly forthcoming hi-res -- 1008 by 800! -- non-interlace monochrome monitor).

Professional Page boots itself into a conventional Workbench screen, and the program is selectable as an icon. It will also run from CLI with a noticeable savings of memory. Since the program is so complex, and requires

extensive reading of its on-disk resources, loading time is pretty long. On a floppy disk system, this is accompanied by some of the harshest disk-drive thrashing in recent memory. Once installed on a hard disk, however, the loading process is quick and silent.

The screen is nicely tuned and provides a large work surface with a collection of page composition tools arrayed down the right hand side. The program's designers have pre-set it's color palette to most closely approximate working with black objects on a non-glare "white" surface and then adjusted these values to minimize the flicker potential on low-persistence monitors. While they have done a good job with these settings, I would rather have the option of setting my own colors. Nevertheless, these settings also display very well on a monochrome monitor. Another useful hint is to use the Preferences Edit Pointer utility to change the bulky arrow shaped mouse pointer to a more precise pointing device. I usually relocate the active pixel in the center of the pointer area and then build a delicate gunsight around it. This allows for much finer control of such operations as resizing boxes, joining lines, and, in all those complicated music programs, working the tiny switches and buttons.

The menu bar is chock full of all sorts of goodies. Thankfully, we have also been given quick, keyboard equivalents for most  
( *continued on next page* )



## **Professional Page** (continued from previous page)

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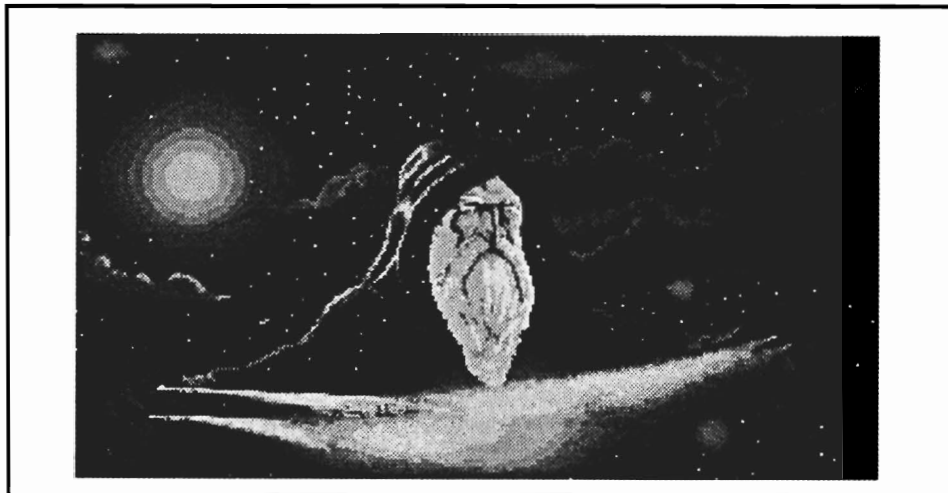
every menu selection. First, there's Project; the standard file creation, saving, importing, printing, information, quitting options. The programmers have also done us all a great service by empowering the Print selection to direct its PostScript code to a disk file. In this way, it is possible to use the program without direct or immediate access to a laser printer.

such an option, Gold Disk would be looking at far fewer sales: only those people who can afford laser printers.

The menu entry that follows Project is Page. Page allows for the creation of new pages from existing default settings, or pre-defined and user-defined templates; as well as the manipulation of any existing settings on the fly. Templates can be created

publish periodical issues in the same format. Once you create the basic page, include the page numbers and folio lines (the small print identifiers that run along the bottoms of magazine pages; typically the title or issue date), these can be saved and reused any number of times.

The next menu entry is Box. Most Desktop Publishing programs require the creation of



*A sample printout from Professional Page. This Photon Paint image was output to a 300 dpi laser printer*

---

Since PostScript files are merely ASCII text -- scripts for the printer's PostScript interpreter to read and process -- they can be stored on disk and downloaded from any terminal program; even across miles of telephone lines! In fact, my preferred configuration allows me to compose my pages in Professional Page, print them to disk, convert these files to PC format using the Workbench PC-Utilities, and then send them to the printer from my office PCXT-on-wheels. Without

as either even or odd pages and whatever elements are entered into the templates will be reproduced on each of the succeeding even or odd pages that occur throughout your document.

They can also be saved to disk for later use. One feature that will need to be added would provide for the installation of page numbers on the templates that would automatically count themselves throughout the document.

Templates are particularly useful in cases where one has to

boxes for the loading of text or of graphics. The boxes can be thought of as "galley" that are composited on the paste-up board or "mechanical." So, the Box menu allows for the duplication, alteration or deletion of boxes.

One serious drawback to the layout of the Box and Page menus is that both have their delete entries in about the same position. If you are working away and elect to delete a Box, it is quite possible to select the Page deletion option instead. This will

put up a requester asking permission to delete the whole page and all its contents, so you have to be pretty stupid to actually lose your page, but I did it twice. If Page delete were made more difficult to select, and if Box delete had a keyboard command equivalent, it would do much to alleviate this particular problem.

For speed in adjusting the composition of a page, the program allows for the grouping of elements together. These may then be moved around, copied or deleted as a single unit. The menu controlling these operations is called Group and it is followed on the menu bar by the Type menu. The Type menu contains all the sophisticated typesetting controls that allow for real Desktop Publishing. The selection options are: Typeface, Size, Style, Kerning (the ability to adjust individual inter-letter spacing), tracking (another method of globally affecting the inter-letter spacing), Line Spacing, Baseline Adjustment (whether a letter sits on the same line as a sentence, or is raised or lowered; as with super and subscripts), selectable Hyphenation control, Justification control, and Paragraph Indent control. These are literally all the type manipulation tools you could want (although I still want keyboard equivalents for Typeface, Size, and particularly Style commands).

In the mode of all true WYSIWYG publishing programs, it is possible to edit text directly on the page being laid out. It is essential, therefore, that such sim-

ple formatting controls as Italicize or Bold be selectable from the keyboard without breaking the rhythm of one's typing. These controls should also be true toggles -- Hit them once to turn them on, a second time should turn them off.

Professional Page's text editor is not bad. It keeps pace while typing in a forward direction, but bogs down whenever you are attempting to backspace a string of text. Neither is it possible to highlight text by sweeping the mouse in a backwards direction (from period to capital of sentence). You can, of course, drag the mouse forward across text and select it that way. Composing large amounts of text in a large point size will slow the program noticeably, however. This seems to be the case with virtually every Amiga font-based program and I suspect the culprit is AmigaDOS. The next menu consists of all the Editing commands (Cut, Copy, Paste, etc.) as well as the global Search and Replace facility found in most word processors.

The next two menu items affect the structured drawing tools (more about these in a bit) and are called Draw and Color respectively. The final menu is Preferences and it's here that we get to select which of the five magnifications we will use to view our document and how to set up or alter our Layout Tools (columns, grids, units of measure, etc.). At any given time we can elect to view our work in 25%, 33%, 50%, 100%, or

200%. The Text Format option allows us to specify what kind of text files we will be importing. Professional Page will read WordPerfect, Scribble, Textcraft and generic ASCII files and correctly interpret any existing formatting commands embedded in them!

Moving down the toolbox selections that adorn the right edge of the screen, we find the page selector (simply clicking up or down will page through your document; entering a particular number in the space provided will jump immediately to the page selected).

Then we have the Box creation tool (used to draw boxes for text or graphics), the Null Pointer tool (used to move, resize or reshape boxes once they're created). The Grouping tool and the Graphic Positioning tool follow; and then the Text Editing icon and the "Mop-Up" tool. These tools are pretty much described by their names.

Next is the page positioning tool and it consists of a small rectangular box that can be slid around across a representation of the page. This is the same gadget as is used in PageSetter (another Gold Disk product) and is also very similar to the main tool in MicroFiche Filer from Software Visions. Although it takes some getting used to, this tool proves to be quite a lot more efficient than the traditional scroll bars found in Macintosh programs. The next six tools affect the lay-

*(continued on next page)*

## **Professional Page** (continued from previous page)

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ering and sequencing of boxes with respect to other boxes. It is possible to Bring-To-Front or Send-To-Back, jump to the next chained box or back to the previous chained box and to Link or Unlink boxes in a text chain. Finally, we have the structured drawing tools.

Because PostScript is a general graphic language that can be used independently of any particular printer, its resolution is limited only by that of the device being used for output. Bit-mapped images (like paintings or digitized photos or most IFF files), however will always have the fixed absolute resolution of the screen they were created to fill (320x200, 320 x 400, 640 x 200, 640 x 400).

If we draw illustrations with vector-based tools (start at point 'A' and draw a line to point 'E' intersecting points 'B,' 'C,' and 'D.'), then there will be no practical limitations on how finely the line can be drawn. This is the idea behind the structured drawing tools provided by Professional Page.

Functioning just like the tools in a CAD drafting package, the Rectangle, Circle, Line, Curve and Freehand tools allow us to make drawings that are stored in terms of their dimension and position. Functioning just like the tools in a CAD drafting package, the Rectangle, Circle, Line, Curve and Freehand tools allow us to make drawings that are stored in terms of their dimension and position, rather than how many screen-

dots they fill. These constitute the last of the permanent, on-screen tools. Generally, they are easy to use and the icons that represent them are fairly intuitive. I think I would rather they be only half as wide, since the presence of so many tools tends to encroach on the actual page being constructed.

Gold Disk's documentation for PP is first-rate. The manual is handsomely printed and spiral-bound. It numbers some 198 pages and attempts to teach something about design along with how to actually use the program. It is also indexed.

One point is worth noting about Professional Page's handling of graphics. When importing a graphic element into a PP document, all that's saved in the document file is the address of the actual picture file. This allows for the creation of document files that are quite compact. When you go to print out the document, however, you will be prompted for the disk that contains the original graphic file. Therefore, I recommend first loading all the required graphic files onto your documents disk. That way, you will have everything you need at printing time.

Gold Disk has also promised a Color Separation module. For printing, color photography has to be separated into four different negatives, each representing how much of the three primary colors -- plus black -- is present in the actual image.

Some of necessary enhancements to bring this program up to a powerhouse level are:

- \* The ability to flow text around irregularly shaped graphics;
- \* The ability to work on two facing pages simultaneously;
- \* Improved font rendering and memory efficiency;
- \* The aforementioned keyboard shortcuts;
- \* An improvement in speed.

Beyond the competition, it would be nice to provide for the rotation of text boxes and graphics elements on the page. In this way, you could have text reading horizontally along the left edge of a page that is otherwise entirely vertical. The logical application for this is the creation of Brochures or Letterheads. In the meantime, Gold Disk has delivered a product that makes the Amiga competitive with other high end desktop publishing systems.

### **Professional Page \$395.00**

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Mississauga, Ontario  
Canada L5M 2C2

**1-416-828-0913**



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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!

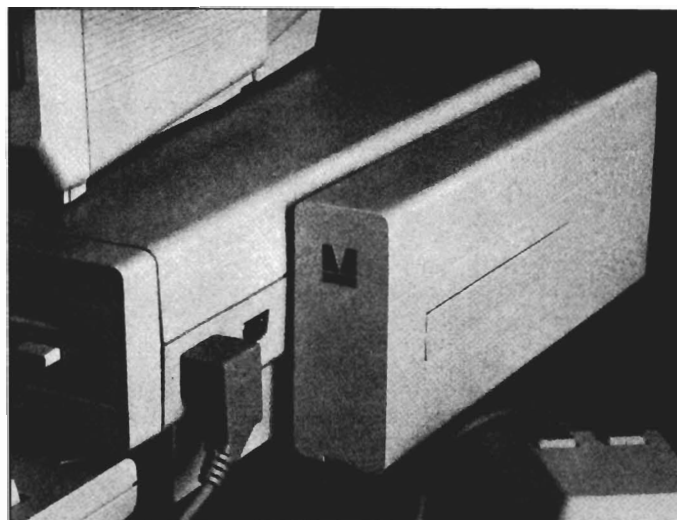
## StarBoard2: functions five!

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  
Fast RAM  
Zero Wait States  
User Expandable  
from 512k to  
2 Megabytes  
Bus Pass-Through  
MultiFunction  
Option: battery/  
clock, FPU,  
parity, Sticky-Disk**



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

### also available:

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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# Write & File

*An integrated word processor/database package from SoftWood*

by George Rapp

When I first saw the box for Write and File from Softwood, I was ready to pass it by since I could see no reason for making an integrated package on a multi-tasking machine like the Amiga. Such packages are very popular on MS/DOS machines since that's about the only way to do more than one thing at a time. For the Amiga, it seemed a terrible waste of time. Still, I took the time to load it up and was

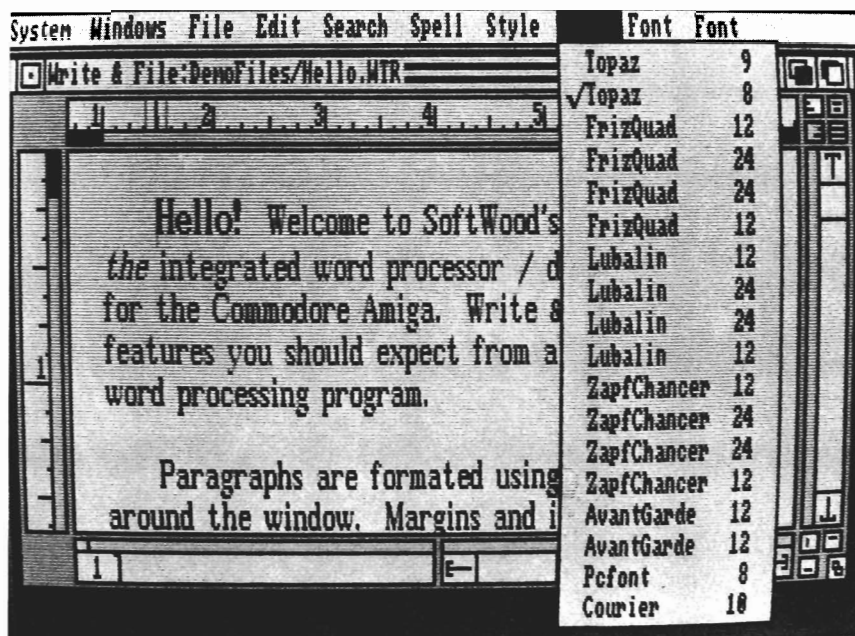
pleasantly suprised by the word-processing power packed in here. The Write part of Write and File is a full featured WYSIWYG word processor. The menus are arranged in a slightly different order than are usually found on the Amiga, but the menu options provide standard choices for opening files, editing, fonts, style, and text search. There is also a menu option for spell checking your whole document, or any part of it.

Cursor movement is quick and the page formatting commands

respond quickly. Formatting is not run from the menu like most Amiga word processors. Instead, SoftWood uses an "intelligent mouse". The cursor on the screen changes its appearance depending upon its position on the screen. Over the document, it looks like a script "I", while over the menu bar it looks like a stylized arrow. When you move the mouse over the ruler at the top of the page, the cursor displays tab and margin settings. Changes are made by holding down the left button and sliding it to the desired position. There are still two more areas that the mouse goes through its transformations. At the top right corner below the front/back gadget there are the four justification option icons for left, right, center, or left/right justification. In the lower left corner, around the resize gadget, there are gadgets for showing or hiding the rulers and page bar.

With all these options, the screen can get cluttered very quickly. *Write* lets you open multiple document windows which can complicate the display even more. One solution is provided by the option to switch to an interlace display. Softwood provides default colors which are prone to flicker, but these can be reset through Preferences. Write

*Custom fonts have been provided on the Write & File program disk*



uses standard Amiga printer drivers, which means that bit-mapped fonts will not print with high quality. This is the most serious shortcoming of the package compared to some of the other recent Amiga word processors.

The spell checker is one of the largest I have seen. It comes with 110,000 words and user dictionaries that can be added to. The dictionary is arranged alphabetically and broken down into a common, main, and user dictionary. An alphabetical arrangement is slower for searching the dictionary, so Softwood uses a "common" dictionary to search for the most common words first. This does help some, but Write's is still a slow dictionary when compared to others. The

dictionary does contain an amazing array of scientific terms and a large selection of chemical and drug names which others tend to leave out. I did have some problems with the function of the dictionary. It did not come up with as many, or as helpful suggestions as Wordperfect or KindWords. In the view mode, it occasionally got confused and called "A" through "B" as all 110,000 words.

The other half of Write and File is the database manager, which is not quite as powerful as the word processor. Here's the first database I know of that can't generate printed output. Instead, it uses Write's mail merge to create customized output. Files' databases run quickly and are

both easy to create and use. The database is structured like a spreadsheet with rows and columns. It is not relational, but it does allow for sorts on more than one files without producing index files. On small databases, the sorts are startlingly fast and do not require heavy disk access. File bogs down slightly with very large databases, but with larger applications, I would suggest a more sophisticated database program anyway.

