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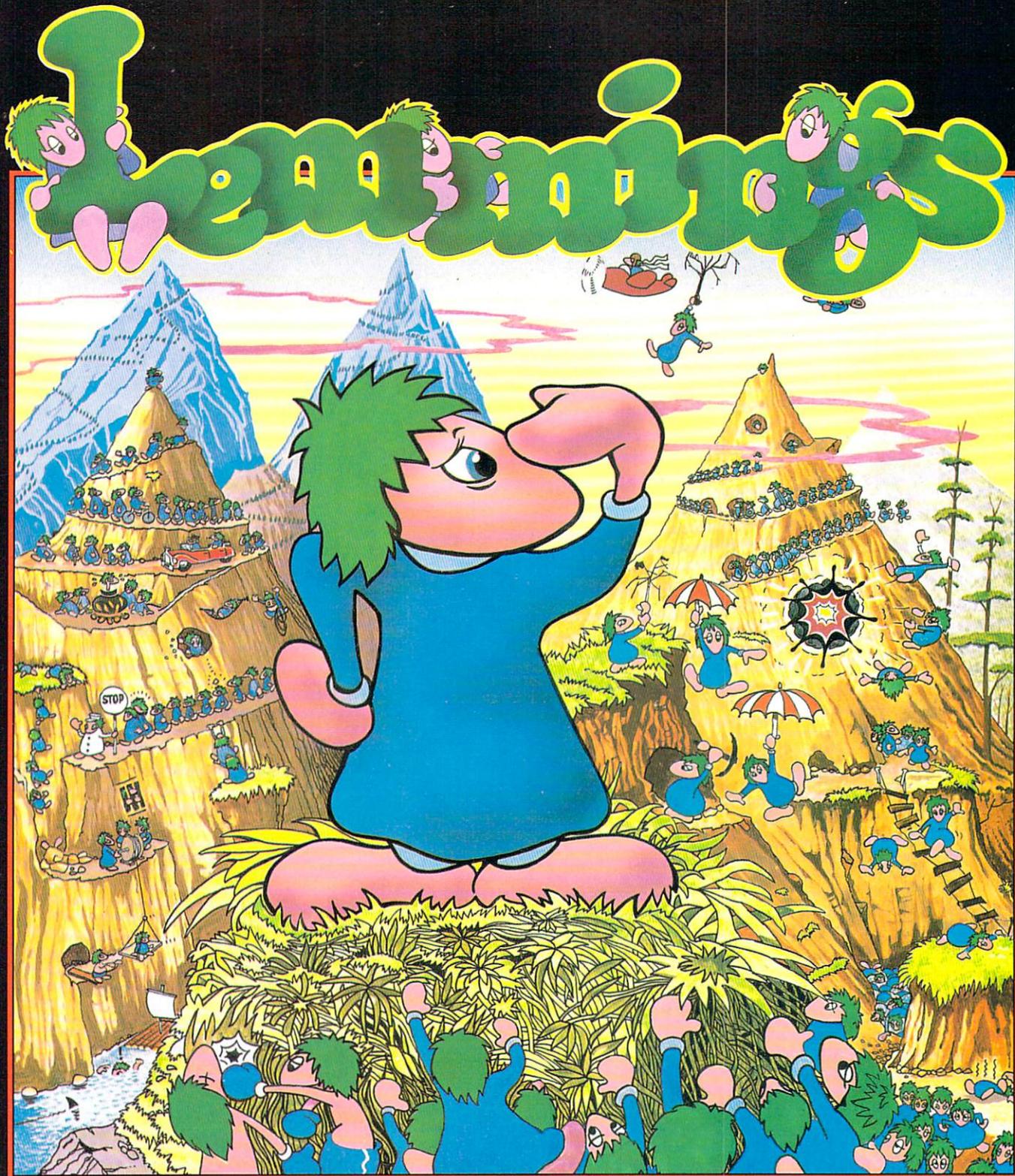
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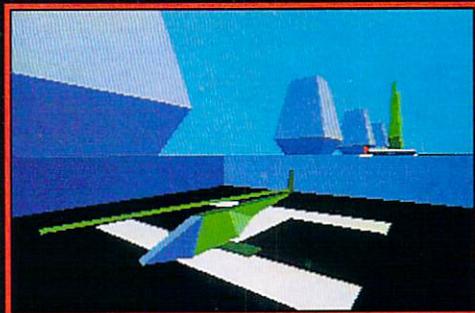
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ABOUT .info

.info strives to be a clear voice for Amiga users and a showcase for the talented people and exceptional products of the Amiga computer community. Everything in this magazine (except for some of the ads) is digitally created, edited, and color separated as complete pages on Amigas running off-the-shelf software and peripherals, and output directly to film.



The 1st magazine produced entirely with personal computers.

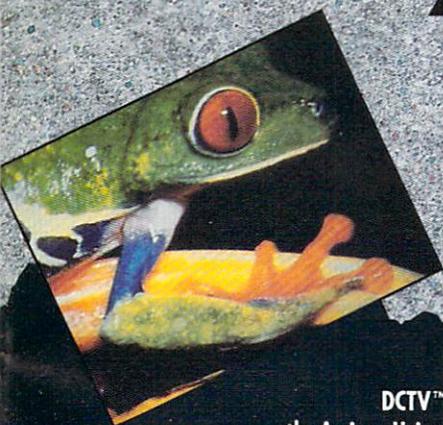


All photographs are of actual DCTV screens.



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DIGITAL

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.info Monitor

Mark R. Brown
Managing Editor

Benn Dunnington
Publisher

THINGS WE'D LIKE TO SEE

It's been quite a while since we've printed a "Things We'd Like to See" list, so here's one, in no particular order. If you're a PD programmer who's looking for a challenge, or a commercial publisher seeking inspiration, just pick one of these ideas and run with it!

 A virtual memory handler - This would allow the Amiga to treat storage devices (floppies and hard drives) almost like RAM, using them to cache data in and out of RAM buffers. This has two advantages: (1) It lets low-RAM machines emulate high-RAM machines, saving those on a budget the cost of upgrading, at the expense of some time and limitations, and (2) It lets any machine bypass the nine megabyte limit of the Amiga by simulating extra RAM space over and above the computer's addressing limits.

 A drive-independent file handler - This would allow files larger than 880K on floppies by linking files across disks. For example, you could store a two-megabyte data file as a single file bridging three 880K disks. The last block of data on one disk would link to the first block of data on the next disk, prompting for its insertion when needed.

 Improved graphics hardware - We still want to see 8-bit graphics made the standard on the Amiga, with 24 bits optional. TI-style hardware polygon draw, on-board compression chips, etc., would mean real improvements in graphics speed. And Jay Miner says the Amiga needs fast Video RAM.

 An Amiga 500-based cartridge game machine - To compete with Nintendo, Sega, et. al. This should be an inexpensive one meg chip RAM machine with a cartridge slot and a couple of controllers, expandable to CDTV or full Amiga 500 status with add-on hardware. We really think there's a niche for this machine.

 An updated PolyScope program - The original "Kaleidoscope" program included with the Amiga 1000 was cool,

and there's never been another quite like it, but it needs updated. We'd like to see more control, a save option, and whatever else you clever programmers can come up with.

 A laptop Amiga - Developers, did you know that Commodore will license the Amiga chips for OEM development? As in a laptop Amiga?

 Nintendo-style games - I get so sick of hearing kids who have a perfectly good Amiga at home begging for a Nintendo just because all the other kids have one. (Too bad we can't get a bunch of child psychologists to testify before Congress that Nintendo ads are destroying their little minds!) We need a collection of cheap Nintendo-looking "knock-off" games to keep the kids happy when they're playing the Amiga. Maybe if they could play "Super Mazio Cousins" on their Amiga they would shut up.

 Real-world simulations - We've carped about this for years. Aren't you developers listening? We need physics, chemistry, engineering, and math (chaos & fractal) construction kits for people to play with. Let people fly spacecraft through the solar system and plot trajectories. Let 'em build buildings and see if they stand through an earthquake. Let 'em mix chemicals and see what molecules result. Give us a way to play with the real world without getting our hands dirty!

 A worldwide information network - When are we going to see a reasonably-priced online reference link to all the world's information? A combination of newspaper, EMail, book & magazine library, and information link to business and government is badly needed now. Current online services are only a shadow of what computer users really need.

Well, those ideas ought to stimulate some activity! What would you like to see? Write and let us know, and we'll pass your ideas along to the developers. Write to us at our Reader Mail addresses.

- Mark & Benn

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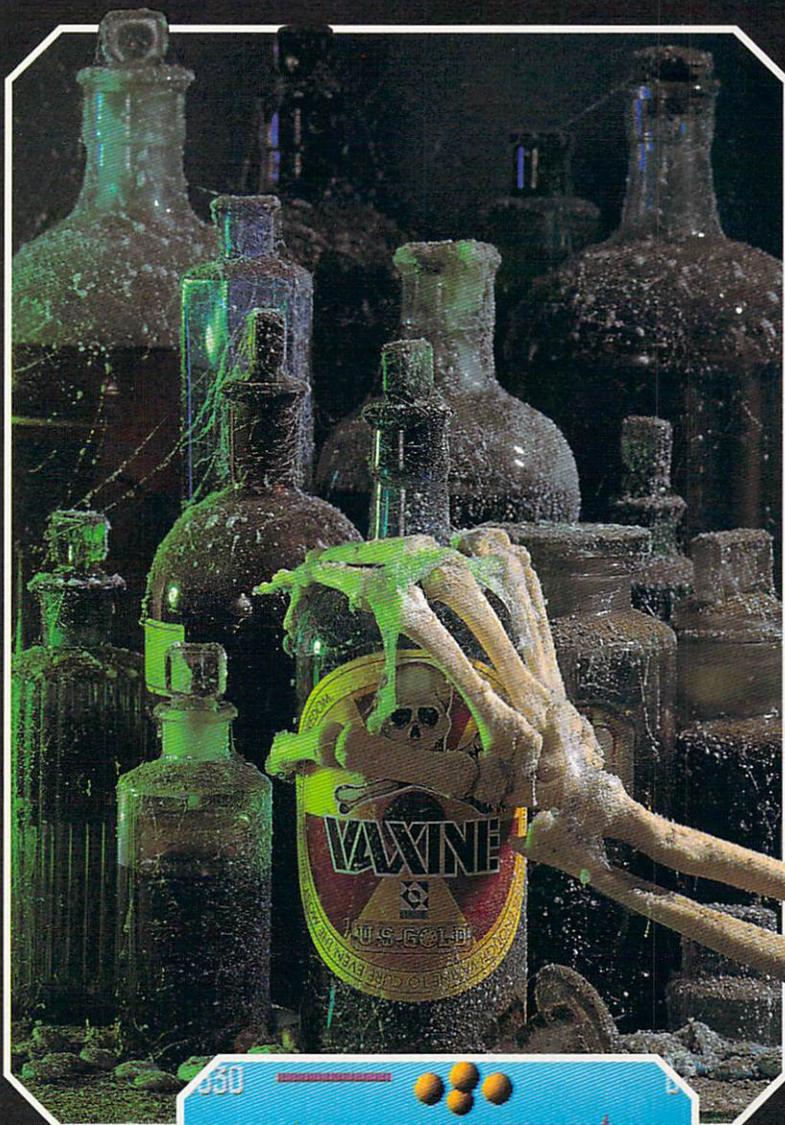


Screenshots are only intended to be illustrative of the game play and not the screen graphics which vary considerably between different formats in quality and appearance and are subject to the computers specifications.

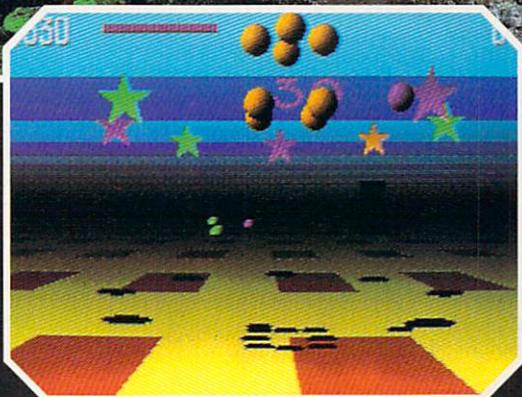
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Designed and produced by the Camel Advertising & Marketing Group, Sheffield, England.



Screen shot from Amiga version

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Back in 1985, I purchased an Apple IIc. Then it seemed a logical choice, even though it didn't run all Apple II software or any hardware. Well, it was a big disappointment. Now I'm looking to buy an Amiga, but I see some startling parallels between IIc and the A3000. The Video Toaster won't fit in it, and some programs won't work with it. Should I buy it and risk another disaster, or stick with a more popular A2000?

- Justin Phillips, Bellevue, WA

Good question, and congratulations on your infinitely wise decision to switch to Amiga. The answer depends entirely on what you want to do with the machine. If you're interested in getting into Video Toaster work immediately, then go with the 2000. If you're not, then the 3000 is certainly the machine for the future. Commodore is very close to shipping the ROM version of the new 2.0 operating system, and once developers get their hands on it, most of the incompatibilities between software, hardware, and 2.0 will undoubtedly disappear. NewTek tells us that while they do have plans to do an A3000 version of the Toaster eventually, no date has been set.

- Mark & Benn

Will .info be doing a comparison between DCTV from Digital Cre-

ations and HAM-E from Black Belt Systems? Both of these products look great but I am confused about the differences.

- Nick Murray, CompuServe

Oran Sands will be taking an in-depth look at both of these new video display systems in upcoming issues, so stay tuned.... (How's that for a sneaky way to keep you reading .info?)

- Mark & Benn

Risking the discovery that this letter is a blatant attempt to be published as the monthly ".info Is Great" letter, I just have to say that your magazine, at least every issue I've seen, is the best magazine published for any computer. I like the style, too. You manage to be professional while still giving the impression of being real people and not robots in cubicles somewhere in an impersonal, air conditioned office.

- Frank C. LeClair, Clatskanie, OR

INTER-CUBICLE MEMO

FROM: Publisher Model, Serial# 68423P,
Dunnington, Benn

TO: Editor Model, Serial# 73342E,
Brown, Mark

SUBJECT: ".info Is Great" letter

1. Print attached epistle in May issue.
2. Turn down air conditioning. Latest studies indicate staff robots operate 025% more efficiently at precisely 62.8 degrees Fahrenheit.
3. Charade still working. Humanoid readers suspect nothing.
4. Destroy this memo.

Iwould like to know where (if anywhere) I might be able to sell my used C64, monitor, and Okimate 10 printer. I'd hate to just throw all these things out, even if I really haven't any use for them. (I want an Amiga!) You don't suppose Commodore needs any spare parts, do you?

- David Chou, Sunnyside, NY

Have we got a solution for you! All you have to do is put a remarkably inexpensive, very effective ad in the .info Unclassified section. (In case you missed it, that was a shameless plug.) We can offer a couple of

other suggestions, too. First, someone in your local user group might take the stuff off your hands. Second, consider donating the system to a nursing home or the children's wing of a hospital. That makes it tax-deductible, and what you save from the IRS, you could put toward an Amiga.

- Mark & Benn

I find that not only the coverage of .info but the very character of your magazine has changed very considerably since you dropped C64 coverage. It has become an Amiga expert's publication, full of highly technical articles written in technical jargon and esoteric abbreviations incomprehensible to novice Amiga users. What I liked about your magazine was that I understood most of the contents; now I don't. A few articles for Amiga novices once in a while, and perhaps a department explaining technical jargon and abbreviations, giving origins, details, applications, and usage, would be greatly appreciated.

- Alfred M. Hurter, Ottawa, ON

Take a look at the .info technical section in this issue - Chris Zamara explains, in layman's terms, how the Amiga works. Since we're immersed in Amiga software and hardware 24 hours a day (one of the requirements for .info employees is learning how not to sleep), we sometimes forget that not everyone has been around all this magical Amiga stuff since 1985 like we have. We'll try to do better for the novices out there, but it has to be a two-way street. There is a learning curve involved with all computers, and at least some of the jargon and abbreviations are things every computer user needs to know. If you think .info is incomprehensible, thumb through a couple of issues of InfoWorld or Byte! We would recommend that every new Amiga user get a couple of books on AmigaDOS (like Abacus' AmigaDOS Quick Reference) and browse through them. We've found, too, that most people pick up computer-speak by osmosis; after you've heard it long enough, you start to understand it from the context.

- Mark & Benn



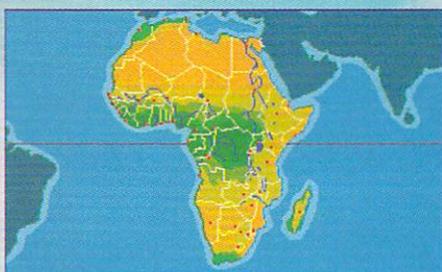
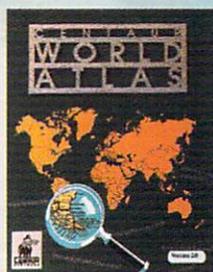


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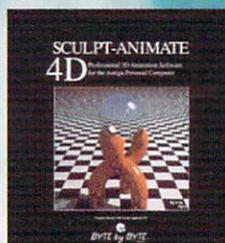
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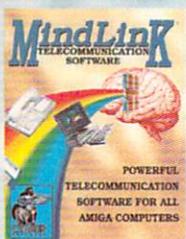
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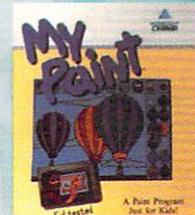
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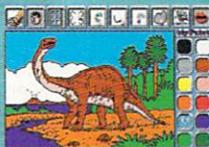
A new, extremely powerful modem package for your Amiga. Versatile features include X-Modem, Y-Modem and Z-Modem protocols, integrated scripting language, built-in timer, and exclusive text-clicking feature. Just click on a word on the screen to transmit it to another computer. Fully Multitasking.

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"The Paint Program Just For Kids" just got better!

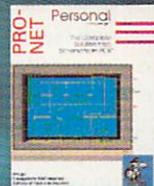


New Version 2.0! Everybody loves My Paint. This highly-acclaimed paint package was designed especially for children but it's



fun for all ages. Includes an animated-icon interface, drawing tools, special effects, multiple palettes, digitized sound effects and more. A really nifty computerized coloring book with 28 pages to color in. Also available: Additional coloring books for My Paint: Alphabet Fun and Majefix Characters.

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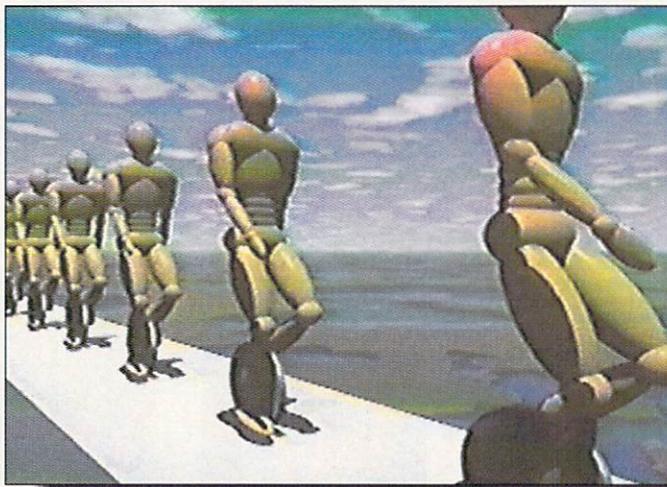
Professional Techniques for Deluxe Paint III



One-hour VHS format instructional video. The most popular Amiga video ever released! Learn how to get the most out of **Deluxe Paint III** from Amiga artist Jeff Bruette and **DPaint's** creator, Dan Silva.

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NEW PRODUCTS



A still from Miramar's computer animation video, *The Mind's Eye*.

VIDEO SPECTACULAR

Always on the lookout for the visually stunning, we first heard about **The Mind's Eye** from Roy Tretheway at Premier Software and the producer, Miramar, was kind enough to provide us with a copy. After peeling our socks off the opposite wall, we watched this 40-minute computer animated video a few bazillion more times. Miramar has taken bits of previously released computer animations (we recognized scenes from such animation pioneers as Apollo, Bell Labs, Digital Productions, Cranston/Csuri, Pacific Data Images, Digital Effects, and Robert Abel & Associates), added some new ones, and set the whole thing to an original score, which is available by itself on CD. The result is a sort of computer *Fantasia* for the '90s, something you'll be watching over and over, as well as inviting the whole neighborhood in to see. None of the animation was done on Amiga, but most everything you'll see in the tape can now be done with NewTek's *Toaster* and existing software. If you're looking for video and animation ideas, *The Mind's Eye* will certainly expand your horizons. Premier has the VHS tape available for \$29.95, and Miramar will soon be releasing it on laserdisk. Miramar can be contacted at 200 Second Avenue West, Seattle, WA 98119. 206-284-4700. Premier is at PO Box 3782, Redwood City, CA 94064. 415-593-1207.

ADPRO ADDITIONS

ASDG has released three new add-ons for their *Art Department Professional* image processing software. The **Professional Conversion Pack** (\$90.00) provides input/output modules for Targa, TIFF, and Rendition format 24-bit files, which are commonly used in high-end workstations. ASDG is also offering the **Polaroid CI-3000 Digital Palette** (\$4495.00) and a driver for it. The device is a digital film recorder that guarantees accuracy to 24 bits; and it can make that claim since it operates at 33 bits per pixel. It has an addressable image resolution of 2048 x 1638 pixels and includes camera backs for 35mm and Pack film, along with a Power Processor for developing 35mm instant film. Autofilm and 4x5 camera backs are available separately. The **Polaroid CI-3000 Driver** was specifically written to give complete control over the film recorder from within *ADPro*, which means that anything you can load into *ADPro* can be dumped to film in the CI-3000. ASDG, 925 Stewart Street., Madison, WI 53713. 608-273-6585.

FINDING YOUR WAY

Elkon Enterprises has published the second volume of their game hints, walkthrus, maps, and other goodies to help you when you've been stuck in that same dungeon for six weeks and

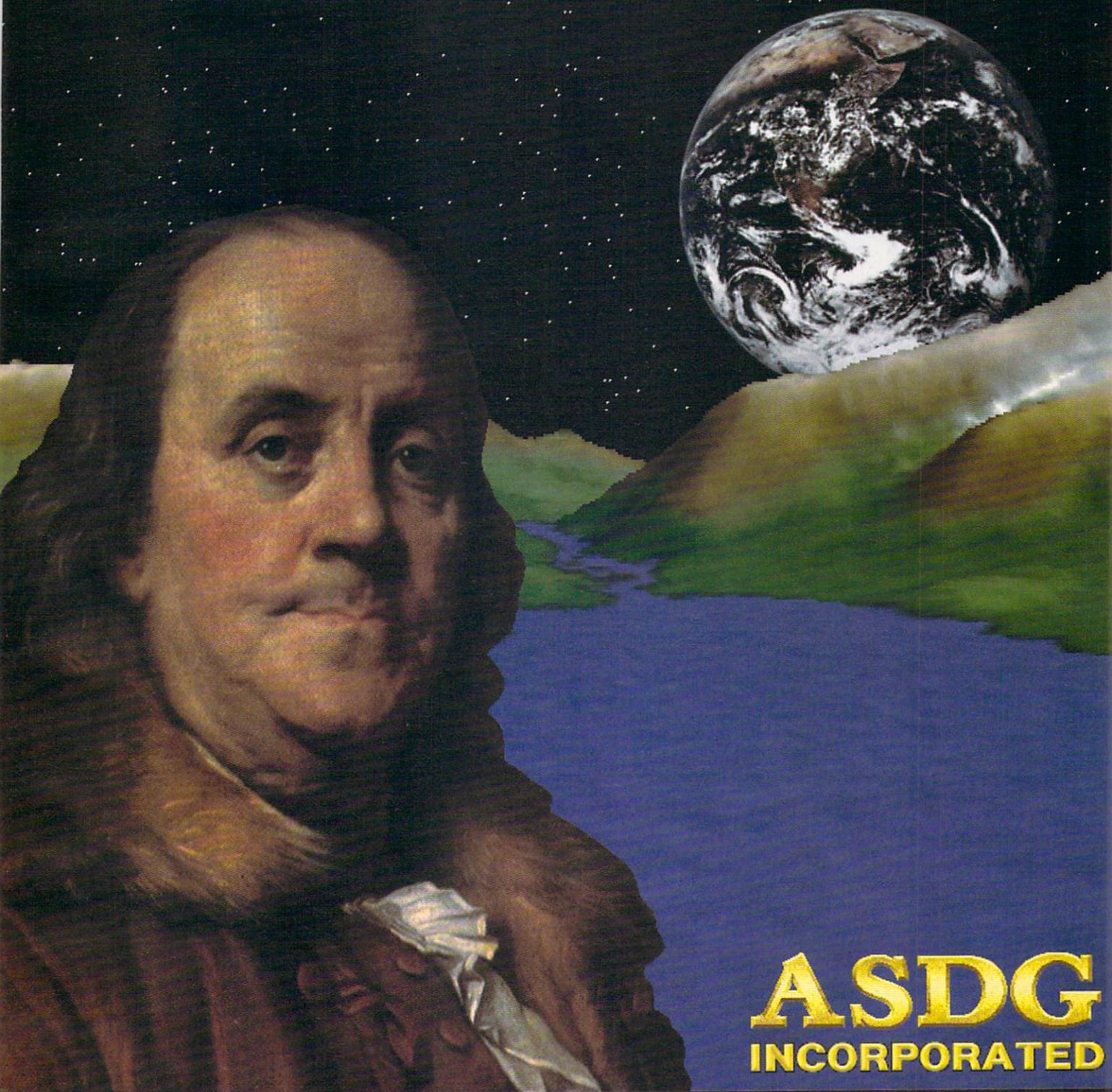
still don't have an inkling how to get out of it. **The Revised Ultimate Hint Kit Volume II** includes, among many other things, maps of *Beast I & II*, *Eye of Horus*, *Pool of Radiance*, *Might & Magic*, and *Infestation*; walkthrus of *Colonel's Bequest*, *Drakkhen*, *Leisure Suit Larry III*, *Might & Magic II*, *Neuromancer*; character editors for *Drakkhen*, *Champions of Krynn*, *Pirates*, and *Might & Magic II*. There are also cheat patches (for unlimited lives or power) for *Xenon*, *Infestation*, *Killing Game Show*, *Captain Fizz*, and more. \$26.95. PO Box 4164, Wichita Falls, TX, 76310.

ROCK OUT

Roctec Electronics has been manufacturing Amiga hardware for third parties for the past five years or so, and now they've started marketing the stuff under their own name. They make several external floppy drives, including a 5.25" (RF 542, \$220) switchable between 360K and 880K, thus optimizing it for Bridgeboard owners. They also make a super slim drive that's only 0.9" high (RF 332 C, \$130) and a standard internal floppy drive (RFB 354 C, \$120). Roctec's 512K RAM card, with clock, for the A500 is very tiny and has a switch that can be mounted outside the computer to turn it on and off. It retails for \$79. More interesting is an external virus protection device. The **RockKnight** (\$50) plugs into your external drive port and then an external drive is plugged into it. The little box has an LED readout of which track is currently being accessed, along with two red buttons. One button will prevent any writing to the floppy, while the other disables any writing to the bootblock. The box will even sound an alarm if something fishy (or virus-y) tries anything funny with your floppy. Roctec also offers a very sleek replacement mouse (RM-300C) for \$50. And the company offers a low-cost (\$300) genlock with fade and dissolve functions. The **RocGen** can be switched between internal and external power sources. 170 Knowles Drive, Suite 202, Los Gatos, CA 95030. 408-379-1713.



IMAGE PROCESSING'S COMMON GROUND



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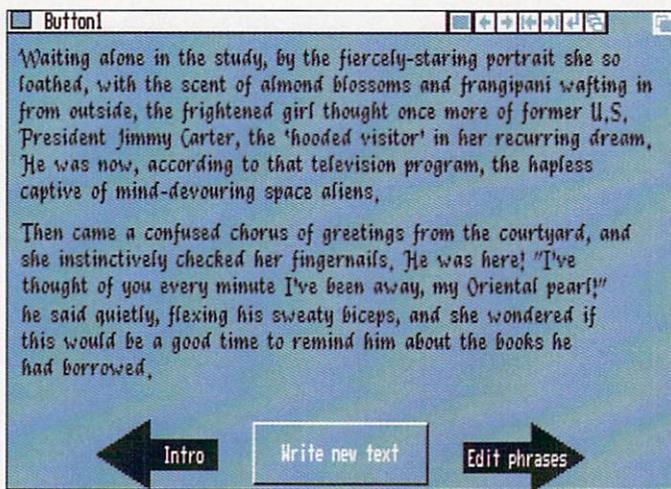
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NEW PRODUCTS



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demo.



HYPER TOME

The hypermedia bandwagon is rolling along at full steam and everyone seems to be jumping on. The latest hyperproduct we've seen is *Gold Disk's HyperBook*. Written by .info technical support editors Chris Zamara and Nick Sullivan, it's the simplest to use applications generator we've seen yet. The interface is very easy to navigate and provides control over page creation, text, buttons, lists, graphics, and about anything you could want for making a killer presentation or other application. Probably the best thing about it is that the system is all up front; you don't have to wade through layer upon layer of menus and requesters to get anything done. Virtually everything is accomplished by point-and-click, and you can even run other applications from within *HyperBook*. For example, there are menu items for running your favorite wordprocessor and/or graphics program. The real heart of *HyperBook* is ARexx, with the support so well done that *HB* could very well become the standard front-end for ARexx. About the only things lacking in *HyperBook* are direct support for sound and music, but with ARexx it's a fairly simple matter to do it yourself. In fact, by creating your own ARexx functions *HyperBook* can be expanded to the limits of your imagination. One of the best things about the

package is the disk full of examples. Software usually takes itself far too seriously, but Chris and Nick have pulled out all the stops and devised examples that will have you rolling on the floor. Pictured is our favorite, a romance novel generator. It picks phrases at random from a list of classically loony cliches and plugs them into two paragraphs that will make you laugh out loud. Other examples include a comprehensive ARexx guide, an illustrated version of Lewis Carroll's *Jabberwocky*, a very useful appointment book/calendar, a glossary of delightfully obscure words, and many others. \$99.95 from Gold Disk, 5155 Spectrum Way, Unit 5, Mississauga, ON Canada L4W 5A1. 416-602-4000.

FONTS

There's a saying that you can never be too rich or too thin, to which we would add that you can never have enough fonts. *Shereff Systems* obviously agrees and has released a collection of new fonts to use with the *Video Toaster's* character generator. The novelty is that they don't have to be converted; they're written in the *Toaster's* font structure. There are 17 different styles, anti-aliased, of course, and they come in 26, 38, 50, and 66 scanline sizes. Continuing the peculiar new tradition of naming computer things after

kitchen devices and food products, Shereff calls the three disk collection **Bread & Butter**. If that still isn't enough characters for you, and you need some new ones for non-*Toaster* uses, Shereff has another three disk set, **Video Fonts II**, which consists of seventeen styles, each in four sizes. These fonts conform to the Amiga ColorText standard, are anti-aliased, and designed to go along with Shereff's *Pro Video* series character generator/titling software (though they'll work equally well for other purposes). 15075 SW Koll Parkway, Suite G, Beaverton, OR 970106. 503-626-2022.

THE CORRECT TIME

A Canadian company called *Digital Processing Systems* is shipping what they call their **Personal TBC**, a video timebase corrector on a card that fits into one of the PC slots in an A2000 or A2500. Listing at \$995, this is the first timebase corrector we've seen for under \$1000. Designed to work with the *Toaster*, up to four of them can be installed in a single computer and it boasts full frame storage for infinite window timing correction. It's compatible with any VCR, including Super-VHS and Hi-8. For more information, contact Digital Processing Systems, Inc., 55 Nugget Ave., Unit #10, Scarborough, ON, Canada M1S 3L1. 416-754-3323.

RAM FOR EWE

Great Valley Products is shipping their new **Series II RAM Expansion** board for the A2000 series. It comes with two megs of auto-config memory installed, and it's easily expandable to eight megs via SIMM modules. The thing also supports the six meg configuration that provides the optimum memory for A2088/A2286 bridge-board users. Cost of the board is \$249, which includes the two megs of factory-installed memory, with each additional two meg increment adding \$200 to the price. GVP, 600 Clark Avenue, King of Prussia, PA 19406. 215-337-8770.

More Toast for Less Bread

MEGA-MIDGET RACER™

If you do graphics, animation, games or video on your Amiga you need the Mega-Midget Racer™.

- * 68030 accelerator 20, 25, 33MHZ same board.
- * Co-processor socket clocked for 20-50MHZ 68881/882 math chip.
- * 68000 is resocketed on board for complete compatibility.
- * Gives you more power than an A3000.
- * Optional Dram expansion allows 1-8MB of additional 32-bit ram.
- * **Only 68030 accelerator that fits the A500/A1000/A2000. A1000 Call!**
- * Creates a monster game machine for programs like Falcon™.
- * Cuts ray-tracing times 30X-60X for Sculpt™ or Turbo Silver™.
- * Speeds up frame rates, screen redraws, and overall performance.
- * Lowest price 68030 accelerator for any Amiga.

If you need to add more memory to your system for running applications like the Video Toaster™, then add 32-bit memory the least expensive way with the Mega-Midget Racer. CSA offers the best price/performance answer for upgrading your Amiga A2000 with the capability to add 19 MB's of system memory. Why pay for an expensive solution when the Mega-Midget Racer gives you everything you need to expand your system without spending a fortune on the accelerator. Don't just add memory to your Amiga. Add 32-bit memory the least expensive way with the Mega-Midget Racer™ by CSA.

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MC-68000, 68030, 68881, and 68882 are trademarks of Motorola Inc.
Mega-Midget Racer is a trademark of Computer System Associates, Inc.
Video Toaster is a trademark of NewTek.



COMPUTER SYSTEM ASSOCIATES

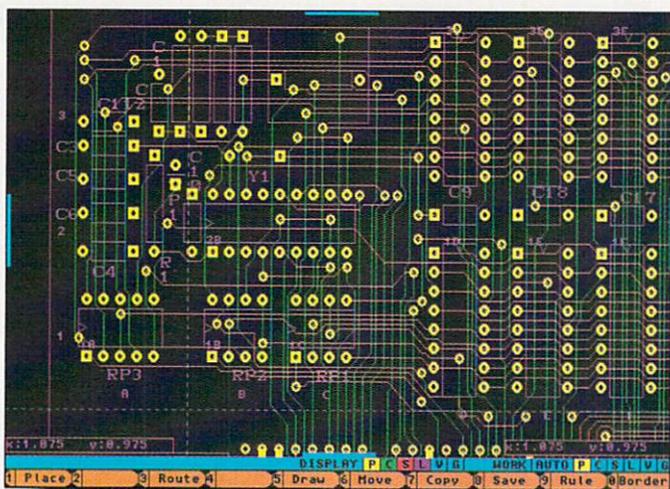
7564 Trade Street
San Diego, CA 92121
(619) 566-3911

Circle #103 on the Reader Service Card.

NEW PRODUCTS



Design and print your own circuits with Centaur's *Pro-Net* and *Pro-Board* series.



ON THE CIRCUIT

Centaur Software is shipping four new schematic/printed circuit board design packages. Developed by Prolific, Inc., the four boxes are actually two versions of a pair of complementary programs. **Pro-Net Personal** (\$179.95) and **Pro-Board Personal** (\$179.95) provide a menu-driven system for creating circuit schematics, with such features as automatic device number/section assignment, variable template size (which follows MIL-STD 860), a library of pre-drawn devices, bus bundles, grid snap, rubberbanding, DeMorgan equivalence, signal name stepping, and dynamic error checking. The *Pro-Board* package is the artwork generation half of the complete package and is billed as an intelligent, single line auto-router with high density capability. It also features automatic layering, which permits the user to route a pair of signal layers without specifying the active layer first. Other features include adding vias on the fly (as well as adding them to existing traces with a query), automatic generation of power and ground planes, dynamic design rule checking, and library parts down to 0.001". The result of all your labor can be printed on dot matrix through Preferences for rough proofing, and the program directly supports HPGL laser printers, plotters, and Gerber photo plotters. The second set of

programs are **Pro-Net Professional** (\$499.95) and **Pro-Board Professional** (\$499.95). Besides the price, the primary difference between the two versions is that the Professional series includes post-processing capabilities, such as automatic generation of net lists, bills of materials, component maps, signal page references, and automatic error checking. Among other things, these advanced functions include the ability to check the component placement according to the net list, generate power and ground planes automatically per the net list, and automatic continuity checking. For more information, Centaur can be contacted at PO Box 4400, Redondo Beach, CA 90278. 213-542-2226.

MEDIA SHOWOFF

Due to ship by the time this hits print, **MediaShow** (the preliminary title was *ShowMaker*) is Gold Disk's entry into the multimedia wars. The program is billed as a multimedia sequencer, which by exploiting the Amiga's multitasking, can be loading one segment of an animation or presentation while another is playing. *MediaShow* has a built in video titler that can overlay text on top of whatever is playing on the screen and includes such effects as outlines, dropshadows, and multi-color extrusions. There are also

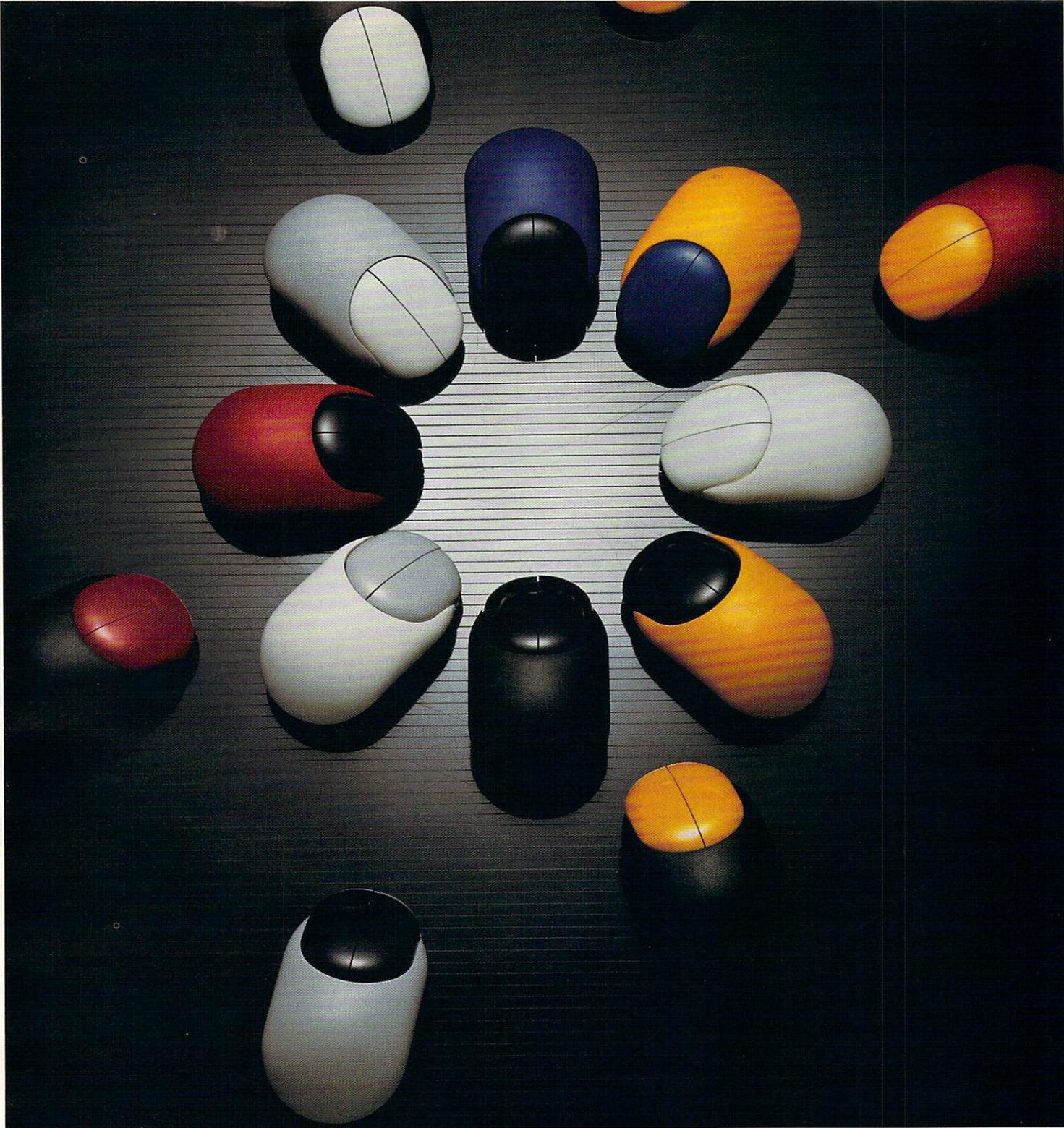
built-in transitions, wipes, fades, and the like. It uses a timeline metaphor for controlling what happens when and it supports files from most popular paint, rendering, sound, music, and animation packages. *MediaShow* will retail for \$129.95. Gold Disk, 5155 Spectrum Way, Unit 5, Mississauga, ON Canada L4W 5A1. 416-602-4000.

CARDS

We are always looking for things to make life around an Amiga a little easier, and *Vidia's* reference cards fit the bill nicely. The latest they've published include the **Guide to Professional Page** (\$6.95), which is primarily a sample book of typefaces, rules, screens, symbols, pattern fills, and the like so you can see what something looks like before you go the trouble of putting it on your page. The **Amiga Programmer's Quick Reference Guide** (\$6.95) is just that, with an emphasis on C and assembler code. Also available is a new version of the **Amiga Graphics Reference Card** (\$2.95), which now includes information on the A3000 modes, PAL, and 24-bit hardware. PO Box 1180, Manhattan Beach, CA 90266. 213-379-7139.

SOLUTION TO A GLARING PROBLEM

Computer Safety Products has introduced an aerosol spray-on plastic coating called **Glare Shield** that is applied directly to the screens of computer monitors and television sets. CSP claims that the spray dramatically reduces glare, reflection, and ultraviolet emissions. Annoying related problems such as eye strain, blurred vision, and fatigue are also reported to be greatly reduced. One three ounce can will provide a permanent coating for three standard monitors. *Glare Shield* contains no fluorocarbons. Now if they can only find a way to keep the dust from sticking to the monitor. Computer Safety Products, 5440 S.W. Westgate Dr., Suite 250, Portland, OR 97221. Tel 503-293-3081.



Beetle Mouse

Finally a fantastic mouse for only **\$49.95**. The Beetle Mouse has a resolution of 320dpi and is ergonomically designed to fit your hand. New light weight components make the Beetle Mouse ultra-light and fast with high quality switches that will last. Winner of the TIDEX 90' Award for innovative product design. Available for the *Amiga* and *Atari* computers. Includes **MOUSE PAD!**

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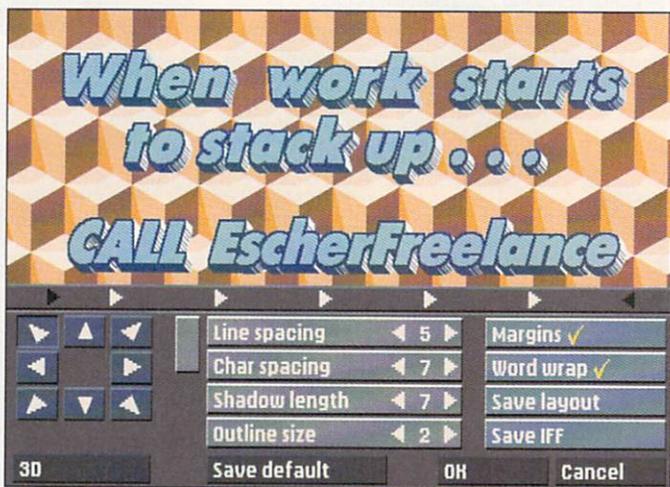
TEL: (619) 792-6511 FAX: (619) 792-9023

Prices subject to change without notice. Shipping and handling are extra. *** Dealer Inquiries Welcome ***

Circle #133 on the Reader Service Card



NEW PRODUCTS



Screen made in about 30 seconds with *Scala*, a new presentation package from GVP.

LA SCALA

Imported and released in the US by *Great Valley Products*, *Scala* was actually developed in Norway. It is one of the easiest to use video titler/presentation packages we've seen. It was shown at the Amiga '90 show in Cologne last year, as well as at the Commodore Christmas Show in London, and was knocking socks across the room at both. *Scala* comes on 8 disks, five of which contain some of the best backdrops and textures we've seen, including fabric, several types of stone, grass, sky, and various patterns, all rendered in 16-color hi-res. It also includes a collection of fonts in various sizes and another collection of palettes, which can be loaded and applied to the backdrops with very good results. The transitions that are used to go from screen to screen are among the best we've seen and they're very fast. Most titling programs have to render the transitions, but *Scala* performs them immediately and it's very easy to change from one to another if you decide you'd rather have a different one. These transitions are limited to the ones provided, but the selection is more than ample. Text can be entered directly (or imported) and automatically formatted, and you can add dropshadows, outlines, or make it 3D. The text layouts you design can be saved so you don't have to start from scratch each time.

There is even provision for placing buttons on the screens so the presentation can be controlled with mouseclicks, and you can also incorporate animations (ANIM format) into your presentation. The presentations you create can be saved as stand-alone files and there's a freely-distributable player included with the package. Before you rush out and buy *Scala*, though, you should be aware that it requires 1MB of chip RAM and won't work without it. \$395.00 from GVP, 600 Clark Avenue, King of Prussia, PA 19406. 215-337-8770.

SAXON 1.1

There are so many new things in *Saxon Publisher* that we thought it deserved to be in New Products. It appears to be a ground-up rewrite of the original page layout software. Among the more notable new features of Version 1.1 are automatic hyphenation, the ability to view facing pages to see how the spread is going to look, variable tabs, two new kerning utilities (one internal for locally changing kerning pairs and another external one for global changes to the kerning table), new screen fonts, hot key coordinate support, and measurement in metric and picas/points. Automatic page numbering in either Arabic or Roman numerals is now possible, and attributes such as size, font, color, and so on can be set.

Most of the rewrite, though, seems to have been concerned with color control. CMYK (cyan, magenta, yellow, and black) can be specified by percentage and there's a function to compensate for printer's ink impurity (believe it or not, the color of ink can vary considerably from batch to batch). In addition, the adjusted color can be viewed in an onscreen color preview, which *Saxon Publisher* accomplishes by running an internal color separation process and then displaying the chosen color. (You'll have to make sure your monitor is accurately adjusted.) Speaking of color separation, *Saxon* is using a new technology called APEX (Adaptive Photographic Extraction), which they claim gives results comparable to output from Macintosh page composition programs like *Quark Express*, *PageMaker*, and *Ventura Publisher*. If all this weren't enough, the company has also rewritten the manual and the program has been made compatible with AmigaDOS 2.0. Price of *Saxon Publisher* has been lowered to \$360.00 US and registered owners of the first version will be getting 1.1 for free. For more information, contact Saxon Industries, 14 Rockcress Gardens, Neplan, ON Canada K2G-5A8. 613-228-8043.

ONLY FROM THE MIND OF COMMODORE

What rationale was behind *Commodore* spending the time to create *Amiga Clips, Volume 1: Sound Effects*? We can only speculate. This collection of sampled sound effects is for use with *AmigaVision*, but equal or better samples can be found on nearly any online service, BBS, or PD collection. These are in standard 8SVX format and include samples of animals, bells, whistles, phones, weather, clocks, human voices, and so on. Price is \$29.95. 1200 Wilson Drive, West Chester, PA 19380. 215-431-9100.





NEWS & VIEWS

JURY VERDICT

Thomas Rattigan, former President and CEO of Commodore, has won his nine million dollar lawsuit against his former employer. The breach of contract suit was filed just days after Rattigan was escorted off Commodore's property in April, 1987 by security guards, who were reportedly under direct orders from Commodore's Chairman of the Board, Irving Gould. Rattigan had served in his position only for about a year of his five-year contract. As you may recall, he was credited with pulling Commodore back from the brink of bankruptcy, but clashed with Gould over his high profile, among other things. The final straw, according to industry insiders, was Rattigan's photo appearing on the cover of the now

defunct *Commodore* magazine, which was published by Commodore. On February 14, a federal jury in New York found in favor of Rattigan, who at one time was the president of Pepsi Cola and is now CEO of G. Heileman Brewing in LaCross, WI, makers of Old Style beer. Testifying at the trial were Gould and Alexander Haig, former Secretary of State and Commodore board member. Judge Michael Mukasey has yet to determine the cash award in the case, and at presstime Commodore was trying to reach a settlement with Rattigan.

SPA NOMINEES

Among the candidates for the software awards at the Software Publishers Association's Spring Symposium

are Maxis' *SimEarth* (scheduled for Amiga this summer), Accolade's *Jack Nicklaus' Unlimited Golf & Course Design* and *Star Control*, Cinemaware's *Wings*, Disney's *DuckTales*, and Spectrum Holobyte's *Faces*. We'll let you know how the voting turns out.

CEE DEE OR NOT TO BE

CD-based software development seems to a rough road to follow, at least financially. Cinemaware, the standard-setting game publisher of such classics as *Defender of the Crown* and *It Came from the Desert*, recently laid off a goodly portion of their staff. As of this writing, and contrary to some flying rumors, Cinemaware has not filed bankruptcy. According to industry insiders, the main

.info UPDATE

MISTEAK

✓ Readers point out that there were two disks with the number 343 listed in the April Public Domain column about MGHSoft. The *Space Slide Show* disk should have been #346. Jeff says I can blame him for this one, even though he sent me a correction and I forgot to fix it. So I blame Jeff.

NEW VERSIONS

✓ MegageM is shipping version 4.0 of *FractalPro*, their Mandelbrot, Julia Set, and cube set HAM fractal exploration program. The most notable new features include the ability to pan in eight directions, create tweened sequences between two images, panning/zooming in four increments for smooth animations, and best of all in our book, the ability to save Digital Elevation Maps compatible with Virtual Reality Laboratories' *VistaPro* landscape generator. What that means is that you can

find an interesting spot in the Mandelbrot Set, save a DEM file, load it into *VistaPro*, and render it as if it were a real place. As far as we know, this is the only Mandelbrot generator that can save DEM files. MegageM, 1903 Adria, Santa Maria, CA 93454. 805-349-1104.

✓ *CanDo* is now at version 1.5. Inovatronics has made their hypermedia applications generator compatible with AmigaDOS 2.0, improved the ARExx support, added database functions and the ability to have multiple windows and multi-screen decks, and put in a new script editor. The ANIM control as been expanded to include cueing and showing ranges of frames, and the right mousebutton can now be used to launch scripts. Registered owners of *CanDo* can upgrade for \$40. 8499 Greenville, Suite 209B, Dallas, TX 75231. 214-340-4991.

✓ Zardo Software has fixed a minor problem with their *Image Finder* graphic indexing program and called it version 1.0B. The difficulty was a small one, having to do with running

IM under 1.3 of AmigaDOS. For update info, contact the company at 6114 LaSalle Ave., Suite 304, Oakland, CA 94611. 415-339-6280.

MOVES

✓ Taito, the game publisher best known for arcade shoot-em-ups that are a more than a little heavy on violence, has reorganized and moved its US operations to Chicago from Bothell, WA. The new address is 390 Holbrook Drive, Wheeling, IL 60090. The new phone number is 708-520-9280.

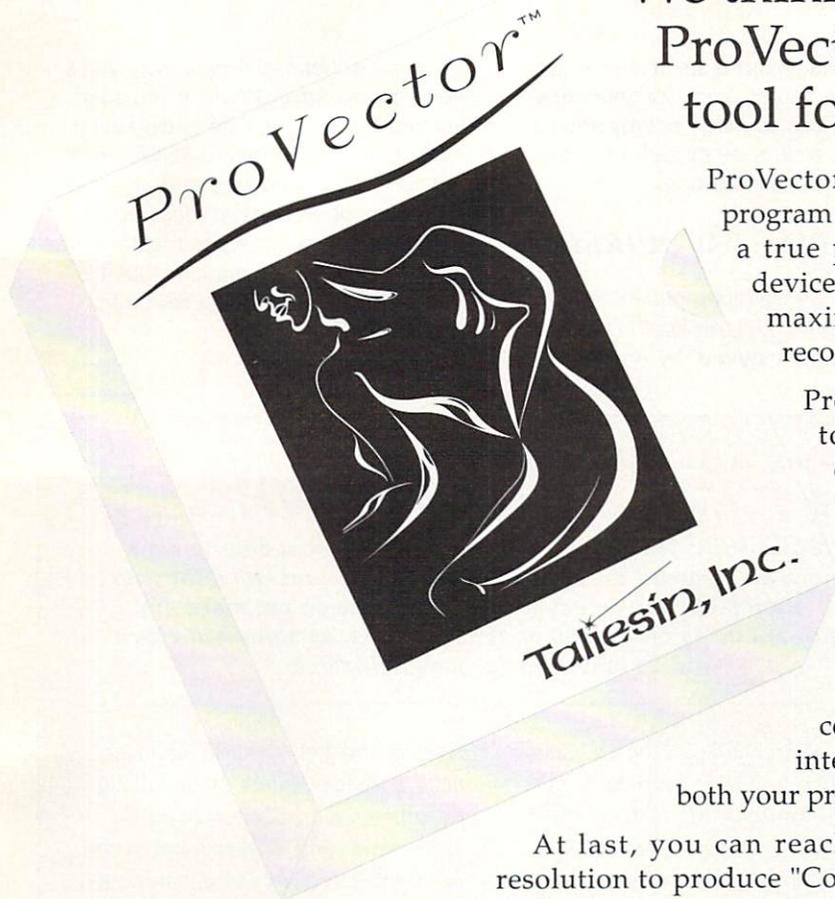
✓ M.A.S.T. has a new address at 1420 Kleppe Lane, Sparks, NV 89431.

AVAILABILITY

✓ Remember C Ltd.? Micro-Dyn, Inc. has picked up rights to all of C Ltd.'s product line and are producing Kronos and SCSI hard drive controllers. They're also offering service and upgrades. For more information, contact Micro-Dyn at 2011 S. Washington, Wichita, KS 67211 316-265-2661.

Draw Your Own Conclusions

We think you'll find that
ProVector is an indispensable
tool for any Amiga™ artist.



ProVector is a fast, intuitive object-oriented drawing program for all Commodore-Amiga models. ProVector is a true professional illustration tool which creates device-independent drawings, allowing output at the maximum resolution of your printer, plotter, film recorder, or other compatible device.

ProVector offers a complete array of easy-to-use tools to provide a surprisingly natural feel to creating professional quality illustrations. In fact, the illustration to the left was created entirely in ProVector, then imported into Saxon Publisher™ to create this ad.

ProVector allows you to master colorful illustrations, too. Our unique dithering system allows on-screen representations of 256 colors from a palette of 16 million, even in hi-res interlace mode! Color output takes advantage of both your printer's resolution and color capabilities, too!

At last, you can reach beyond the boundaries of "jaggy" screen resolution to produce "Computer Art That Doesn't Look Like Computer Art" ... (unless you want it to!), with ProVector!

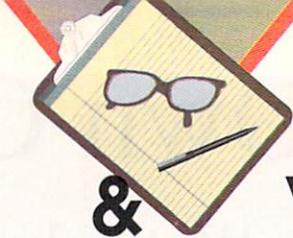
- Extremely friendly user interface.
- Flexible free hand drawing tool.
- Easy to use Bezier Curve tools.
- Flow text to any path.
- Completely User Configurable.
- Undo up to 255 steps, (limited only by available memory).
- Create up to 256 separate layers that can be named, locked, hidden, edited and rearranged.
- Multiple project windows with cut, copy & paste functions.
- Create true hollow objects (transparent holes).
- Editable Fill patterns.
- Runs on any Commodore Amiga model with 1 meg. or more of RAM. (AmigaDOS 1.3 and 2.0 compatible)
- Magnetize objects for precise alignment of joints.
- Import ProVector drawings directly into Saxon Publisher™ 1.1 & PageStream™ 2.1.
- Export drawings for use with many other Amiga graphics and publishing programs in ProVector (IFF-DR2D), Encapsulated PostScript™ (EPS) or IFF-ILBM formats (includes ability to produce super bit maps).
- Supports any Preferences printer.
- Includes custom HP-GL™ driver for plotters and other compatible devices.
- Fully multi-tasking, ARexx™ compatible, includes several useful ARexx macros.
- Complete on-line help.
- 256 on-screen dithered colors, palette of 16 million.
- Import any IFF-ILBM image for tracing, including HAM.
- User definable Grid Size with Grid-Snap option.
- Special effects include smoothing of straight-line objects into curved objects.
- User selectable measurement system (Inches, Pica, Centimeters).
- Extreme magnification for detail work.
- Keyboard shortcuts for most operations.
- Not copy protected, install on any hard drive.

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NEWS & VIEWS

cause of their financial woes can be traced to Cinemaware's early, heavy involvement with interactive CD software development. Since there are no CD-I or CDTV machines on the market as yet, there's no financial return on what is a very expensive development burden.

In other CD news, Sierra sent out a press release stating that they have indefinitely postponed a "multimedia hardware package." According to a spokesperson, the package was to have been a third party CD-ROM drive bundled with some of Sierra's games. However, the whole project has been put on hold because of the lack of industry standards. In other words, Sierra didn't want to put everything together only to have it become obsolete the day after it shipped. They are, though, still developing for CD, as witnessed by their recent shipment of *Mixed Up Mother Goose* for the Fujitsu FM-Townes.

It's interesting to note that the main hangup in the whole CD-based computer industry is the lack of hardware. There are any number of developers working on software and there are several titles ready to ship, but Commodore did not ship their first CDTV unit for retail sale until March. Nor are there any CD-I machines on the market. If the hardware doesn't materialize soon in large quantities and at reasonable prices, there will undoubtedly be serious financial problems throughout the industry.

PRICE REDUCTIONS

According to several dealers, the price of Amigas is about to come down dramatically. We've heard that a 500C (the low-end consumer model) may come down as far as \$399, street price. A 2000 will reportedly sell for \$999, with prices on other models similarly slashed. Amigas are reported to be going gangbusters Europe, where sales in some countries are reportedly up by as much as 52% during the latest quarter. It should be noted that as much as 30% to 50% of that growth is directly attributable to a weak US dollar, but even after subtracting

that percentage, those are some extraordinary sales figures. With Commodore's lowering prices as much as they are, let's hope sales pick up as much here in the US as they have in Europe.

AMIGA PLUS "ACQUIRED"

As we mongered in last month's Rumor Mill, *Amiga Plus* has, indeed, been "acquired" by *AmigaWorld*.

If you subscribed to *Amiga Plus*, you'll now receive *AmigaWorld*; if you subscribed to both, you'll be getting even more issues of *AmigaWorld*. We're still not sure what happened to *Amiga Sentry's* subscribers; *Amiga Plus* had announced in their last issue that they'd be fulfilling *Sentry* subscriptions, but it is unclear whether that deal will be honored by *AmigaWorld*.



THE RUMOR MILL

DISCLAIMER: The following are among the most entertaining rumors we've heard the past month. They are presented for your entertainment and amusement only. Please do not make any important decisions based on these rumors, as some will prove to be inaccurate or just plain false.

⤷ We understand that the cutbacks at Commodore have resulted in an overall 10% reduction in the workforce, with Customer Support cut by 50%. Commodore Express, the warranty return service set up between Commodore and Federal Express, may take over Customer Support by phone in the near future.

⤷ Any new Amiga you purchase from now on should have the 2.0 ROMs in it. If it doesn't, scream.

⤷ You'll see some changes in the June issue of *AmigaWorld*. We understand they're trimming their page size back to industry-standard. We've also heard that they may be dropping below 100 pages.

⤷ Copperman and fellow Apple alumni have long been concerned with Commodore's "gray market" problem - dealers selling Amigas at a huge discount to mail-order outfits, who then sell them super-cheap to the public without having to become authorized themselves. Now we hear that CBM is setting up a sort of "offi-

cial gray market" themselves, establishing "mega-dealers" who will act as authorized distributors to mail-order outfits and smaller retail stores. Since this effectively eliminates quotas, it should make the Amiga available in a lot more locations.

⤷ Commodore is on the rise on Wall Street. At presstime, Commodore stock had sold for as much as 18 3/8 a share. Enough stock has been trading that Commodore has made it into the 'major mover' segment on cable TV's Financial News Network at least twice. FNN mentioned CDTV and good European sales as contributing factors, and predicted that Commodore might be regarded as one of the major up and coming computer manufacturers of the first half of the 1990s! At least one analyst has predicted that the stock may soon top \$22 per share. CBM stock was selling for 4 1/2 just a few short months ago - did you buy when we told you to? (For those interested in tracking Commodore's stock price, their ticker symbol is CBU.)

NEW!
Requires AmigaDOS 2.0

Written with SAS/C under AmigaDOS 2.0, *Ami-Back* is ...

NOT JUST A PRETTY FACE!

AMI-BACK™

*Hard Disk Backup and Backup-Scheduling Utility
for the Commodore Amiga Personal Computer*

- Operates on any Amiga computer running AmigaDOS 2.0 or greater.
 - Elegant user interface for easy operation.
 - Allows multiple configurations for a wide variety of backup and restore options.
 - Backs up to floppies, high-density floppies*, harddrives, and SCSI tape drives.
 - Performs complete, incremental (by date or archive bit), and selective backups.
 - Allows up to 100 file exclusion conditions during backup.
 - Allows you to replace defective media without interrupting backups.
 - Performs complete or selective restores.
 - Allows control of protections bits and file timestamps during restores.
 - Allows you to Write-Over, Skip-Over, or Rename files during restores.
 - Allows you to compare backed-up data to system data if data loss is suspected.
 - User-configurable scheduler, *Ami-Sched*, allows unattended backups.
 - Index files are saved after each backup.
 - Log file keeps track of background scheduler operations.
 - Background backups may be performed manually.
 - Technical support for registered users is provided by phone, support BBS, GENie, or BIX.
 - *Ami-Back* is extremely fast.
 - *Ami-Back* is multitasking friendly.
 - *Ami-Back* is not copy protected in any way.
- * Commodore standard. Applied Engineering's HD floppy does NOT work with some versions of Kickstart 2.0 at this time.