Data entry is also like that of a spreadsheet. You specify the row and column for entry. Each row represents one entry with the columns the data fields. Fields can be text, numeric, date, time, ye no, phone number, alpha, alpha  
(continued on next page)

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## Write and File (continued from previous page)

numeric, IFF picture file name, IFF sound file name, and calculation field. Column definition and search orders are done from the pull down menus. All of the file functions are duplicated from the wordprocessing menus. Both wordprocessing files and database files can be open and viewa-

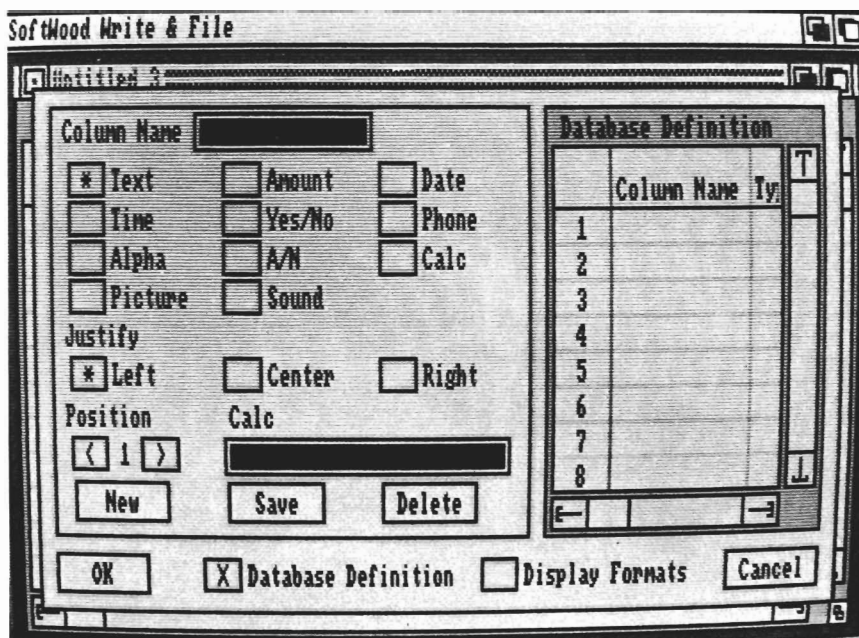
ing the manual. However, the manual is also well written and easy to read. The reference section is a little thin, but a thorough tutorial makes up for that. I am slightly puzzled by the arbitrary separation of the manual into a word processing and database section when it is an "integrated

tries to do too much in too little space. They did add an autodialer to the database and a routine that checks for valid drives in the save option. There are additional printer drivers in addition to the two provided on the program disk. There is also a sample start-up sequence included for a hard disk that mounts with BindDrivers.

Some of the page layout commands are confusing and the manual does not go into enough depth for the headers and footers. However, the problems that I had with the spell check and its speed were the most annoying. The mail merge works well and is about as easy to use as possible

My first impression was favorable. I do like most of the features included, but this is not the last word. It is ideal for producing technical letters and the dictionary supports this. I am using it now for writing this article but I will go back to my usual program for the next. This is more because of my needs for a quick and fast editor than a flaw in the program. Write & File is not serious competition for the likes of WordPerfect. However, if you are on a limited budget and need to produce correspondence or mailing lists, than this could be a good choice for your specific needs. I would recommend that you have at least two megabytes of memory so you can put the dictionaries in ram. .

**Write & File \$99.95**  
Brown-Wagh Publishing  
16795 Lark Ave., Suite 210  
Los Gatos, Ca. 95030  
1-(800)-451-0900



*The "File" part of Write & File allows you to set up specific parameters for use in a database*

ble simultaneously. Again, an interlace screen is about the only way to make this legible. The use of either or both types of files is controlled through the Files menu. The menu bar changes slightly to accommodate the differences between the two functions. The active window determines which set of menus are used. The IFF files can be displayed, or played with the Softwood's File IIsg program.

Write and File is a straight forward and relatively simple program to use. It is intuitive enough that you can get by without read-

ing the manual. However, the manual is also well written and easy to read. The reference section is a little thin, but a thorough tutorial makes up for that. I am slightly puzzled by the arbitrary separation of the manual into a word processing and database section when it is an "integrated package". The database is not strong enough to stand on its own. It lacks custom screens and depends on the Write portion for output generation. I do like the WYSIWYG Write portion however. It is easy enough to use and shows attention to detail. The combination is not small. It fills two disks and requires one megabyte to run (I prefer two megs so I can transfer the dictionaries to a ramdisk).

My first complaint comes from the changes made since the manuals printing. There is one densely printed sheet of addendum that

# Animate 3D

*Linked with Sculpt 3D, you can now create ray-traced animation*

by Mark Smith

There is nothing I like doing better than sitting down at my Amiga and creating a bit of three dimensional modeling and ray tracing. Until the advent of the Amiga, it was impossible to sit in the comfort of your own home and render away. With the release of Byte By Byte's Sculpt 3D, it became possible to do highly detailed ray tracings without sitting at the University's cold and calculating VAX.

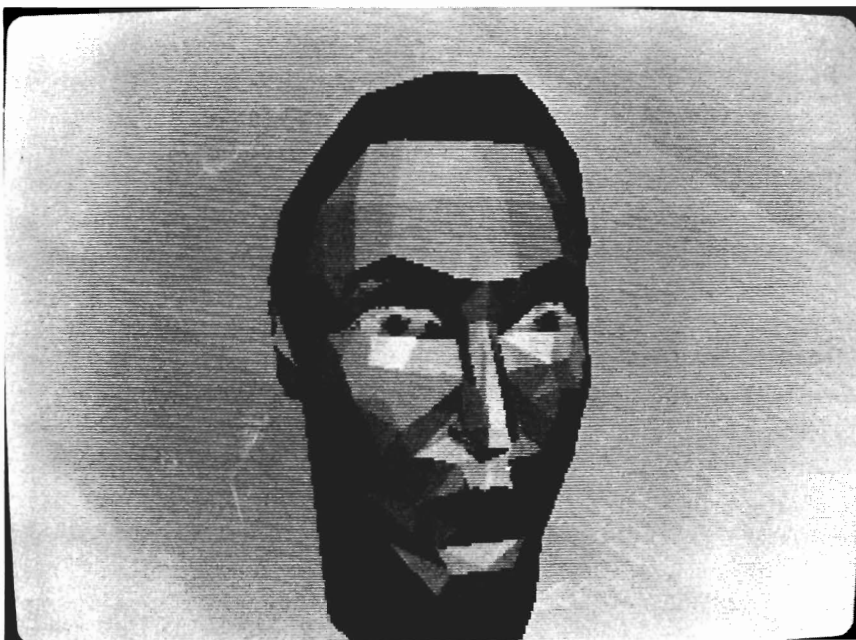
Sculpt 3D was developed by Dr. Eric Graham because of the intense interest in his famous "Juggler" demo, and due to the desire to let individuals create their own ray traced animations. With Sculpt 3D, images of great realism could be created like never before on a home computer. Crystal balls, towers of glass, and new beings were popping up all over. Still something was missing. These images lacked the excitement of seeing the Juggler for the first time. What was missing was move-

ment, the ability to make those shaded, glossy, textured images dance. Soon Dr. Graham provided us with *Movie*. *Movie* was a public domain page flipping program that gave life to those Sculpt images. Creating an animation with *Movie* was time consuming and tedious. It required many separate images to be traced, and a lot of thought on the part of the movie maker. *Movie* was merely a diversion while *Animate 3D* was finished.

*Animate 3D* is finally here and well worth the wait. The package comes with two disks and spiral bound documentation. *Animate 3D* is an integral partner to *Sculpt 3D*, and can be used in no other way. Don't rush right out and buy *Animate 3D* if you don't already own *Sculpt 3D*. They can be used together to produce fine animations, or *Sculpt* can be used by itself for still images. The two *Animate* disks are conveniently labeled DISK1 and DISK2. DISK2 contains three animations and some read-me files describing how they were created. DISK1, the program disk, is the meat and potatoes of the *Animate3D*. The manual describes the process for combining *Sculpt* with *Animate*. You must take your *Sculpt 3D* disk and copy the

*( continued on next page )*

*The first key frame of the "Head" animation that is included on the data disk*

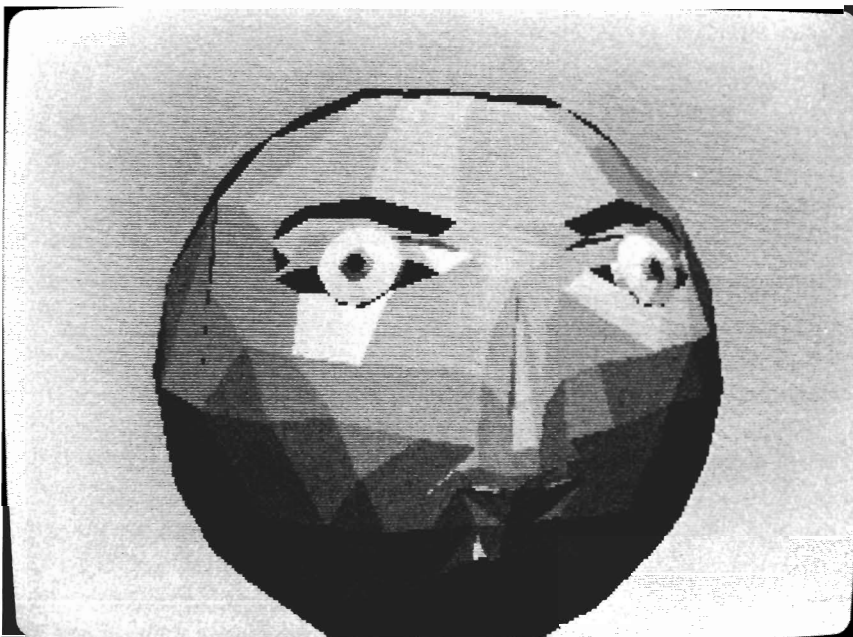


## **Animate 3D** ( continued from previous page )

Sculpt 3D program file onto the Animate 3D disk. Be sure to make backups first. It is simplest to go through the Workbench and copy the file to the Animate disk by dragging its Icon. Once that's accomplished and Sculpt 3D is on the Animate disk, click on the Merge Icon and stand back. After a minute or two the merge and Sculpt 3D icons will have vanished and in their place is the Sculpt-Animate icon. Something wonderful has happened, your disk has metamorphisized into an new and different Sculpt 3D with command in menus that will have you animating away in no time.

You can use Animate 3D to produce two forms of animation, Global and Key Frame. Key Frame animation is similar to the kind of animations that were being done with Movie. Each frame of the animation has to be designed and rendered individually. Key Framing is simpler because it involves a process called in-betweening. For example, if you need a set of 30 frames, and you set every tenth frame as a "key" frame, all the frames in between will be calculated for you. Sculpt-Animate 3D interpolates from these key frames doing the work for frames 2-9, 11-19, and 21-29.

Global Animation on the other hand, is a single scene which expresses all the frames of the animation at once. In a global scene, objects are assigned to precise paths of motion. Paths can be connected to achieve even more sophisticated object motion. Global Animation delves into a serious area of computer graphics called hierarchial motion. Al-



***A Sentry staff member after hearing that we've got one day left before our printing deadline***

though it only scratches the surface, Sculpt-Animate 3D includes the basic motion and object dependencies.

In Sculpt we dealt with images, scripts, and scenes. Now we also have to consider *takes*, which are the animations central focus. You begin Sculpt-Animate 3D in sculpt mode and it is not until you create a TAKE that you are enter animate mode. Now you begin to use the menu selections and requestors that were not here before the metamorphosis occurred. To begin an animation you LOAD a TAKE or create a new one. One of the new requestors is particularly vital. The MODIFY TAKE requestor is responsible for the guidance of your entire animation. Whenever you start an animation you choose the number of frames which in turn determines the time duration of the animation. The

MODIFY TAKE requestor is also used to select a single frame controller or a RAM animation. If RAM animation is turned off, the single frame gadget determines the driver for your single frame controller if you are lucky enough to have one. Another option offered is to send your animation to a frame buffer for further enhancements. It is interesting to note that although the Amiga is not currently capable of displaying more than six bitplanes of information, Sculpt-Animate 3D can utilize a frame buffer to render images in millions of colors, or even a higher resolution than is capable by the Amiga itself.

Sculpt-Animate allows the use of background and foreground images to further enhance the quality of your animation. These images are treated in a strange

*( continued on page 14 )*



fashion. Although they can be used to fit a scene quite well, shadows will not be cast on the backgrounds. If a foreground is used in an animation then it takes precedence over everything else. The only effective use of a foreground is when it has spots or has holes in it for moving objects to be seen through. Holes are created with color zero, the "transparent" color.

Along with the use of foregrounds and backgrounds in the MODIFY TAKE requestor is a nifty little feature called Motion Blurring. The whole illusion of film motion is due to our eyes inability to perceive single frames a high rate of speed. The result is the illusion of flowing motion. If you did a keyframe animation

and spaced your keyframes too far apart, it would cause a jerky animation. Enabling the Motion Blurr gadget will smooth out the motion by blurring the images together.

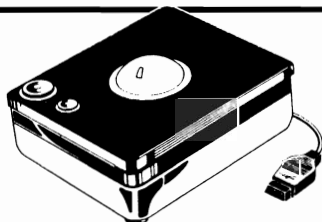
The general process of creating a Sculpt animation begins with Sculpt 3D. Whether you choose the Key Frame or Global animation method, you must have created and stored your objects prior to activating the TAKE menu. Next you use the MODIFY TAKE options to specify the movement(s) you desire. Then you will want to preview the animation before you render it. You'll want to make sure that you haven't sent your rocketship underground instead of to outer-space. The preview is in wire

frame form, but it does give you a good feel for how the objects move and how smooth the motion is. A useful addition is the ability to change the wire frame's colors when you preview an animation. Wire frame mode in Sculpt 3D has blue wire frames on a pink background, now you can select less annoying colors. Finally you produce the complete ray traced animation either for single frame recording, or as an Amiga playable file.

Many animations are not destined for a single frame recorder, and memory limits the length of your productions. Therefore, most Amiga animations use some type of loop. Clever animations that run smoothly and forever

*( continued on next page )*

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## **Animate 3D** (continued from previous page)

without a visible seam in the animation employ either looping or oscillating. In the Modify Take requestor the animation may be set for LOOPING, OSCILLATING, or NONE. LOOPING will play an animation over and over again. The trick is to make the last frame look similar to the first. The "Juggler" was done in this fashion. An OSCILLATING animation plays the first frame to the last, then reverses counting backwards to the first frame before repeating the cycle. This can also be used to create infinitely running animations. The "Kahnankas" demo was probably done in this way. When doing a ray tracing movie, every step you save is a blessing of time. In the "Kahnankas" demo as one silver

ball swings and connects the others, it sends the other ball up to it's maximum point. There is no reason to render any farther because it is now a reverse motion before it repeats itself. Being clever is the key to saving hours or days of rendering.

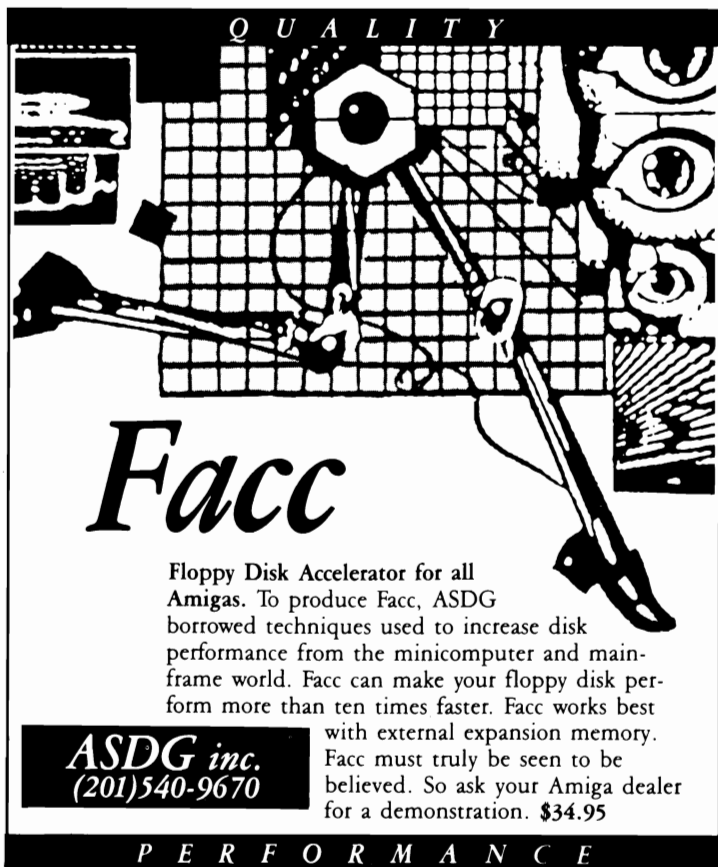
All in all, I feel that Animate 3D was well worth the wait. The combined package is a reasonable price to pay for the technology that is being applied. I am comfortable with the idea that the look is exactly that of Sculpt 3D with the addition of the new animation commands in the menus and the new requestors that they beget. Although the novice will find difficulty in understanding the ins and outs of global animation, you also have the choice of

using the keyframe method to achieve beautiful results. It is the real hardcore enthusiast who starts combining the two methods fifteen minutes after the disk is booted. Practice makes perfect. I like this package and recommend it, but, remember that you need to have Sculpt 3D or Animate 3D is useless. If you don't have Sculpt yet, get it and learn it first because together, it's a lot to swallow.

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# Ports of Call

*Try your hand as shipowner/captain in this new simulation from Aegis*

by Elaine White and  
George Rapp

Running any business is difficult. Running an empire is even tougher and building up from a business to an empire is next to impossible. Now you can experience the thrill of accomplishment if you are good enough (or the agony of defeat). Ports Of Call (POC) from Aegis is a highly detailed simulation of the competitive world of international trade. Aegis has built a reputa-

tion for high quality graphics software and it continues here. The graphics were done by Jim Sachs who has gained a reputation for producing some of the best computer art. The graphics are exceptional but they do come at a price. This is the first game that requires one megabyte of RAM to run.

The game is bootable and copy protected. Upon starting up the game, you are asked to find a word from the manual by a short description or a question based on the manual. After that, the

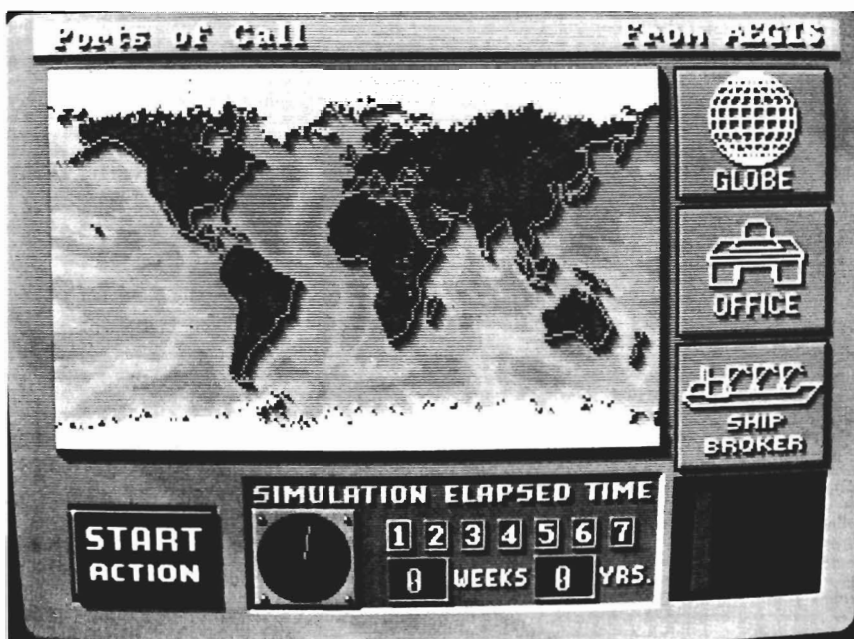
game loads and asks you for the number of players from 1 to 4, and the level of difficulty. The next steps involve selecting a home port and purchasing a ship. Ships range from a small pre-owned freighter for one million dollars to a large, fast, high tech freighter at 60 million. These selections are very important since they set the character for the rest of the game. Your selection will determine how much the fixed operating costs, fuel, and tug fees are. You have to strike a balance between the costs of operating your ships, the mortgage on them, and the potential profits from running the ships.

Selection of destination ports and cargo is also very important. Some cargo has to be delivered by a certain time. These are often the most profitable, but also carry the largest risk if you can not deliver on time. The destination is perhaps more important. It is possible to earn large sums delivering to remote ports only to find that there is nothing to ship back and you return home with an empty hold.

These are the decisions of the ship owner, but you are the ships captain as well. You must decide if you should dock manually or use the tugs. Tugs vary in cost

*(continued on next page)*

*From the action screen you control  
the strategy of your voyage*

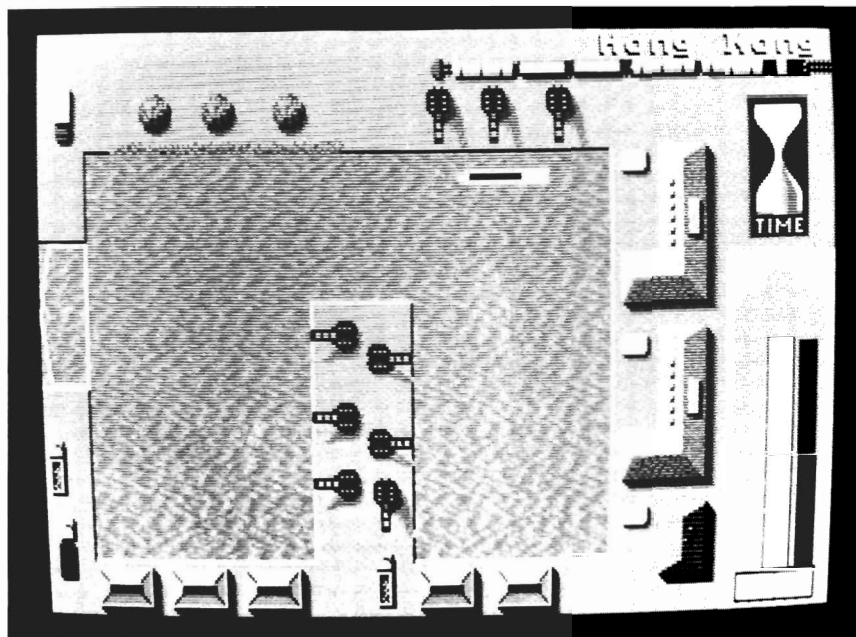


## **Ports of Call** (continued from previous page)

from port to port but guarantee safe arrival. Piloting in manually costs less but carries additional risks of damaging the ship in trying to dock. In some ports, docking is easy, while others are difficult. Generally, it seems easier to leave port than dock, but it is hard to tell if this is the game or a reflection of real world operations. Control of the ship is from the mouse and a pair of indicators for engine speed and rudder position. The controls are easy, but grow tiresome after a couple of hours of play and we often wound up paying the tug fees just to avoid it.

Realism is the passion of the authors of this game. Each port has a scene or skyline visible upon arrival. To make the game play more interesting, there are problems that can befall the unwary captain. There are shoals, icebergs, reefs, rescue of passengers, pirates, and storms. At one point, I got a warning to watch out for the Bermuda Triangle!

Still a simulation is as only as good as the user interface. The one in POC is as good as you can practically get. You have icons for the world to pick destinations and cargo, the office (complete with an Amiga) is used to examine your financial situation, make payments on the mortgage on the ships, take out loans, or pay off existing loans. The Ship brokers office lets you buy and sell ships and even hire a consultant. The financial information is displayed as numeric data and graphically. The detail of the graphs is great and makes them easier to read than some included with business packages for the Amiga.



***Before you rush off to become the newest shipping tycoon, you must first navigate your way out of your own harbor***

This is a game that requires very sharp business sense. The level of realism makes this an interesting game. The complexity of running a business ensures that there will be little repetition and give the game staying power. Electronic Arts released a game called Mule that touched on the topic of running a small, model economy. POC expands upon this to give a game a new dimension. This could be classified as a simulator or real world model and not just another game.

Still, something this good makes us want more. There is some incidental music, but not enough for our liking. We much prefer playing a game with sound instead of periods of silence punctuated with some occasional sound effects. The requirement of one megabyte of ram may stop many potential buyers. We

hope that this is not the case since the addition of fast ram is so valuable to the Amiga. We like the idea that POC will support four players since this adds to the sense of competition.

Certainly, the graphics really make this program. With an artist like Sachs creating the images, there is a realism to the screens. We hope that there will be other games of this quality coming out soon.

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# Publisher Plus

*This successor to Publisher 1000 brings Postscript support*

by Bill Barker and  
Walter Steuber

Publisher PLUS, the new version of Publisher 1000 cooperates with the Postscript system and no longer requires the use of a dongle. With it, pages are laid out and edited in easy-to-manage screen displays that properly show what the final version will look like. After the editorial work is done, the product can be printed on the usual home printer (dot matrix) or output to a post-

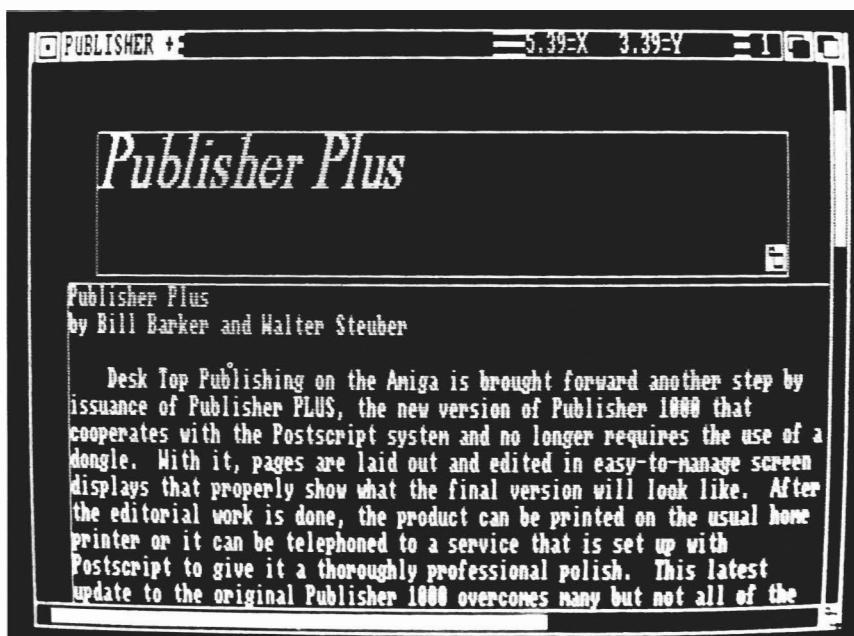
script compatible printer. You can even save your work as a Postscript file for outputting to a Linotronic 100 or 300 typesetter.

This latest update to the original Publisher 1000 overcomes many but not all, of the original problems. The Amiga user now has a choice of several programs that will generate a small publication like a newsletter or pricelist. They all provide a choice of typefaces and allow you to incorporate some form of graphics. Each program carries out these tasks in its own way; there

does not seem to be any perfect way to do them so it becomes a matter of personal taste which of the compromises you want to struggle within what would be considered a "low end" desktop publishing package. The writers of Publisher PLUS chose to keep things relatively simple and intuitive, good for a casual or occasional user, and yet one that allows a fair degree of artistic freedom in designing a page.

Publisher PLUS makes the Amiga screen act like a 5x3-inch window through which the user views an 8x11-inch sheet of paper. It is quick and easy to move the window around with sliders, so you soon get quite comfortable working with the page in this magnified form. Indeed, the scrolling of the page around the screen is one of the smoothest we have seen. The degree of magnification is just right to give a clear representation of what the printing on the final page is going to look like. All manipulations of the page are done in this enlarged mode, but its general appearance can be checked at any time in a reduced view without the window. The manufacturer says all the hardware you need is a single disk and 512K of memory, but if you don't have more of both, forget

*The Publisher Plus work screen*



it. The mouse is used to mark out areas on the sheet that will contain text (Guides in Publisher terminology). These guidelines do not print, of course, but they must be there for text to be poured into them. They are easy to lay out and their size can be changed just as easily. When you are first getting used to the system, you naturally lay out these guides so that they do not overlap, but after a while you discover that fascinating special effects can be developed by overlapping the guides. It is so easy to change their shape and position with the mouse that it is tempting to keep playing around with the layout and not get on with the business of inserting graphics or pouring text.

In Publisher PLUS, the font you see on the screen is exactly the one that will later be printed on the paper. Text can be specified in any size from 2-pt to 130-pt (!) and in seven nicely varied faces. Besides the standard Helvetica, Times, Courier and Symbol, Publisher PLUS has included three more of their own that are good for newsletter preparation--Bingo, Bubba and Zap. If you are willing to give up the PostScript connection, you can bring in any other font you want and use it just as easily. The scaling of fonts is a particularly nice feature and the program does a very good job computing a size when it lies between two that already exist in the font directory.

Be warned, however, if you scale to a size larger than any contained in the font directory, you get a font which looks jagged and coarse. Only one font

can be used in any individual guide box, and it is specified by a mouse click. First, a pull-down menu is used to ask for a list of fonts to be read from the disk. Choose one by clicking on it with the mouse. Unfortunately, there is an irksome time delay while the disk is reading the catalog of fonts, and then while it reads in the font you have chosen. If you choose a font size that is not standard, there is another delay while it scales the font. While some other publisher programs avoid this delay by embedding font specifications in the text, they are terribly bothersome in their own way because of the major nuisance of embedding commands. Either way, there seems to be a price to pay when you want to specify varied fonts.

Editing text can be done with a word-processor before pouring into a guide, or it can be done directly on the screen after pouring it in. Publisher 1000 was the first of any desktop publishing (DP) programs for the Amiga to offer on-screen text editing. It is surprising that other DP entries were released without this capability which is considered an essential.

A short bit of text can easily be typed directly into the guide, in which case Publisher PLUS automatically generates a disk file and saves it. A text file that has been prepared with a word processor can be poured into a guide simply by pointing with the mouse and clicking, but it should be only a plain ASCII file, without embedded control codes. Before pouring text into a guide,

( continued on next page )

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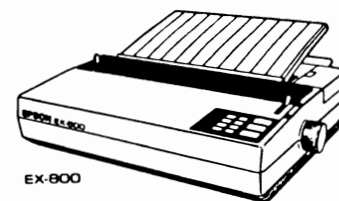
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## ***Publisher Plus*** (continued from previous page)

you must specify the font, the leading, and a few things like that. This is all very straightforward and intuitive, but it also is very slow because there is so much calculation the program must go through. Graphics do not need a guide. Any IFF graphics file can be called in and its image, reduced to black and white, can be located any place on the page with a click of the mouse.

It can be sized, both vertically or horizontally, and it can be moved around at any time. This is easy and intuitive, but it, too, is terribly slow. You may think the machine has crashed, but the zz's are there on the screen and eventually the graphic appears like a brush on your pointer. The program does a better job of resizing a graphic than either City Desk or PageSetter in our opinion.

Printing is done via a pull-down menu that gives you three choices.

You can print directly to your PostScript laser printer, to your dot-matrix printer or to a PostScript file. You cannot print on a LaserJet or daisywheel printer. (The HP LaserJet is supposed to act like a dot-matrix printer, but it does not. Somehow the type gets distorted and almost unreadable when sent to a LaserJet). A page is printed on a dot-matrix machine as a graphics dump, so it takes a fairly long time. Not only that; there seems to be no way to abort one of these long printings once it is started. (My Epson took five and a half minutes per page.) Furthermore, Publisher allows you to print only the current page and not the entire document (unlike City Desk and PageSetter.) The printed documents look the nicest of any of the current desktop programs using a dot matrix printer. This is due in large part to the very well designed fonts

provided with the program. The PostScript file for a single typical page was very large, and it took Publisher PLUS 20 minutes to calculate it in some cases.