Ami-Back is a comprehensive hard drive backup utility with a number of powerful features that make it the most professional program of its type on the market. *Ami-Back* has been thoroughly tested with a large number of hardware configurations. Some of the tape drives tested include the WT-150 from Great Valley Products and the A3070 from Commodore Business Machines (both are QIC-150 type drives).



\$79.95
Suggested Price

OR

Send us the original disk from your present hard drive backup program, and upgrade for only **\$49.95** (limited time only).

AmiComp
Software Development
a division of *AmiComp Multimedia Group, Inc.*
Dealer Inquiries Invited

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and *AmiComp Software Development*
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Circle #139 on the Reader Service Card

Peggy Herrington on Music & Sound

Join Peggy as she takes a brief look at a passel of exciting new Amiga music products.



It is a fact that Macintosh and even (gasp!) Atari ST musicians have long had an edge on Amiga players when it comes to serious performance tools, but I'm convinced that's changing in a big way. As evidence, this month I bring you news of two majorly enhanced Amiga MIDI sequencers, some exciting CDTV music applications, two heavy-duty professional Amiga pro-quality sound cards, and a couple of wild new digital music makers from Casio.

The good news for Amiga maestros this month is that at long last we can finally work in standard notation when making music with MIDI-controlled synthesizers. How long have we waited for this? Well, it's been six long years for me, but the best news is that not *one* but *two* leading producers of Amiga MIDI sequencing software are releasing versions that incorporate, among other fine features, scoring, editing, and printing capabilities using real traditional notation. And both of these programs are so good that, if you're serious about music, you're apt to have trouble deciding between them.

STANDARD NOTATION AND MORE

By the time you read this, *Bars & Pipes* (\$199) from Blue Ribbon SoundWorks, the leading graphics-based MIDI sequencing program for the Amiga, will be available in a new, enhanced version called *Bars & Pipes Professional* which will retail for \$379. Registered *B&P* owners can upgrade to this *Pro* version for only \$99, and I suspect they will be doing so in droves because it has so many solid new features. I've been using a beta version of *B&P Pro* recently, and although not everything was fully functional (recording and editing of system exclusive messages, and displaying triplets in standard notation didn't work, for instance, but Blue Ribbon assures me they will in the final release version) and everything that they claimed would work performed flawlessly - including entering (although it's still easier to record via MIDI input), editing, and printing scores in standard music notation.

In fact, you have four alternatives in *Bars & Pipes Pro* when it comes to editing scores: you can choose between the new notation display (which really is spiffy), a piano roll display, an enhanced staff, or a numerical MIDI event list which has a new editing program. Any change you make using one method is automatically and instantly reflected by the others, of course, and you can use standard Amiga mouse and pull down menu features like insert, copy, cut, paste, and delete right along with *Bars & Pipes* special tools.

The screen display in *B&P Pro* has changed, too, and for the better. Individual features like editing windows, transport, tracks, and tools displays are presented in separate windows that can be moved, resized, and tucked away as icons when you don't need them.

Other new musical features include MixMaestro, a graphical software mixer that lets you use sliders to mix MIDI tracks for volume, panning, control change parameters, and a new merge record mode. I also discovered some new tools in *B&P Pro*: The Groove Quantize tool lets you quantize based on preset rhythms or music clips, the Rhythm Pattern Generator (which I really like) helps create drum patterns, and the new Tempo Tap tool picks up and stores the tempo as you tap a key on your synthesizer's keyboard. Neat stuff.

Blue Ribbon offers several collections of accessory programs for *Bars & Pipes* (usable with both versions), including a *MultiMedia Kit* for using *B&P*

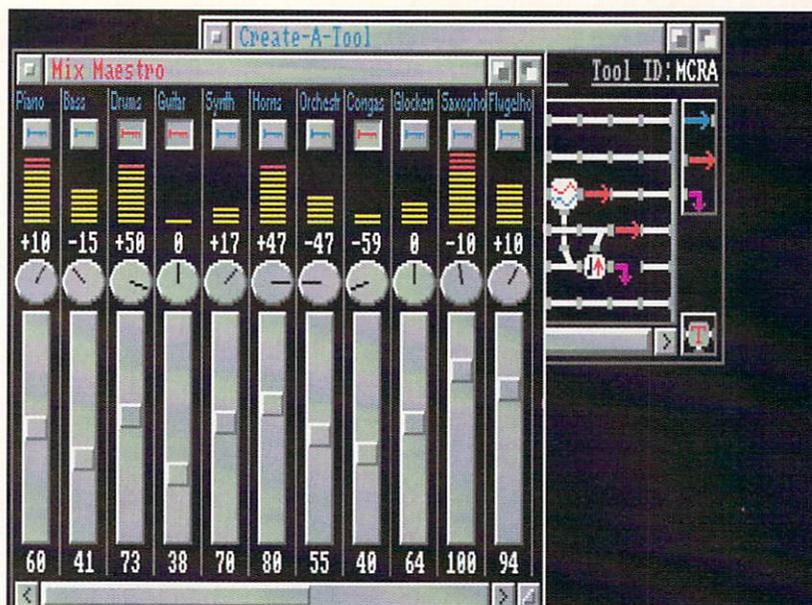
music with Amiga authoring and presentation software. They also have a *MusicWare Collection* of over 250 professionally arranged and transcribed songs in B&P and MIDI file formats including material from the classics, pop, rock, jazz, and ethnic music, plus soundtracks, rhythm tracks, and standards. *Bars & Pipes Pro* even works with Dr.T's *Phantom SMPTE* time code hardware.

And speaking of Dr.T's Music Software, the latest release of his high-powered, utilitarian-looking *Keyboard Controlled Sequencer (KCS) V3.5* (\$400) will also offer standard notation. You may already be familiar with the notation in *KCS V3.5* because Dr.T's has incorporated notation displays and programming routines from his program *Tiger Cub*, including that graphics-based sequencer's QuickScore utility. (For more info on *Tiger Cub* and a comparative screen shot of QuickScore notation, see my column in *.info* #33, Oct. 1990.)

THE DOCTOR STEPS OUT

For a change of pace, Dr.T's is stepping out with a music program that doesn't focus on directly personal music composition. They're doing this with a snappy new *AmigaVision* application called *Composer Quest*. Designed for schools as well as individual use, *Composer Quest* is an elaborate musical game which teaches music history in two modes of operation: Play or Learn, and it also includes a randomly occurring Popular Music Trivia Game.

Covering the various styles of music from 1600 to the present, *Composer Quest* divides music into four historical periods: Baroque, Classical, Romantic, and Modern. In Learn Mode, it lets you explore these periods by choosing from over 150 Amiga-played digitized stereo samples of great music as you read about the trend-setting composers who lived during these times, touching upon world history, the visual arts, and

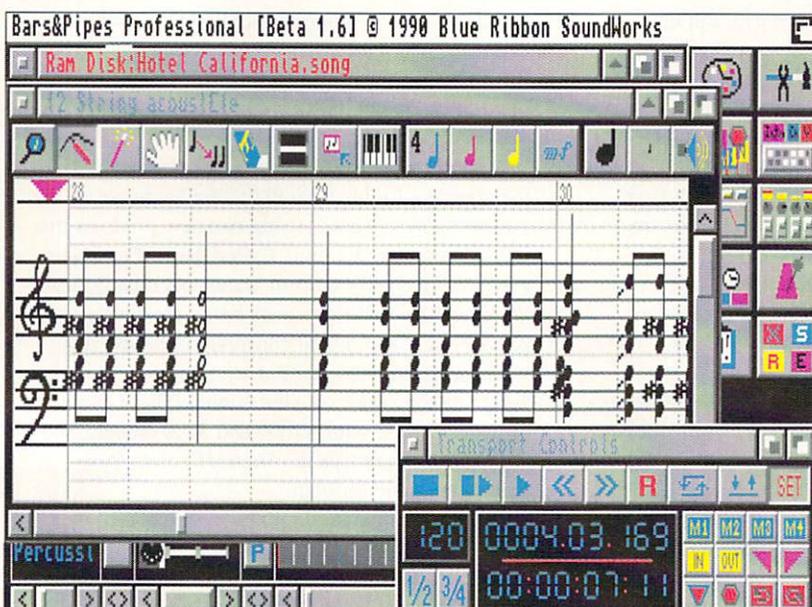


The MixMaestro module from *Bars & Pipes Professional*.

sociological change in the process. In Play Mode, *Composer Quest* is a race against time as you are presented with a randomly selected digitized sample of well-known and, because of the high quality of the sound, readily recognizable music score (often in full orchestration), as you zoom off in your time machine to track down the composer. Positive visual feedback and the Amiga's speech synthesizer reinforce your exploits.

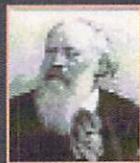
I've been waiting years for someone to develop a program like *Composer Quest*, primarily because I specialized in musicology in college, and realized when I first heard about the Amiga back in 1984 - with its fantastic graphics and stereo sound capabilities - that it was custom-made for such an application. Dr.T's says *Composer Quest* will be available *only* on the Amiga for this very reason, and I think parents and teachers alike will welcome a product that teaches this worthwhile subject and delivers associated information in an enjoyable manner. *Composer Quest* is no lightweight. It was researched by accredited musicologists (with PhDs and MAs from the likes of Harvard and MIT) and conforms to the stringent curriculum standards of the California Visual and Performing Arts Framework. It not only includes information about and music by biggies like Bach, Beethoven, and Brahms as well as many other "classical" greats, it delves into 20th century popular composer/performers like The Beatles, Elvis, The Rolling Stones, Jimi Hendrix, and Ray Charles.

Composer Quest's retail price will be between \$199 and \$249 (it is undecided as we go to press). It runs on any Amiga (including the A3000) that is equipped with two megabytes of RAM, a hard drive with 15 megabytes of free space and, of course, the *AmigaVision* authoring system from Commodore - with which you can alter and add to it if you wish.



Bars & Pipes Professional, new from Blue Ribbon SoundWorks.

The Romantic Period (1861-1900)



Brahms



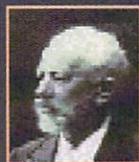
Debussy



Mahler



Strauss



Tchaikovsky



Verdi



Wagner

A screen from Dr.T's *Composer Quest*, an AmigaVision based educational program with versions for both the Amiga and CDTV.

COMMODORE DYNAMIC TOTAL VISION

Dr.T's is also making *Composer Quest* available on compact disc for Commodore's latest baby, CDTV, on which proud owners will be able to hear those beautiful digitized sound samples reproduced in sparkling eight times oversampling. CDTV, of course, is the industry's first true multimedia appliance, and although it doesn't incorporate any new technology per se, I think it's a brilliant combination of current concepts cleverly cloaked for the average computer-hater. Put simply, CDTV is a CD player combined with an Amiga 500 with a full megabyte of chip RAM, thus offering everything the Amiga can do with fabulously enhanced CD sounds and music, and the promise of full-motion video down the road a piece (which might be sooner than you think). It's not being billed as a personal computer, since CDTV is designed to look like a stereo component. You connect it to your home entertainment center (TV, amplifier and speakers) and relax on your couch while running it from across the room with a comparatively largish remote control.

Although it's much, much more than "just" a computer-controlled CD player, CDTV plays standard audio CDs as well as those offering simplistic CD+G graphics, and of course, loads and runs Amiga programs stored on 5" CDs. It also knows CD+MIDI format and has built-in 5-pin DIN MIDI In and Out ports on the back of its slick black case. Once you connect it to your music synthesizer(s) with long MIDI cables, it's ready to go for digital musicians - something many music developers find extremely promising.

Graphic images are bad enough, but musical instruments and digitized samples require massive storage space, and while that has always been a problem for floppy disk-based products, it certainly won't be for

CDTV. If fact, CDTV developers may have the opposite problem since a single compact disc holds about as much data as a staggering 700 Amiga floppy disks. That means CDTV developers will include things like audible instructions (how about spoken online help files?) for productivity programs, and audible histories for games, not to mention startlingly real-sounding background music and sound effects.

Dr.T's isn't the only company producing CDTV music applications. I played with a gorgeous yet simple-to-use CDTV program called *Music Maker* at the official unveiling of CDTV in Las Vegas earlier this year. Didn't get the price, but *Music Maker* (available from CLOUDSCAN in England) incorporates wonderfully realistic CD-based music instrument sounds in a slick little environment that features beautiful images of traditional music instruments with a sequencer which records music as you enter it on the numeric keypad of CDTV's remote control. I had a great time. Although no synthesizers were connected to it there, I believe *Music Maker* incorporates MIDI In/Out, too. And I'm aware of several CD-based music products out on other platforms, one for the Macintosh in particular which has the full score of Mozart's *Magic Flute* opera in MIDI data. That should be easy enough to port and would be substantially improved by replacing those dull Macintosh screens with colorful Amiga animations.

AUDIO FOR VIDEO POST PRODUCTION

As I'm sure you're aware, the Amiga has made exciting inroads into the world of video production. Compared to other alternatives, it offers hands-down the best price/performance ratio of anything even remotely similar, and even has the best internally generated sounds among all standard PCs these days. But when stacked against professional sound gear, the Amiga's 8-bit sounds are lacking. So if you're putting together a video production studio based around an Amiga (which I understand lots of people are) you're forced to start from scratch with some other system in order to create and synchronize post production music and sound effects.

SunRize Industries, makers of *PerfectSound* (\$99), the premiere Amiga 8-bit digitizing hardware on the market today, is about to ship two new products that will address this situation. Called *Audio For Video Post Production Systems* or, more specifically, *Studio12* and *Studio16*, these are hardware devices that provide analog to digital conversion (turning real world sounds to numbers) of anything you can get within hearing range of your Amiga. These cards are designed for use with A2000 and 3000 models, and modular software (see the *Studio16* screenshot) is being developed for both.

The idea behind these products is to record your entire sound track to hard disk along with SMPTE time code. Once digitized, you'll be able to edit these sounds, specifying SMPTE in and out points to synchronize them with your visuals. The final mixdown can be performed digitally, after which you then play

**Studio16 is
licensed from
Vision Quest
and supports
multiple
channel 16-bit
audio.**

back your track to video tape synced to time code.

Studio12 will retail for around \$500, and reportedly has a signal to noise ratio and frequency response better than most professional quality video tape recorders. *Studio12* samples at up to 44KHz and includes a 12-bit sampler and player, onboard microprocessor, RAM, SMPTE In/Out, and linear phase low-pass filters that can be adjusted under software control for a wide range of cut-off frequencies.

SunRize's second, top-of-the-line card (which is licensed from Vision Quest) is called *Studio16*. It supports multiple channel 16-bit sampling and playback, includes on-board RAM, digital low-pass filters, SMPTE plus MIDI In/Out, and incorporates the Motorola DSP chip - the one used by NeXT for their PC. According to SunRize, the retail price for *Studio16* will be between one and two thousand big ones, but it offers CD-quality sounds for professional video producers.

NEW MUSIC GOODIES

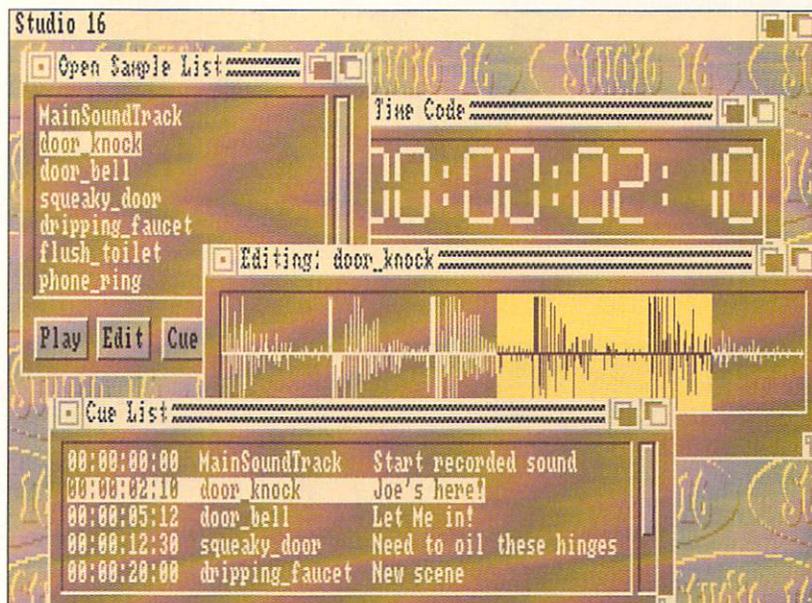
We all love musical toys, and Casio - the undisputed king of musical toy makers - introduced two cool ones at CES: A nifty new MIDI keyboard (model *CT-680*) with dramatically improved preset sounds, and one of the cleverest little non-MIDI toys I've ever seen - a keyboard especially equipped for doing your own Rap music.

Casio's *CT-680* MIDI keyboard is their latest "top of the line" music synthesizer. It has 61 full-sized black-and-white piano type keys, is 12-note polyphonic, and comes with 220 preset instruments with a really decent rhythm section. Built in are stereo delay, panning, a pitch wheel, and a four-position digital reverb that really cooks. At a suggested retail price of \$499, that's hot.

What can you do with it under MIDI control with your Amiga? You could have one of the coolest, most compact home music studios in town. When used with MIDI sequencing software (Blue Ribbon's original *Bars & Pipes* or Dr.T's *Tiger Cub* would be good starters) you could pre-record eight-part scores constructed with both melodic and drum tracks (using the *CT-680*'s four multitimbral MIDI voices along with four Amiga-generated instruments) and still have eight *CT-680* voices free to play along with on the keyboard live. True, those remaining voices would be set to a single instrument unless you split the *CT-680*'s keyboard for multiple voices with the software, which you certainly could. I played with this keyboard at CES, and Casio will ship it this month. It runs on D batteries or AC power with their optional AD-5 adaptor, and I'm gonna get me one as soon as they're out.

If you're interested in having one, too, do *not* take the kids shopping with you unless you're prepared to come away with the other new music goodie Casio says they'll ship in May, their *Rapman* keyboard. Note that the *Rapman* is *not* MIDI-compatible and therefore cannot be controlled by a computer, but I wouldn't be a respectable 20th century music journalist if I didn't tell you about it.

Casio's *Rapman* sports 32 mid-size keys offering



Control screen for SunRize's *Studio16* 16-bit audio digitizer.

three-note polyphony. It's little (which is indeed part of it's charm) and its innovative aspects more than make up for any deficiency in that department. The most unique things about it are a voice effector which alters your voice as you rap into its hand-held microphone, and a little round "scratch table" you play to simulate the record scratching sounds used in that genre's music. The *Rapman* comes with 30 different background rhythm patterns (rap, rock, and R&B) and 25 preset instruments which include sound effects like a car horn and emergency alarm. It also has three one-finger controlled percussion pads (with two live sounds each) for adding things like snare drum, cowbell, and orchestra hits. Self-contained with a built-in speaker, it also has line output and headphone jacks, and runs on AA batteries or AC power, making it highly portable and great for parties. But the most astounding thing about the *Rapman* is that it retails for \$99.95 - like I said, don't let the kids touch it or two-to-one you'll own it.

THAT'S A WRAP!

Whether you're young or old, into rap or classical, the electronic music industry, especially the Amiga side of it these days, has products for just about everybody. I'll have more digital news for you next time.

ADDRESSES

Blue Ribbon SoundWorks, 1293 Briardale NE,
Atlanta, GA 30306, 404-377-1514

Dr.T's Music Software, 100 Crescent Road,
Needham, MA 02194, 617-455-1454

CLOUDSCAN (Music Sales), 10 West Street,
Comberton, Cambridge ENGLAND CB3 7DS,
0223-262455

SunRize Industries, 270 E. Main St., Suite C,
Los Gatos, CA 95032, 408-354-3488

Casio, 570 Mt. Pleasant Avenue, Dover, NJ 07801,
201-361-5400



**Don't take the
kids shopping
with you unless
you're prepared
to come away
with a *Rapman*.**

Oran Sands Video on Video



Bread & Butter Fonts for the Video Toaster, from Shereff Systems.

OJ brings
us up to
speed on
what's
happening
in video.

The most important video development of late is that several VCR manufacturers are now building tape decks with computer compatible RS-232 serial ports. Any computer that can send data along a serial cable can now control all the motions and modes of a videocassette deck. NEC's model is known as the *PC-VCR* and is primarily aimed at the multimedia and interactive markets. It can randomly access any portion of a tape using a built-in address generator. This four-head S-VHS Hi-Fi stereo deck lists for \$2100.00 and includes the capability to overlay frame-accurate timecode on pre-recorded videotapes. Available soon from Selectra is an RS-232 adapter/controller module (\$21.95) for the Panasonic *NV-1960*. It functions as a go-between for your VCR and computer.

FONTS FOR ALL

Toaster fans rejoice! You can now easily expand the fontset that you got with the *Toaster Character Generator* program. Shereff Systems has announced their new *Bread & Butter Fonts* (\$99.95) in typestyles and in sizes up to 64 lines tall. These fonts are conversions from the already popular font sets used in their *Pro Video Gold* and *Post* programs and feature the same anti-aliasing found in those programs. Included with

the *Bread & Butter Fonts* is a new conversion program that converts standard Amiga fonts for use in the *Toaster* without cutting their size in half. Shipping starts in February. And by the time you read this they should also be delivering *Cinnamon Toast Fonts* (\$N/A), multi-color fonts for the *Toaster CG* program.

Shereff System's fonts have also been converted to Amiga font standard and are available separately for use in *Deluxe Paint* and other programs. Unlike the usual Amiga fonts, these are ColorFonts that look like standard fonts but are specially anti-aliased to give an apparent greater resolution than hi-res. The package includes six fonts in four sizes each.

BLACK BURST BLUES

Are you tired of wearing out your camcorder by turning it on and capping the lens just to use it to feed black to your genlock, *Toaster*, or other VCR? Need to send synchronous signals to several devices to genlock them together? Well, worry not, for Knox Video has made a tidy little solution to the problem. Their *Mini-Burst* box has three NTSC black burst outputs, or one NTSC and one Y/C output. The connectors are BNC and the usual four-pin Y/C type. So stop aging that camera and do it the proper way!

AMIGA 3000 AND GENLOCKS

Many of you have heard that genlocks and Amiga 3000s don't get along too well. Although much of the problem was the physical size of the internal video slot, there was the additional problem of Commodore finally defining genlock standards several years *after* all those genlocks had already been designed. Many genlocks have since been modified, and for those of you wanting the best, Magni has a factory modification for their *4004* internal genlock. New units are shipped with the modification installed. The *4004 Genlock* is \$1995.00 w/control box, \$1695.00 w/o control box. Current owners can get their boards upgraded at the factory for \$200. Now you can have true broadcast quality in the ultimate Amiga.

TBCS AND YOUR CHECKBOOK

NewTek's *Video Toaster* has created a new market... for timebase correctors! I'm being flooded with information from TBC manufacturers touting the latest in inexpensive (and trust me, this is relative) TBCs and framestore synchronizers. These companies never had an inkling of how to create a demand for TBCs at what they consider the consumer level. Now the *Toaster's* done that for them.

Prime Image has formed a new computer products division for the purpose of selling its lower-priced TBC and framestore; distribution will be handled by Micro-Pace. Their *Model 50 TBC/FreezeFrame* unit is \$2995; \$3490 with S/VHS option. Without the framestore, the *Model 25 TBC/Timer* goes for \$1995; \$2490 with S/VHS. Prime Image's broadcast dealer network is also selling a high resolution RGB in/out TBC for high-end applications. JVC, meanwhile, isn't going to be caught with their pants down. They've just lowered their price on the JVC SA-T400U 525-line framestore/TBC with freeze frame and Y/C compatibility. Look for discounted prices under \$1900. Also making its debut is DPS's *Personal TBC* that fits into one of the PC-compatible expansion slots inside the Amiga. Not having to build a case or a power supply brings the cost down to \$995. IDEN has even begun advertising in Amiga magazines touting their new *IVT-7* framestore/TBC which retails for under \$3500. Don't forget that when pricing a TBC vs. a framestore that the framestore will be a great deal more useful to you over the years.

VIDEO TOOLS ON TAP

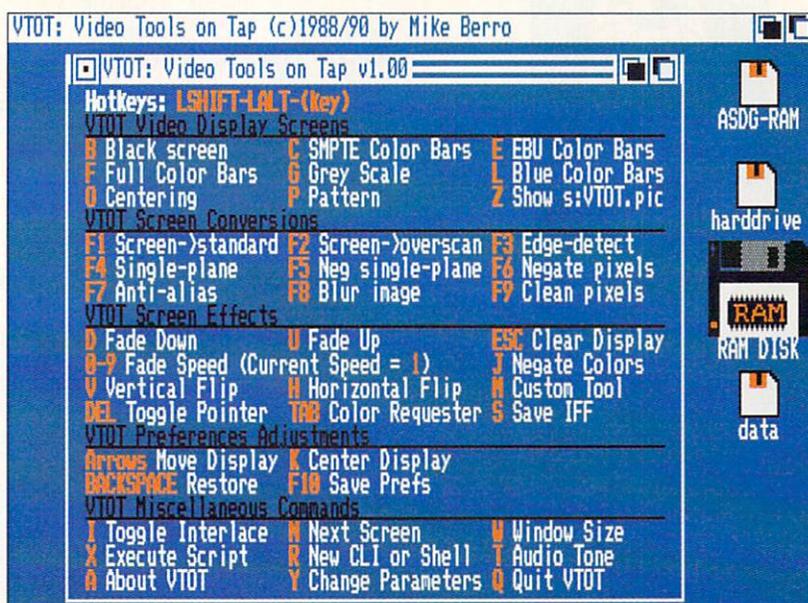
I've always been one of Mike Berro's fans. He's a computer programmer who's a video professional as well, and his products have always shown it. His *Photon Transport Controller* simply defined that niche of software. His public domain programs have been used by many studios. Now he has rewritten his shareware program *Video Tools On Tap* for commercial release by Neriki, and it's worth more than a casual glance.

VTOT (\$79.95) is a program that happily runs in the foreground or background of any other tasks. With mouseclicks or hotkey combinations it can produce special test signal screens or perform certain functions. The screens available are SMPTE and EBU color bars (yes it's also configured for PAL!), black, grayscale, and crosshatch (for aligning monitors). It also detects and fixes NTSC illegal colors. It allows automatic fade-outs and -ins with variable timing. Other features include test audio tones, screen centering by hotkeys, vertical and horizontal screen flips, auto anti-aliasing, negative colors, etc. - far too many to list here. Trust me, the hotkey-triggered color bars and screen centering features alone are enough to justify the purchase of *VTOT*.

NEW TAPES

Telegraphics International has added two tapes to their Amiga instructional videocassette series, at a very reasonable \$49.95 each. The first is the most timely; *Introduction and Switcher Operation* is the first in a special series of tapes giving instruction on using NewTek's *Toaster*. As with all of their tapes, they cover the topic thoroughly using a great deal of on-screen demonstration of the techniques they describe. They also make a great point for using *two* Amigas in a standard *Toaster*-studio setup; the second Amiga is used downstream with a genlock in most of their instructional demonstrations. At the end of the tape is a self-produced music video showing all of the *Toaster*'s effects.

The second tape has nothing to do directly with



Mike Berro's *Video Tools on Tap*, from Neriki.

graphics or video. What it *does* cover is installing Amiga hard drives, and although it primarily covers SCSI drives, it does so thoroughly! Again using Amiga graphics to illustrate the topic, they totally demystify the operation and installation of the typical Amiga hard drive. Frankly, just watching any one of these tapes itself is an education in the proper use of Amiga graphics and correct instructional technique.

ADDRESSES

(DPS) Digital Processing Systems, 55 Nugget Ave., Unit #10, Scarborough, ON, Canada M1S 3L1. 416-754-3323

IDEN Videotronics, 9620 Chesapeake Bay, San Diego, CA 92123, 800-874-IDEN

JVC, 41 Slater Dr., Elmwood Park, NJ 07407, 201-794-3900

Knox Video, 8547 Grovemont Circle, Gaithersburg, MD 30877, 301-840-5805

Magni, 9500 SW Gemini Dr. Beaverton, OR 97005, 503-626-8400

NEC Professional Systems, Div. (Al Woodman), 1255 Michael Dr., Wood Dale, IL 60191, 800-562-5200xNEC

Neriki, PO Box 712 Victoria Station, Montreal, QU, Canada H32 2V8, 514-483-2080

Panasonic, One Panasonic Way, Secaucus, NJ 07094, 201-348-7000

Prime Image, 1995 Las Plumas, San Jose, CA 95133, 408-867-6519

Selectra (Richard Comfort), PO Box 5497, Walnut Creek, CA 94596, 415-461-5438

Shereff Systems, 1507 SW Koll Pkwy., Suite G, Beaverton, OR 97006, 503-626-2022

Telegraphics International, 605 Dock St., Wilmington, NC 28401, 919-642-6295

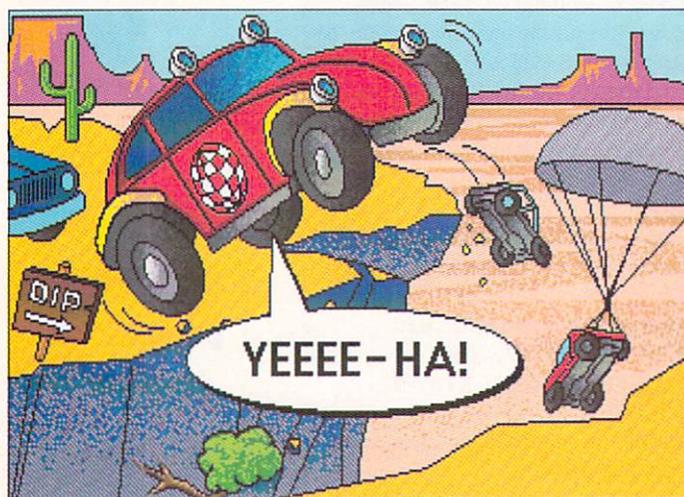
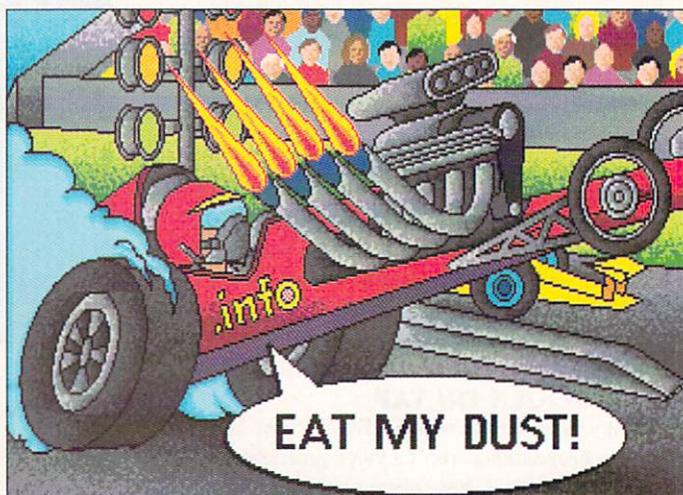
Don't forget
that when
pricing a TBC
versus a
framestore
the framestore
will be a great
deal more
useful to you
over the years.



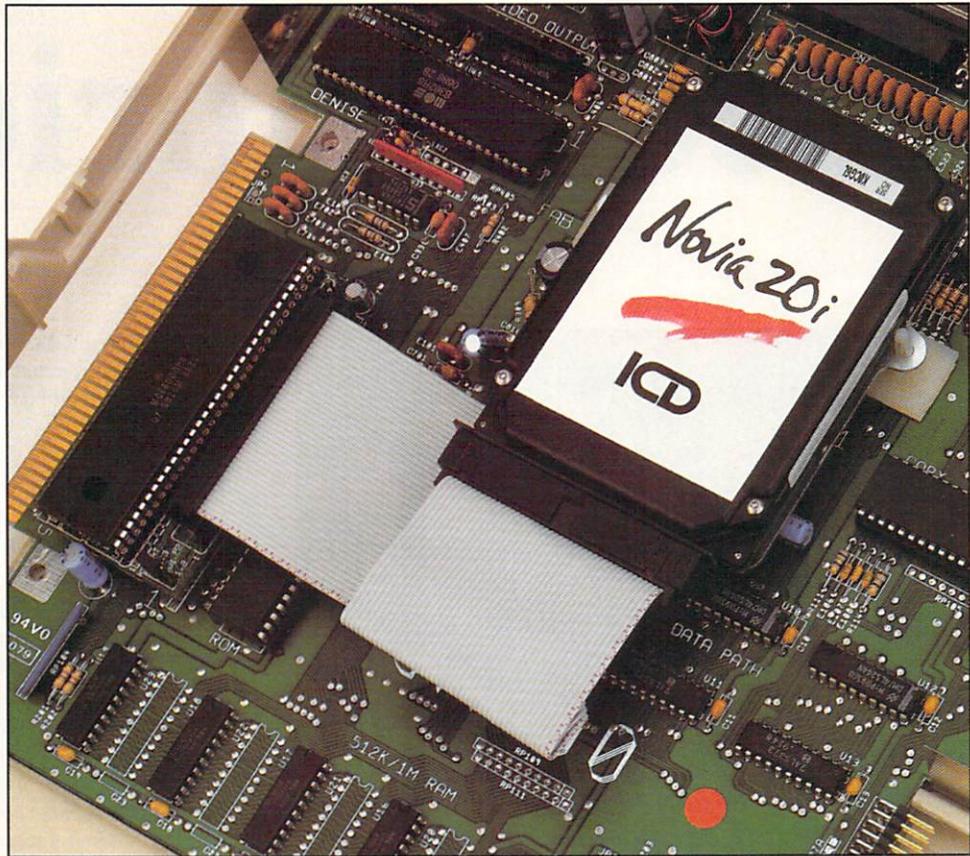


BRYCE

ART & CONTINUITY: GREGORY CONLEY



Gregory Conley can be contacted by writing: Gregory Conley, 17320 Laverne Avenue, Cleveland, Ohio 44135



Novia 20i



The smallest hard drive and interface in the world is now available for your Amiga 500 computer! This rugged little sweetheart mounts completely inside your computer allowing 20 megabytes of high speed storage that takes absolutely no desk space. The advanced features include autobooting from FastFileSystem partitions, high speed caching, auto-configuring, and A-Max II support. Nova 20i comes with complete instructions and all the hardware necessary for a simple, clean, no-solder installation. Available today at Amiga dealers everywhere.



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ICD

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Circle #144 on the Reader Service Card

Video Victorious

by Sue Albert



Jane Baracsckay, owner of Kona-Kini Productions.

Sue Albert
treats us to an
interview with
Jane
Baracsckay,
President of
Kona-Kini
Productions

It was eight years ago in pastoral Brunswick Hills, Ohio, that Jane Baracsckay - satisfied housewife, mother of two growing sons, and a busy community volunteer - took the first tentative steps in an odyssey that spiraled her all the way to the Amiga and an unexpected new career. Alone in her kitchen one day, she was struck by a disquieting thought: "Soon these kids aren't going to need my undivided attention. Then what am I going to do? No one is going to want me baking brownies and blowing up balloons every day for the rest of my life!" Jane characteristically took action. With the support and encouragement of her husband Don, she enrolled in a class at the community college. "I was so afraid I would fail that I told no one. Even my parents found out by accident."

RE-ENTRY WOMAN

"Petite, demure, and soft-spoken" describes the outward Jane Baracsckay, but her experiences reveal an interior strength and a determination so fierce that it will allow her to work only at her highest level, whatever the challenge. "I just won't let anything go until I can do it." And "do it" she did. Four years after entering college, she graduated with honors and a BA with a minor in computers from nearby Baldwin-Wallace College, the same year her oldest son graduated from high school. "I'm proud of what I did. No one can take

that away from me. They can take my money, they can take everything else, but they can't take my piece of paper. I feel if I could do that, I can do anything."

TRY IT! YOU'LL LIKE IT!

Discovering her skill with computers was a surprise. "I never would have become involved with computers if it hadn't been for another woman. One of my instructors saw that I had a knack and she literally pushed me into it. She kept at me, even talking me into teaching computers at a summer camp for kids." Jane didn't like working with mainframes, and though she conquered programming it seemed to her "just too isolating". Working with people and the directness of the personal computer was more comfortable. After graduation, she taught wordprocessing on the IBM at the community college and eventually started her own business as a computer consultant, setting up computer systems and training personnel for local businesses.

VISUAL AID

Jane loved the work, but constant late-night calls from bewildered neophytes became trying. She thought that a simple videotape covering elementary procedures and providing quick solutions to the most common errors might be the answer. "Customers could just run the tape for review when they got stuck." Her first estimate for a video rocked her. "The company wanted \$37,000 for a twelve-minute tutorial. Other companies charged by the minute starting at \$1500 and going up to \$3500." Abashed, but undaunted, Jane's new-found confidence surfaced. "I thought, 'Hey! Maybe I can make my own,' and I began to research what was available and affordable."

Not surprisingly, that search led directly to the Amiga. She and Don drove to the 1988 AmiExpo in Chicago. When she saw what was possible using the affordable Amiga, she decided not to stop with just producing a tutorial for her own use. Having worked with local businesses, Jane realized there was a ready market for reasonably priced business presentations and training videos. In late 1988 a metamorphosis began. Jane's home office turned into a video production studio with the purchase of an Amiga 2000, software, and an industrial Panasonic PV 330 camera. Kona-Kini Enterprises was born and Jane tried her first free-flight as a video producer.

HAWAII IN OHIO?

Both Jane and Don love the Hawaiian Islands and combined the Hawaiian equivalents of their names for the business name, using a stylized pineapple for the

Kona-Kini logo. Don also works out of their home when he isn't traveling as a sales and marketing consultant. He freely assists Jane in filming, editing, and whatever, whenever more than two hands are needed.

Taping their first few videos, they learned hard, but fast. "We ran around and shot everything. That was a nightmare because then we had too much editing to do. At first we didn't use a scene slate (clapboard), so there were times I couldn't remember which was the particular segment I wanted to use. At that time we had to reserve space in advance at a hourly rate to use a Vidi Craft editor at an editing house for the final edits. It was essential to be efficient to keep the costs down."

"We also made some mistakes in choosing software and hardware. It was difficult then to get solid advice. I was disappointed that some Amiga software just wasn't up to professional level. With our first genlock I let myself get talked into buying a less capable unit by a dealer whose intentions were good, but who was actually learning right along with us. Now I look at everything, very, very carefully."

MEETING MRS. CAMERA

Jane personally controls every step in the production process. She interviews the clients to get a thorough idea of what they want and then writes the script. She goes over the script with each client for input and final changes before making cue cards. On the day of the "shoot," she and Don take the camera, tripod, and lights to the site. Jane explains how the camera works to remove any mystery and to help put the participants at ease.

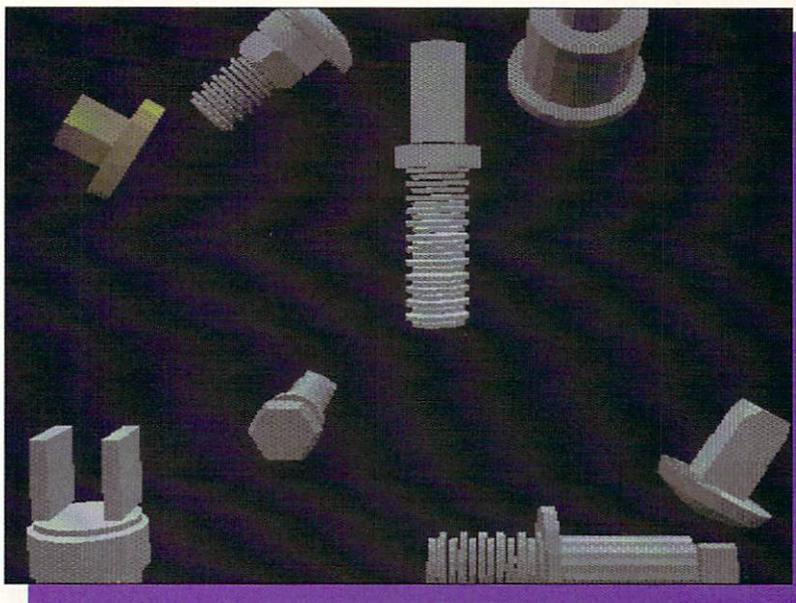
"I sit down with them and we do a couple of read-throughs and work out how they want the cue cards held. We do a lot of joking and laughing. I try to erase any negative images like the tyrannical Hollywood director with jodhpurs and riding crop. I want it to be an enjoyable experience and it usually goes very well."

THE RIGHT STUFF

At home after the taping, Jane generates the titles on the Amiga using *Pro Video Post*, *TV Text Pro*, and *Kara Fonts*. For special effects, fancy 3D titling, and animations, she uses *Deluxe Paint III*, *Animation Studio*, and *Page Render 3D*. (Jane curses the user interface in *Page Render 3D* but praises the superb results.)

When she has completed the rough edit, she shows the client the tape for last minute changes before completing the editing. Now all editing is done in-house (literally) on their three Panasonic AG 1960 editing decks and a Future Video EDL-1000 hooked up to an IBM. They also put a WJMX 12 special effects generator to good use. "It's a mad tangle of wires, but all our equipment is linked and works together seamlessly."

Don did all the voice overs during the first year. Now they employ two professionals to do voice and occasional on-camera narration. Together they bravely tried to create their own background music. "We bought *Sonix* and we tried, we tried hard, but we just



Still from a "Nuts and Bolts" animation done for a client.

couldn't make good music. It was terrible; really bad. We finally just bought professionally created music from QCCS Productions. Recently we discovered a wonderful 24-track professional recording studio, Harvest Productions, right down the road. They record our sound tracks and have supplied custom and original music for us."

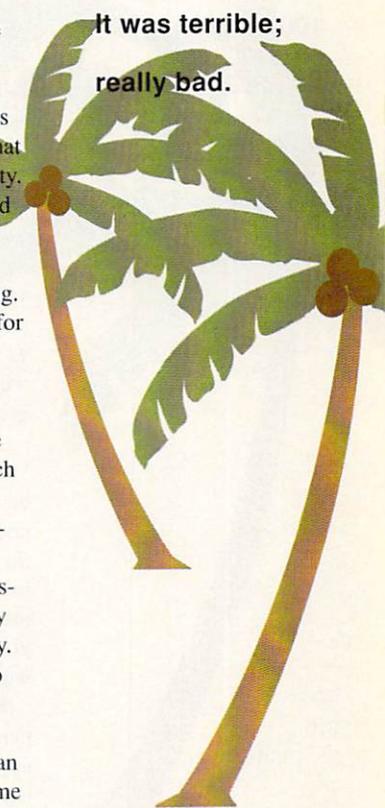
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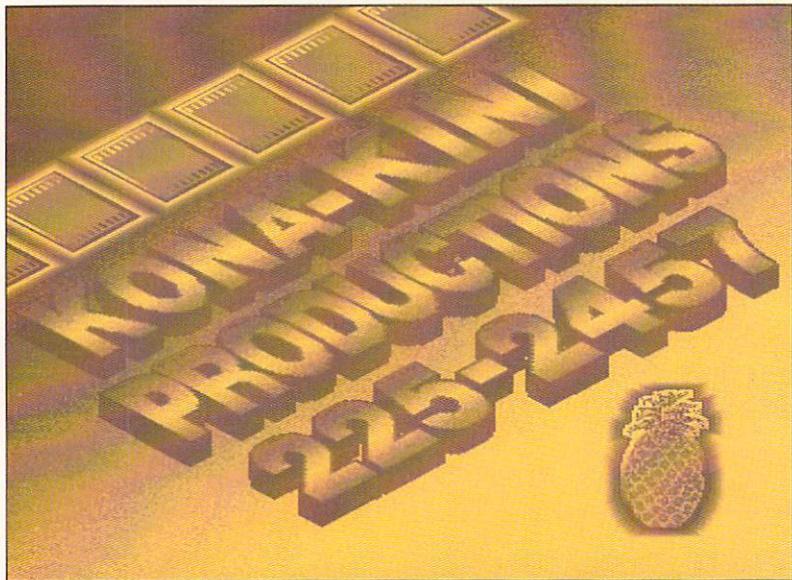
In its first year, Kona-Kini produced six commercial videos. One of the first was a fund solicitation tape made for a local private school. "They wanted a tape to show to corporations and alumni, but they didn't want any direct requests for money." Jane planned shots of all the positive aspects of the school, profiles of four successful alumni, and segments showing what the current students are contributing to the community. Within those shots were things that the school needed to carry on and improve their work. The school was not only delighted with the resulting twelve minute tape, they received a \$10,000 grant at its first viewing.

Another early success was a presentation created for a local builder. The video showed his construction methods inside-out, from the ground up, and gave potential home buyers a close look at details of the materials and construction methods usually invisible within walls. Tapes were played for customers at each model home on portable VCRs. This satisfied customer has returned to Kona-Kini after each new construction project.

Kona-Kini productions is getting ever more professional and complex, and is going further afield. They have done shoots in Detroit, Florida, and New Jersey. Kona-Kini's latest triumph was a motivational video for the Akron/Canton branch of Merrill Lynch. "We were given eight days 'take it or leave it' to do the whole thing. We worked day and night. We created an animated opening with a "Top Gun" style aerial theme

We just
couldn't make
good music.
It was terrible;
really bad.





A self-promotional slide, typical of Kona-Kini's production work.

Some of our
animations
run over
1000 frames,
so the 2000
now has
nine megs.

integrated into varied shots of the sales staff. The recording studio composed original music in just two days that fit the action perfectly. I delivered the film right off the editor and finished setting up at 4:10 for the presentation at 4:15. They were bowled over! They couldn't believe the quality, or the speed, or that it had been produced completely with an Amiga."

HITTING A MOVING TARGET

Jane has created a short four-minute promotional tape enhanced with animations and special effects that she takes along with a portable VCR to interviews with potential clients. This video "sells" both Kona-Kini and the video media for point of sale presentations.

Kona-Kini is participating in several local small business organizations. The Small Business News and C.O.S.E. (Council of Smaller Enterprises), sponsored by the Cleveland Growth Association, both run bi-monthly business shows. "We rent a table and run our videos. We have had many profitable leads from these shows because other small business people can see exactly what we do. Many other leads now come by word-of-mouth, and it's because people find our graphics work so unique.

Kona-Kini is also producing short video resumes. "We get both private clients and referrals from agencies. Usually we create an introduction with soft music and the client's name fading into a live interview of them stating their goals and qualifications. Then we use the genlock on half mode to present a listing of their credentials rolling over an appropriate background symbol for their vocational field that is created with *Deluxe Paint III*."

Kona-Kini turned a profit in its first year. Jane pumped those earnings right back into equipment upgrades and continues to devote a large share to making Kona-Kini a completely professional quality oper-

ation. "Some of our animations run over 1000 frames, so the 2000 now has nine megs. Last year we upgraded to the broadcast quality Supergen 2000S. That was a great investment." While admitting to "heart palpitations" when she sees the *Toaster* software and effects, Jane is bucking the hoopla with a cautious, long look at the *Toaster* performance and peripheral requirements, in comparison to non-Amiga "one piece - one supplier" equipment. "I'm still on the fence," she says.

A great deal of Kona-Kini's success can be attributed to the energy, determination, and just plain thoughtfulness Jane puts into every detail of the endeavor, right down to matching paper clips to the stationery. As a parting gift to her clients, she presents them with a sweatshirt bearing their own company's logo in full color. She captures the logos with *Perfect Vision* in HAM mode and has local Amigaphile Paul Gold of AC Color Labs transfer the images from Amiga disk to sweatshirt.

SONS OF KONA-KINI

Kona-Kini is a family affair. Jane's oldest son is a skilled Amiga animator. Now engulfed in his last months of medical school, he spent part of his summer vacations designing animated fonts for their productions. Kona-Kini markets a tape he created that contains an intricate animated segment of a bride and groom emerging from a wedding album and waltzing around the cake. Called "The Bridal Dance" it is to be used as a lead-in to amateur or professional wedding videos. His graphics have appeared in Amiga periodicals. Her younger son is in his first year of college majoring in communications. "I think he is going to be very helpful."

CLOSING SHOTS

Jane's ambitious plans are to keep Kona-Kini prices competitive and begin producing a tape a month. "Now that I am familiar with the all the software and equipment, I can breeze right through a job. I hope to retain full control so we can maintain our high standards, but I know that if we keep growing, the demands may become impossible. It's something I think about." Jane's familiarity with the business community has been a definite asset in procuring and understanding the needs of clients and her MS/DOS training has given her a confident "leg-up" with the technical side of the Amiga.

It was a surprise to find that Jane has had no art training at all, and never used a computer creatively until she got the Amiga. "I even had trouble with stick figures in school, but the Amiga's paint packages and *Perfect Vision* just brought out my creative juices. Now I find I enjoy really looking at what the camera is going to pick up, and producing unique effects. I want my work to be something special, and I love to see the customer's eyes light up when they see the results."

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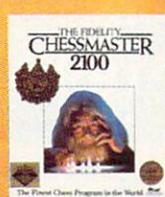
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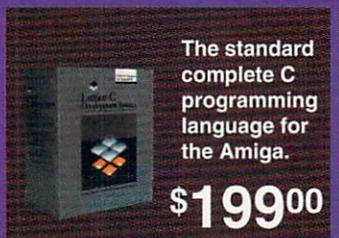
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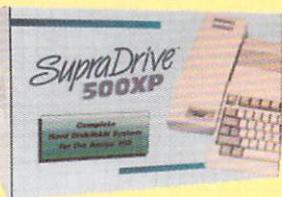
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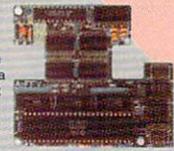
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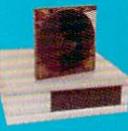
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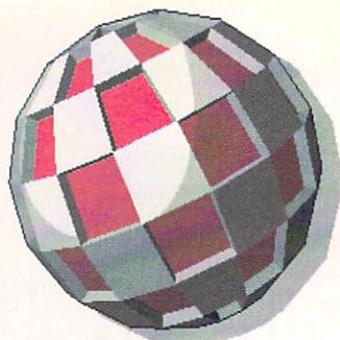
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Incredible
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Very Good
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Average
★★★

Awful
★★

Drek
★

Simple, elegant, and perfectly playable, *Vaxine* is one of the first of U.S. Gold's games to be imported from Europe. The look of the game is reminiscent of Accolade's *Game of Harmony*, but the aim is entirely different. It's a sort of perspective-view *Defender* descendant that puts you inside a human body where you battle against invading and multiplying viruses.

I suppose some sort of scenario is a necessary evil, but just forget about this one and play *Vaxine* as one of the best abstract arcade games in years. The play consists of racing around the field shooting at the viruses, which are represented by colored spheres and can only be destroyed by hitting them with like-colored balls (the graphics are simple, but very well done). There are all sorts of variables and options to make the play challenging and thoroughly absorbing. Movement is fast and fluid in all directions, though it will take considerable practice to get the hang of aiming and shooting.

If you like abstract concept games, this is one of the very best. *Vaxine*'s infinite levels will keep you infinitely entertained.

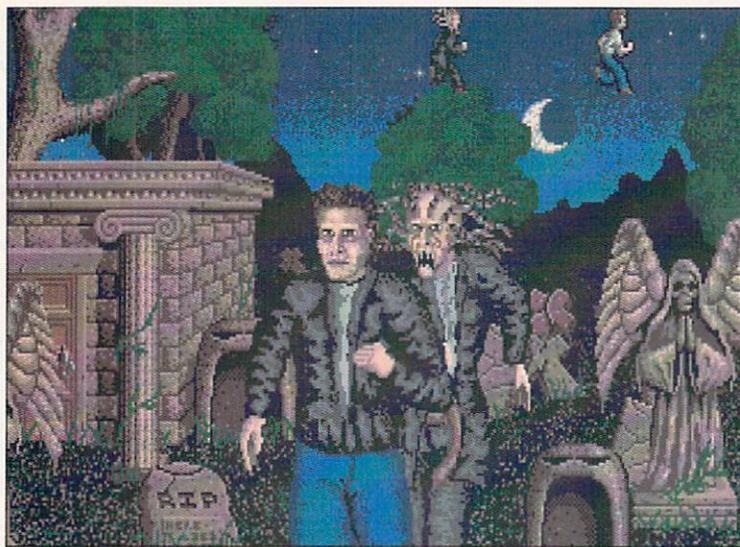
- Tom Malcom



VAXINE



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NIGHT BREED



Ocean / EA, 1820 Gateway Drive
San Mateo, CA 94404, 415-571-7171

Based on Clive Barker's book and the movie of the same name, this is one of the lamest excuses for an adventure (interactive movie, as the publisher calls it) I've seen in ages. It hasn't crashed, which is the only reason it has a two-star rating instead of one, but I wouldn't boot it up again unless someone held a gun to my head.

The biggest problem is that it's capricious; I don't mind trial and error in a game, but I at least want to be able to save my position before I try something that's going to kill me off without warning or possibility of escape. *Night Breed* doesn't even have a save function. The music is pretty good, but the graphics, which often have an amateurish look, and animation are strictly low-end common denominator. For example, the idiotic first sequence has you driving a car around an overhead view map by clicking on intersections. The car is then moved, without even being turned to face the direction it's moving, to the intersection.

Ocean seems to publish extremely good original games or incredibly bad licensed games. *Night Breed*, unfortunately, is one of the bad ones.

- Tom Malcom

If you haven't played the free five-level demo version of *Lemmings*, go get it right now. If you have played it, run right down to your local game dealer and buy this release version. It has something like 120 levels divided into four difficulty levels, ranging from pure, simple fun to one step from impossible. Something for everyone.

If you somehow missed all mention of *Lemmings* (not an easy feat unless you've been hiding in a cave somewhere in Outer Mongolia), the idea of the game is to save as many lemmings as possible by giving them certain attributes, like making them bridge builders, diggers, etc. Everything is mouse controlled, making the mechanics of play simple enough even for small kids. The graphics are high Psygnosis quality, the music wonderful, and the sound effects perfect.

I've heard the point made about *Lemmings* that its genius lies in that its ideas have all been around since computer games began, but that by putting them together in new ways, a new type of game was invented. *Lemmings* has universal appeal.

- Tom Malcom



LEMMINGS



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B.A.T.



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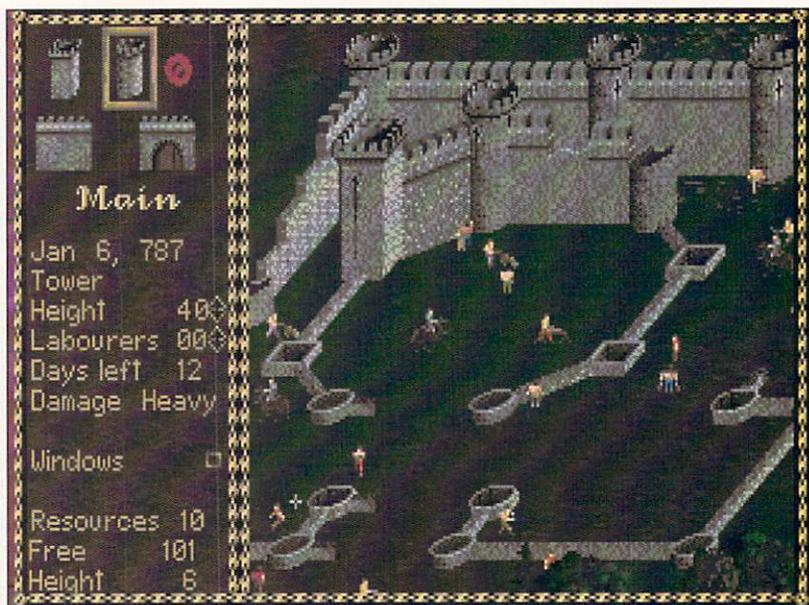
I first saw this futuristic adventure when I visited UBISoft in Paris and now that I've had the chance to play it, I'm impressed. *B.A.T.* out-cyberpunks *Neuromancer*. The look of the game is what sells it; it's dark, richly detailed, and populated with enough strange characters to fill a hundred seedy bars in Chiba City or, in this case, Terropolis, where a rogue scientist and a small-time crook are about to blow up the planet. You have to track them down. Cyberpunk as a science fiction genre has been around for about ten years now, but *B.A.T.* is the first computer game I've seen that really captures how I think it should look. The artwork is somber-hued, and filled with little gratuitous animations (things like little robots floating past in the air) that don't add anything to the game, but add enormously to its texture. The game uses multiple windows to fine graphic effect and the play system uses a smart pointer that automatically changes according to the the purpose that's needed: conversation, movement, and the like. *B.A.T.* is atmosphere incarnate. Designer Lance Mason deserves some applause.

- Tom Malcom

From what I've seen of *Castles*, it's shaping up to be the *Sim City* for 1991. The game is an elaborate, ground-up simulation of a medieval castle, including everything from designing your own castle to fighting with the church. The description in the product sheet says it best and it's too funny not to quote here:

"As lord or lady of the realm you'll be able to make life and death decisions over your fiefdom. Burden overtaxed peasants with tyrannical demands. Then, defend your castles in bloody battles against the angry, overtaxed peasants! Cheat workers of their hard-earned wages. Engage in brutal treachery and make scores of enemies, then sit in a cold damp castle and wonder why no one likes you. All the neat things that went into making the medieval ages a swell time..."

Castles is, of course, much more than that, with stunning graphics and wonderfully detailed gameplay (I'm especially fond of the treachery angle). The screen you see here is taken from the IBM VGA version, but the Amiga one should look just as good. - Tom Malcom



CASTLES

Preview

Interplay Productions, 3710 S. Susan, Suite 10
Santa Ana, CA 92704, 714-545-9001



DRAGON WARS



Interplay Productions, 3710 S. Susan, Suite 10
Santa Ana, CA 92704, 714-545-9001

The manual talks about how *Dragon Wars* is "as much a story as a game" and that may be true, though I still don't understand why I'm frequently told to read paragraphs of that story in the back pages. Computers handle text pretty well these days. As stories go, *Dragon Wars* doesn't have anything you haven't seen in a hundred other fantasy games.

The biggest problem with *Dragon Wars* is that it's years out of date (in fact, the C64 version was released a couple of years ago), and it shows badly. Adventuring has come a considerable distance since the days of *Dragon Wars'* crude graphics (and even cruder animation) and the ancient and outmoded *Bard's Tale* keyboard-intensive interface. Witness *Dungeon Master* and *Obitus*. The music is about the only thing up to modern-day standards.

Fans of hit-points and hit-and-miss battles will probably like *Dragon Wars*, but I think its primary interest is historical. On that count, *Dragon Wars* is successful, but I doubt we'll be seeing many more games like it. Time marches on, and it left *Dragon Wars* behind. - Tom Malcom

AIR STRIKE USA



Spotlight / Cinemaware / EA, 1820 Gateway Drive
San Mateo, CA 94404, 415-571-7171

Now this is my idea of a flight simulator. I can get in it, fly it, shoot down enemies, blow up ground installations, and I can do it without having to memorize twelve bazillion keyboard commands. *Air Strike USA* is a combination flight simulator and arcade game, just the thing to boot up after you've been watching the Allied air forces blow hell out of the Iraqis on TV. *Air Strike USA* is easily learned, a kick to play, and strategically deep enough that you won't get bored with it after ten minutes. Good graphics, good play, good stuff.

- TM



THE UNTOUCHABLES



Ocean / EA, 1820 Gateway Drive
San Mateo, CA 94404, 415-571-7171

Violence, violence, violence, bloodshed, and some more violence pretty much sums up *The Untouchables*. Of course, the TV series that the movie and game are based on was much criticized for the same thing, so I won't harp on it any more. What I will harp on is that the game is ho-hum. Eliot Ness and the guys have been put in a standard sidescrolling shoot 'em up with nothing to set it apart from a dozen others. The graphics are considerably better than most, but I found moving around very sluggish. Only for fans of the genre or the movie.

- TM



THE LOST PATROL



Ocean / EA, 1820 Gateway Drive
San Mateo, CA 94404, 415-571-7171

I don't think I've ever carped about a game being all graphics and no play before. *The Lost Patrol* has some terrific images, but what it doesn't have is a playable game. The graphics include digitized, nicely touched up pictures from the Viet Nam War and even some small-window film animations. The object is to move the seven survivors of a chopper crash to safety through miles of hostile territory. Unfortunately, the process gets boring very quickly; there just isn't much to make you want to keep playing. Well worth a look for the graphics, but not much else.

- TM





BLACK GOLD



LEGEND OF FAERGHAIL



XIPHOS



Rainbow Arts / Electronic Zoo, 3431-A Benson Avenue
Baltimore, MD 21227, 301-646-5031

I recently received a package of games from the Electronic Zoo and was almost a quiver with anticipation. They were all imports from Rainbow Arts, the European company that published *Spherical*, one of my all-time favorite arcade puzzle games. (In fact, the box also contained the US release version of *Spherical*, and it's still high up on my five-star list.) Unfortunately, the remaining games in the package, while having considerable entertainment potential, have some serious problems. Most of the troubles I've had are directly related to inaccurate translation from German to English and poor quality control - I've found a bug or two and several design gaffes.

Black Gold is the worst offender. I dearly love the game, but it eventually crashed or hung up at some time or another every time I played it for any length of time. It's a cutthroat oil industry trading game that has much the same addictive, compulsive greed that makes *Monopoly* so much fun. Starting out with \$5,000,000, you buy a concession, drill a well, watch out for saboteurs, try to scuttle your three computer or human opponents, and generally behave like J. R. Ewing. The play would be terrific if it weren't for several needless, inane arcade-type episodes. I still play *Black Gold*, but I'd really like to see a revised version.

The *Legend of Faerghail* has the potential to be one of the better entries in the hit-points and dragons category, and in fact has some of the best dungeon graphics this side of *Dungeon Master*. The main problem here is that the translation from German is frequently awkward and sometimes downright wrong. It's also rather unclear just what you're supposed to be doing and where you're supposed to go. I suppose a good part of the game is figuring out what's going on, but I think the manual should have been much more helpful.