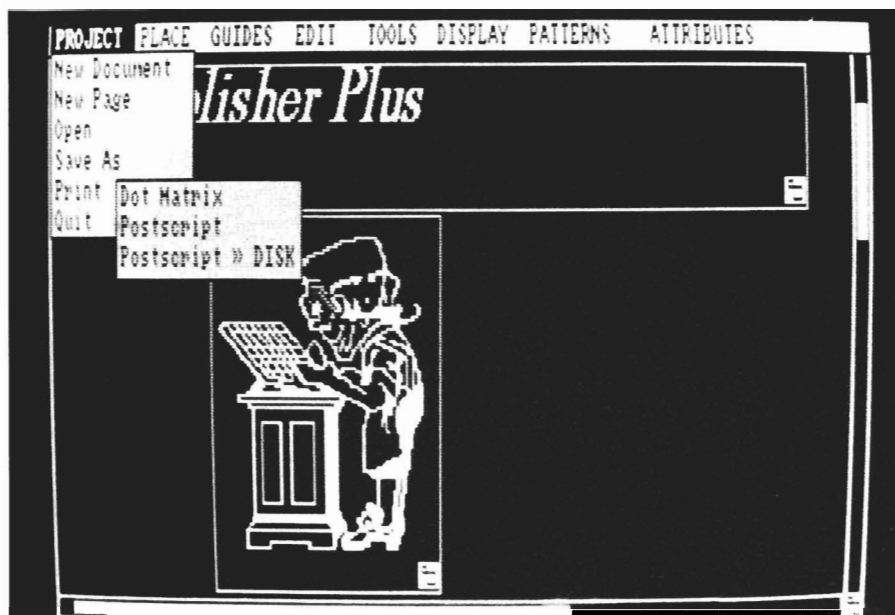
The dot-matrix printout can be used to give you an assessment of what the PostScript pages will look like, but it will sadly lack in crispness and general quality if you need anything more than a casual newsletter.

Publisher PLUS has several problems that flaw an otherwise nice program. The slowness of operations is significant. When you change something in a guide-box, it rewrites and rescales the contents of all the other guides, a process that can take several minutes depending on the complexity of your page. The lack of a simple means of going from page to page when performing the operation of flowing text wastes time and requires you to use both the mouse and keyboard. Also, the program lacks a means of flowing text automatically on predefined pages--you must do this manually from guide to guide. Publisher is primitive in this respect. Even a simple font change will not affect your designated text without constantly having to select the "reflow text" function. Both City Desk and PageSetter provide simpler means of accomplishing this task, which is a necessity when creating long documents.

Editing previously flowed text in a guide erases not only the text but the guide itself. There are very few cases where this would be your intention. Pattern fills used as a text background make

(continued on page 53)

***You can choose between dot matrix or PostScript output.  
There is also an option to print your PostScript files to disk***





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# Hurricane Board

*A plug in board can add a 68020 and 68881 to your Amiga*

by George Rapp

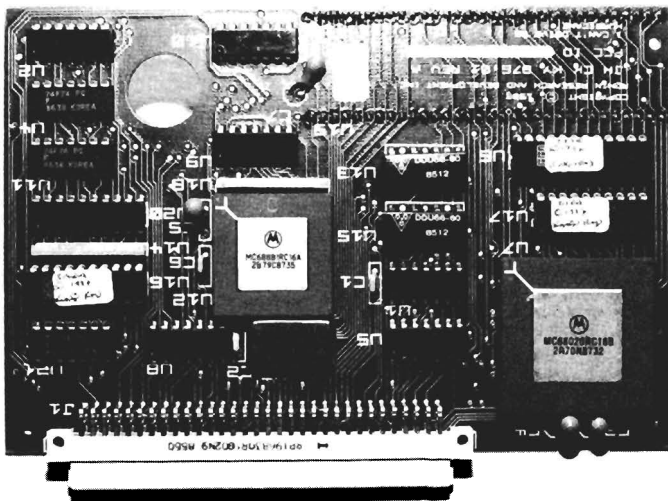
The Hurricane Board is an add in board for the Amiga that replaces the 68000 CPU in the 500 and 1000, and with an adapter, installs in the CPU slot of the 2000. The goal of the board is to replace the older, slower, 68000 with a newer 68020 processor and optionally, a 68881 math co-processor. These chips are much more advanced and can offer increased performance over their older relatives. To further

enhance the performance, the clock speed of the 68020 board is over 14 MegaHertz, or double that of the 68000. This means that the 68020 is capable of performing two steps for every one that the 68000 performs. The 68020 also has the advanced features of a 64 byte instruction cache so that if the program running has fewer than 64 steps in a loop, the CPU can run the loop without having to use any other system resources. The 68020 is a full 32 bit CPU, so with the addition of 32 bit memory, even

more speed is possible. Since 32 bit wide memory can get expensive quickly, another method of improving speed is available in the form of a socket for a 68881 floating point co-processor. This chip can execute math functions very quickly and with higher accuracy than the 68020 can. It also runs on its own clock, so you could use a 16 or 20 Megahertz version depending on how much you are willing to spend.

The cost is the down side of this enhancement for the Amiga line. The A1000 version tested lists for \$495 without the 68020 and 68881. To get 16 MHz versions of these chips can easily add another \$500 to the price or more. For this much money, there should be a great increase in speed. Unfortunately, this is not always true. The Hurricane board does come with the common benchmarks of the Sieve of Eratosthenes, The Savage test, and the Mandelbrot set generator. These run blindingly fast and with high accuracy. As nice as these are to see run, it is more important to see the improvement in some standard application software. I tried what I believe is a representative sample of software to see what kind of improvement I could get. As an example of a game, I tried Marble Madness

*The Hurricane card with a 68020 and 68881 co-processor installed*



and found no noticeable difference in play or appearance. This would seem to indicate that the Hurricane was operating transparently to the system. Flight Simulator did show some slight improvement in the speed of the screen up dates giving a smoother effect. In graphics, Deluxe Paint II did show some improvement in perspective drawing, but not much else since most of the functions use the custom chips more than the CPU. I was very disappointed to find no noticeable change in the speed of drawing in Sculpt 3D. This program does ray tracing which is a math intensive process so I was expecting much higher execution speeds. There is a version of Sculpt 3D that will take advantage of the

68881 math chip. Apparently, the version I had did not support this.

For productivity types of applications we tried Lattice C 4.0 and Aegis Draw Plus. Lattice did not show much change in compilation because of the overhead involved in disk the access required. The test with Draw Plus did not show much improvement, but it didn't work with my expanded memory in the A1000 with the card installed.

The conflict between the Hurricane Board and the Starboard II expansion was a very sore point with me. Finally Technology stated that this problem is a by product of poor grounding on the PAL chips in some A1000s. My A1000 is apparently one of those

machines. This turned a relatively simple installation process into a nightmare.

The documentation that comes with the Hurricane board describes the removal of the 68000 and how to plug in the board on one page with no diagrams or pictures. On the other hand, three pages are dedicated to notices, warnings, and warranty service. The section on troubleshooting the board is all too short, but does say to call if there are any problems. I was very glad to see this and took advantage of their offer for help. The help given over the phone was excellent, but much of this could have been avoided if the documentation was updated. Installation in the 1000

( continued on next page )

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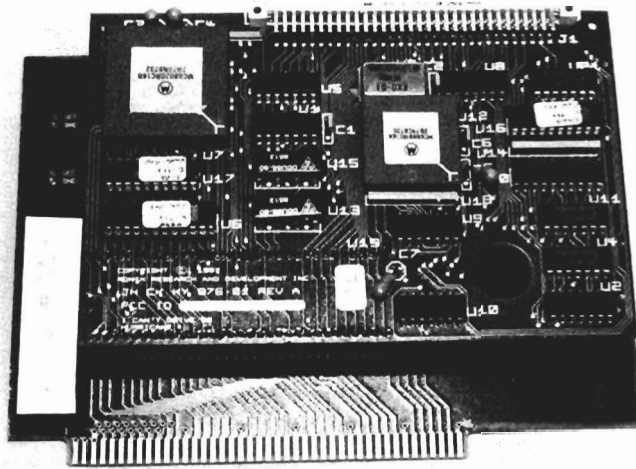


## ***Hurricane*** (continued from previous page)

(or a 500 when available) involves prying out the 68000 with an IC puller (guarding against static discharge of course), lining up the pins of the hurricane board over the empty socket, and seating the board down.

At this point, if you have a newer version of the 1000, the installation is complete. If not, then you have to solder jumpers between four chips on the daughter board, a point on the mother board, and a point on the Hurricane board. This is difficult enough that only those handy with a soldering iron should try. To make things more difficult, I only had a verbal description of the chip locations to go on for soldering since there are no pictures in the documentation. Installation in the Amiga 2000 is much simpler. The Hurricane card is plugged into a socket on a flat adapter card. This card in turn, plugs into the CPU slot of the 2000. The fit of the card is excellent, and took seconds to perform.

All in all, my impression of the Hurricane Board is tentative. Granted, some of this hesitation has nothing to do with the quality of the board, moreover, the speed increase with most programs does not seem to justify the cost. If you must wait for the software developers to build in support for these chips, one could question the usefulness of the investment at this time. Naturally, if you are the one who is doing the developing, there could be much advantage in using a system such as this. But for most of us who want improved performance, it would seem to be a



***The A2000 adapter board allows you to plug the piggyback combination into the 2000's CPU slot***

wait and see kind of a situation.

The only real problem with the product as packaged is the documentation. Most of the problems that annoyed me could have had much light shed on a cure through a well illustrated and comprehensive manual. The software conflict is not as serious as the grounding dependency in the A1000. There are three utilities supplied on disk that will by pass most, if not all, of the software conflicts. But the 64 instruction cache disable utility negates some of the possible speed improvement. In theory, this board could push the capabilities of the Amiga over the Macintosh II since the 68020 in the Hurricane does not have to handle screen updating or interrupts. Before I can recommend this board however, I would like to see versions for the 500 and a special one piece version for the CPU slot of the 2000. Also, some more complete documentation is

much desired. Finally and Ronin are likely to do more with this board later as evidenced by a socket on the Hurricane for a plug in, 32 bit memory module. In the future, the dropping of the import tariffs on chips, and the introduction of Motorola's next generation 68030 and 68882, the price of the board and any 32 bit ram should fall. For now, just adding a 68881 is likely to do more for the few applications that use it. Only Sculpt 3D, Draw Plus, and Aztec C 3.4b claim to support the 68881. If you are writing software at the assembly language level, then this can be a powerful addition to the Amiga.

***Hurricane Board \$495.00***  
(w/o 68020 and 68881 chips)

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# Deluxehelp for DigiPaint

*The newest interactive tutorial from RGB Video Creations*

by Mark Smith

Ideas are a dime a dozen, but good ideas are few and far between. The best ideas are so rare that they can be used over and over again. Rod Molina and Bob Gilbert of RGB Video Productions had one of those ideas with Deluxe Help for Deluxe Paint II. The concept of an interactive tutorial could not have been implemented on a better machine. In continuing their concept, RGB has created Deluxe Help for Dig-

iPaint. Although DigiPaint (DP) and Deluxe Paint are totally different programs, the Deluxe Help (DH) interface can be applied to most any Intuition driven program. For those of you that have mastered Deluxe Paint through Deluxe Help, then DP for DigiPaint is a natural progression. It is important that you have at least one meg of ram and two drives to run DP properly, because it requires a lot of memory for some of it's functions. On booting up DH it will load it's separate and necessary

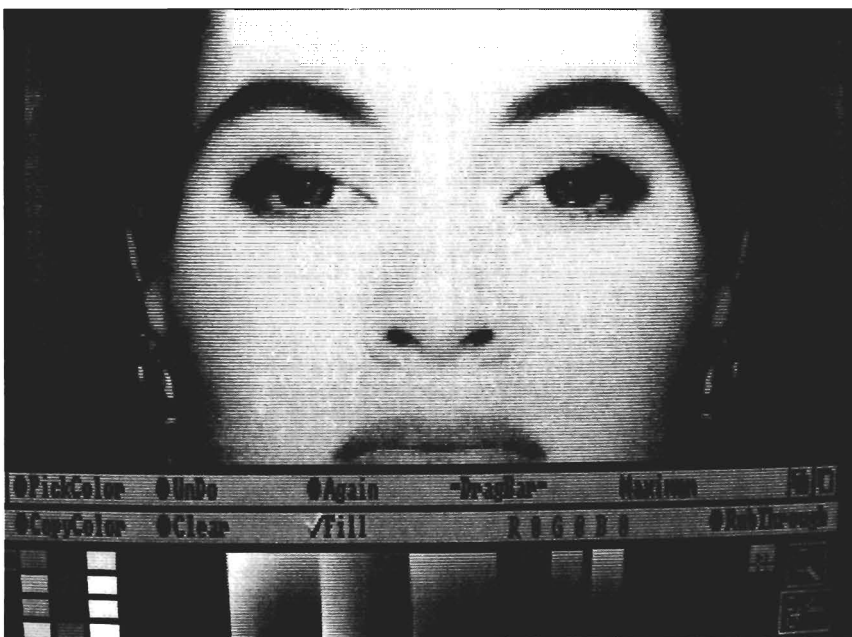
modules and then ask you for DigiPaint. After loading DP and accessing DigiPaint through the normal "keyword from the manual" entry, DH's screen full of menus is ready to teach you the finer aspects of Hold and Modify painting.

DH's screen consist of six menus. The Tools, Effects, Modes, Preferences, Extras, and Information menus contain all the lessons that will teach you to be a junior Da Vinci. Also on the screen is a large button gadget labeled "JUMP INTO DIGI-PAINT", which allows you to enter DigiPaint to practice what the lessons have taught you. I was suprised to find that when I pressed this button I heard a little bell ringing. The sound is from the song "Paranoia" from the group, Art of Noise. I think there is a message hidden in that little sound, and possibly deep philosophical meaning as well...or something like that.

When you select a lesson, a short text description previews the lesson you will be taught including keyboard equivalents. DH then jumps you into DP where it takes total control of your mouse so that it can lead you through the lesson step by step. (No it doesn't move your

*( continued on next page )*

*After selecting your lesson topic, DeluxeHelp operates the DIGIPaint control panel for an automated demonstration*



mouse, just the mouse pointer!) If you were interested in how to pick just the right color for your next brush stroke, the lesson would show you how that perfect shade of green is weeded out of 4095 other colors using the rgb color siding gadgets.

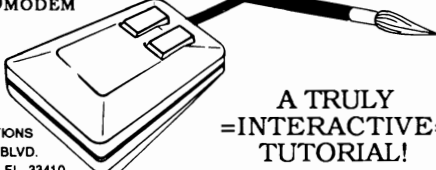
Another nice and necessary feature of DH is the MouseTalker. MouseTalker recites the actions of the mouse to give you a better understanding of when and how something is being selected. MouseTalker may sound like a fluff feature, but is actually very useful. A good tutor should explain even the smallest lesson in a step by step manner. As DH glides the mouse pointer across the screen and selects a function from the menu it may not be clear

to the novice Amiga user how it was selected. For example, MouseTalker indicates a left mouse button push by saying "LMB" in the familiar Amiga male voice. When a tutorial leads the mouse pointer to a menu selection MouseTalker says "RMB", which indicates the right mouse button, "DRAG", which drags the menu to the proper selection and "RELEASE", which confirms the selection.

After the mouse pointer is finished showing you the selected lesson, it returns to DH for some follow up text and some handy little tips for possible uses of the feature. DH then returns you to it's own menus awaiting another lesson selection. As you view the lessons a checkmark appears on

that lesson to indicate that it has already been completed. This doesn't mean that you can't repeat a lesson, but it is intended to keep track for you. If you would like to practice for awhile, you can always hit the "JUMP INTO DIGIPAIN'T" button, and with a ring-a-ding, you're in DP to drive that mouse pointer by yourself. After you have practiced to your hearts content, hitting the LEFT-AMIGA and the letter N keys will take you back to the DH menus.

When DH finishes a lesson it resets itself to get ready for it's next lesson. If you choose to interact with DH, which is what it is all about, then you must make sure that you reset DigiPaint just as Deluxe Help did for itself. If



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you don't, then this may interfere with the next lesson. You should never have a problem if you follow this rule of thumb: Just as you would clean your area up after painting with paints or pastels before starting something new, the same should apply to the electronic canvas. Exit DigiPaint to DeluxeHelp in the mode you found it when you first booted up. In other words, don't leave an image on the screen, and don't switch modes.

If you are like me, when you take the wrapper off a software package the documentation gets tossed aside and the disk goes right in the machine to experiment. I think that people learn much through experimentation and experience. Although documentation can be a useful part of any package, you shouldn't have to read something on the order of *War and Peace* to get something accomplished.

Obviously, this review is about the Deluxe Help concept as it applies to DigiPaint, and to that end, it achieves its goal with grace and style. The interactive tutorial is a concept that should be adopted by all software companies. It is the logical extension to a software package. As the world is forced to become more computer literate, the proper application of this idea will become a continuing reality as we strive towards a "paperless" society.

The multi-tasking abilities of the Amiga family makes this job much easier to accomplish. Computers can be wonderful teaching tools. They are even more helpful when they teach about them-

selves by themselves, one on one with student. This principal applies whether it is a first grader learning about colors with DH for DigiPaint, or a college student learning desktop publishing and word processing.

If you're looking for an effective DIGIPaint teacher who doesn't talk unless asked to, do yourself a favor and invest in Deluxe Help for DIGIPaint. It could save you hours of reading and experimentation and let you spend your time the way you want to...creating.