Xiphos is an arcade/trading/wargame and the best of the lot. The animation and displays are nicely done and there's plenty of action to be found while you fly your spaceship around a collapsing intergalactic civilization. *Xiphos* plays well, with better than average vector graphics, and I like the way it moves, but the trading portions of the game are a little shallow. Still, it's worth some of your time if you like space operas.

Despite the problems I've had with them, I'm still delighted that the Electronic Zoo is importing Rainbow Arts' games; no matter how frustrated I get with them, they're always entertaining and that's still what it's all about.

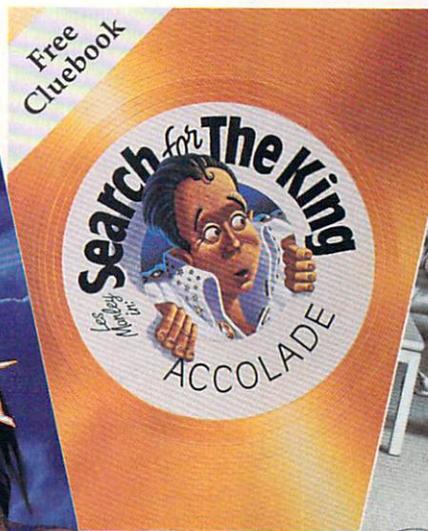
- Tom Malcom

No PC Graphics Here.

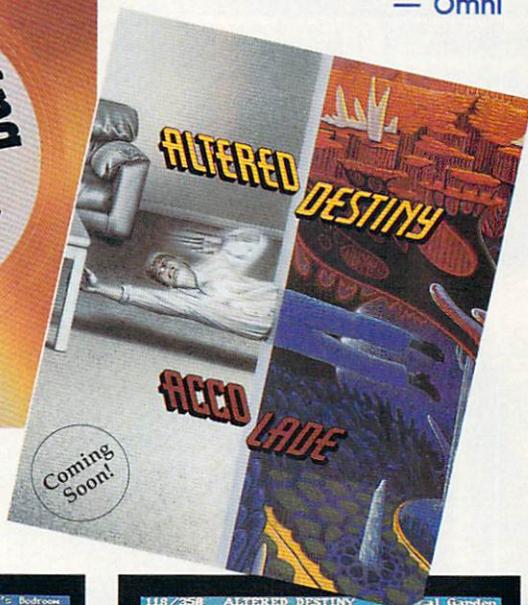
As everybody knows, many Amiga games aren't really Amiga games at all. They're PC games in disguise. But now Accolade introduces three awesome games that definitely are "Made in Amiga." That means enhanced 32-color Amiga graphics. Great Amiga sounds. Hot Amiga music. And dazzling Amiga animation. If you're looking for 100% pure Amiga adventure, Accolade has three graphic examples.

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— The Denver Post

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— Questbusters



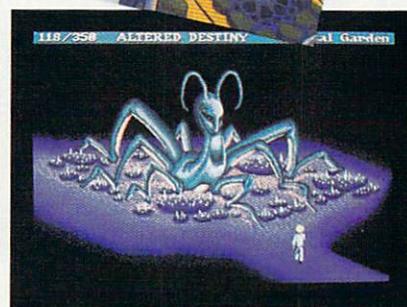
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How many games have you purchased for your Amiga computer? _____

Note: Demo is available for the Amiga only.

SAE 3/91

Elvira image © 1990/1991 Queen "B" Productions. Elvira and Mistress of the Dark are the trademarks of Queen "B" Productions. The phone charge for pre-recorded hints and tips is 85¢ for the first minute, 60¢ for each additional minute.

PUBLIC DOMAIN

SYSINFO V1.98 WRITTEN BY NIC WILSON AND IS FREELY DISTRIBUTABLE

NIC WILSON SOFTWARE PHONE (076) 358539
138d SOUTH ST. TOOWOOMBA QLD 4350 AUSTRALIA

Screen design by Don Mapper

SYSTEM SOFTWARE INSTALLED		MEMORY AVAILABLE	
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WORKBENCH	VERSION FAST RAM (\$64EA90) V34.28	TOTAL FREE FAST	4634492
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SPEED COMPARISONS		DRIVES AVAILABLE		INTERNAL HARDWARE	
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B2000	EXTRA RAM 3.17	HARD	PARTITIONS 3	AGNUS	TYPE NISC ECS 8372
B2000	GYP A3001 8.39	RAM	DRIVES 8	DENISE	TYPE ECS 8373
A2500	A2620 1.28	DHO:	DRIVER IN FAST	CPU	TYPE 68020
A3000	25MHZ 8.53	2000/500	CLOCKYES	FPU	TYPE 68801
BM	PC/XT 13.54	AUTOCONFIG	BOARDS2	MMU	TYPE N/A
CHIPRAM vs A3000	8.58	AT/XT	BRIDGEBOARD0	CPU	SPEED 14.48 MHZ
RATING	Go Man Go				

LEFT BUTTON TO EXIT
RIGHT BUTTON TO RUN AGAIN

AMERICAN PEOPLE/LINK

The Amiga Zone and Amiga Zone PRO are American People/Link's popular Amiga support areas. Each file is listed below with its library file number and is tagged either "AZ" or "AZPRO" to indicate in which Zone you'll find it. For information on getting your own People/Link account, call 800-524-0100 (voice) or 800-826-8855 (modem).

SYSINFO.LZH [#3020/AZPRO]

This is version 1.98 of Australian Nic Wilson's excellent Amiga system identifier and performance analyzer. Run *SysInfo* (shown) and its well-organized and attractive screen opens. In a couple of seconds, the program scrutinizes your hardware and shows you your Amiga's configuration, including a speed comparison with other Amiga setups. Great for showing off or settling arguments with friends or roving gangs of Atari owners.

PROSTEP.LZH [#3013/AZPRO]

I don't know about you but I'm no programmer. And yet I want to be able to use different programs' ARexx capabilities to do wonderful things with as little effort as possible. Hey, isn't that what a computer is for? Bob Hosch's *ProStep* (shown) is a bound *CanDo* deck created to help batch-process files through ASDG's *Art Department Professional* using ARexx commands. Although *ProStep*'s interface looks like alien spaceship hardware, it's easy to learn to use it to shuffle a series of IFF files into and out of *ADPro*, performing any kind of image processing on them. The freely distributable *DeckBrowser* (or *CanDo* itself), *ADPro*, ARexx, and a hard drive are required.

AMIDOCK.LZH [#26268/AZ]

Since the early days of freely distributable Amiga software, developers have been trying to improve on the WorkBench concept. Here's another innovative approach. If you're seen or played with a NeXT computer you're familiar with its concept of a "dock" of icons from which you can run various programs without having to open windows or drawers to find them. Gary Knight's *AmiDock* (shown) brings this concept to the Amiga, and gives you a vertical or horizontal expandable row of icon buttons from which to click-launch your favorite programs. If you want more buttons or different ones you'll have to design your own in a paint program, but *AmiDock* comes with a good supply and a handy grid pattern for making more.

HANDSHAKE22C.LZH [#26598/AZ]

This is the long-awaited new version of Eric Haberfellner's exquisite VT52/100/102/220 terminal emulator. New to version 2.20c is an ARexx port to give *HandShake* extended macro capability, recognition of *Conman* or *WShell* on your system, and its ability to use external protocol libraries. I can't yet recommend *HandShake* for People/Link use since it still doesn't incorporate our fast WXmodem file transfer protocol, but if and when a WXmodem XPR library appears that problem should be solved. Still, if you need a terminal emulator that does what *HandShake* does you won't find anything better. - Harv Laser [CBM*HARV]

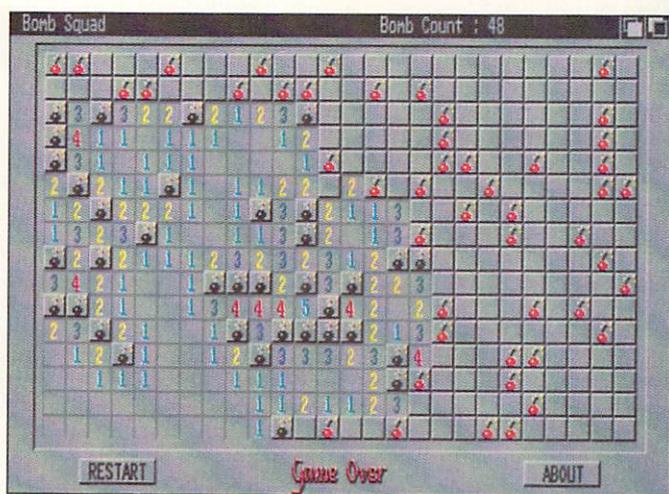
PUBLIC DOMAIN

Genie

Genie is General Electric's commercial online information service. GENIE's *Starship Amiga* software library has over 10,000 files available for downloading. For information on signing up for GENIE, call 800-638-9636.

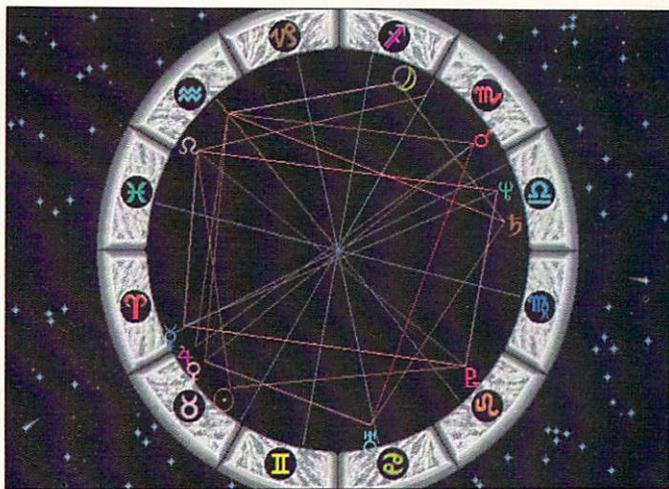
BOMBSQUAD.LZH [#10124]

Addictive and slightly misnamed, *Bombsquad* (shown) by George A. Rucker will have you searching for as many as 108 randomly hidden bombs. Double-clicking each tile on the playfield either ends the game (boom!) or reveals the number of bombs bordering on the selected square. Quick replay more or less counter-balances the frustration of only having one guy in your "squad," since the game requires a lot of luck as well as keen logic to win.



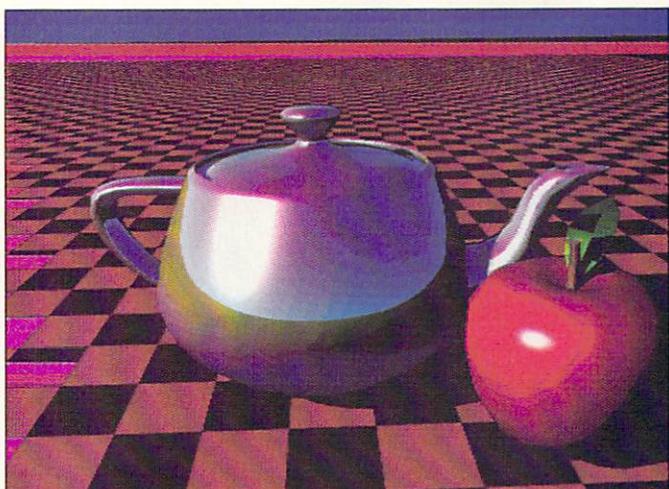
ASTROLOGY.LZH [#10139]

For those who don't find the moniker "astrological utility" to be an oxymoron, here is a demo version (shareware \$25) of *Astrology* (shown) by Phil Moore. The program charts and interprets anyone's horoscope. The demo version will do the charting - in color and hi-res, no less. Paying the shareware fee gets the interpretation disks. Despite the warning in the instructions, *Astrology* seems to run okay with a tad less than 400K of available chip RAM.



LW-TEAPOT.LZH [#10185]

Now that NewTek's *Video Toaster* and several other 24-bit graphic boards are available, 24-bit graphic files are starting to show up on GENIE. For those whose hardware budget is on the Spartan side, *Teapot* (shown) is a HAM version of a 3D rendering completed with the *Toaster's Lightwave 3D* software. **X-WING.LZH [#10255]** and **LW-MARBLECAN.LZH [#10186]** are two more nice *Lightwave* to HAM conversions.



CHKBKACCNTNT0.9.LZH [#9953]

While Jeffery Almasol's *Checkbook Accountant v0.9* may not be a full-function checkbook register replacement yet, this "pre-release" version is very useful and easy to use as a balance reconciliation utility when you get your monthly statements. There is even a simple budget function that can give you a good idea where the money went.

SPACEWAR.LZH [#10078]

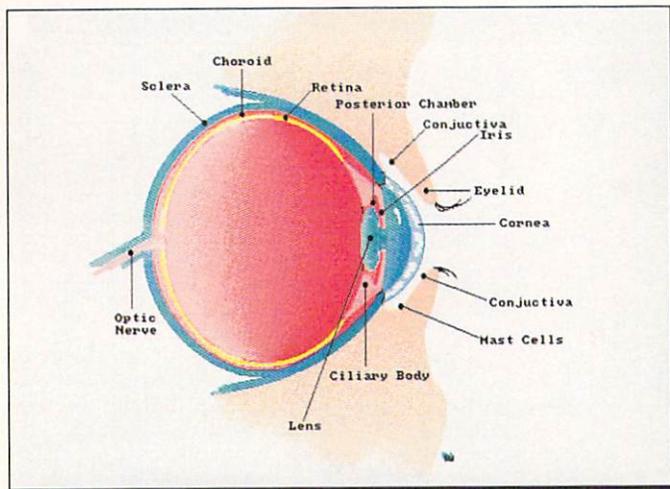
Spacewar by Jeff Petkau and Brian Fendrau is an Amiga adaptation of one of the first hacker games from the early days of mainframe computers. Here the starship Enterprise and a Klingon bird of prey duke it out in a universe dominated by a (variably) high gravity sun and a mad planet. Two players are required, but fear not - *Spacewar* has modem support so competition can be just a phone call away.

COMIX01I.ZIP [#10133]

Comic collectors will get a leg up with Lort Sutch's *Comix Caper* database. It will search all text fields for specified strings, be they user comment fields or the essential title, publisher, condition, etc. Supports both a "Have" and a "Want" list.

- Don Romero

PUBLIC DOMAIN



DISK COLLECTIONS

BARBARA'S CHOICE

There are many companies distributing Amiga PD/Shareware disks and much duplication of the programs offered. What sets a company apart is the quality of its service - catalog, selection, support, and guarantee. On all counts, Barbara's Choice Software is excellent. Their catalog, which includes disks formerly sold by California Shareware, includes detailed listings which rate program quality and experience needed for use. The "Getting Started" section should be required reading for all new Amiga owners; it tells all you need to know to get these programs running. In addition to the usual PD favorites, Barbara's Choice has a very extensive collection of clip art, much of it produced by in-house artists. They can be used as is, or modified to meet your needs. Most are quite good, and CLIP ART PAKS [# 9144-48] assemble the best.

ANATOMY CLIP ART [9261]

The eye (shown) is but one of dozens of body parts and systems, plus a few scary-looking surgical instruments, included on this clip-art disk. I also like COLOR CLIP ART [9245], which includes an entertaining "Humorous" subdirectory. Manipulating these images in *DPaint* is easily done.

ASTRONOMY [9235]

Buff's and teachers will love this disk of BASIC astronomy programs. From satellite orbit demonstrations (shown) to facts about Uranus, photons, and Saturn, this is a gold mine of information. The series is self-running, perfect for unattended display purposes like science fairs.

FAIRY TALE TRAKS [9246]

Great idea! This disk contains line drawings illustrating popular fairy tales and nursery rhymes. Produced especially for Barbara's Choice, they provide your child with an electronic coloring book. The advantages are obvious - mistakes can be corrected as often as necessary, and they can experiment with many different colors. Or you could print the outlines for use as a normal coloring book. Some text is included, and with programs like *DPaint* kids could even change the stories to their taste.

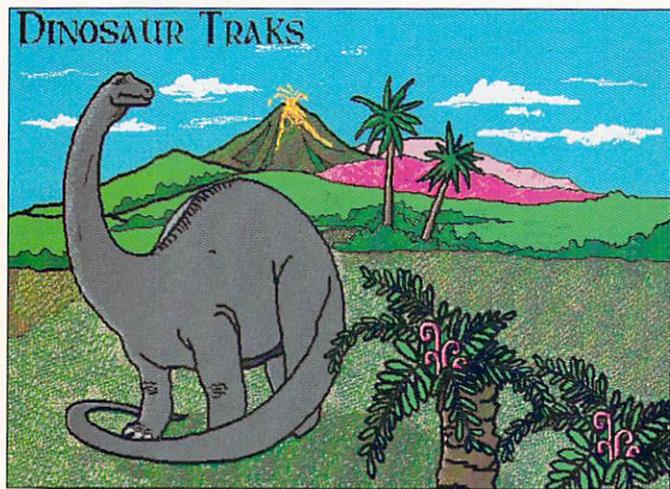
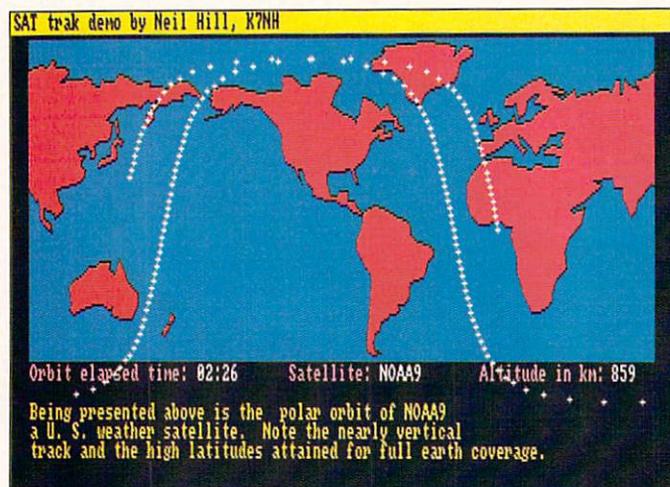
DINOSAUR TRAKS [9207]

This is another electronic coloring book, and features giant... well, you know (look at the picture). Simple facts about the dinosaurs are included in each picture. Kids seem to love dinosaurs, so this is a natural for home or school use. By the way, how do you like my coloring?

HOW TO ORDER

Each disk is \$ 3.99. Shipping/Handling \$3.00 per order (HI, AK, Canada \$5.00, International \$11.00). Barbara's Choice Software, 38438 20th Street East, Palmdale CA 93550, 805-267-1172. VISA and MasterCard accepted.

-Jeff Lowenthal



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GAMES

- #020-CARD GAMES: CONCENTRATION: A classic 1-or 2-player game. VIDEOPOKER—Bet, draw, hold, or fold, just like the machines in Vegas. THIRTY-ONE, THIRTEENS, MONTANA, KLONDIKE, CARD-O-RAMA (source inc.). Also on this disk CARDBAKER—design your own cards to use in your program.
- #021-BATTLEFORCE: Take control of a two-hundred-foot robot armed with lasers and missiles as you blast and maneuver your way thru this non-stop action strategy game. Game is over 600k and takes up the one disk.
- #022-BOARD GAMES: This disk is full with classic board games for multiple or single players. MONOPOLY, REVERSI, OHELLO II, CLUE, BACKGAMMON II, and CHESS.
- #023-GAME HINTS: This is an extended Dungeon Master game hint disk with more maps and hints. Spells, item locations, riddle answers, more. Beat II walk-thru from start to finish. Also included are the Ultimate Hint lists 1 & 2 with hundreds of cheats and back doors for all your favorite games. No adventurer should be without this one.
- #025-ARCADE 2: Some of video gaming's best-known and classic games are contained on this disk. AMOEBA—a space invader's clone, SUPERBREAKOUT, ASTEROIDS, 3-D BREAKOUT, and many more.
- #026-ADVENTURE: ZERK and HACKLITE—Two well-done Ultima clones with different plots.

BACKUP UTILITIES

- #345-BACKUP: XCOPY III and NIB—Copies what the others won't. Gets rid of annoying code wheel protection and other protection schemes. Plenty of parameters included.

ANIMATIONS

- #052-ANIMATIONS: ANTI CBS—see and read what this author so perturbed at the famed network. CPUSTANDOFF—animation at it's best as the Amiga gets the best of the Apple. MACHINE—a maze of inter-linking gears and mechanisms.
- #053-ANIMATIONS: CAR—get in on the joke with Allen Hastings classic animation of the speeding sports car and the runaway unicycle, a must see. HBHILL—an excellent animation using the Amigas "Extra HalfBrite Mode" with music in the background. Interesting pictures also included.
- #054-ANIMATIONS: AMIGAWAVE—another excellent animation by Allen Hastings. BOINGTHROWS—this classic took 325 hours of run-time to generate. DARK—animation demo with source.
- #055-ANIMATIONS: ASTEROID FIELD—a large (670K) animation by Michael Powell of a spaceship racing thru an asteroid field being chased by unseen foes with several near misses. Seen from a movie-theater view.
- #057-ANIMATIONS: JUGGLER—who could forget Eric Graham's stunning 3-D ray trace animation that has shown off the Amigas abilities for so long. This is a true classic and a must-have for any collection. BLIT "Brain Layer Inspection Transfer"—an interesting look into human mind enhancement. Also includes a couple of excellent pics.
- #058-ANIMATIONS: BOING—with selectable speed. NOT BOING AGAIN—take a humorous look at what happens when the computer gets too much "Boing." DRIVE—Hmmm... this car looks familiar.
- #059-ANIMATIONS: TOO MUCH 3-D—don't miss this excellent animation

of a spaceship that flies straight out of the monitor and plays havoc in the room, only to return from where it came. Also on this disk BILLIARDS, 3SPACE, and a couple of good cycle pics.

- #060-ANIMATIONS: KAHNAKAS—a fascinating animated 3-D Ray Trace with stunning detail so precise that you can see the reflections off the reflections. This one is a masterpiece and has helped to sell many of the Amiga computers on store demos. GHOSTPOOL—a well-done animation of an unseen pool shark. RADIO II—an excellent animation with clarity so good it looks better than the real thing (3-D Ray Trace).
- #061-ANIMATIONS: 3 great animations. ROCKER, SPIRAL TOWER, HEADANIM, and 3 great pictures. BUGEY, AMERICA, and MISCHIEF.

GRAPHICS

- #062-PICTURES: Disk 1 of the Nagel collection. Pictures 101 to 121 of beautiful women, plus Nagel Tiger. Viewer included.
- #064-ARCHITECTURE: Several pictures of castles, museums, dream houses, etc., arranged in a slide show presentation.
- #065-FANTASY: Black knights, dragons, wizards, elves, and lots more all arranged in a point-and-click or slideshow format.
- #066-COVERGIRLS: 18 beautiful faces of models from around the world. Disk 1 of the series.
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- #81-CARTOONS: All your favorite Saturday morning and newspaper cartoon characters are presented in a long-running slideshow.
- #85-FRACTALS 1: This disk is packed with entries from around the world.
- #88-SPACE: Some excellent shots of our solar system, moon landings, shuttle flights, and unmanned probes. Great for multimedia applications.
- #89-SCIFI: Star Wars and Star Trek fans—this disk is packed with your favorites. Point-and-click.

UTILITIES

- #001-VIRUS PROTECTION: Protect your files with these Virus Utilities. BERSERKER, VIRUSX (v4.0), VCHECK, GUARDIAN, XENOZAP, plus many more.
- #002-PRINTER DRIVERS: This disk contains many useful utilities for your printing needs. PRTRDRVEN—generate your own custom drivers for any printer. PRINTSTUDIO—print hard copies of any type of IFF file (HAM, Extra-half/bright, Overscan). Print it all or just the parts you want. LABEL-PRINT—reads your disks and prints out labels for them. Also catalogs and allows custom editing. Much more.
- #003-COMPRESSORS: 16 files compressors, to include LHarc (v1.20), ARC (v2.3), LHwarp (v1.4), PKAZIP, ZOO (v2.0). These will compress your files up to 50% and are indispensable for the Telecommunicator or Hard Drive owner.
- #004-UNIX EDITORS: ED and STEVE—two full-featured UNIX editors, plus AMIGASPELL—spelling checker with no disk access. 100% assembly language.
- #073-VIEWERS: SHOWWIZ 2—a great picture presenter that incorporates

Best Bets

- #B400-BIBLE: 8 disk set of the King James version of the Holy Bible. Every chapter, every verse of the Old and New Testament. Specially priced at only \$16.95. (no free disk offer on this selection).
- #135-STARTREK: The new Tobias version from Germany. Commercial quality and highly addictive. 2 disk set priced at 1.
- #232-Helpers: CREDITBOOK—Keep track of all your charge accounts. Generates a letter to report lost or stolen cards. DIETAID—Stay trim with this diet helper. AREACODE—No more fumbling thru the phone book. MAPMAKER—Generates graphic representations of the earth's surface. ROADROUTE—Shows the best routes to take, miles, time, and major cities. BIORHYTHM, HACKS—various icons, and much more.
- #288-CLIGHT: An extremely easy 3D RayTracing generator that is both powerful and flexible. Don't spend your \$\$ on anything else until you have tried this one.

several different wipes and effects, fade-in, dissolve, magnify, etc., su, ports scripts and text. Also includes a smaller version. HAMGIF—now it is a snap to view IBM GIF type pictures using one simple command. MULTI-VIEW—shows IFF, Atari, and Mac pictures with an easy-to-use graphic interface. Converts icons into IFFs. Also on this disk SHOWANIM (v5.3), IFFMIRRORS, SUPERVIEW, and more.

TELECOMMUNICATIONS

- #011-Telecommunications: NCOMM (v1.9) one of the best terminal packages available for the Amiga. Has all the features of commercial programs plus more. Full ANSI/VT100 emulation, Phonebook, Auto redial, NTCS/PAL support for normal or interfaced screens. Hot keys, online clock counter, supports scripts, XYZ protocols, Auto-logout, script generated BBS, split-screen, many extras. Disk also includes AKERMIT.
- #014-BBS's: Set up your own Bulletin Board Service with these well-written programs. TAG, SOFTSPAN, LINKBBS, and PROBBS. A great way to add to your file collection.

HOME & BUSINESS APPLICATIONS

- #312-FINANCES: BANKN—keep track of bank account with this handy program. SUPERMORT—a mortgage and loan calculator. FUNDS—helps you keep track of the stock market. QBASE—keep track of friends and others. IRA—an investment calculator. VC—spreadsheet program.
- #330-ANALYTICAL: A full feature numerical analysis and spreadsheet program. Uses memory for instant access to data. Drive any cell from Macro. Has built-in matrix algebra and much more. List too long to print. This is a top-notch program and puts many similar commercial programs to shame. (This is a 2-disk set for the price of 1.)

PROGRAMMING

- #200-CODES: Several code generators to help assist you in your programs — DOREVISION—creates revision headers similar to the ones at the top of every Amiga C header file. MENUBuilder—automatically builds menus. EGAD—a gadget editor. BLK—for making requesters.
- #208-PASCAL—a complete 2-disk set of everything you need to program in PASCAL. Assemblers, sub-set compilers, etc. Also includes P2C a Pascal to C translator.

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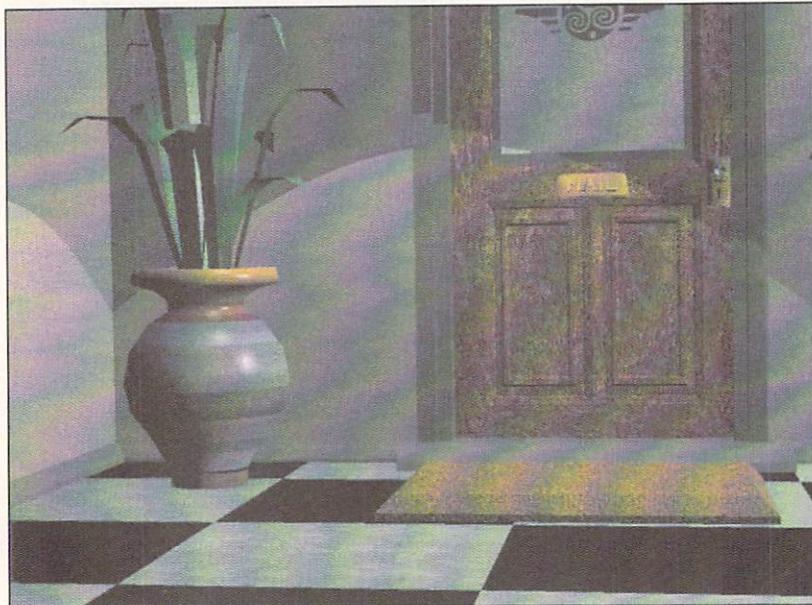
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Brad Schenck on Graphics



These two images are large HAM versions of a couple of 24-bit *Imagine* renderings from Brad's animation "Off the Record"...

Brad takes a
sneak peek
at the latest
3D imaging
program for
the Amiga:
Impulse's
Imagine.

Imagine is Impulse's successor to *Turbo Silver*. After close to a year of new development, Impulse has come up with an entirely new environment for creating raytraced or solid modeled animations; most of what we liked about *Silver* is still there, but the whole approach to designing scenes and motion has been created from scratch. The result is a large, complex program whose intuitive interface makes it fairly simple to get started even without an understanding of all the program's features. The modules in *Imagine* each have very similar interfaces and functions within their specialty, and are consistent.

Imagine is so large that even after completing one long animation and many smaller projects with it I have to admit that there are a lot of things I simply haven't tried yet. I will be working with the program more in the coming months and hope to share some of my experiences with you all. In the meantime, I want to present this introduction to the program with some observations.

PROGRAM MODULES

All of *Imagine*'s editors use a four-window screen that shows the usual three views plus a perspective view. Any of these views can be made full-screen, and the perspective view can be displayed as wireframe, 'solid' wireframe, or shaded.

In the object editing areas, all or any of the points,

faces, or edges of objects can be modified; objects may be scaled, moved, or rotated using the mouse, or by entering numerical values. A variable sized grid can be turned on or off. Mouse control includes several selection modes: clicking, using a 'drag box', or drawing a freehand 'lasso.'

The interface is consistent throughout the program modules and is quite intuitive. Function keys may be assigned to any function available through the editor's menus.

FORMS EDITOR

The Forms Editor allows the user to create unusual, irregular forms very easily by editing representative slices of an object in the available views. This editor is unique in my experience and hard to describe; it's well suited to modelling organic, flowing shapes that would be next to impossible to make any other way. Should an object become too complex (involving an unreasonable number of points) it can be recalculated using fewer points. Several varieties of 'symmetry' between views make the creation of symmetrical sections easy.

DETAIL EDITOR

This editor allows the user to create objects from scratch by creating the points and faces desired, and also has built-in primitives like surfaces, spheres, cones, and so on. It incorporates the following features:

Editable objects, groups, points, edges, and faces (selected points can be 'hidden' to make the display clearer). 'Ground' objects, as in *Silver*, extend in an infinite horizontal plane. Pointless spheres are available as primitives.

Hierarchical grouping of objects: groups may consist of any combination of other groups or objects and can be moved, scaled, or rotated together or individually.