**Deluxe Help  
for DigiPaint \$ 34.95**

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# Quarterback

Don't let this hard disk backup utility *pass* you by

by Steve Dock

If you are an Eagle Scout, brush your teeth after every meal, and eat daily from all seven food groups, then you already know the importance of backing-up your Hard Disk. The following lesson is for rest of us.

As sure as Murphy was an optimist, the laws of probability ensure that one day when you are working on the most creative, most original, most important project ever conceived with an Amiga you will unexpectedly

see the message:

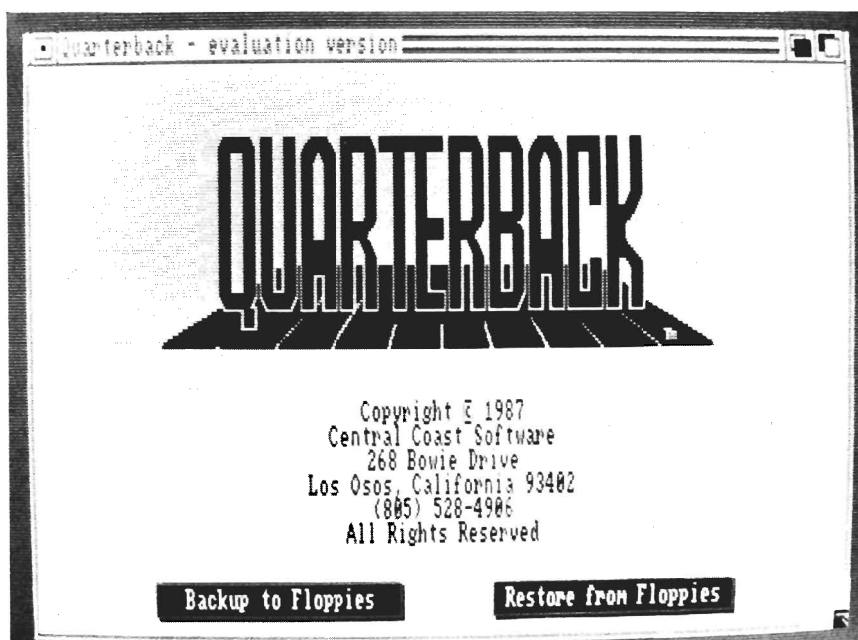
*Volume DHO: Has A Read/Write ERROR.*

You'll click on RETRY four or five times and then comes the GURU. Fortunately, this phenomenon is relatively rare. (I think that I read a scientific study once which correlated high-speed blow-outs with hard drive failures.) It's little comfort that these disasters occur on all computers from monster IBM mainframes to every brand of personal computer. Your reactions may range from teeth gnashing, to computer abuse, to resigned despair... Unless you have de-

veloped a regular program for backing-up your Hard Disk.

Enter Quarterback from Central Coast Software. This new product is a fast, well designed, well behaved backup system for any Hard Drive used with an Amiga. I can already hear you asking why spend hard earned money on a commercial product when there are several 'good' public domain backup programs available? I'll try to discuss the many advantages of Quarterback, but I can it sum up like this: its much faster, much easier, and almost foolproof.

Remember when you first got your Hard Disk? You were a little scared to put much on it. It seemed wise to keep it less than 50% full. Over time that changed, every utility program, all your letters and favorite games now reside on DHO. You've probably even run a backup program once. The two I tried took several hours to transfer 14 Megabytes to 3.5" diskette and required that I sit there feeding new disks into Df0: during the entire process. Then when I tested the restore function, one of the programs failed to work. Cryptic command line options were required to operate the successful utility. It was up to me to determine which files had been backed





up previously. All in all, these experiences did not encourage me to backup my drive regularly.

When you open up the Quarterback case, you'll find one non-copy protected disk and an 11 page manual. The manual is informative, logical and easy to read. You can start Quarterback from Workbench or CLI. Initially you can set options from within the program then save them to a file for regular use. The next time you use Quarterback your selections will be automatically loaded. CLI fanatics can even perform a full backup from command files without ever using their mouse. In its "normal" mode, Quarterback uses the Intuition menus and mouse clicks to make selections. Every selec-

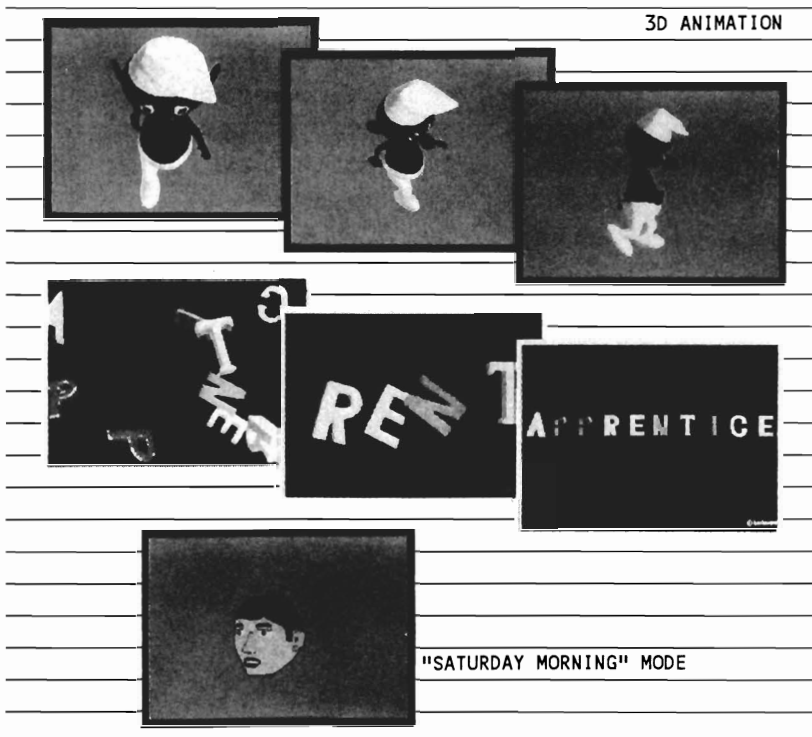
tion starts with a logical default value filled in. Most of the time you'll only need to click on Proceed. The first screen asks whether you want to backup or restore. Next you specify the device which is to be backed up. For most of us it will be DH0. You can type in a directory name if you only want to backup one section of the drive. Quarterback will then read the drive and build a catalog of directories and files to be backed up.

This proceeds very quickly, with an onscreen counter to keep you entertained. My drive contained 1123 files and 14,435,755 bytes of data. You can choose to exclude some files or directories using the requestor which now appears. The counters will adjust

to show the number of files, bytes and diskettes which will be used. Again for most of us, the proceed button is all that's needed. However, if you want to make selections, you'll find this requestor very fast and easy to use. Everything is in alphabetical order with Upper and Lower case sorted together. Click on a directory to see its contents, click on a file or directory name to exclude it. Gadgets are provided for returning to the root directory or up a level to the parent.

Once you click on PROCEED, the final screen with backup options appears. Each selection has a sensible default value ready to use. The first option is "Set Ar-

( continued on next page )



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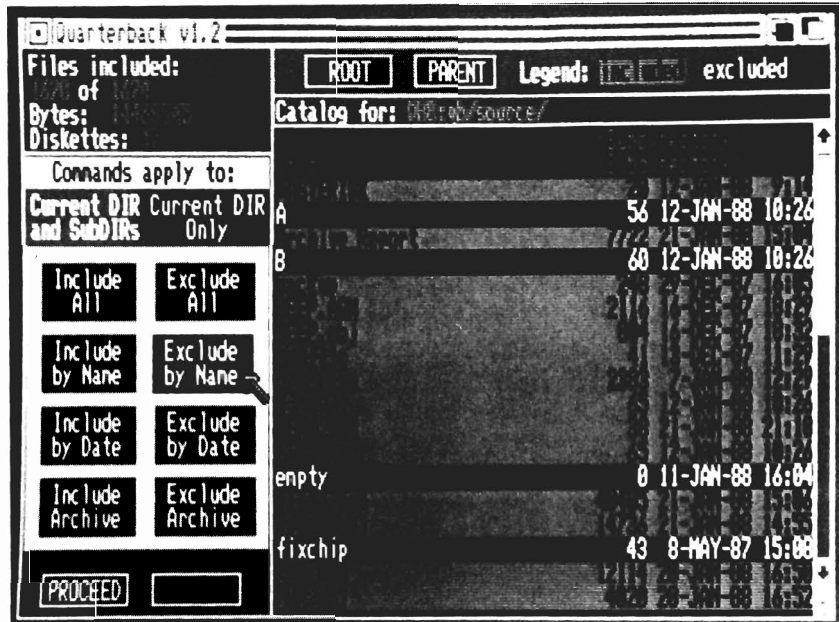
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## Quarterback (continued from previous page)



*Selected files can be effectively filtered so that they are excluded from the backup process*

chive Flag". You may not have known that AmigaDos 1.2 added a feature which keeps track of which files have been "archived". By keeping this flag set on, you are able to perform weekly backups of just the new and changed files on your harddrive. "Read diskette after write" checks each floppy as the backup proceeds to ensure that no write errors occur. "Overwrite AmigaDos Format" tells Quarterback to check for existing files on the floppy disks. If you leave this set to YES, the disk will be overwritten, and even formatted if needed. Other options create a detailed report of files and directories backed up, turn on a loud beep to signal time for a disk change and select which drives to use for the backup.

Here is one of the most visible advantages of Quarterback. You can use df0: df1: df2: and df3: as

backup devices. That means fewer disk insertions and faster backups. As soon as you have inserted a disk, Quarterback will begin copying to it. If you have two or more drives it will automatically switch to the next drive and beep you for a fresh diskette. The backup process is very fast. Backup of 14 megabytes took only 13 minutes using my SupraDrive. Quarterback stores the data in its own non AmigaDos format. The data is not compressed but the storage scheme is more compact than AmigaDos. Only 10 diskettes were needed for my 14 meg. Quarterback retains your directory/file structure in full detail. The filedate, note, protection bits, and archive bit are retained for restoration. You can even begin other work while the backup is in progress. Quarterback multitasks nicely and doesn't grab all available memo-

ry. The entire backup process took less than 15 minutes! George Chamberlin, the program author also deserves to be commended for attention to reality. If you encounter a read/write error during the backup or restore, the program will proceed not crash. All such situations are recorded on the backup report. The backup process is so painless, that I've done two incremental backups already.

I've tested Quarterback on SCSI SupraDrives, ST506 style drives, and a Commodore 2090 Hard drive with equally good results. I took advantage of this test to reformat my harddrive and reload from the backups. This process creates a "tight" disk structure with no fragmentation and is like a tune up for your harddisk. The reload process was very easy, with Quarterback prompting for each disk and checking that I inserted the correct ones. Total time for 14 megabyte restore: 23 minutes.

If you own a harddrive for your Amiga, all your excuses are gone. An initial total backup with regular incremental backups will take little time, requires no advanced degrees and will provide you with data security and peace of mind.

**Quarterback \$69.95**

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# AssemPro

*MACRO and MOVE.L meets MOUSE and MENU*

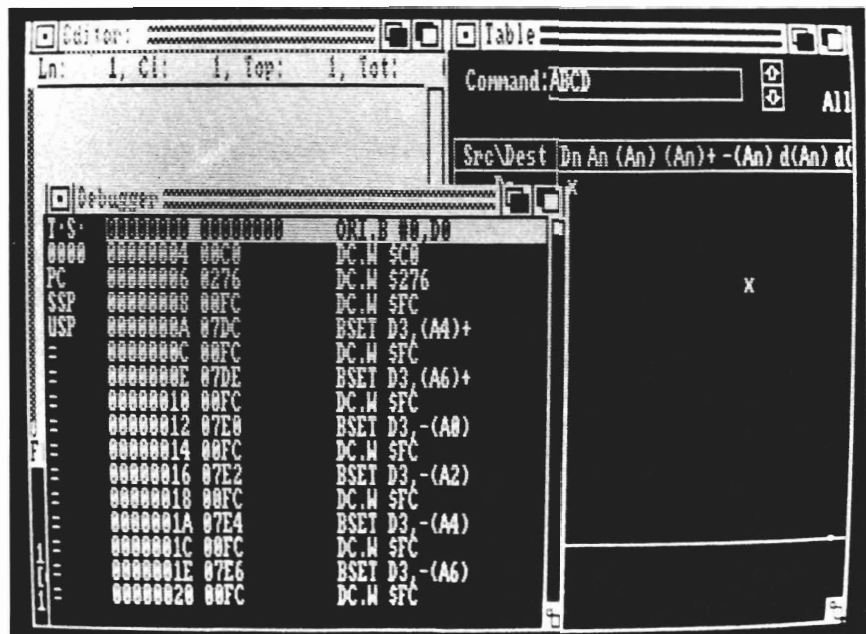
by Dave Haynie

When most folks think of Amiga programs, they generally think of the menus, gadgets, windows, etc. that comprise the Intuition user interface. Yet, when they think of programming the Amiga they generally think of C language. There are two good C compilers written for the Amiga, and while the Amiga library functions lend themselves well to C, there's yet to be a C environment set up to take advantage of the Amiga's modern user interface. I personally use Lattice C, one of the various Emacs-like text editors, and a few other CLI tools. I'm pretty much happy with this setup, but it's no different from the environment I programmed in six or so years ago; editor, compiler, linker, all separate units (running together, of course, if memory permits). But occasionally, for compact code, extra speed, or maybe just for fun, I write in Assembly language. Lots of people cringe when you mention Assembly language these days. They say things like "no one uses Assembly any more", "the Amiga doesn't work well with Assembler, it's a C machine", and "you probably like visiting

your dentist too". Most of what is saying is far more myth than truth. And the latest offering from the Abacus/Data Becker partnership, "AssemPro Amiga", may be a good way for even novice Amiga programmers to get into Assembly programming in a most painless fashion. (Just a side note, if you haven't heard of Abacus or Data Becker before, they've both been pretty visible in the C64/C128 world for a number of years, with software products and reference books. Data Becker is a soft-

ware house in Germany, and when you consider that Assembly programming is more popular in Europe than the US, a product like AssemPro makes sense.) There's no reason Assembly language should be more difficult than any higher level language on the Amiga. The Amiga's not a "C" machine. In fact, more than half of the 1.2 Operating System is written in Assembly language, and the interface to Amiga system libraries is more suited to an Assembly language call than a C call. Most Assemblers on the

*AssemPro includes a built in debugger*



( continued on next page )

## **AssemPro** (continued from previous page)

Amiga, quite like most C compilers and quite unlike AmigaBASIC, are called from the command line of a CLI. You never really go "into" an Assembler program, you merely call the assembler as a CLI command, just like Dir or Info. AssemPro is different, in that it takes advantage of Intuition features like menus, windows, requesters, and gadgets; lending kind of an AmigaBASIC feel to Assembly programming. In fact, it appears that some of the features of AssemPro were inspired by the AmigaBASIC interface. However, while I found the AmigaBASIC user interface very difficult to use effectively, I like the interface used in AssemPro very much.

You invoke AssemPro from either a CLI command line or it's Icon. What results in either case is a system of four windows labelled "Assembler", "Editor", "Table", and "Debugger". The conspicuous absence of that last feature in most other assembler packages immediately makes AssemPro something to look at. Although, if you've got the extra money, there are very good debuggers for general Amiga programming sold as stand-alones.

### **AN EDITOR THAT KNOWS IT'S STUFF**

Moving to the Editor, you appear to have a pretty basic screen oriented text editor, perhaps much like the ED or MicroEMACS programs that come with the Amiga, with maybe the exception of a bit better Intuition integration.

There is a sizable Intuition window with scroll bars. These are

the "smart" style of scroll bars. The text in the window scrolls by as you're moving the bars, not *after* a move as implemented in many programs. There's a "File" menu, from which you can open, save, erase, rename, and compare assembler source files, as well as save editor default settings, including user defined function keys. All file operations work via a simple but excellent file requester that lets you pick subdirectories, parent directories, and all of your installed devices in addition to files.

Many of the functions are similar to what you'd find in any text editor. So why use the AssemPro editor when you're perfectly happy with ED? Well, first of all, the editor has a few advanced functions pretty similar to DEC's "EDT" editor, which is certainly a step above ED. For example, the keypad can be set to give you editing functions instead of numbers. This method is used in EDT, and EDT users seem to find it quite fast. The keypad function knows about A2000/A500 key configuration, as well as the A1000 keys.

Another EDT-like feature are the "shortcut" commands. These are very short commands such as "CU" for cursor up, "BC" for block copy, etc. that can be entered, line-editor style, in a small window that pops up with a press of the <ESC> key. These can even be combined to create more powerful commands and attached to the function keys. The editor supports multiple windows with different files in them, and the cut and insert commands

work between windows.