Extrusions include straight, lathing (two types), and extrusions on paths. Objects may be scaled or rotated in any dimension during an extrusion, and the far end of an object can be made to mirror the original end (in depth). Linked to extrusion is *Imagine*'s ability to conform an object to a sphere or cylinder; the user can choose what size the imaginary sphere or cylinder is in relation to an object, and 'bend' that object to match.

IFF images may be converted to flat 3D objects within the Detail Editor, but are not automatically 'filled' with faces.

Volumetric Textures: up to four per object. Nine are included with *Imagine* (bricks, checks, wood, grid, angular, linear, radial, dots, and disturbed).

Image mapping capability includes up to four IFF maps per object, using color, reflection, filter (transparency), or altitude (bump) mapping.

Boolean Operations: one object may be 'sliced' with another. This means that a user can build shapes and 'subtract' those shapes from objects, much like carving or stamping an object with a die, or cutting it as with a mill or planer. This makes complicated relief patterns simple but also means that holes (of any shape) can be drilled through objects.

Duplicate points are eliminated with the 'Merge' function (which apparently didn't make it into the manual). This is especially useful after 'Slicing' a set of objects.

In addition to the volumetric textures and image maps, surfaces can have variable color, reflectivity, 'filter' or transparency, color of specular highlights, faceted or phong shading, dithering, hardness, roughness, shininess, and refraction. Objects can be forced to an unshaded color zero for genlocking, and object attributes can be saved and loaded.

Magnetism, with very flexible controls, can make a single dragged point 'carry' nearby points with it. The tutorials amply demonstrate how useful this can be in creating landscapes, but it has many uses in creating characters and other objects as well.

CYCLE EDITOR

This module allows you to import objects created in the other editors and link them together as characters. By designing keyframes of motion, it's a relatively simple matter to create a walk cycle or other cyclic motion which can then be imported into the Stage (animation) editor and repeated at will. It's also possible to morph between cycles, meaning that one cycle can be animated while transforming into another one.

With a few exceptions, this editor has all the same hot-key commands and similar functions to the other editors, so that going from one module to another is natural.

STAGE EDITOR

This module has two parts. The first, which resembles the other editors, is a four-view graphical representation of any frame in an animation. The second is more symbolic; called the 'Action' screen, this is a kind of chart for all the objects in the animation, light sources, transformations (morphs), animated cycles (in forward or reverse, beginning with any frame of the cycle) and camera motion. The position, alignment and size of any scene element can be 'tweened' automatically by using the corresponding bars in the Action chart, and the motion of one 'Actor' on the Action chart can be 'Hinged' on another object.

Just about any object or Global characteristic can be morphed. Shape, color, any or all of the textures and image maps (color, reflectance, filter and altitude maps), cycling motions, and so on are all transformable. In addition, the Action screen offers control of F/X, or Special Effect Modules (these, like Textures, can be added to as more become available). Partly morphed objects can be captured and saved from the Stage Editor.

The three F/X provided with *Imagine* 1.0 are Explode, Ripple, and Grow. All of these alter an object's geometry, not just its appearance as the Textures do, and so their effects can be viewed in the stage editor either frame by frame, or in an animation preview.

Objects and cycles can be animated as they follow a



...They were rendered in about twenty minutes each on a 25 mhz 68030 system, using Scanline mode.

motion path of any shape. Motion paths are made up of a series of axes rather than points, so it's possible to rotate them to define path direction.

Global characteristics can also be defined. Separate colors can be specified for the Zenith, Horizon and 'Negative Zenith' or Nadir of the sky, as well as Ambient light. A Global Brush will, in non-raytracing modes, become a reflectance map that affects the appearance of any reflective objects in a scene.

THE PROJECT EDITOR

This module controls rendering. *Imagine* offers wireframe, color wireframe, quick shading, scanline rendering, and full raytraced images. Images can be of any size up to 8192 by 8192 pixels in any Amiga display mode or in 24-bit color, and will directly display on Impulse's *Firecracker* 24-bit display board. File formats for images include Impulse's 12 and 24-bit format and IFF format, including 24-bit. Animations can be created in the Impulse format or in IFF ANIM format.

All Project Editor choices can be entered directly into a Rendering Subproject requester, or can be defined as 'Presets' to choose from in *Imagine*'s .config file; this is a simple text file that can be edited with a text or word-processor. This .config file, unfortunately, contains the only control over anti-aliasing and recursion.

As you can see, even a terse description of the program's capabilities can strain the seams of my column. I'll be coming back to *Imagine* in these pages soon; this introduction will, I hope, give you an idea of what the program offers. This software is a major development for Amiga artists. While version 1.0 has a couple of unpolished edges, it's an amazing program. Weighing in as it does at one tenth the price of some recent competition on Mac and MS/DOS systems, it's no less a heavyweight in the rendering arena.



Imagine v1.0

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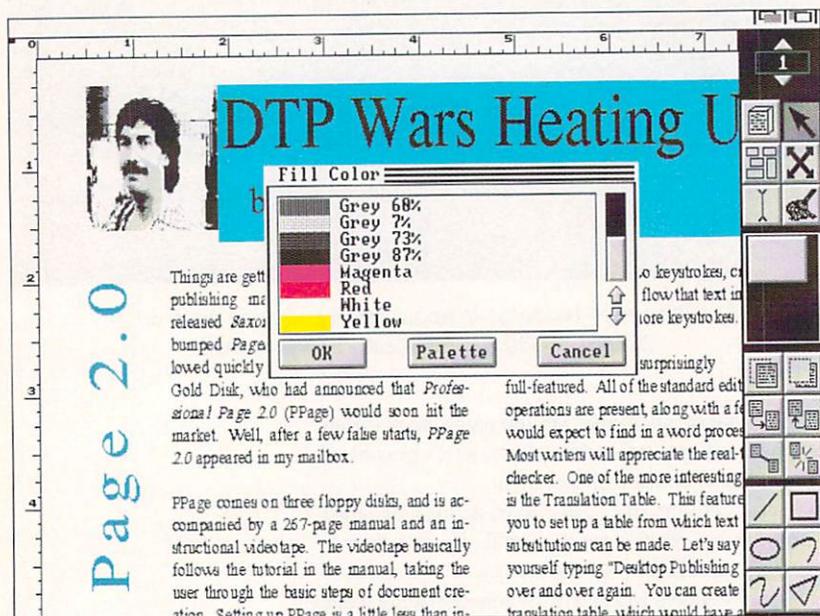
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Jim Meyer on Productivity



Professional Page v2.0 from Gold Disk; the main layout screen.

Jim boots up
version 2.0
of the
granddaddy
of Amiga
desktop
publishing
programs.

Professional Page 2.0 comes on three floppy disks, and is accompanied by a 267-page manual and an instructional videotape. The videotape is slick and well-organized, and takes the user through the basic steps of document creation. Setting up Professional Page is easy, but there is one catch - if you don't boot from the Professional Page disk, you must make three assigns that enable Professional Page to find its fonts and utilities. Forget this step, and you'll find that the text in the menus, requesters, and gadgets runs off the left-hand side. Hard disk installation is accomplished through the HDInstall script.

Professional Page employs the familiar metaphor of a blank screen (art board, if you will) flanked by a column of gadgets on the right. Nothing exists until you create a page. You can choose from six predefined page sizes, or specify one of your own. The New Page Format requester allows you to set margins, number of pages, automatic column linking, number of columns, and gutter (space between columns) size. A PostScript Output Specs gadget brings up an additional requester. This one lets you position, scale, rotate, or add crop marks to a page, and gives you a "no eject" option. With this option in force, you can overlay pages. Once

you've gotten your pages set up, it's time to put something on them. What do you put on the page? Why, boxes, of course.

SAY IT WITH BOXES

Professional Page is a box-oriented program. As the manual says, "Once you fully understand boxes, you have grasped the main concept of Professional Page." Thankfully, there's not too much to understand. Boxes are mini-environments, with adjustable size, transparency, permeability, internal margins, color, and borders. The elements of a document - text and graphics - live within those boxes, and are "pasted" onto the page.

Once a box is defined, you can fill it with text or graphics. Professional Page will import any IFF graphic, Encapsulated PostScript (EPSF) graphics, and structured drawings in Aegis Draw Plus or Professional Draw format. After a graphic has been imported, it can be cropped or scaled to size. If you need to create your own graphics, Professional Page provides you with a set of structured drawing tools. The tools allow you to draw straight lines, bezier curves, rectangles, ellipses, polygons, and freehand curves. Because these are structured graphics, you can resize them with no distortion. Professional Page also provides a variety of line weights, colors, and fill patterns.

THE ARTICLE EDITOR

One of the more significant aspects to Professional Page 2.0, and something dear to the heart of this columnist, is the Article Editor. While all DTP programs will let you enter text directly into a document, it's almost always a slow and tedious proposition. WYSIWYG formatting gets in the way, and you soon feel as if you're operating in slow motion. Gold Disk has chosen an alternate route. The Article Editor - which is based on Gold Disk's wordprocessor, TransWrite - gives you all the advantages of a separate text editor (and more) while allowing you to integrate the two steps of text editing and document creation. You can invoke the Article Editor with two keystrokes, create or import your text, and flow that text into your document with two more keystrokes.

The Article Editor is surprisingly full-featured. All of the standard editing operations are present, along with a few one would expect to find in a wordprocessor. Most writers will appreciate the real-time spell checker. One of the more interesting features is the Translation Table. This feature allows you to set up a table from which text substitutions can be made. Let's

say you find yourself typing "Desktop Publishing Program" over and over again. You can create a translation table, which would have a substitution ("DPP" = "Desktop Publishing Package") which the Article Reader can summon with a single command. You can make translation tables as long as you wish, and you may create as many tables as you need.

I decided to live dangerously for the purposes of this column. Every word is being created in the Article Editor and automatically imported into my *Professional Page* document. I am finding this to be one of the easiest methods for creating text and getting it into the document. I also like having the resident spellchecker, word counter, and FOG (readability) index. There are other options, of course. *Professional Page* will import text from *WordPerfect*, *Scribble!*, *Textcraft*, *Textcraft Plus*, and generic files, as well as *TransWrite* files created with the Article Editor.

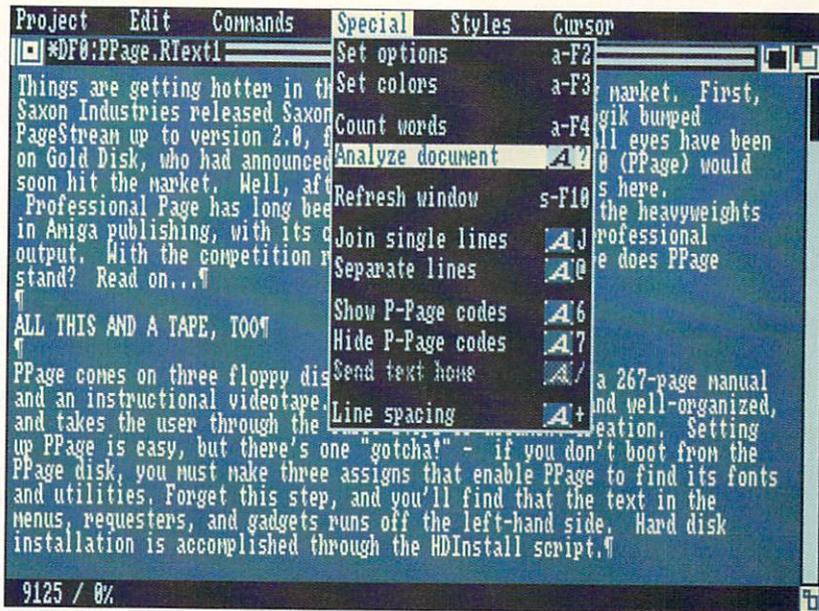
FABULOUS FONTS

Text is one part of the puzzle. Fonts are another. *Professional Page* uses bitmap, PostScript, and Compugraphic fonts. You'll get the best on-screen representation, as well as non-PostScript output, from one of the Compugraphic "outline" fonts. Two - Times and Triumvirate - are supplied. Because Compugraphic fonts are created on-screen from data stored on disk, there is a delay the first time a character is used. As a character is created, however, it is saved in a cache. Subsequent calls to cached characters will be considerably faster. If you have the storage space, there's a CacheEdit program which will create your cache in advance. In addition to Compugraphic fonts, *Professional Page* supports the standard array of PostScript fonts, as well as bitmap fonts. Bitmap fonts, however, can only be used with non-PostScript printers.

I was pleased to see that *Professional Page*, when using outline fonts, rendered text noticeably faster than the competition. Should you use a PostScript or bitmap font, text is rendered extremely fast. The on-screen representation will suffer, though. One unfortunate habit that *Professional Page* has in common with its competitors is its propensity to re-draw the entire screen every time something changes. Thankfully, *Professional Page* does this faster than anyone else.

A GAME OF TAG

The differences between desktop publishing programs become more apparent when you get down to the business of stylizing the appearance of your document. An attractive document is much more than text in a box. There are attributes to consider - spacing between letters (tracking), spacing between lines (leading, pronounced "led-ing"), spaces between particular letters (kerning), first line indent in paragraphs, and more. *Professional Page* lets you set these attributes through Style and Paragraph tags, by menu item, or by imbedding a formatting code in the text. The three methods offer you all the flexibility you'd need. If you use more than a few text styles, the fastest method for text formatting is the use of imbedded codes. That's the way it's done at most newspapers,



The Article Editor, which bears more than a passing resemblance to *TransWrite*.

where tens or hundreds of pages are laid out each day. Tags are the next fastest method, and can be faster than imbedded codes if you have several pre-defined tags available. For small blocks of text, all of the options are available via menu or keyboard shortcut. One interesting twist: you can change the tracking or baseline of highlighted text by holding down the cursor keys.

MOSTLY GOOD NEWS

All in all, *Professional Page 2.0* has many advantages and few deficiencies. Among the advantages: it's fairly responsive, and the integrated Article Editor makes document preparation more of a one-step operation. It does an excellent job of handling imported graphics, and the support for Compugraphic fonts allows folks without PostScript printers to get the best print possible. *Professional Page* supports a full range of output options: PostScript and color PostScript, Preferences-supported printers, and color separations.

There were a few deficiencies. I'd like to see support for irregular shapes, as well as irregular text runaround. I'd also like to see improved low-memory handling. Although *Professional Page* will sometimes warn you when chip memory runs low, I experienced two lockups without warning. Note that my rating applies for machines with one meg of chip memory. Folks with only 512K of chip RAM are likely to have an unexpected surprise from time to time.

The love hate relationship continues. The speed increase of PostScript output has been offset by the frequency of unneeded screen refreshes. Cheers for the new easy-to-use palette are matched by hisses at the cumbersome paragraph control. For every "Gee Whiz" feature it seems they've added an "Oh No" bug. Yet, all in all, *Professional Page 2.0* has the flexibility and control we need to create this magazine. - Megan Ward, .info Art & Production Manager

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#20 INFO May/June 1988

Desktop Video: Titlers, genlocks, converters, C64 slide show programs, GeoStuff, AmigaDos 1.2 Bugs, Joel Hagen tutorial.

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Second Annual C.H.U.M.P. Magazine! Jay Miner interview, Easing The Upgrade Path, GeoStuff, Virus prevention, Over 40 8 & 16 bit reviews.

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#26 INFO May/June 1989

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3rd Annual C.H.U.M.P. Magazine! Dale Luck interview, Sound & Music, Fractals, GeoProgrammer, Silentwriter LC890, Transcript.

#28 INFO Sept/Oct 1989

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#29 INFO Nov/Dec 1989

Annual Games Issue! Chris Crawford interview, SFX Sound Expander, The Write Stuff 128, Toshiba ExpressWriter 301, RawCopy, Mac-2-Dos.

#30 INFO Jan/Feb 1990

Amiga DeskTop Publishing Tools, LOGO, A590 Hard Drive, Dual Serial Board, Abacus Books, Twin Cities 128 book.

#31 INFO July 1990

Amiga 3000, AmigaVision, AmigaDOS 2.0, R.J. Mical interview, Ray-Tracing, TV*Text Pro, CanDo, CrossDOS, FractalPro, ScanLab 100.

#32 .info September 1990

First issue of monthly All-Amiga .info! Turbo Silver brush mapping, Laurence Gartel interview, Page Stream 1.8, Power PC Board, introducing CDTV, all new .info Technical Support section by Sullivan and Zamara.

#33 .info October 1990

Fractal Frontiers, Inside AmigaVision, Peggy Herington's new Music & Sound column, Pro Video Post, The Art Department, Archivers.

#34 .info November 1990

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#37 .info March 1991

Ellison Horne profile, Video Toaster part 2, MINIX 1.5, Pagestream 2.0, Power PC Board, Animation Studio, AudioMaster III & E-Z FM.

#38 .info April 1991

Amiga Networks, Draw4D, Auto-Script, J. Hopkins profile, Video Toaster part 3, WOC, CES, UNIX shows, MacroPaint, Big Belly RAM.

#2 INFO 64, Winter 1983/84

Guide to C64 products, Koala pad, Flexidraw, UltraBASIC-64, Home Accountant vs. C.P.A.

#3 INFO 64, Spring 1984

Product Round-up: 1000 product listings for C64, Superbase 64, Commodore LOGO, C64 Forth, Model Diet, Computer Mechanic.

#6 INFO 64 Spring 1985

Color Gallery! C64 hard drives, Intro to Assembly Language, COMAL 2.01, The Print Shop, Whither C/PM.

#10 INFO May/June 1986

Monitor Roundup! C64 wordprocessors, Multiplan for C64/C128, Amiga BASIC, Tips & hints.

#11 INFO Aug/Sept 1986

Product Roundup issue: over 1500 hardware and software listings for C64, C128 and Amiga.

#12 INFO Nov/Dec 1986

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#13 INFO Jan/Feb 1987

Games issue: C64/C128 and Amiga games. 8-Bit business and application software (part I), Telecommunication networking, Amiga Music.

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#15 INFO July/Aug 1987

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#16 INFO Sept/Oct 1987

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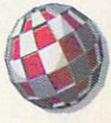
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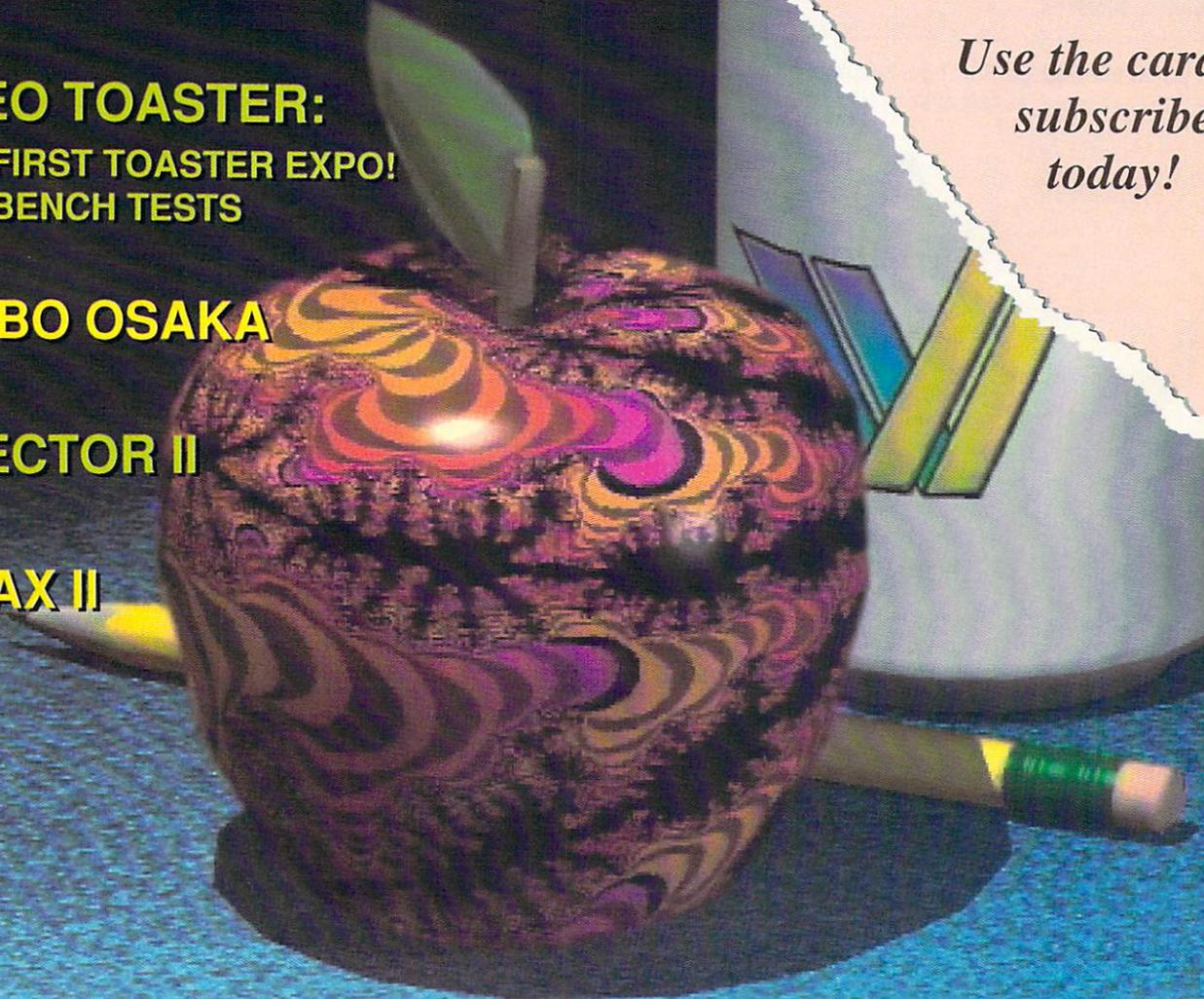
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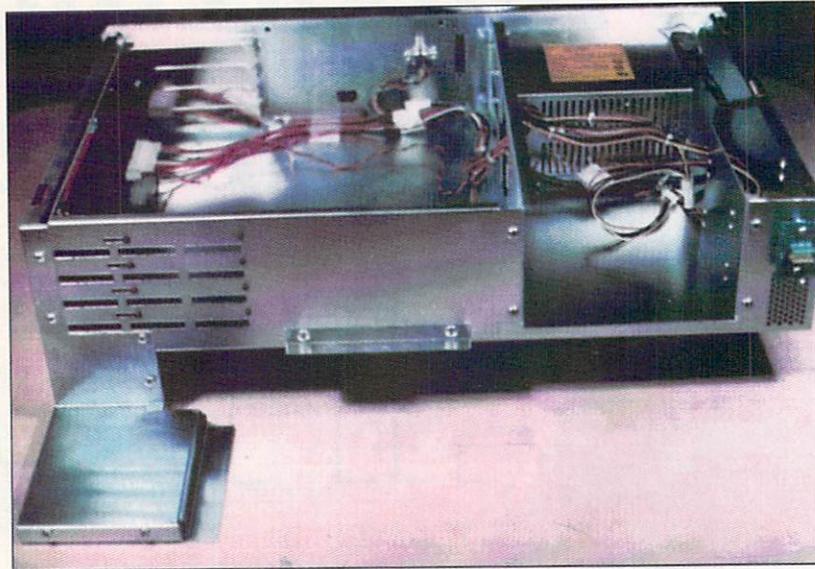
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Hardware

Morton A. Kevelson
on



Inside the *Bodega Bay*: Four slot expansion connector to the left. The 200 watt power supply is behind the dual 5 1/2" drive bay to the right.

According to my Webster's, a 'bodega' is a wine cellar or a place where wine is sold or stored, and a bay is, among many other things, a compartment. Since California Access has adopted a West Coast theme for all of its other Amiga products, I have the feeling that I must be missing something. [For Mort's edification and yours, 'Bodega Bay' is an actual geographical location north of San Francisco. -ed.]

For our purposes, *Bodega Bay* is an expansion box for the Amiga 500. When integrated with the A500, the system's footprint is 22" wide by 23.5" deep. The overall depth of the system includes the Amiga 500's keyboard. The seven-inch height of the system is just about right for a video monitor.

Mating or "docking" the Amiga 500 with *Bodega Bay* is simply a matter of sliding the computer under the *Bay* until the expansion bus is fully inserted into its matching connector. When done, only the Amiga's keyboard remains exposed. The only other electrical connection consists of a short jumper cable from the back of the *Bay* to the Amiga 500's power connector. The Amiga 500's power supply is no longer needed as the computer's electrical energy requirements will be supplied from the *Bay*.

Forced ventilation of the Amiga is provided by *Bodega Bay*'s internal fan, which is part of its built-in

200 watt power supply. The power supply's external cables are fitted with power connectors for up to five hard drives and one 3.5" floppy drive.

Once the system has been assembled, access to the I/O ports on the back of the computer is severely restricted since the *Bay* overhangs the back of the A500 by several inches. If the computer's external cables are properly routed, the Amiga 500 can be slid out from under the *Bay* whenever you need to access a back panel connector. Just remember to disconnect the power adapter cable from the back of the *Bay*.

To open the *Bay* and gain access to its internal expansion slots, you simply remove four screws from the back panel and slide off the top cover. On the left side of the *Bay* are four A2000 style expansion slots. Since the expansion cards slide in from the right, there is a large open space inside the *Bay* which remains unoccupied to provide the needed clearance. Three of the slots are combination A2000-PC/AT Bridge slots, which will accommodate a Bridgeboard and two PC cards. The interface between the Amiga 500's expansion slot and the *Bay* is electronically buffered. The buffering of the output lines insures that there will be adequate capacity to drive the expansion cards.

The cards are installed component side down, which forestalls the use of a hard drive in a hard card configuration. This should not be a problem as the right side of the *Bay* has enough space for two half-height 5.25" inch drives and one 3.5" inch drive. The 5.25" drive bays, which are located behind a pair of removable plastic inserts, can be used for floppies or removable media drives. Optional adapter plates are required when installing 3.5" drives in these bays. The 3.5" drive bay is a vertically oriented nook along the left side of the case with barely enough room for a half-height hard drive. The space in the front of this nook contains a pair of LEDs, one of which indicates that the power is on. The second LED has a pair of wires and a connector and it is used to indicate hard drive activity.

I tried out the *Bodega Bay* with a Micron Technology two megabyte expansion board, a Xetec *FastCard Plus* with four megabytes installed and a 512K A501. The resulting seven megabyte RAM, 40 megabyte hard drive system performed flawlessly. I also swapped the A501 with one of Pulsar's *Power PC Boards* without any problems.

ARROW 1500

Arrow 1500 is an expansion box which accepts A2000-type cards; all of the working parts of an Amiga 500 are taken out and installed in the box. Its

.info's
Hardware
Doctor
dissects two
expansion
boxes for
the A500.

footprint is about 22 inches wide by 15 inches deep, to which another seven inches should be added to account for the depth of the external keyboard. Its five-inch height is just about right for a video monitor. When fully assembled, the *Arrow 1500* resembles an oversized Amiga 1000 with two internal 3.5" floppy drives and what looks like a separate Amiga 2000 keyboard with a built-in power light and a floppy drive activity light.

Assembling the *Arrow 1500* is not for the fumble-fingered nor the faint of heart. The poorly translated manual, although well illustrated, was little more than a guide for someone who already had some idea of what had to be done. I spent about three hours carefully setting up the system. Now that I have had the practice, I could probably do it again in about one hour.

To start with, you will have to completely gut your Amiga 500. The floppy disk drive has to be extracted and the main circuit board has to be removed and stripped of its metal shielding. The keyboard is removed and installed in a separate case. A coiled cord adaptor cable connects the keyboard assembly to the back of the *Arrow 1500*. Like the Amiga 1000, the keyboard can be stored in an alcove underneath the main console.

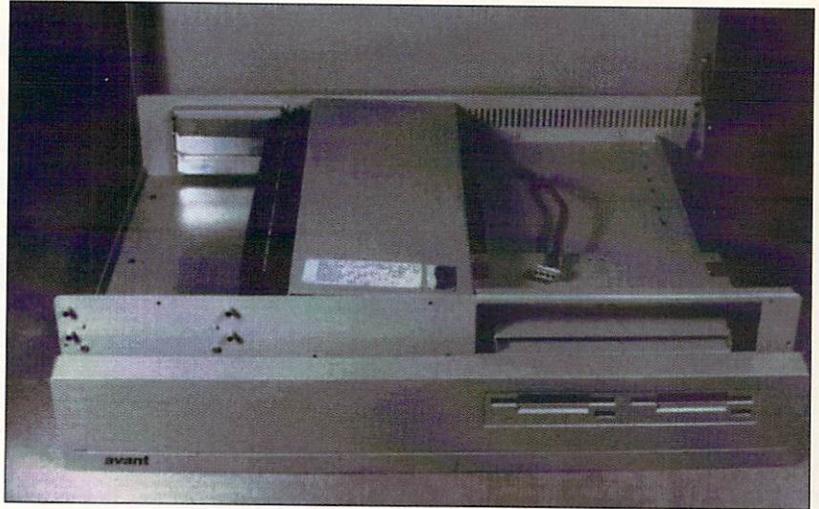
The *Arrow 1500*'s expansion chassis consists of four A2000-PC/AT Bridge slots which are permanently attached to the side of the power supply. Power is supplied to the Amiga 500 motherboard via its own expansion slot. The power supply has only one additional power connector for a single hard drive or a 5.25" floppy drive.

The expansion slots face to the left of the enclosure and the boards are slid in from outside the case with their component sides facing up. Although the *Arrow 1500* has a total of four expansion slots, only three of these have matching openings in the back panel. In the assembled system, all of the Amiga's original back panel connectors can be easily accessed from the rear of the *Arrow 1500*.

The original Amiga 500 floppy disk drive is mounted on the drive bracket and connected with a length ribbon cable and a power supply adapter cable which are included with the package. You may encounter some problems installing the drive as Commodore has used a number of suppliers. The disk drive bracket can accommodate as many as two 3.5" floppies and two 3.5" hard drives, or one 5.25" hard drive.

The *Arrow 1500* is supplied with a plastic faceplate that has been set up for two floppy drives. Installing this faceplate and lining it up with the drive is a trial and error procedure. You have to get it just right or disks may jam in the drive. In some cases, the plastic eject button on the disk drive will have to be filed down to obtain a proper fit. Since the *Arrow 1500*'s faceplate is designed for 3.5" floppies, the 5.25" drive that comes with the Bridgeboard will have to be externally mounted. Pre'spect offers an optional enclosure for this purpose. The Bridgeboard will also have to be modified to accommodate an external drive as the boot device.

Since the Amiga 500 does not support a second internal disk drive, an adapter cable is needed for this purpose. Pre'spect included a third party adapter in the package which looked like a 23-pin gender changer



Inside view of the *Arrow 1500* with the flip top up and the faceplate down. Expansion slots are to the left, power supply is down the center, and the drive plate is to the right.

with a flat ribbon cable attached to an external circuit board. Instructions were not included with this device and neither Pre'spect nor I have actually tried it out. Of course, additional floppy drives can always be connected to the external drive port.

Once I had the system up and running, I loaded it up with the same complement of boards as above with the exception of Pulsar's *Power PC Board*. The system would not boot with the Micron memory board installed. The four megabyte RAM portion on the Xetec *FastCard Plus* worked fine; however, the hard drive interface portion would not function.

CONCLUSIONS

Neither of these systems provides the complete versatility of an Amiga 2000. What is missing are the 86-pin microprocessor slot and the internal video slot. The prime consideration when selecting these expansion boxes would be the intent to add a Bridgeboard or the utilization of existing A2000-style expansion cards. Check with the manufacturer of the expansion box to make sure that the cards you want to use will work with the system.

Of these two boxes, *Bodega Bay* looks like the system to choose. It costs less, it is easier to set up, it will not violate Commodore's one year warranty and it offers more flexible drive arrangements. Although the *Arrow 1500* has been sold in Germany for two years, it does not seem to be ready for the North American market. Its lack of FCC certification could hamper its distribution. Its high cost, complex installation, and the violation of the Commodore warranty are drawbacks which are difficult to overcome.

ADDRESSES

California Access, 130A Knowles Drive, Los Gatos, CA 95030, 408-378-0340

Pre'spect Technics Inc., PO Box 670, Station 'H', Montreal, Quebec Canada H3G 2M6, 514-954-1483



Bodega Bay

☆☆☆☆

\$429.95

California

Access

Arrow 1500

☆☆☆

\$650.00

Pre'spect

Technics Inc.

IMAGEFINDER: A Creative Sort Of Program by Derek Grime

In this issue, *.its* editor Chris Zamara fills you in on what's what in the Amiga operating system; he also reveals the inner workings of the Amiga's Narrator device, and includes a speech program in AmigaBASIC; and Derek Grime takes a look at *ImageFinder*, a database for your IFF images.

Computers and artists don't mix. Like oil and water, the two may seem to co-exist but on close inspection you'll find that the separation is actually quite telling. Randomness is the domain of the artist. Creative people rarely think in a coldly logical fashion. In fact, it's been argued that a scattergun approach to problem solving is the seed from which all creativity grows. Computers, on the other hand, never have a moment's doubt about what direction they're heading in. Problems are analyzed and dissected with digital precision.

Despite these differences, many artists have found that computers can be a powerful creative tool. The Amiga is a good example of the type of computer favoured by the artist. The Amiga makes few demands on the user. It's non-threatening. You don't have to learn a lot of cryptic commands. Its ease of use leaves the IBM family far behind. Yet, unlike the Mac, the tools are there if you really want to dig into the internals of the hardware.

Software developers are always striving to make their products as easy to use as possible. The less a program feels like part of a machine, the better the artist can interface with it. On the Amiga we have the creative power needed to create great artwork. Still, there are some tools that have been unavailable until now.

For most artists, organization is a real weakness. It's easy to create hundreds of illustrations; it's not so easy to remember where they all are. Most art jobs generate dozens of pictures. The client may only purchase a few finished pieces but all the roughs, sketches, and false starts are saved along the way. When the time comes for you to present your work for approval, how do you find the finished picture?

A good solution is *ImageFinder*, a powerful art database program newly released by Zardoz Software. Unlike other databases and

ImageFinder

☆☆☆☆

\$65.00

Zardoz Software

6114 LaSalle Ave, Suite 304
Oakland, California 94611
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disk catalogers, *ImageFinder* is made to handle only picture files. It's easy to use and after a simple start-up procedure it will run quietly in the background until you need it. Once in operation, you will never have to frantically dig through your disks for images again.

Here's what it does. When you power up your Amiga, *ImageFinder* runs itself from the startup-sequence. Until needed, it operates as a background process, monitoring all programs and disk activity. When you want information on a picture, a hot-key combination will open an *ImageFinder* screen. On the screen will be small thumbnail versions of all the pictures in the database. These thumbnails can be shuffled through with the cursor keys until you find the picture you need.

Decisions, Decisions...

Before you run *ImageFinder* for the first time you have to set some parameters. There is a staggering selection of available options, making *ImageFinder* one of the most configurable pieces of software I have ever seen. Before the database is actually prepared you have to tell *ImageFinder* where to look for images. A series of Workbench v2-style requesters enable you to walk through the file system, choosing volumes and drawers that you want to scan. Once you have the scan list prepared, you can move on to the format of thumbnail pictures that you prefer.

Thumbnails At Your Fingertips

The thumbnail is really the heart of *ImageFinder*. Thumbnails resemble small

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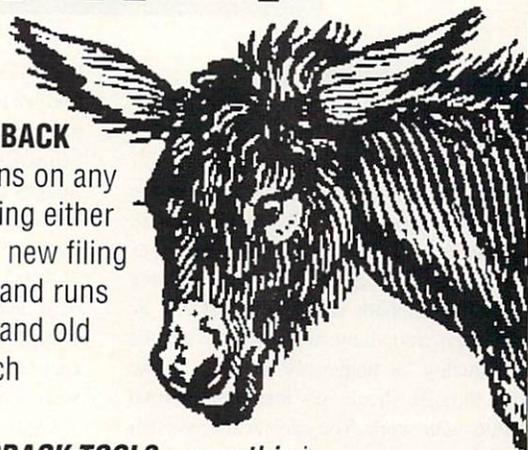
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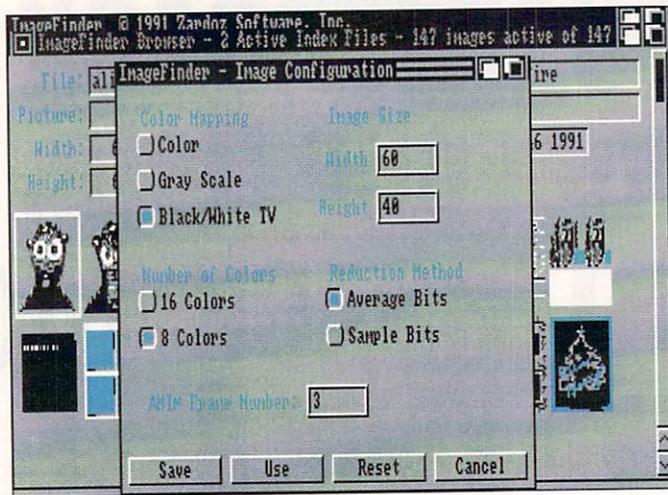


Figure 1:
Diddling
with the
settings.

brushes that are really miniature versions of full-size IFF pictures. Thumbnails can be presented many different ways. Each picture is scanned and image processed to give the best results with the reduced image. The image processing is fairly fast and the thumbnails are 'smoothed out' as they are resized to retain as much detail as possible. If speed is more important, thumbnails can be scanned line by line with no smoothing; this is faster but the image quality is noticeably rougher. Some careful thought should go into what format best suits your work. You can choose whether the processing will convert the originals down to eight or sixteen colors. Sixteen will give better results, but of course will use more memory and take longer to calculate. (See the Image Configuration requester in Figure 1.)

If you choose color, each thumbnail uses its own palette. This ensures that each thumbnail is very faithful to the image it represents. The downside of color thumbnails is that many different palettes will share one sixteen-color screen. The selected thumbnail will look great, but others may be difficult to decipher if their palettes differ greatly. Using a gray scale solves the problem. All thumbnails will share the same sixteen or eight-color palette, ensuring that they are legible at all times. Gray scales also will print very well on most dot matrix printers if you want a hardcopy of your database. You can scan gray scales using different algorithms, adjust the size of thumbnails, choose which ANIM frames to display and more. Having this sort of control puts *ImageFinder* way ahead of other catalog programs.

Scanning

After configuration, *ImageFinder* goes to

work scanning through your disks. *ImageFinder* recognizes all forms of IFF pictures including HAM, ANIMs and ANI-Mbrushes. Scans can take some time: most images are done in less than a minute, but the odd scan can take considerably longer. On one disk that contained some 640x480, 24-bit IFF pictures, each color scan took over one hour. And this was on a 68030-equipped Amiga! To be fair, this is a worst-case scenario, and you can cancel the current scan at any time if you just can't wait.

Once a database file has been prepared, the scanning never has to be repeated. As databases get older you can choose an automatic update feature. It prompts you for disks, reads them and adds or deletes new thumbnails as necessary.

Like all *ImageFinder* modules, the Scanner does its work silently in the background. It's good to see a program that makes good use of multitasking in this manner. (This is one to show to your friends who use single-

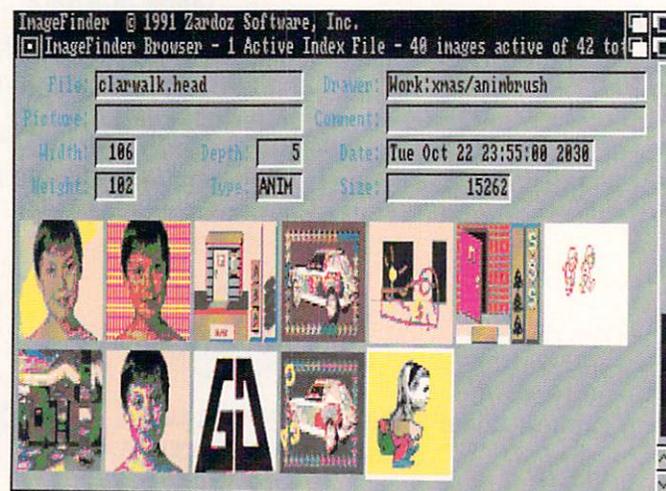
tasking computers; Amiga owners can walk and chew gum at the same time.)

Just Browsing...

Once the Scanner has finished its job it's time to have some fun. The thumbnail viewer is called the Browser. Pressing the Alt-left cursor combination will bring the Browser to the front at any time. The Browser can display hundreds of thumbnails that you can scroll through using the mouse or keyboard. At the top of the Browser is a text window called the Parameter area that shows additional information about the currently selected thumbnail (see Figure 2). You can see its name, drawer, resolution, size, comment, color palette and date of creation. If you want to view the original, just press the spacebar and it will be displayed with your favorite IFF viewer.

The sort options are almost limitless. As well as sorting by the expected alphabetical, date, and drawer fields, you can use an advanced pattern matching language to really home in on the picture you want. If you had to see all the pictures you did for 'Acme Widgets' in the past three months that were over 20K in size and did not contain the word 'Rhubarb' in the title, you are in luck. In fact, you could search by color, density, or brightness if you desire.

Finally, the Browser can do a little multitasking magic. Let's say you are hard at work in your paint program of choice and you need a certain brush to spruce things up. At this point most of us fruitlessly gronk through the most likely disks and more often than not end up redrawing what we are after. With *ImageFinder*, life becomes a lot easier. Bring up the 'Load Picture' requester and summon the Browser. A quick perusal will



Browsing
through
IFF files with
ImageFinder.



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Featured Disk

WB12: Disk Utilities #1 - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and file recovery, archiving and organizing, and all sorts of file and directory manipulation. Includes SID, greatly reduces CLI use.

New Disks

- FD50: Submarine Game** - Sealance, one and a half years in the making, this is an outstanding submarine tactical game. Commercial quality, highly recommended.
- FD51: Games** - DesertStorm a fast action arcade game, Amigaish a well done concentration game, Chute a parachute jumping game, Running a dungeon adventure game similar to wanderer, and Solix a solitary card game.
- FD52: Classics Games** - PetersQuest a well done Mario brothers type of game, Jymc a two player missile command clone, and Vstank a tank commander game.
- WB30: Graphics** - Raytracing programs generate absolutely stunning realistic looking planes, rockets, buildings, and surreal images often consisting of highly polished spheres and objects. 3-D Master is the most powerful EASY-TO-USE of it's kind we have seen to date. This is easily better, and more full featured, than similar commercial programs costing in the hundreds of dollars.
- WB31: Great Applications** - DataEasy a very easy to use, database program. Don't let the easy of use fool you, this is a very full featured database program including full printer control for address labels and mail merge applications. Also includes TypeTut a good typing tutor, RLC a full featured label printer, Banner, a multi-font banner maker, and Budget a home accounting in a program. Highly recommended.
- WB32: Animations** - Four full length, well done "movie" style animations. Including Coyote, Juggler11, GhostPool, and Mechanic. Two disk set, counts as one!
- DD76: Advanced Utilities** - This disk contains two of the most powerful utilities on the Amiga, Dmouse and MachIII. These program are what is referred to generically as mouse enhancers. Features include popping up a cli, screen blankers, mouse accelerator, definable keyboard macros, and hot and function key definitions. Demo plays back, and much more. Contains many more excellent programs.

Other Great Disks

- FD5: Tactical Games** - BullRun - a Civil war battle game, Metro - you play the role of a city planner. Build wisely and your system will be a success, but poor planning will lead to disaster and financial ruin. Very very habit forming.
- FD6: GAMES!** - This disk is chock full of games including: Checkers, Clue, Gold - A new side the pieces puzzle, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addictive, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.
- FD7: PACMAN** - This disk contains several pacman type games including: PacMan87, MaxMan and Zonix.
- FD9: Moria** - This has great graphic controls, multiple spells, similar to Larn and Hack. Play time several weeks!
- FD10: HackLife** - A dungeon adventure game. Considered a must-have classic. This is the second release of this game on the Amiga. Great Amiga graphic interface. Play time several weeks!
- FD12A, FD12B: Star Trek, The Game** - This is by far the best Star Trek game ever written for any computer. It features mouse control, good graphics, digitized sound effects and great gameplay. Counts as 2 disks. Play 1Mk and two drives (or hd).
- FD13: Board Games** - contains multiplayer Monopoly, Dominoes, Paranoids, and others.
- FD14: Dungeon Master Hints and Arcade Games** - DM maps, spells, item location, and hints and more, also on this disk, Hball - an arkanoid/breakout type game, Trix - a Cix type clone.
- FD16: Strategy Games** - Includes Diplomacy and Empros, both great conquest and rule multiplayer games similar in concept to Smicity and Populace. Also includes blackbox, hearts, and others.
- FD17: Educational Games** - This disk includes several games for the younger members including geography, math, science, and word games, also includes Wheel of Fortune.
- FD20: Tactical Games** - MechForce(3.72): A game that simulates combat between two or more giant, robot-like machines. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim.
- FD29: Shoot'em up's** - WWII - you're the pilot of a WWII plane flying through enemy territory, you've just been spotted, good luck on your mission, SpKiller - try and penetrate enemy lines with this game, and Retaliator - another great game.
- FD32: Flight Simulator** - Includes an instrument flight simulator for a DC10.
- FD33: Arcade Games** - Freddy a mario brothers type of game, Gerbil's a target practice game, PipeLine a German interpretation of Pipe Dreams, Tron a light cycles version, and wetroids a wonderful version of asteroids with a hilarious twist.
- FD37a & b: Tactical Games** - Empire (2.2w) This great game comes highly recommended. Now with a full-featured graphic front end.
- FD38: Games** - Cabbage Master - A great cribbage game and tutor, Spades - a well done card game, ChineseCheckers - A computer version of this classic, Puz - a slice piece puzzle game and construction set.
- FD39a & b: Tobias Star Trek** - This is a new, completely different version of Star Trek than that found on FD12. This one was created by the German author Tobias. Now with English instructions. Very Excellent!!! Counts as two disks. Requires 512k memory, a 500, 2000 or Pal. **FD40: Arcade** - MiddleEast - a timely arcade game of death and destruction set in Iraq.

- BackToTheFuture!** - a very playable demo version of this soon to be released commercial game. City - a missile command clone.
- FD42: Games** - Includes SpaceWar3 - a remake of this original Amiga classic, Trippin - a fascinating board game of intrigue, strategy, and player manipulation, Dominion - an engrossing strategy game of galactic war and conquest, Frog - a frogger type clone, and Mines - a very challenging strategy board game.
- FD44: Game** - Mechlight is an out of this world role-playing adventure comparable to hack and moria. The setting, interplanetary colonies and space stations. In your quest to explore the world, take time out to liberate bad guys of their most valuable possessions, engage in a mortal combat or two against robots and alien life forms, pick up a new amiga 9000. Most of all, don't forget to stay alive.
- FD49: Chaos Cheats** - This disk contains an everything you wanted to know about cheat set for Chaos Strikes Back, including full maps, spells, object locations, super characters and more.
- WB4: Telecommunication** - This disk contains several excellent pd communication programs designed to get you on line quickly and easily. Access (1.42) - A very nice ANSI term program based on Comm v1.34, but with the addition of transfer protocols. Comm (1.34) - Last version of one of the best public domain communications programs ever made on the Amiga, Handshake (2.12a) Handshake is a Full featured VT52/100/102/220
- WB5 - Fonts #1** - Several fonts (35) for the Amiga, also included are five PageStream fonts and ShowFont - a font display program.
- WB7: Clip Art** - This disk is loaded with black and white clip art. Art includes, trees, watches, tools, US and State maps, and more.
- WB10: Virus Killers** - The latest and best VirusX(4.0), Kv(2.1), and ZeroVirus(1.3).
- WB13: Printer Drivers and Generator** - over 70 different drivers, and if these don't do it, with PrDrGen you can make your own.

WB14: Video - on this disk are several utilities for the video enthusiast. We have included multiple slates, video titling, Bars and Tone, Gray Scale, Screen fades and swipes, Interface toggles, and SMPTE Calculators. Also on this disk is a full featured video cataloging program.

- WB15: Business** - This disk contains a spreadsheet, a database, a project time management program and financial analysis (stocks).
- WB16: Business** - This disk contains an inventory manager, a loan analysis program, a great calendar/scheduler, a rolodex program, and pennywise a good "Cash Book" accounting for home or office.
- WB18: Word/Text Processors** - This disk contains the best editors. Includes TextPlus (v2.2e) a full featured word processor, Dme(v1.35) a great programmers editor with strong macro features, TextED(v2.8) an enhanced Emacs type editor, and a spell checker.
- WB20: General Interest** - DiskSalv V1.42 a disk recovery program for all Amiga file systems, FixDisk V1.0 another file recovery program with features DiskSalv doesn't have, 3DLook gives a 3D appearance to your WorkBench, Clean V1.01 a program to de-fragment memory, Tracer - trace any part of an image.
- WB23: Graphics and Plotting** - Plot (20b) a three dimensional mathematical function plotter. Can plot any user defined function, BezSurf2 - produce awesome pictures of objects one could turn on a lathe. Can also map off image files onto any surface that it can draw. Now compatible with most 3D packages, and VScreen - makes a virtual screen anywhere, great for DTP.
- WB25: Educational** - On this disk are two programs that can generate maps of differing types, World Data Base uses the CIA's data base to generate detailed maps of any entered user global coordinates. Also Paradox a great demonstration of Albert Einstein General Theory of Relativity.
- WB26: Disk Utilities #2** - MRBackup, KwickBackup - two well done utilities to help with harddisk and floppy disk backups, FileMast - a binary file editor, Labelprinter - Disk label printer with very powerful features.
- WB27: Nagel** - 26 Patrick Nagel pictures of beautiful women.
- WB29: Graphics and Sound** - This disk has several different Mandelbrot type programs for generating stunning graphics. Includes, MandelMountains - a realistic terrain generator, Fracgen - generated recursive fractals from user input, Mandelbrot and Tmandel - two fast mandelbrot generators, also Mostra - the best IFF display program to date, will display ALL IFF's including Dynamic HAM, and Sound - a great IFF sound player, will play anything. Try this disk, you'll love it!
- WB33: Circuit Board Design** - several terrific routines for the electronic enthusiast. Including PCBtool - a circuit board design tool, LogicLab - circuit logic tester, and Mead (2.26) a well done new release of this PD CAD program, now comes with predrawn common circuit components for insertion into schematics.
- WB36: Graphics** - On this disk are several programs to create stunning graphical images including, MPath - creates swirling galaxy images,

- Roses - produce an unlimited number of variations of images that a symmetrically similar to a rose, SimGen - display those spectacular images as part of your workbench screen, and RayShade - a very good program to create your own beautiful 3D graphics.
- WB38: Plotting and Graphics** - Plotly is the most powerful full featured plotting package. Used by many colleges and universities. A welcome addition to our library! Highly recommended. Plans - a incredibly well done Computer Aided Drafting program, very full featured. Tesselator - a program that helps generate fantastic looking, recursive M.C. Escher type pictures.
- WB39: Music** - Intutrackr is an German offer of an exquisitely well done program that allows you to play music on your Amiga with CD like controls. Lets you strip out music from your favorite games or others and include them in your music library.
- WB40: Music** - CD on a disk*, 90 minutes of modern music on this well presented collection.
- WB41: Music** - MED an incredibly well done, full featured music editor. Create your own stunning music directly on your the Amiga. Similar to SoundTracker but better. Very powerful, easy to use program.
- WB43: Business** - This disk contains AnalytCalc - probably the most powerful spreadsheet program on the Amiga. A full featured spreadsheet with many features expected in a commercial package.
- WB53: Graphics** - The disk contains C-light - The easiest to use raytracing we have seen to date. This one started out life as a full featured commercial product similar to Sculpt3D. Raytracing programs can generate stunning, realistically shaded objects. Also, Mmovie - a full featured video text titler similar to ProVideo, Broadcast Titrer. Great video scrolling, wipe, special effects, and more.
- WB54: Printing** - This disk contains several routines to help with the chore of printing. Includes Gothic - Finally a Banner printer for the PD! PrintStudio - a well implemented all-purpose printer-utility with a very comfortable graphic interface and many advanced features, Lila - with ease, print ASCII files to a PostScript printer, and many more.
- WB55: Application** - XcopyIII - a full featured disk copier, make backups of write protected disks, RoadRoute - find the quickest route from one city to another, highway description included, Diary - a diary program like "Dougy Howard M.D.", Cal - a calendar program, MagMan - a database tailored to maintain records on articles and publications.
- WB71: C64 Emulation** - The A64 Package is a complete, very powerful, Commodore 64 emulator.
- DD47: Pascal** - This disk contains everything needed to program in Pascal. Includes, A68k (1.2) 68000 assembler, Bink linking software and PCQ (1.0) a modest Pascal sub-set compiler.
- DD49: C Compiler** - contains zc(1.01) fully K&R, zcc(1.0) front end, A68k(1.2) assembler, Bink linker.
- DD51: Circuit Analysis** - Aspic (2.3) A full featured program for electric circuit analysis.
- DD52: Scientific** - Includes Elements - an incredibly well done periodic table program with source, Scientific plotting - over 600k of Lattice C source routines that can be included in your own programs.
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find the image you are after. A double-click on it makes the Browser disappear, and you are back in the paint program with the filename magically typed into the load requester. Neat! This is how all Amiga software should work.

There are also a host of other important features to recommend this package: full ARexx support, user configurable menus, and an auto-update feature that removes files from the Browser automatically when they are deleted from a disk. Not to mention that necessity which is unfortunately something of a rare feature, a well-written manual.

There is not much that one can find to complain about with *ImageFinder*. The low points are few: The packaging is dog-ugly, like so many other Amiga products. Developers should note that though commercial artists can be expensive, we are the ones

buying your software and cheesy boxes are a real turn-off. Some thumbnail scans can be slow. The databases are quite large: a floppy can contain about a thousand thumbnails. The Browser sometimes will reconfigure itself to just four colors even though there is plenty of memory available. *ImageFinder* multitasks well but occasionally will thrust itself to the front as if it wants some attention. Perhaps it's just getting lonely...

Here's the bottom line. If you produce artwork on the Amiga, you can benefit from *ImageFinder*. Not only is it a kick to see hundreds of tiny pictures that you created, it's also a serious productivity tool. This software can get an artist organized, and that is no small accomplishment. *ImageFinder* is going to help you get the job done faster, and isn't that what it's all about? ★

click on, boxes that you can type text into, or sliding knobs that you can use for positioning and adjusting. Almost all application programs use Intuition's facilities to communicate with the user.

While Intuition manages the display that you see, it does not actually get its hands dirty with things such as drawing on the screen, or redrawing overlapping windows when one of them is moved. These tasks are relegated to two other parts of the system, the **Graphics library**, and the **Layers library**, respectively. When you have many overlapping windows on the Workbench screen and drag one of them, it can sometimes take a moment to refresh the display; this is the Layers library hard at work, and not specifically Intuition (although Intuition may be redrawing window borders, gadgets and the like). The Graphics library is responsible for putting pixels on the screen. It can draw lines, fill in areas, and move blocks around on the screen, all with the aid of the **Blitter** chip.

AmigaDOS

Here's another commonly used term, but there is sometimes some confusion about what it refers to. Some people use the term AmigaDOS to mean the entire operating system, just as PC/DOS or MS/DOS on other architectures encompasses the entire system. This usage is understandable for those coming from other platforms, but in strict Amiga-speak (as defined in the ROM Kernel manuals) it is incorrect. Unfortunately, the entire operating system doesn't really have a name, other than 'The Amiga Operating System,' and 'AmigaDOS' refers to that part of the system that specifically relates to filing system devices such as disk drives: opening files, reading, writing, loading programs, etc. Since it is responsible for loading and managing programs in the system, AmigaDOS is actually slightly more pervasive than that, but it's generally safe to assume that anything to do with reading and writing from disk is an AmigaDOS job. When a requester pops up telling you that a disk has a read error, the write protect tab is on, or a disk is full, it is AmigaDOS that is doing the complaining, but Intuition that is putting up the requester.

AmigaDOS is a flexible and solid system, but it has a bit of a bad reputation among software developers, mostly because of the non-standard way it does its job. As far as the various components of the operating sys-

AN AMIGA WHAT'S WHAT Do You Know Exec From AmigaDOS? Learn and Impress Your Friends! by Chris Zamara

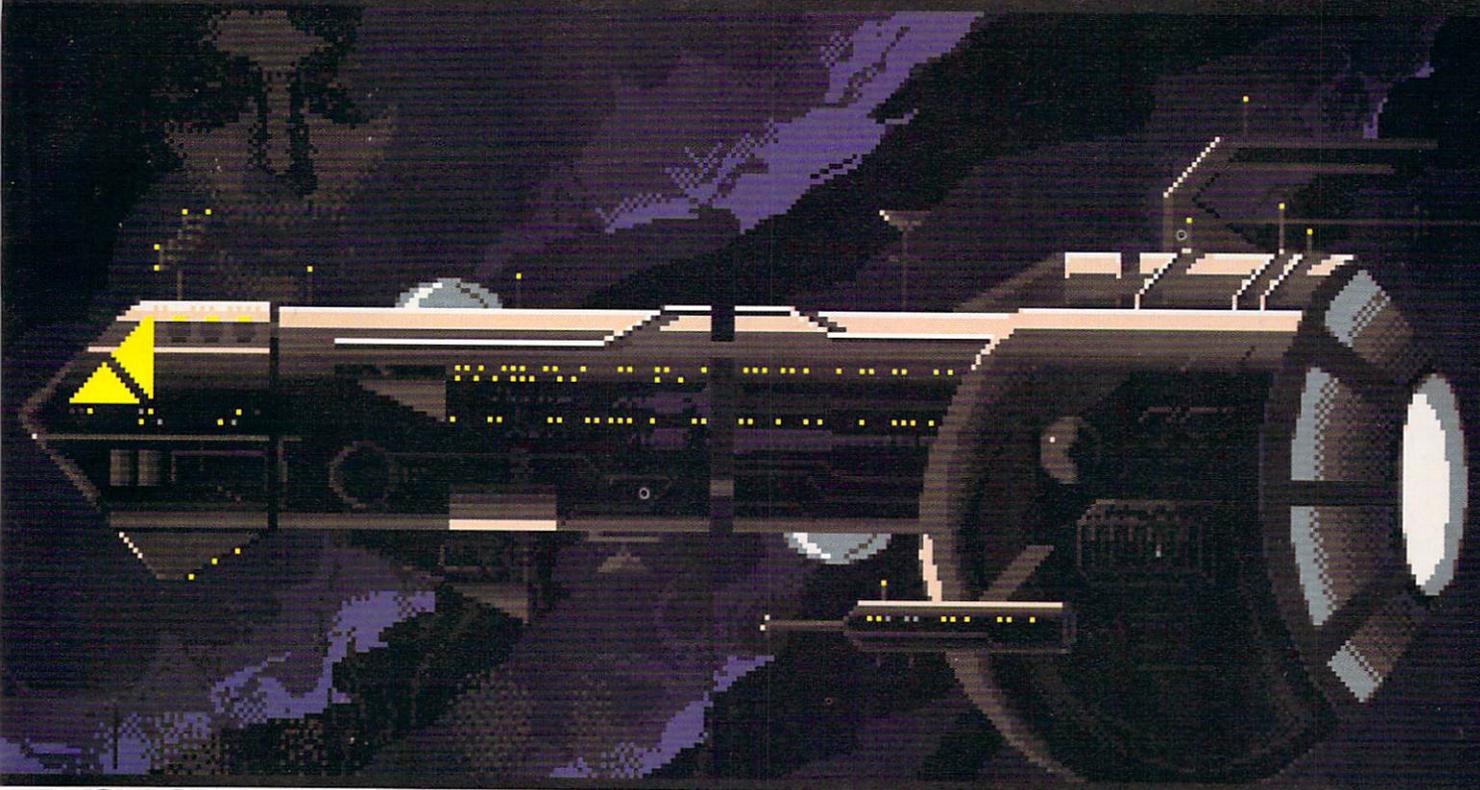
You can always tell an Amiga Guru from a regular user. After a particularly spectacular system crash, a Guru will say something like, "The Copper list got trashed," while the typical user will say something much closer to English, like, "The screen went funny and then the little red light started blinking." The ability to use strange-sounding gibberish instead of perfectly understandable language has always set the Gurus and Wizards apart from the rest of the world, and it's their way of communicating with one another, just as ants rub antennae and exchange smelly substances. All fields have their jargon, and the world of the Amiga is no exception. You may have heard terms like Workbench, Intuition, the Blitter, and AmigaDOS dozens of times while reading this magazine, but what exactly do these things refer to in the Amiga? What portion of the operating system are you dealing with when you reply to a *Disk full* requester, type into a shell, resize a window, double-click an icon? For the answer to these questions, and many more, read on...

Workbench

Workbench is the first thing that many Amiga users see, and a familiar 'home base' that most people deal with for everyday operations. Workbench lets you run programs, copy files, and manage your disks. As far as the operating system is concerned, Workbench is a special kind of application program. It is built into the operating system but functions much as a paint program or wordprocessor does: it is an interface between you and the underlying operating system and hardware. Workbench doesn't actually create the windows or menus you see, or do all the work involved with maintaining the display. Like other programs, it calls on other parts of the operating system to do that.

Intuition

Chances are you've heard this word before. Intuition is, very basically, the Amiga's graphical user interface (GUI). It manages all user input to windows, and provides such facilities as gadgets, menus, and requesters. Gadgets can be buttons that you



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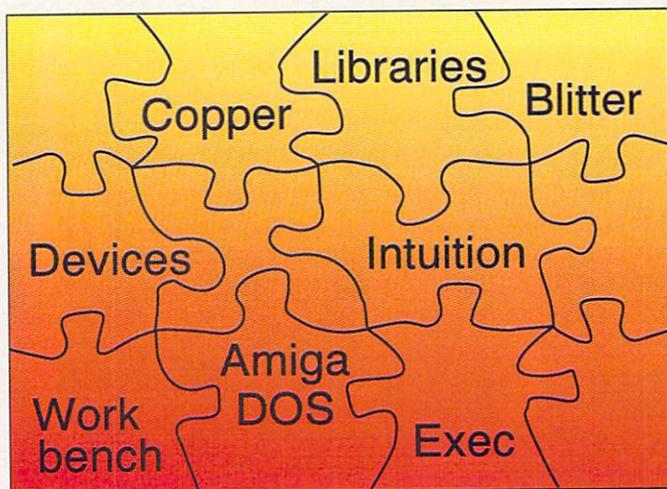
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tem go, AmigaDOS is the odd one out since it was originally developed in BCPL instead of the C language, and just has its own unique outlook on life. This is mostly a problem for programmers and not for end users, and AmigaDOS has been cleaned up in Version 2 to keep everyone happy.