It doesn't end there, though, as this editor knows specifically about the syntax of Assembly language. For fans of BASIC, there's a "LIST" function that lets you list assembler source from a numeric line number or a symbolic label. The search and replace functions also "know" assembly language; you can tell the search function to find a variable, rejecting any matching text that's not an assembler "variable".

Another Assembler-specific feature of this editor is its error listing capability. After an assembly, both the source and error listing can be brought into the editor. At this point, the two listings are synchronized so that the programmer can ask the editor to display the next and last errors at any point in the file. Overall, I think this will be a very reasonable editor for assembly programming, based on both it's flexibility and it's inherent knowledge of assembly language. It's about medium on speed as far as Amiga editors I've used, and I suspect one of the "fast text" utilities would speed it up. About the only thing I didn't like about the editor is that it requires you to specify the size of it's editing buffer. If you run out of space, you'll have to save your source text, ask for a larger buffer, and then read the source back in. I'm personally a fan of programs that dynamically allocate only the space that they need. I don't consider this a serious problem, and you may not mind it at all.

### **A POP-UP HELPER**

The "Table" window I men-



tioned before is a facility designed to be used along with your assembly editing. It starts up small, and hitting the HELP key in the editor will pull this window up front and make it full sized. I'll have to say I was quite impressed with this little window. It basically documents most of the things you worry about while programming. It can tell you the form of an assembly instruction and it's addressing modes, or the arguments that go to any of the current Amiga library calls. I've run the InfoMinder/Autodocs package along with my Emacs when doing C programming at times, but this is faster, and requires less memory. This isn't a replacement for ROM Kernel Manuals or other docu-

ments, though. It doesn't really explain details, it just shows the exact syntax for programmers who already have a good idea of what they're doing. A nice feature of this utility is that it can be reprogrammed with whatever information you'd like to put into it. This data is coded as an Assembly program, with the "ENTRY" directive used to specify the item your documenting and a pointer to the actual text information to be displayed when that item is selected. You can edit the given table files and reassemble them, or make completely new ones.

**THE ASSEMBLER: BUILT FOR SPEED**

Once source code has been en-

tered, it must be fed to the Assembler. The Assembler sits in its own window, as mentioned before. Via menus, the Assembler allows different options It can accept source directly from the Editor's main buffer, or from a disk file. This lets you edit source in your own favorite editor if you like, but there's apparently no way to turn off the AssemPro editor. There are other settable options that relate to what output files are produced, and what memory types different segments may be HUNKed for in a normal assembly. This is nice, though most new assemblers, like the one that comes with the Lattice C compiler, have that feature. It has some other nice

*( continued on next page )*

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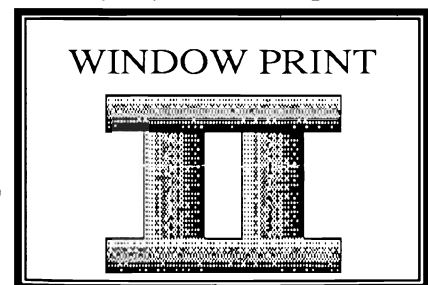
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### AssemPro (continued from previous page)

"smart" features too, such as determining some "address variant", "immediate", and other op-codes based on arguments to them. So you can code ADD, and get an ADDI actually assembled if it's appropriate. This is something to be careful about, since not all assemblers support such conversions. For compatibility, coding the exact instruction you're after is the best bet, but it can become tedious. Another feature is the assembler's ability to produce absolute or PC relative code on command. This is usually something you'd explicitly code in assembler, but it's very common to have the option available in compilers. PC relative code can run faster and take up less space, but it has size limitations. Again, since this is an

option, you could still code PC relative operations explicitly. Another generation option will produce code assembled for an absolute location, instead of Amiga object code. This is useful if you're using the Amiga to create code for another 68000 based machine or perhaps a ROM based application.

There is one feature of this assembler that must be used with care; it's support for the few extended op-codes found on the 68010 processor. While this is good for people playing around with the 68010, it's a very bad habit to use such op-codes if you're writing code to be used on all Amigas. One 68010 instruction, the "MOVE CCR,<ea>" code, should never be used on Amigas. Similarly, the "MOVE

SR,<ea>" instruction shouldn't be used on 68000 based Amigas as it will cause an exception trap on 68010, 68012, and 68020 CPUs. Always use the Exec library "GetCC()" function instead. Anyway, the assembly is started from the menus after all the input and output options have been selected. I tried assembling several programs from the editor and found the assembler to be quite fast. It does have a significant advantage in this respect over CLI based assemblers in that you don't have to wait for the assembler or the source to be loaded into memory, since they're already there. Disk load times can be helped by using a RAM disk, but still, this method should be faster.

One thing I don't particularly

like is the fact that the entire output of the assembler is kept in memory until explicitly saved to disk. This helps make it fast, but requires you to have enough RAM to house both AssemPro and your program. Most CLI based assemblers will use only the memory required to store themselves and the tables they build during assembly; there's no need to store either the entire input or entire output.

There's yet another feature of the assembler designed for speed, the SLABEL and ILABEL directives. Using SLABEL, a series of normal assembly symbols, constants, and macros can be compacted and stored into a file, called a "library" in AssemPro terminology. Then, in any program, ILABEL will read in these compacted symbols, much faster than a normal INCLUDE file would be read. Both Amiga C compilers have a similar facility for compacting their include files. Especially on the Amiga, such files can get very large and consume the majority of your Assembly time, so this is a very important feature.

### ***ELECTRONIC PEST CONTROL***

Another nice feature, as I mentioned, is the AssemPro debugger. While this is a built-in part of the AssemPro system, it will only load files saved from the Assembler window; there's no direct memory transfer available. I assume this is because the Amiga's loader will load code from files only, and it's essential to load the code in a normal Amiga fashion. Assuming you've saved

your assembled file to some disk, selecting the LOAD option from the debugger will load that code into memory; it's up to the Amiga just where the loading will take place. The code can be displayed in various ways, including a full symbolic display based on the symbols used in your source. The code can also be single stepped, with a full graphic display of all registers and a highlight on the current line.

Most of the displayed items can be changed pretty easily. For example, click on a register and you get a requester up that lets you change it, or de-reference it. Click on the current line, and you get a "GO" pointer that will let you jump to the code shown in any other line. You can even get away with doing a few nasty things as the Debugger sets up traps for many GURU conditions. You must leave register A7 alone as it's used by the debugger itself. If you're not happy merely with stepping through the code, there are other options. The "Start Breakable" selection starts the code in a way that allows it to display what it's doing as it's running. This can be stopped at any time. There's also a breakpoint facility so code can be set to run only to a certain point. A "68020 Single Step" can emulate the 68020's capability to step directly to the next branch. Another command, the "Next command" option, steps past a subroutine call as if it were only a single command. There's also a search function and a line-based calculator function for doing quick calculations.

Finally, there's a disassembler and reassembler built into the debugger! These allow you to convert machine code back to assembly, at least after a fashion. The disassembler is a pretty normal disassembler. It returns standard Motorola mnemonics for machine code given it. It can output this to a printer in a nicely formatted form. The reassembler is a variation of the form. It inserts dumb symbolic labels in place of addresses. The resulting code should be usable directly as input back into the assembler. So now we've come full circle.

### ***IT'S NOT ALL SMOOTH SAILING***

While I'm pretty impressed with the overall speed, quality, and features of AssemPro, it does appear to have some flaws as well. How important these are to you probably depends on what you're doing with Assembly.

The first of these problems is compatibility with other assemblers, the Metacomco assembler in particular, as that's as close to a standard Amiga assembler as they come. "But", you say, "this is ASSEMBLY! The machine only speaks one machine language, doesn't it". While the answer to that is YES, there are differences in compiler directives or pseudo-ops. The AssemPro manual warns of one of these: the ALIGN pseudo-op, used to force word or longword alignment. This is different than the standard Motorola code that Metacomco also uses, CNOP. Fortunately, the manual gives a macro that will implement CNOP in terms of

*( continued on page 54 )*

# INTERCHANGE

*Now you can transfer your animation graphics between formerly incompatible formats*

by Steve Dock

Pity the poor Amiga animator. He must constantly choose whether foregrounds and backgrounds are more important than colors and textures. Perhaps a particular project calls for dependent motions or surface details. Those who labor in this fast growing field will recognize some of the particular strengths of the various Amiga 3D animation programs that were mentioned above. At the present time

there is no single program that can do it all. If you were working on still images, there would be no problem. You could use the particular features of many programs one after another until the desired result is achieved. We have the wide acceptance of the IFF standard to thank for this blessing.

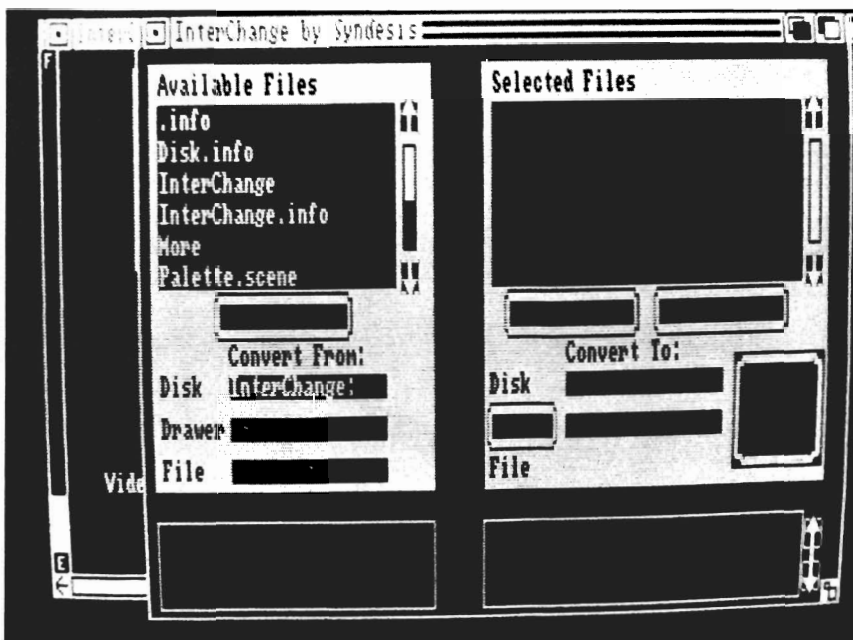
Although there is a standard of sorts evolving for a finished animation file, we're not even close to having a useful standard for the 3D objects that compose the

animations. It may not be obvious at first, but there are many approaches to describing three dimensional geometry. Videoscape 3D, Forms In Flight, Sculpt 3D, Animator's Apprentice, and Silver all use different approaches. The bottom line is this: you can't use the rocking chair with the race car, at least not until InterChange came along.

InterChange is an excellent implementation of a seemingly simple idea. Write a program to convert object geometry from one program's specification to another. Simple matrix algebra, right? Well it could be, if every programmer - author thought alike. Fortunately, they don't, so we find 4096 colors available to each polygon in Sculpt objects, and only 16 in Videoscape. Videoscape allows lines and surface details which others do not. Forms in Flight adds the complications of complex polygons and hierarchical motion. Whew! What will they think of next?

Well, it doesn't matter since John Foust and Harriet Tolly have created InterChange using an extensible modular approach. The Interchange program acts as a user interface and server for the individual modules needed for

*If you can point and click you can convert complex graphics from one format to another*





each format. The basic package comes with Sculpt 3D and Videoscape modules. A Forms In Flight module is also available at additional cost with others to follow.

Actual use of the program is almost too easy. As the 3 ring bound documentation makes clear, you first start Interchange, then click on Icons (or type RUN Module) for each module you will be using. The Interchange screen resembles a file utility with two windows, one for specifying source files to be converted, and one for destination. Files are shown six at one time. You use scroll gadgets and mouse clicks to highlight your selections. In the lower left corner a

third window lists the output formats that are currently available. With the Sculpt and Videoscape module installed you will have three options here: Sculpt.scene, Sculpt.script, and Videoscape.geo.

The Syndesis partners have had to make intelligent decisions with problems of color mapping, 1 and 2 dimensional "polygons" and motion hierarchies. Where the object formats differ, you will find clear explanations and suggestions for minimizing trouble. An example of this care is the inclusion of a Sculpt 3D object which was designed as an example of selecting Sculpt colors which will be compatible with Videoscape. You can learn

much by loading this object into Sculpt and studying each face.

Interchange does its job well and quickly. Until the ultimate animation program arrives, many will need to use more than one 3D animation program. If you are in this category, don't hesitate to add Interchange to your library. Syndesis has provided us with a valuable tool and an outstanding example of quality Amiga programming.

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# LaserUp! Print v 1.2

*A PostScript Print utility from S. Anthony Studios*

by Gary L. Gehman

Perhaps the most important part of the so called revolution in Desktop Publishing was the introduction of the PostScript language for page description. Briefly put, PostScript allows for a program to describe, in a general, machine independent way, how a page should look. This description may then be sent to a variety of printing devices which will draw a representation of the material up to the

resolution limits inherent in the device itself. In this way, the jagged screen image of a 40 point headline can be printed out crisp and clean on a high resolution typesetter that sees the world at an astounding 1250 dots per inch. The Amiga has only recently been blessed with the kind of programs that take full advantage of PostScript, but we already are beginning to see some amazing results.

A case in point is Laser Up! Print by S. Anthony Studios in San Francisco, California. Laser

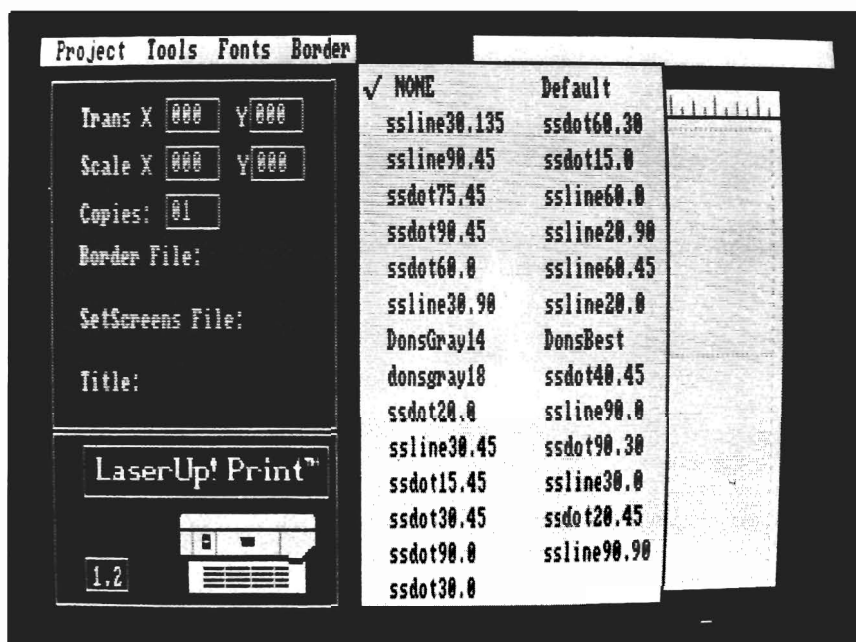
Up! Print (LUP) is a printing utility for the conversion of Amiga's IFF graphics (color or black & white) into PostScript interpretable bit map images. It does not pretend to typeset or allow drawing with structured graphic elements like those found in Adobe Illustrator or Gold Disk's Professional Page; it does one thing and it does it fairly well. This is why I call it a *utility* rather than a *program*.

Since I had extremely mixed reactions to LUP, I will separate the discussion here into two parts: Performance Characteristics and User Interface. I will also preface my comments by stating that I find LUP to be a very valuable tool for the kind of work that I do, and plan to use it extensively.

## *Performance Characteristics:*

I used Laser Up! on an Amiga 2000 hooked up to an Apple LaserWriter and communicating with the printer at a speed of 9600 bps. This is twice the transfer speed of Apple's Macintosh network, AppleTalk, but the increase in transfer speed does not necessarily mean faster printing. PostScript can be a very slow critter when it has to deal with bitmapped graphics. LUP loads quickly and does not take

*By varying the screen configurations, you can create an output most suitable for your printing requirements*



up a great deal of RAM to run. It is quite well behaved and seemed not at all bothered by the fact that I would periodically have to switch the LaserWriter to Apple-Talk to receive other output.

The program will load any Amiga IFF graphic in any screen resolution: 320x200, 320x400, 640x200, 640x400, as well as brushes. These are put into a custom screen which allows for a kind of cropping and it can do some modest dot editing. Once the picture is ready to print, you switch back to the main screen and select various parameters.

LUP contains a variety of border shapes, screen patterns, and three typefonts for the addition of titles (titling is LUP's only text oriented function, and it's an extremely minimal affair). There are also provisions for the adjustment of contrast ranges, scaling, and positioning on the page.