Exec

Exec has been referred to as the heart of the Amiga's operating system, and that is an apt analogy. Exec is working constantly, switching tasks many times a second in order to keep the multitasking Amiga running all those programs at the same time. Exec manages very basic duties like handling lists of data structures and running programs. It also takes care of 'messages' and 'ports' used for communication between simultaneously running tasks, and provides a standard form of internal I/O management called the software 'device.' Exec is written in very efficient assembler code and is the reason that multitasking works as well as it does in the Amiga. The same people who say bad things about AmigaDOS will generally voice nothing but respect for Exec, so make sure you don't make any disparaging remarks about Exec in front of an Amiga Guru.

The Blitter and the Copper

These are both special pieces of hardware, the computer chips that make the Amiga unique in its graphics capabilities. These chips both deal with graphics, but in totally different ways.

Perhaps the best-known single component of the Amiga is the Blitter. The Blitter is just a specialized memory-mover, and makes animation and other high-speed graphics

operations possible. Since the pixels on the screen are represented by bits in memory, fast screen updating requires the ability to modify and copy large amounts of memory very quickly. The Blitter allows this, and is designed to move rectangular regions of display memory from one place to another, performing logical operations on the data at the same

time. When you drag a window from one place to another and release it, it is redrawn almost instantly thanks to the Blitter's ability to 'blit' the entire rectangular region at once, instead of the pixels being laboriously copied by software. Anything that involves redrawing on the screen usually involves the Blitter, including text display.

The Copper is an entirely different animal: it doesn't deal with the actual bits in memory that represent pixels on the screen, but with the video display hardware itself. The Copper is what allows you to have the display sliced up into more than one 'Screen' at a time, switching graphics modes and color palettes from one line to the next. The Copper gets its nickname because it is actually a *co-processor*: it follows its own limited set of machine language instructions much the same way as the main CPU. The 'program' executed by the Copper is called the *Copper list*, and when you switch to a new screen or drag a screen up or down, new Copper lists are built on the fly to change the graphics modes accordingly. The instructions in the Copper list can control exactly what happens to the graphics modes, display memory location, and color palette at any given position on the display. The Copper can also be used when programs need to use more colors than would be ordinarily available in a given graphics mode: the new 'Sliced HAM' and 'Dynamic HiRes' graphics modes achieve their magic through the use of the Copper.

The distinction between Blitter and Copper operations is generally this: when something is drawn onto the screen, the Blitter is usually involved; when something happens instantly, like a color change or a new screen popping up, it's the Copper.

Libraries

Libraries on the Amiga are sets of functions (general purpose subroutines) that can be used by several programs running at the same time. These 'shared libraries' can be in ROM, or can be loaded from disk when required. Only one copy of a shared library exists in memory at a time, and disk-based libraries can be unloaded from memory when they're not being used and the memory is required by something else. Some of the most fundamental libraries - Intuition, Graphics, and Layers - have already been discussed. These are all in ROM and are always present in the system. Another ROM-based library that is always available is the **DOS library**, which provides access to the AmigaDOS functions for disk file access. Other libraries of interest are the **Diskfont library**, used to load and manage disk-based fonts; the **Translator library**, used to translate written text into phoneme codes for the Narrator device to convert to speech; the **Icon library**, for reading and writing icon files; and several math libraries that provide floating point math operations and support a math coprocessor chip. In addition, Version 2 of the operating system provides libraries to deal with IFF files, ARexx, and other new stuff.

Devices

The confusing name 'device' in the Amiga refers to an Exec-managed software entity that provides a standard interface for a variety of different resources in the system. It is possible for an application to bypass these software devices and use the hardware directly, but this can foul up multitasking when several applications try to use the same hardware at the same time (two music programs playing at the same time, for example). Let's look at a few of the more important devices.

The Console device is used to handle keyboard input and screen output of text. While programs often render text directly using calls to the Graphics library, the console device is used in shells and other programs that are primarily text-based. The console device can be used for all user input, instead of using Intuition's standard user input messages. When you use the special 'escape sequences' to change the color or style of text, it is the console device that is interpreting these codes and making the changes in the display. The most obvious use of the console device is in the CLI and Shell programs.

The **Clipboard device** is an underused part of the Amiga that is designed to ease the flow of data from one application to another. In theory, applications like spreadsheets, wordprocessors, paint programs, and Desktop publishing packages would all have 'copy to clipboard' and 'paste from clipboard' menu items. You could then move a picture from the paint program to the page in the DTP program, for example. You could copy a range of cells from a spreadsheet into a document in the wordprocessor. In practice, the clipboard was poorly documented in the original set of developer's manuals, so it was never supported much, and people learned to live without it. The idea behind the clipboard is to support standard data formats and access the data in a standard way so that you can cut and paste anything - pictures, text, music - from one application to another. Many programs do support the clipboard, but it is by no means universal.

There are two separate devices that deal with producing stereo sound. The **Narrator device** is the software that makes the Amiga

pronounce speech. (See the Narrator article in this issue for details about what it does and how to use it.) The **Audio device** is used to access the Amiga's audio hardware to produce music and sound effects.

The **Printer device** is responsible for converting the generic Amiga printer codes into the codes for the specific printer that is connected. It loads the printer driver from the 'devs/printers' directory to do the job. The data is actually sent to the printer using the **Serial device** or **Parallel device**, which control communication out the serial and parallel ports on the back of the computer.

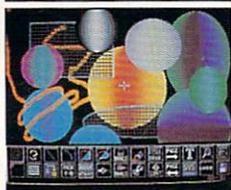
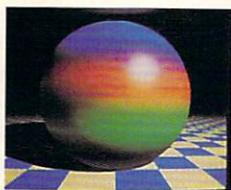
The **Trackdisk device** deals with the floppy disk drive at a very low level. It is used by AmigaDOS, and rarely needs to be accessed by an application, except specialized programs that need to read and write nonstandard disk formats. Since AmigaDOS deals with the drive hardware through the Trackdisk device, new hardware can be supported by just changing the the Trackdisk software, which shouldn't affect AmigaDOS at all.

Other devices of importance are the **Input**

device, which Intuition and the Console device use to get input from the keyboard, mouse, and joystick. The **Input device**, in turn, communicates with the **Keyboard** and **Gameport** devices, which deal directly with their assigned hardware. The **Timer device** can be used by any program that needs precise timing of events, as well as by Exec and other parts of the system.

Coping with it all

The software and hardware systems mentioned above are just a few of the more commonly known parts of the Amiga. With so many interconnected systems, is it possible to really know your way around the whole system? Fortunately, you don't have to know any of these details in order to use the machine; devices, libraries, and the rest are things for software developers and Gurus to worry about. But with a general understanding of what's what, perhaps you'll be able to make some sense out of the jargon and start bridging the gap between Guru and regular mortal.



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- Does **not** use Amiga power

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THE NARRATOR SPEAKS

Natural-sounding Speech From Your Amiga

by Chris Zamara

Speech in the Amiga is accomplished by two separate software systems: the *Translator* and the *Narrator*. The *Translator* converts English text into strings (groups of characters) of 'phonemes' that tell the *Narrator* exactly what to say. Converting English text to phonemes is a tricky business, and the *Translator* doesn't always get the sounds right. Even so, the *Narrator* can usually be coaxed into producing reasonably intelligible speech, if given the right phoneme strings. How to construct these phoneme strings is the topic of this article.

Getting to the Narrator

The *Narrator* exists in the Amiga as a software 'device,' and there is no built-in software to access the device directly. The *Say* command and the *SPEAK: device*, discussed in last month's article, always work through the *Translator* software, and can't be used to send phonemes directly to the *Narrator*.

Programmers can use the *Narrator* directly from C or assembler programs by accessing the *Narrator* device as outlined in the official *ROM Kernel Manual* (the *RKM*). A much simpler way to access the *Narrator* is from AmigaBASIC: you can use it in your own AmigaBASIC programs, but even non-programmers can use it simply by using the AmigaBASIC *SAY* command directly. (Ami-

gaBASIC can be found on the 'Extras' disk on system software releases 1.1 to 1.3; AmigaBASIC is not distributed with the new Version 2. AmigaBASIC will not work on systems with a 68020 or 68030 processor.)

To use the *Narrator* to apply your about-to-be-acquired knowledge of phoneme strings, just do the following:

- Run AmigaBASIC (double-click its icon from Workbench)
- Close the LIST window
- Type the following into the BASIC window: *SAY "/HEHLOW"*

You've just told the *Narrator* to say "Hello" using a phoneme string (the characters between the quotes). Only certain codes are acceptable in this string, and if you type something that the *Narrator* does not accept as a valid phoneme, AmigaBASIC will respond to your command with an "Illegal function call" error message. Now about those funny phoneme codes...

Writing Phonetically

The information in this article regarding *Narrator* phoneme strings comes mostly from two sources: the *RKM* ("Libraries and Devices" volume) chapter on the *Narrator*, and experimentation. The section in the *RKM* called "How to Write Phonetically for *Narrator*" is less technical than other parts of the manual and is recommended for further

reading on the subject, if you can get your hands on the volume.

Spoken sounds have been identified and encoded into a standard alphabet called the IPA (International Phonetic Alphabet). Most dictionaries will show this alphabet and the sounds each symbol represents, to allow for phonetic spelling that indicates how a word sounds. A version of this alphabet was later developed using ordinary letters that can be typed on a standard keyboard. This is called the Arpabet (it was developed by the Advanced Research Projects Agency - ARPA), and it is an extended version of this that is used in *Narrator* phoneme strings. In other words, what you learn about phoneme strings in this article isn't specific to the Amiga, but can be applied to any Arpabet-standard speech system.

The *Narrator* works with entire sentences, adjusting the intonation of each word to give a natural contour to the sentence. To create a phoneme string for a sentence, you have to break down each word into its individual phonemes, and use the special one or two-character code that corresponds to that phoneme. A phoneme is an individual sound, like the *t* in *talk*. If you say a word out loud, you should be able to determine each individual phoneme. *Talk*, for example, has three: the initial *t* sound, the middle vowel sound, and the final *k* sound. Although the word is spelt with an *al* to indicate the vowel sound, you'll see in the table that the phoneme code we want is actually AO. From the table, you can construct the phonetic spelling for the entire word: TAOK. Since English spelling is largely non-phonetic, the phonetic spellings will rarely coincide with the written ones. When constructing phoneme strings, forget completely about how a word is spelled, and concentrate on how it sounds.

Types of Phonemes

As you can see in the table, the phonemes are broken into several categories. The most obvious of these are the vowel and consonant sounds, which are generally easy to distinguish in a word. The diphthongs are also vowel sounds, but consist of two distinct sounds put together. For example, the 'EY' diphthong as in *made* starts off sounding like EH as in *bet*, but ends up sounding like IY as in *beet*. The fact that these combination vowel sounds are actually diphthongs is not really of much concern to you when constructing phoneme strings, unless you're the type of person who's terribly concerned over

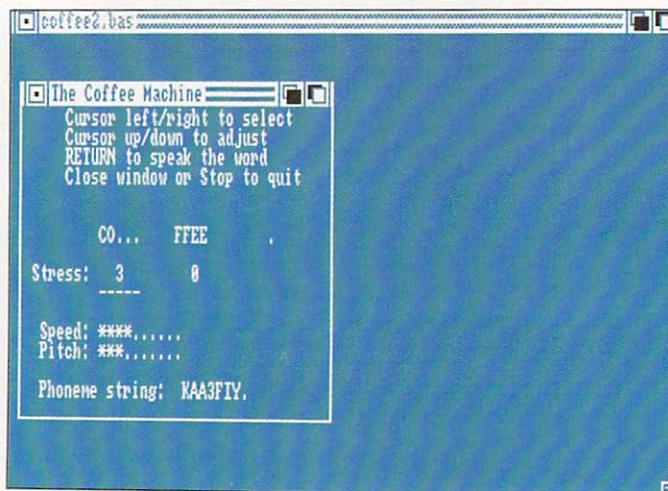


Figure 1.
The simple
AmigaBASIC
'Coffee Machine'
program in action.

such things. Simply by saying the word out loud and comparing the vowel sound with the sound made in the sample words in the table, you should have no trouble deciding which vowel or diphthong to use. Consonants are even easier, and in many cases use the obvious letter to represent the sound.

The AX and IX phoneme codes are special cases, and represent 'a' and 'i' vowel sounds that are abbreviated and almost left out in normal pronunciation. The sound that the *a* makes in the word *balloon*, for example, is barely noticeable. Substituting from the phoneme table, we get the string "BAXLUWN" for the word "balloon".

The Narrator also has some special codes that aren't strictly phonemes. There are some abbreviations for using the AX and IX phonemes with some common consonants: AXL can be replaced by simply UL, for example. Other codes are more specialized: Q is used to create a 'glottal stop', a brief break between sounds. Normally, the Narrator puts in glottal stops where required, but in some cases you may have to put them in

Table of Narrator Phoneme Codes

(From the *Amiga Rom Kernel Reference Manual: Libraries and Devices*)

CONSONANTS

R red
L yellow
W away
Y yellow
M men
N men
NX ring
SH rush
S sail
TH thin
F fed
ZH pleasure
Z has
DH then
V very
J judge
CH check
/C loch
/H hole

P put
B but
T toy
D dog
G guest
K Commodore

VOWELS

IY beet
IH bit
EH bet
AE bat
AA hot
AH under
AO talk
UH look
ER bird
OH border
AX about
IX solid

DIPHTHONGS

EY made
AY hide
OY boil
AW power
OW low
UW crew

SPECIAL CODES

DX pity (tongue flap)
Q kitt_en (glottal stop)
QX (pause - silent vowel)
RX car (postvocalic R)
LX call (postvocalic L)

CONTRACTIONS

UL=AXL UN=AXN
IL=IXL IN=IXN
UM=AXM
IM=IXM

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```

' "The Coffee Machine" - A Narrator experiment

' open window and display instructions
WINDOW 2, "The Coffee Machine", (10,30)-(300,155),30
PRINT "      Cursor left/right to select"
PRINT "      Cursor up/down to adjust"
PRINT "      RETURN to speak the word"
PRINT "      Close window or Stop to quit"

syll1$="KAA" 'phonemes for 1st syllable, "CO..."
syll2$="FIY" 'phonemes for 2nd syllable, "..FFEE"
stress(0)=3 'stress on 1st syllable, 0 to 9
stress(1)=0 'stress on 2nd syllable, 0 to 9
stress(2)=0 '0=period, 1=question mark, 2=nothing
stress(3)=3 'speech speed
stress(4)=2 'speech pitch
select=0 'which of above settings to change
punct$=".? .? .? ."

' main loop - do until window closed or program stopped
WHILE WINDOW(7)
' build phoneme string based on current stress and punctuation
s1$="": IF stress(0) THEN s1$=MID$(STR$(stress(0)),2) 'stress syl 1
s2$="": IF stress(1) THEN s2$=MID$(STR$(stress(1)),2) 'stress syl 2
phoneme$ = syll1$+s1$+syll2$+s2$+MID$(punct$,stress(2)+1,1)

CALL showdisplay(select, phoneme$) 'update display
IF init = 0 THEN SAY phoneme$: init=1 'initial utterance
k$="": WHILE k$ = "" AND WINDOW(7): k$=INKEY$: WEND 'wait for key

IF k$ = CHR$(13) THEN 'say it when RETURN is pressed
sparm%(2)=stress(3)*36+40 'speech speed
sparm%(0)=stress(4)*25+65 'speech pitch
sparm%(4)=22200: sparm%(5)=64: sparm%(6)=10
SAY phoneme$,sparm%
END IF

' adjust parameters and values using cursor keys
IF k$ = CHR$(31) THEN select=select-1: IF select < 0 THEN select=0
IF k$ = CHR$(30) THEN select=select+1: IF select > 4 THEN select=4
IF k$ = CHR$(28) THEN stress(select)=stress(select)+1
IF k$ = CHR$(29) THEN stress(select)=stress(select)-1
IF stress(select) > 9 THEN stress(select)=9
IF stress(select) < 0 THEN stress(select)=0
WEND
WINDOW 1

' Simple display subroutine to show current values
SUB showdisplay(select, phon$) STATIC
SHARED stress(), punct$
LOCATE 7,1
PRINT "      CO...   FFEE      ";MID$(punct$,stress(2)+1,1)
PRINT: PRINT " Stress: ";STR$(stress(0));SPC(7);STR$(stress(1))
IF select < 3 THEN PRINT SPACE$(select * 9 + 9);"-----";
PRINT SPACE$(40): PRINT
FOR i = 3 TO 4
IF i = 3 THEN PRINT " Speed: ";: ELSE PRINT " Pitch: ";
PRINT LEFT$("*****",stress(i)+1);LEFT$(".....",9-stress(i));
IF i = select THEN PRINT SPACE$(7);"<-----": ELSE PRINT SPACE$(13)
NEXT i
LOCATE 15,3: PRINT "Phoneme string: ";phon$;SPACE$(10);
END SUB

```

yourself. A slight pause can be inserted between any phonemes by using the QX code; longer pauses may be created by using more than one QX. All of these special codes are listed in the table.

Stress Marks

In order to produce natural-sounding speech with the Narrator, it is not enough to just choose the correct phonemes for each word. You must also place the appropriate stress marks after the correct vowel sounds. In speech, stress indicates the emphasis on a certain syllable. Dictionaries usually show which syllable or syllables are stressed in a word, but you can tell just by saying the word to yourself. The word *Am-i-ga*, for example, has the emphasis on the second syllable; *key-board* has the emphasis on the first.

Stress marks are indicated in phoneme strings by a single-digit number after a vowel (or diphthong) phoneme, exceptions being the special AX and IX sounds discussed earlier. The location of the stress mark in the word is determined by the word itself; the emphasis must be placed on the correct syllable or syllables for that word, as it is normally pronounced. The number you choose for the stress mark determines how strong the emphasis is, and this is used to emphasize a word in a sentence over others. Adjusting the value of stress marks of individual words allows you to 'fine-tune' a sentence and give it a more natural contour.

Let's see how careful adjustment of stress marks can improve the Amiga's speech. Take the simple sentence, "It is very cold outside today." When you use the *Say* program on the Workbench disk to speak this sentence, it sounds very unnatural, not at all the way a person would emphasize the words in the sentence. If you use the TRANSLATE\$ function in AmigaBASIC to translate this sentence, you will see that it is converted into the following string:

```
IHT IHZ VEHIRIY KOH4LD
AWTSAY3D TUWDEY3.
```

As you can see, strong emphasis is placed on the words 'cold' (stress 4), 'outside', and 'today' (stress 3), which results in the unnatural sound of the sentence. In actual speech, a person would more likely place a greater emphasis on the word 'very', and less on the others. Note that in this particular sentence, the Translator seems to have chosen the phoneme codes themselves correctly - this is not always the case. All we have to do to improve the sound is fiddle with the stress

marks a bit. The following modification puts things more in line with the way a person would really say the sentence:

IHT IHZ VEH4RIY KOH3LD
AWTSAYD TUWDEY.

Try giving that string to the AmigaBASIC SAY command, and listen to the difference.

From this example, you have learned a useful technique for converting sentences into phoneme strings: use the Amiga's Translator as a starting point, and refine the output until you get the most natural pronunciation.

Punctuation

As you can see in the table, some punctuation symbols are also recognized by the Narrator in phoneme strings. The simplest of these is a period or question mark at the end of a sentence. The period results in a final drop in pitch, giving the sound of a statement, while the question mark causes a rise in pitch at the end of a sentence in the manner of a question. The Narrator documentation says that a period is assumed if it is left out, but experimentation shows a definite difference in the sound of a

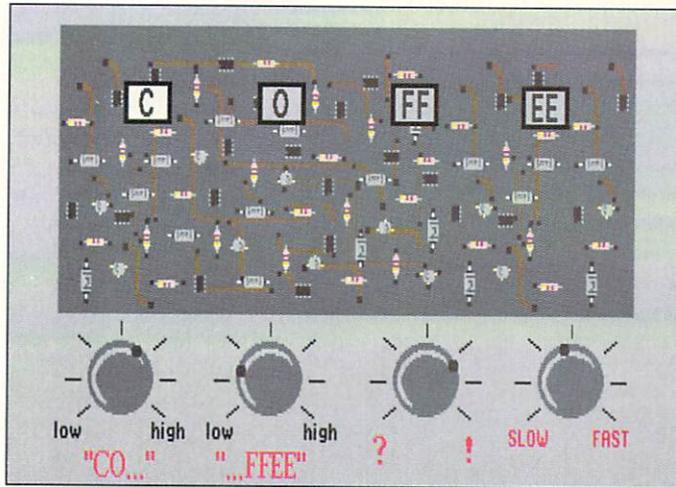


Figure 2. A crude representation of the real 'Coffee Machine,' give or take a few controls. The phoneme indicators on the circuit board light up as that part of the circuit is activated and the phoneme is spoken.

phoneme string ending in a period, and one without. Leaving off the period leaves the end of the sentence 'hanging,' as if the speaker is about to say something else.

Commas and dashes are generally used in phoneme strings as they would appear in the written sentence. A comma creates a rising

pitch followed by a slight pause, and a dash is similar but does not cause the pitch to rise as much. The documentation recommends using dashes to divide phrases and commas to divide clauses. Parentheses are more interesting: the documentation states that they are used to adjust the intonation of a sentence when it

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contains noun phrases of two or more content words. It gives as examples of such phrases 'a giant yacht', and 'a big basket of fruit and nuts'. In practice, the parentheses don't seem to have a noticeable effect. The interesting part is that the Translator converts parentheses in the text into commas, almost as if it doesn't trust the Narrator to handle them properly. Could parentheses be a Narrator feature that just didn't work out quite right? In the new Version 2 Narrator, parentheses have a noticeable effect, but don't seem to help the sentence sound more natural.

"The Coffee Machine"

Once you know the concept of phoneme strings and have the table in front of you, the best way to produce good sounding speech is through experimentation. Getting the right phonemes is usually the easy part, but juggling the stress marks among all the words in a sentence can involve a lot of trial and error. In light of that, you may be surprised to learn that the AmigaBASIC program listed here will do very little to help you with this pro-

cess. It does let you experiment with the effects of different stress marks and punctuation however, and can be enjoyable to fool with for a minute or an afternoon.

The *Coffee Machine* is inspired by an exhibit that I encountered years ago at the Ontario Science Center in Toronto. This exhibit featured a large circuit board under a transparent panel, covered with plenty of good old-fashioned analog components: resistors, capacitors, transistors, coils. The board was divided into four sections, each with a large square light on it that would flash when that section of the circuit was activated. A speaker connected to the circuit board would repeat the same word over and over again, electronically generated by the components in front of your eyes. As the lights flashed sequentially, they would spell out the word... C... O... FF... EE... as the voice repeated 'Coffee!' endlessly from the speaker.

Now, this in itself might get boring after a short while, but the panel contained a really exciting feature: large metal knobs, just made for twiddling. Each knob controlled a differ-

ent aspect of the speech: the first knob controlled the pitch and emphasis of the first syllable in the word, then came the one for the second syllable. Next to these was the knob that controlled the final inflection, adjusting all the way from a strong 'Coffee!' (falling inflection) to a very inquisitive 'Coffee?' (rising inflection). Still another knob controlled the speed of the pronunciation. By simply twiddling the knobs, you could get all kinds of strange accents and pronunciations of the same word out of the machine, even though the actual phonemes used remained constant.

But wait - save your money on plane tickets to Toronto. The AmigaBASIC program listed here is a computerized version of the 'Coffee Machine,' stripped to its bare minimum. To keep the program short so that it can be listed here and you won't be intimidated from entering it, the user interface is not exceedingly pretty or clever, but it does work. You 'twiddle the knobs' by adjusting values with the cursor keys, and get it to speak by pressing RETURN.



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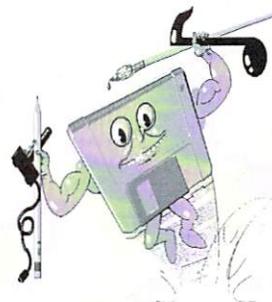
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A. Which type of Amiga do you own?

- 1 Amiga 500 4 Amiga 2500
 2 Amiga 1000 5 Amiga 3000
 3 Amiga 2000 6 None

B. Which of the following software products are you likely to purchase within the next year?

- 7 Desktop Publishing
 8 Wordprocessing
 9 Video
 10 Graphics/Animation
 11 Sound/Music
 12 Productivity
 13 UNIX
 14 Entertainment
 15 Educational

C. Which of the following hardware products are you likely to purchase within the next year?

- 16 Mass Storage 19 Video Hardware
 17 Accelerators 20 Monitors

D. What applications are your primary interests?

- 22 Desktop Publishing
 23 Wordprocessing
 24 Video
 25 Graphics/Animation
 26 Sound/Music
 27 Productivity
 28 On-line Services
 29 UNIX
 30 Entertainment
 31 Educational

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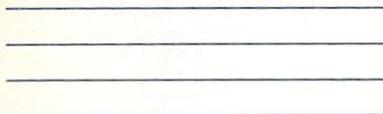
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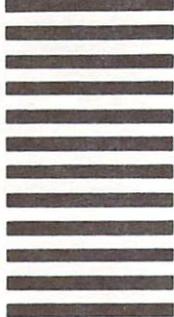
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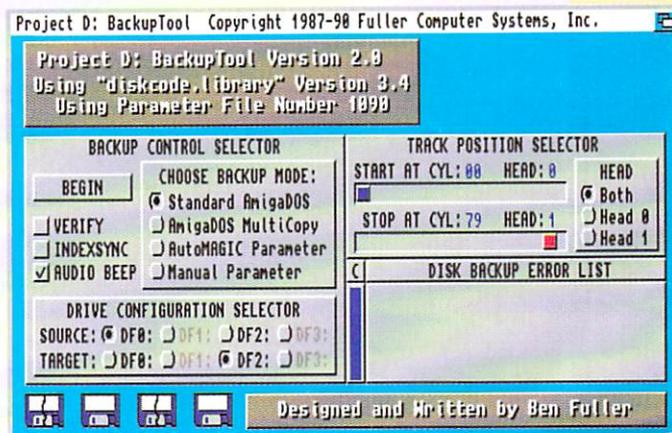
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Just The Facts:

What Makes Digi-Paint 3 the Ultimate Paint Program?



"Finding the best paint program for your Amiga can be confusing, but once you have the facts it's simple."

Laura Longfellow
Sales Manager
NewTek Inc.

"Why is Digi-Paint 3 better than DeluxePaint III™?"

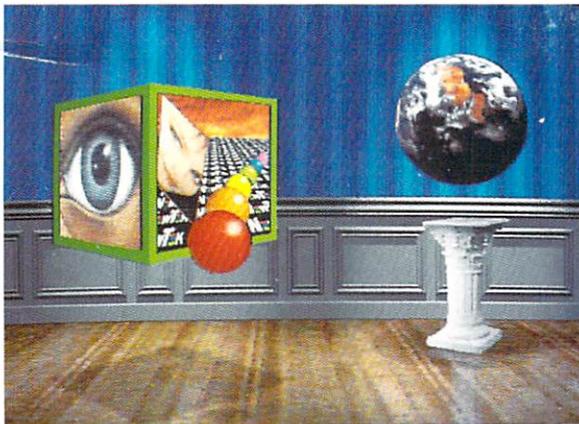
Digi-Paint 3 works in the Amiga's powerful Hold And Modify (HAM) mode, which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 64 colors. Advanced features available in Digi-Paint 3—including Colorizing, Variable Transparency, Shading, Lighten, Darken and Range Painting—are simply not possible in Deluxe Paint III due to its 64 color limitation. AMIGAWORLD warns, "Competitors may want to head back to the drawing board, because Digi-Paint 3 is hard to beat!"



"What makes Digi-Paint 3 better than other HAM paint programs?"

Digi-Paint 3 is the only Amiga paint program written in 100% assembly language. Although challenging to program (taking up to 10 times longer than other computer languages), it's the only way to achieve the incredible speed found in Digi-Paint 3. AMIGAWORLD calls it "the fastest HAM paint program yet" and AMIGA SENTRY estimates it's, "6-10 times faster" than the nearest contender.

Other advanced features found *only* in Digi-Paint 3 include: anti-aliased texture mapping, anti-aliased fonts, ARexx support, 1024 x 1024 super bitmaps with auto-scrolling and dithering to 30 bits per pixel (over a billion colors internally, giving you tens of thousands of apparent colors). COMPUTER SHOPPER magazine reports "Digi-Paint 3 is without a doubt the most advanced HAM paint program to date!"



Digi-Paint 3, Digi-View, and Transfer 24 are trademarks of NewTek Inc. DeluxePaint III is a trademark of Electronic Arts. All brand and product names are trademarks of their respective holders.



"But is Digi-Paint 3 easy to use?"

I've learned that no matter how powerful a program is, if it's not friendly it's not worth my time. We designed Digi-Paint 3 with all users in mind—from the beginner just starting out with computers, to the "power user" who demands the most advanced features possible. The spiral-bound manual contains a step-by-step Guided Tour, 11 hands-on tutorials, a color coded reference card, and almost one hundred example photos.

Digi-Paint 3's intuitive user interface was created by Digi-View designer (and NewTek Founder) Tim Jenison and renowned Amiga artist Jim Sachs. It features innovative "Dashboard" controls which AMIGAWORLD regards as "a joy to use" and "very easy to learn and understand". INFO MAGAZINE says the new interface "looks great and works logically".

"What is the Transfer 24 program included with Digi-Paint 3?"

Transfer 24 is a separate program disk included in the Digi-Paint 3 package, allowing you to alter any picture's brightness, color saturation, contrast, hue and sharpness, almost as easily as adjusting the controls on your television set. Transfer 24 also lets you modify the size, palette, and resolution of any picture. These powerful features, known as "Image Processing", give you incredible control over your final artwork. You can also save your image in any of the Amiga's 24 resolution modes (up to 768x480) making it compatible with all Amiga graphics software. AX MAGAZINE notes that "Transfer 24 gives you even more options as to the final appearance of your work". AMIGAWORLD declares, "Transfer 24 is great for making overall changes."



"What technical support does NewTek offer?"

Digi-Paint 3 has one other thing you won't find in any ordinary paint program: a toll-free help line. If you should have any questions while using Digi-Paint 3, you're not on your own. Call NewTek's technical support team at 1-800-736-7617 Monday through Friday, 8 am - 7 pm Central Time.

Digi-Paint 3 is available now at your local Amiga dealer or call
1-800-843-8934 or 1-913-354-1146.

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