The output results of Laser Up! are nothing less than spectacular. IFF images are rendered in crisp, dark, slightly dithered gray scale. When these are kept to a modest size (no more than 5 inches wide for a 320 pixel wide image), the pictures are nearly publication quality. Enlarge images much beyond these limits (LUP will allow you to blow up an image much larger than a single sheet of paper will hold), however, and the pixels become very obvious and the images less convincing.

This is a limitation of the Amiga screen resolutions and not LUP's problem. No matter the output resolution of your PostScript device, there's simply no way to add information that isn't there. 640x400 screens can go to al-



*A sample graphic output from LaserUp! Print*

most a full page before they begin to look too chunky, but those are the outside limits for current Amiga graphic modes.

Another consideration for those who wish to mass produce their PostScript printed Amiga graphics is the process of screening. Since Printing presses use ink to make their images and since ink tends to run together while still wet, it's very hard to get an even gray tone from a press. Many years ago, the printing tradesmen learned how to fragment photographic information into collections of various sized dots that would preserve their picture information while still being printable in ink. This method was called "screening" since it involved the re-photography of a picture through a diffusing screen.

You can see the effects of screening photography if you closely examine a newspaper

photo. The darkest regions of the photo will never be completely black; they will have tiny white dots interspersed throughout. Similarly, the whites will have tiny black dots. All the medium gray tones will be varying ratios of black to white dots. When printed, these dots will pick up the ink and the human eye, with its peculiar tendency to supply what's not really there, will fill in the rest of the "picture."

Laser Up! knows about all this and provides a number of different diffusion screens for the modification of its graphic output. Since different papers and different inks and different presses can each handle different densities of dots, Laser Up! contains everything from 15 dot screens (very coarse) to 90 dot screens (almost Magazine quality). These are available in various angles of rotation (another impor-

*(continued on next page)*

tant, if subtle, variable) as are line screens and gray screens (more special effects screens).

Most interestingly of all, though, is Laser Up!'s ability to do color separations. That is, it will take a color IFF image and filter, in turn, all the red, green, and blue light out. These processes produce images for the cyan, magenta, and yellow printing plates. Color printing requires four separate images, one for each of the primary printing colors (and black). In addition, each color must be screened at a slightly different angle, so that the color dots lie side by side, rather than directly on top of each other. This results in an even toned color image with no holes or "moire" patterns. (Examine a page of the Sunday Color Supplement with a magnifying glass sometime). LUP does this separation process superbly; all the way down to the proper rotation of the screens!

#### **User Interface:**

If there's anything to quibble about with this program, it's the user interface. Another reason I call this a utility rather than a program is that it presumes that the user will know much more about PostScript than is quite fair. The documentation consists of about 15 laser printed sheets that convey very little useful information. The most direct and intelligible instructions are for how to build a null modem cable for connecting an Amiga and a laser printer.

As I've described, IFF pictures are loaded into an image screen. no problem here. These menus are simple and self explanatory. Go To Format Screen; Toggle

Title Bar; Select Draw; and Magnify are pretty much intuitive. It's in the Format Screen where the problems arise. While the menus here are reasonably communicative, Load IFF; Save Image (PS); Print; etc., the programmers have left a lot of the most difficult aspects of working with PostScript for the user to figure out. Foremost of these are the scaling selections. PostScript allows for the separate and independent specifications of x and y scale. These are numbers expressed in multiples of 1/72 of an inch (a unit of measure known to printers as a "point"). Thus, an inch square would be expressed in PostScript as X scale 72, Y scale 72. Laser Up! has string gadgets for typing in exact X and Y scale parameters, but nowhere does it relate these to the proper aspect ratio of a typical Amiga screen. This forces the user to do a bit of math but only after first determining the proper aspect ratio. Dividing an Amiga image's horizontal resolution by its vertical resolution results in a number approximately 1.6. This means that in terms of pixels, it is 1.6 times wider than it is high. But if you print out a Laser Up! image at this ratio, you will get an image just a bit too flat. That's because Amiga pixels are not square. I have found the best ratio to be about 1.4 or 1.5.

Nor should the user have to deal with this kind of trial and error. I work with laser printers and I could afford to print 40 to 50 test prints and log each one in a notebook, so as to be able to repeat my results. Not every user will be so fortunate (com-

mercial laser printing shops will charge \$1.00 to \$2.00 per page). A better way of programming the user interface would be to use a "standard" aspect ratio as a default value. Users could then specify how tall or wide they need the image and all the rest of the calculations would be handled by the program. Of course, there should be provision for manual override of these defaults (for purposes of special effects printing or distortion correction), but only as a voluntary option.

In the case of the contrast editing menu selection, there is a preset default as well as provision to override it. A small drawing window comes up with a diagonal line representing the default contrast setting. Users are able to erase this line and to draw a new curve representing the contrast bias to be applied to the picture. This works very well as a way to fine tune the gray scale values in an image. Unfortunately, there is no indication on the window as to how the curve one is drawing will effect the image. You have to draw a curve and print it out to see the effect.

On the subject of screens, the documentation says: Experimentation with these options will illustrate their use. Yes, 40 or 50 dollars later.

Similarly, the ability to rotate pages 90 degrees, called "landscape" mode in Macintosh language, has yet to be implemented. What should be a simple menu selectable procedure (and what is, in fact, merely 1 line of PostScript code) has been omitted, forcing the average user to

(continued on page 52)



# KCS

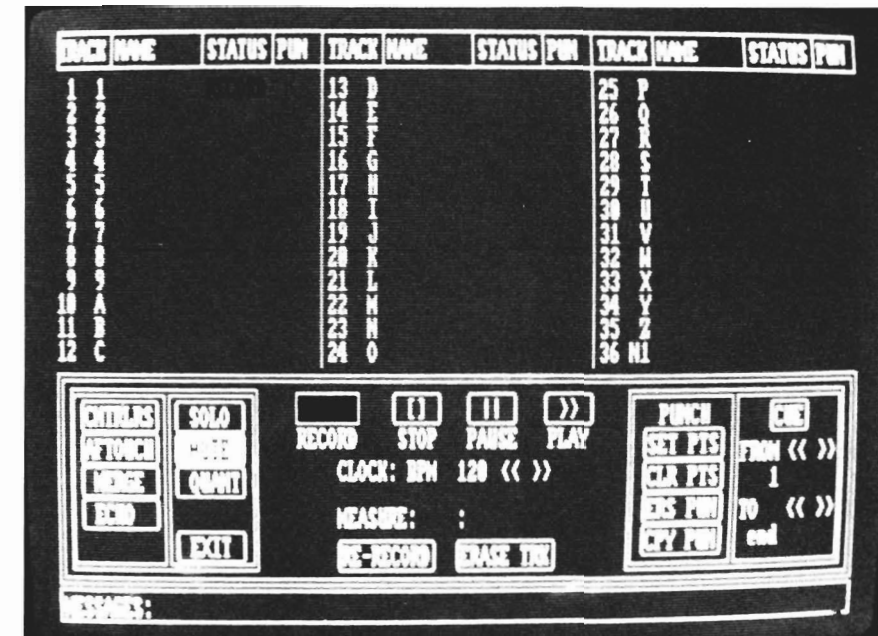
## Dr. T's Keyboard Controlled Sequencer arrives for the Amiga

by Darius Taghavy

Many of you remember the day when you were convinced that the Amiga is the "music computer" due to the combined power of its processor(s), video and audio circuitry, its DMA(Direct Memory Access) and fully implemented multi-tasking operating system. You went out, bought an Amiga, and ... waited patiently for some real MIDI software to show up.

You were charmed for a while by all the pre-releases of MusicCraft (now "Sonix" by Aegis) which is fun and which also boasts of a beautiful synthesizer screen. You were taken by the incredible sound of the Amiga and put all your creative juices into creating nifty demos for MusiCraft. You were jealously glimpsing at the "lowly" C-64 which had more MIDI software than any other computer, and at the Mac for its professional MIDI programs. Even MS DOS machines have some powerful MIDI software available.

As soon as Mimetic's "Soundscape" sequencer appeared, it raised the hope of all MIDIized musicians. But soon it became apparent that although the program is conceptually in-



*The program comes up into Track Mode by default, with 36 of its 48 track indicators visible*

teresting, it is slow and quirky. Again, due to the lack of alternatives, you hooked up all your MIDI gear to the Amiga and desperately tried to be creative in a hostile environment.

Obviously, these are my experiences as a "day-1 Amiga man", but I know they are shared by many. Well, I've got news for you. After Soundquest's Master, D-50, DX-7, and MT-32 editor/librarians (see reviews in FebSentry), and Opcode's "Music Mouse", as well as Diemer's "C-Zar", (all

well designed professional products) arrived on the scene, there were still only promises. Actually, Texture is already out, but it needs special hardware (Roland MPU-401) to operate, totaling up to a whopping \$550 by the time you purchase the components necessary to use the program. From reports, "Texture" is good, but without using the standard Amiga MIDI interfaces, I see no bright future for the program.

While others were busy pro-

*(continued on next page)*

## KCS *(continued from previous page)*

gramming, Dr.T's was busy porting. The result is called KCS (for Keyboard Controlled Sequencer.) This professional sequencer has been out for the Atari ST series for a while and has been well received in the MIDI community. Now, here is David Silver's port to the Amiga! This program is fresh from the printing press, so to speak. The 278 page ring-bound manual was written for the ST version, with a 3 page addendum for the Amiga version attached. This is no drawback though, because the versions are virtually identical. I could easily verify this, because I also happen to have an ST sitting next to my Amiga 1000. A friend brought over his ST version of KCS so we could run them simultaneously. On the Amiga, KCS boots up after Kickstart 1.2. It is installed on WB 1.2 and, unfortunately, is copy-protected. KCS can be backed up to a hard disk, but you have to have your original around as key disk. My main complaint with this is that it slows you down! The icons are well done and KCS's icon is a huge Amiga monitor (allusion to the real thing?)

The time it takes to boot is just bearable and you have to allocate memory to KCS with a slider before you enter KCS's recorder screen. This step has been taken to make the program well behaved in a multi-tasking environment. On a 512K machine you have about 12,578 MIDI events free, which is barely enough to do uncomplicated compositions.

The first impression of the main screen (track screen) is that

of a well organized work area, showing 36 tracks in three columns in the upper 2/3rd of the screen. The bottom is taken up by tape deck and other control buttons.

I started to record fairly quickly, but it took me a while to master the looping procedure: you have to hit <F10> to end recording after your last note, but before the following bar. This is inconvenient, since it forces you to have your master keyboard close to the computer. If you have an A 500, you'll have to put it close to the synth. With a 1000 or 2000 you can at least move the relatively handy computer keyboard. Once used to KCS, you can quickly build up a pattern without having the program getting into your way. In fact, once you record your first track-loop, KCS will record each loop on a new track. Hence, you can build up a 36 track pattern without having to leave the record mode. Respect! I give KCS high marks for the way it records MIDI data.

Of course you can sync externally and define tempo changes in the internal sync mode (in the song mode). An Option screen contains menus for MIDI and extensive timing options. It could take you a while to master every function of this program.

Even though KCS has a "Quantize" button on the track screen, it is only a simple note on/off quantize. But wait until you get into the step time editor! It is a perfect playground for "step-time edit maniacs". KCS has some very powerful editing capabilities locked inside of it.

The edit window occupies the left half of the edit screen and displays 21 lines of MIDI events at once. Scrolling is done via cursor or, a lot faster, using the so-called diamond scroll bars to the left of the editor. There are three speeds in both directions (up and down) available. The amount of information presented at once is quite generous.

The left half of the screen is filled with commands. Just like on the ST version KCS does not use menus, but instead lists all items on the screen. While this is a good idea (it increases speed), I wish the commands were presented in a more orderly fashion, which is tough, but possible in 640 by 200 resolution. Nevertheless, KCS has lots of editing functions. I have had considerable experience with step time editors on different soft and hardware sequencers, and I am impressed. KCS recognizes 22 types of events, seven of which are MIDI events. This includes all system exclusive messages which KCS faithfully record and back up your various synthesizers and drum machine patches without having to buy a specialized general librarian. Of course, this is not as comfortable (there are no edit features) in comparison, but it is an easy and FREE way of employing the Amiga as a MIDI data filer and drive (no more RAM cartridges or cassette interface chaos needed.) Dr. T's is also working on an MT-32, a D-50 and other editors which will run stand-alone or integrated with KCS.

The program has all standard editing features, like cut, paste

and various copy functions. Very powerful is the transpose/auto option which allows you to apply various transform functions within a specified event or measure range. Furthermore, KCS has some unique little extras that come in handy at times. I especially like the "Text" and "Print" commands. "Text" allows you to save an ASCII textfile which could contain patch information or even complete songlyrics for a tune. "Print" allows you to print out a specified region of MIDI events.

All these features translate into truly heavenly tones for a step-time edit fanatic, however, I have three immediate improvement suggestions to offer to the author Emile Tobenfeld:

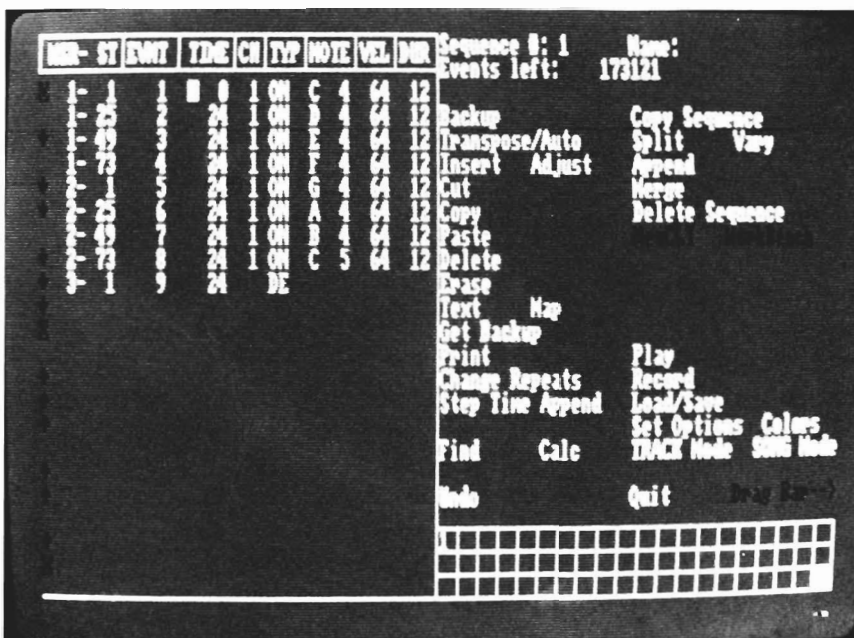
Firstly, the data-entry system is unnecessarily complicated. You have to first highlight the parameter, and then use scroll arrows to change the value. I do not understand why you should not be able to change the value through "dragging" (clicking on parameter and moving mouse while holding button down.) It would be a lot faster and would make the program usage a lot smoother. A sequencer, of all programs, has to be a lightning fast environment, because the program gets used in professional environments where even a short amount of time can translate into a lot of money! At least KCS offers an alternative: you can directly type in the number from the computer keyboard. Again, people who spend more time on the computer than on the musical keyboard will like this feature.

My second complaint is that ed-

its don't get send out in real time. You have to first click right mouse button. It would be better to have instantaneous feedback. For example: you enter or edit note ons in the editor, but you can't hear them! One feature I use all the time in another sequencer program is to click on a program change number event, and use the left and right mouse buttons to scroll up and down

button. This is favoring people who know the whole orchestration in advance, but could be a limiting factor for you experimental spirits.

Thirdly, in the "Set Options" screen, you can enter a MIDI channel ("Drum channel") to be excluded from possible transpositions in the song mode. This is to prevent a shifting of MIDI notes which would trigger differ-



*From within the Track mode edit screen, you can perform a variety of sequence data manipulations*

through the patches on my synthesizers. While you see the numbers change, you also hear the first note of your track with the respective program. This allows you to audition a couple of sounds until you find the one that fits the particular sequence.

This great interactive feature is severely limited in KCS, since it expects you to type in the number or to use the the scroll bars and then click the right mouse

ent samples (your previously mighty kick/snare pattern might turn into annoying cymbal chaos.) While it is good to see this important feature implemented here, it is not flexible enough. It is not unusual for a serious musician to have two or more drum machines. I happen to be one of them, and I constantly use my Yamaha RX-5 and my Roland MT-32 on channels 11

(continued on next page)

## **KCS** (continued from previous page)

and 10, respectively. Now, of course I could remap all my notes as to share a single MIDI channel, but firstly, it would require a lot of tedious button-punching on my RX-5, and secondly, a sequencer has to be flexible enough to allow you to exclude any number of MIDI channels from transposition.

Something peculiar and potentially disastrous happened during one of my sessions with KCS. I lost 45 minutes worth of work when I tried to save a song to the system disk and KCS simply refused and removed itself (in grey) by a system reset. Even though the manual states you should never save to the original disk, I think it is kind of radical to simply reset. Well, at least now you know!

KCS crashed once more when I impatiently staccato-clicked the left mouse button in the file window. KCS has a mouse-click buffer, and would not stop to read my external drive. After a couple minutes I got worried about my drive and disk. So I ejected the disk while the drive light was still on. KCS immediately dismissed in grey! These were the only times when KCS crashed though. If you stay away from saving to the original disk and don't attempt any insane maneuvers like I did, you should have no problems.

I highly welcome the exclusion of the Amiga's internal sound capabilities since it frees up memory and disk space and improves on system overhead! (KCS's resolution is high enough to capture all of your performance and is very steady.) After all, many

of the people that will be using this program could have a couple thousand dollars worth of dedicated professional sound generation hardware around. (It is not unusual for a dedicated MIDI sampler to cost \$2500 or more). Actually, KCS does use sound, but only to play a highly musical metronome. This time keeper has a nice accent on the one. Compliments for this metronome sound!

All in all, KCS is a working and powerful sequencer with very few shortcomings. Even though there is still room for improvement, the existing version (V1.6) is a good basis to grow into a superior sequencer. You'll have to devote some time to learn the many functions however. A lot of operations are only available from the computer keyboard, and the program would not be considered intuitive for most Amiga users, not even for an experienced MIDIac like myself.

Presently, KCS is one of the best sequencer deals around. It's distributor (Dr.T's) is a well respected company in the music scene. If you have to, or want to, do professional MIDI sequencing right now KCS will definitely give you your moneys worth!

It is certainly nice to see the Amiga move up to the ranks of a useful MIDI computer.

**KCS \$295.00**

**Dr. T's Music Software**  
220 Boyleston Street, Suite 306  
Chestnut Hill, MA. 02167

**1-(617)-244-6954**

## **Laser Up! Print**

(continued from page 48)

print horizontal images across a vertically oriented page! If you know Postscript, you can use a text editor and add the needed line manually.

If you're not directly hooked up to a laser printer and you want to use LUP, there is provision for saving the PostScript interpretations to disk for printing at a later time. But, for some reason, LUP will save the PostScript interpretation of images in a file separate from the formatting information. Ostensibly, this is so the same format can be used with other images. Unfortunately, this means the user must download first the PostScript format file, then the PostScript image file, and finally the PostScript command Show-Page, which spits out the finished page.

As I said before, LUP is a very useful program for someone with background in PostScript, or at least someone who has a lot of time to poke around and experiment. For the first time user, however, it can be either very frustrating or very expensive. LUP is not a beta product and these are significant gaps that are a barrier to much of its potential market. One can only hope that the same ingenuity that programmed the image handling routines will be applied to make the program truly "user friendly."

**Laser Up! Print 1.2 \$79.95**

**S. Anthony Studios**  
889 DeHarro St.  
San Francisco, CA 94107

**1-(415)-826-6193**



## ***Publisher Plus*** (continued from page 28)

text unreadable. Furthermore, the program does not make any use of the function keys, nor does the program provide keyboard equivalents for many of the menu operations such as the Continue operation for flowing text or the tiresome Reflow operation.

Any menu operation which uses a file requester automatically reads from the Publisher disk and you must wait until the files and directories are loaded before you can select another device. The program should allow you to select the device you wish to load from. By using FACC II, this problem can be lessened, but it also makes expansion ram a requirement to avoid guru errors.

Our personal feelings about Publisher PLUS spring from a strong feeling that you have to print on a laser printer if you want to call it Desk Top Publish. We prefer City Desk as a publisher program, simply because it supports the cheaper LaserJet and because City Desk is better suited for longer documents. These two programs, though having the same objective of composing a printed page, go about it in such different ways that it is tempting to compare them. For instance, they differ in the way they specify fonts (mouse clicks on the screen versus embedded commands). Both methods, however, can be troublesome, and we'd say it's about a standoff in overall inconvenience. The screen display of Publisher PLUS is substantially better and truer to the printed page than City Desk. Graphics are handled in a very similar manner in the two pro-

grams, but City Desk does it much faster. On the other hand, Publisher Plus does a better job of handling the shading of the images and the printed results are very satisfactory. Editing on the screen, which you can do with Publisher PLUS, but not with City Desk, is a big plus for P+. City Desk has many more controls on how the type will be set, making it more versatile but, of course, more complicated to use.

All of the current programs in this price range leave something to be desired when used for tasks of any complexity. Someone who wants a program to create short documents with mixed fonts and graphics may find Publisher Plus suits his needs very well. It is certainly an easy program to use, even with its inconveniences. To be used well however, be advised that expansion ram is a definite necessity for this, or any, DP program. Version 1.3 of the Amiga Workbench (due anytime now, and said to support 24-pin dot matrix printers) should enhance the printouts of dot matrix DP programs even further, and offer faster output as well.

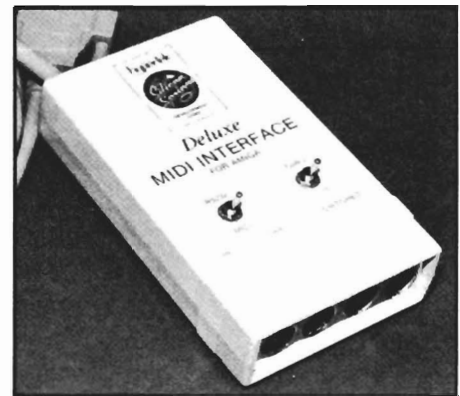
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## **Deluxe MIDI Interface**

There never was an extreme abundance of Amiga specific developers supplying MIDI interfaces for the A1000, but they could be had. The pin outs on the serial ports of the A500 and A2000 were changed, removing a 5 volt supply line that had powered many an A1000 interface.

Not to worry, Hypertek/Silicon Springs has introduced a full featured MIDI interface for the new Amiga models. Not only does this unit provide you with the standard in/out ports; it also incorporates switchable input/



output ports. On the input side, you can switch between a MIDI in or the RS232 pass through. The output ports can be configured via a second switch for an out or through operation.

A high quality cable assembly extends from the box with a molded serial connector at the end. The cable measures in at about 3 feet in length. This extra length should prove to be a life saver for us already over crowded MIDIacs.

### ***Deluxe MIDI interface \$ 89.00***

**Hypertek/Silicon Springs**  
#120-1140 Austin Ave.  
Coquitlam, BC Canada V3K 3P5  
**1-604-939-8235**

ALIGN. Other compatibility differences must be worked around.

For example, the syntax for local labels is different. AssemPro uses "\1:" as the label, Motorola uses "1\$:". AssemPro INCLUDEs can be nested deeper, but they're logically different in that AssemPro's are treated as Macros are, with local variables, while Metacomco's aren't. This usually requires a bit of rewriting, but at least, if you've got both books, it's no great problem. There are bound to be other differences; no real problem if you're writing original code, but if you're assembling code written with other assemblers, this can be a concern.

In my opinion, the greatest problem with AssemPro is that it forces the entire file to be assembled at once. You can use INCLUDE so that the entire program doesn't have to be edited at the same time, but it does have to be assembled all at once. And there's no support for any directives similar to Metacomco's XREF and XDEF codes, which allow an assembly program to externally reference variables and specify external variables to be resolved at link time.

There are generally two advantages to separate assemble and link phases. First of all, this allows very large programs to be assembled as separate modules, and each module can have local symbols. This is only really an advantage if you have a linker that's much faster than your assembler. In the case of AssemPro, it's a pretty close call. It's much faster than the Metacomco assembler and linker, and at least

for the few programs I assembled with it, much faster than the Lattice assembler and the BLINK linker. The fact that INCLUDED files have local symbols makes sense now if you consider the INCLUDE mechanism a substitute for separate modules.

The other advantage of separate modules is not addressed as well in AssemPro, and that's the desire to mix various code modules. I may have some startup code written in assembly, some database functions written in C, more sections perhaps written in Modula2, FORTRAN, or LISP. If each package supports the standard object format, at least as an option, then I can link them all together. If not, I either have to resort to some kind of kludge, or I'm out of luck. And I may not even have the source to some code modules.

### **CONCLUSIONS**

AssemPro offers the first integrated development environment for the Amiga and is a fine package for anyone who wants to learn Amiga assembly. Its especially good if you're coming from a BASIC environment and are not very familiar with the CLI interface. You will, however, need more than just the AssemPro manual. A good book on 68000 assembly language and a good Amiga OS book, such as the Rom Kernel and Intuition manuals is a must. (That's true with any language; you'd need a good book on C and a good Amiga OS book to do much Amiga programming in Lattice or Aztec C, too.) This assembler is also the fastest way you can

write an assembler program on the Amiga, and makes good use of the Intuition interface without forcing you to use menus where key-strokes might be faster. The integrated debugger is also a very welcome addition, and likely to make even an expert's program development go much faster and smoother. If you're writing all your own code and you're interested in development speed, then AssemPro is for you. The only real problem I see is if you're mixing assembly with other languages. That's probably not a very important concern, since most high level languages today include either their own assembler, a way to code assembly language in-line in an HLL program, or in some cases both. But if your favorite compiler doesn't, then AssemPro isn't what you're looking for. If you count on linking your assembly code with external object modules, then AssemPro isn't for you either. In short, I believe AssemPro is a fine assembler for most needs. Even when working on a significant amount of assembler code to be called from C, I would use AssemPro to get the code up and running, then re-assemble it with the Lattice assembler for linking into C. While it's not perfect, I can definitely recommend AssemPro for its speed and integrated environment.

***AssemPro* \$ 99.95**

**Abacus**  
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# Amiga Dual Drive

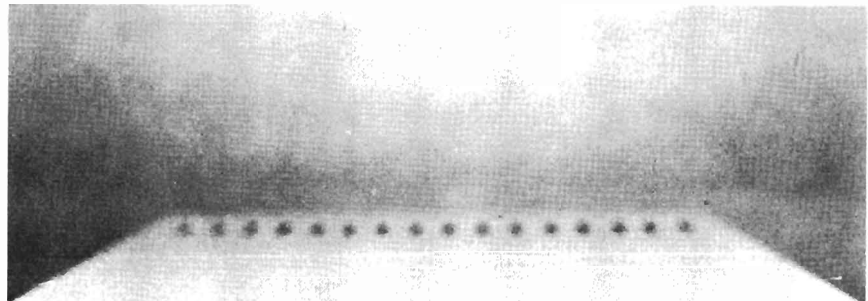
*Double your pleasure with this dual 3 1/2" disk drive for your Amiga*

by Walter Steuber

We all know that a serious Amiga user must have a second floppy disk drive, but how about two or even three external drives? How about having DF0, DF1, DF2 and DF3 all in operation at the same time? Comp-U-Save makes this possible with a self-powered unit that includes two external drives in one cabinet. It can connect directly to the Amiga and work as DF1 and DF2, or it can plug into the Amiga-1010 external drive where it will work as DF2 and DF3. No need to worry about taxing your Amiga's power supply here as the Comp-U-Save unit is fully self powered via it's AC cord.

The two drives reside in a solidly built metal case that is a little smaller than two 1010's side-by-side. Although I was a little nervous about heat build-up with all my components so close together on my crowded computer table, the Comp-U-Save drive did not develop any noticeable heat during use.

As librarian for my local Amiga user's group, the most obvious use was to test out the unit by making multiple copies of disks. I pulled out Marauder II, a diskcopy program that can



DF1

DF2



*Comp-U-Save*

handle four drives at a time, and proceeded to rev up the drives. Marauder took its usual quick 79 seconds to read a disk into the Amiga's memory, after which I inserted new disks in all four drives, pressed the GO button, and started a timer. The Comp-U-Save drives kept pace with the Amiga versions, readily stepping in time as the program sequenced the disk write operation through the chain of drives.

I also ran a variety of commercial software, some with copy protection, and found that the drives performed well with the programs I tested it with. The sound of the heads moving in

the Comp-U-Save unit seemed louder than that of my Amiga drives, but this could be a result of the vibration being amplified by the sheet metal casing.

If you have not yet purchased an Amiga external drive, and you are not prepared to drop the \$800 or so dollars for a hard drive, you may want to consider the Comp-U-Save dual drive as an alternative.

**Dual Amiga Drive \$395.00**  
**Comp-U-Save**

414 Maple Ave.

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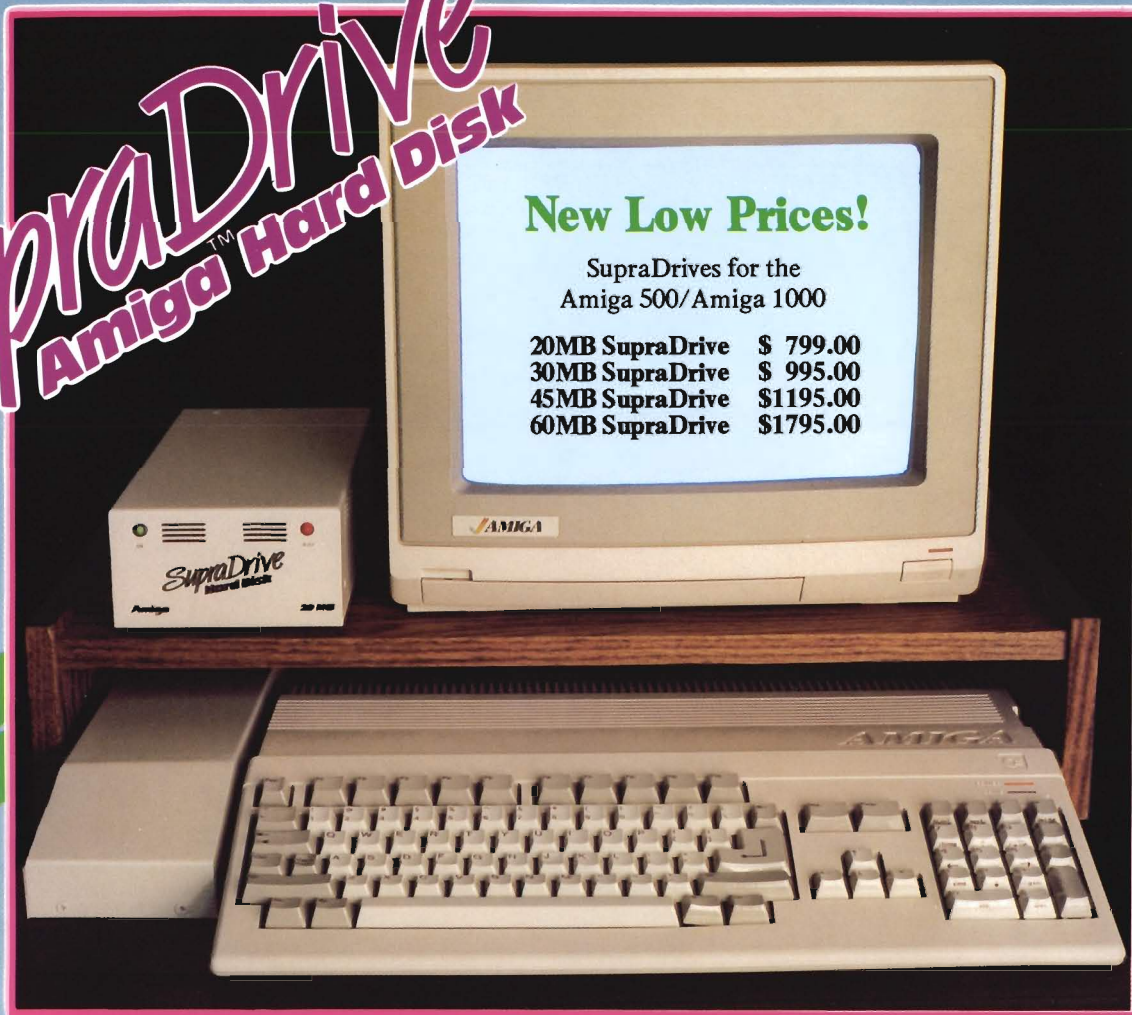
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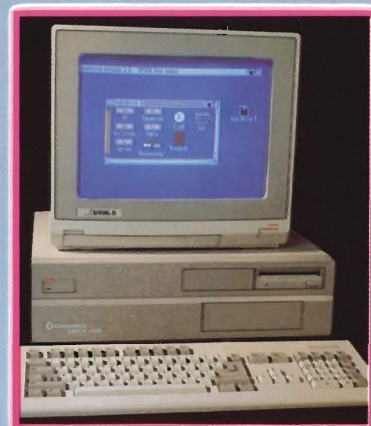
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