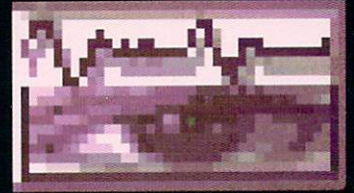


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#33

OCT. 1990

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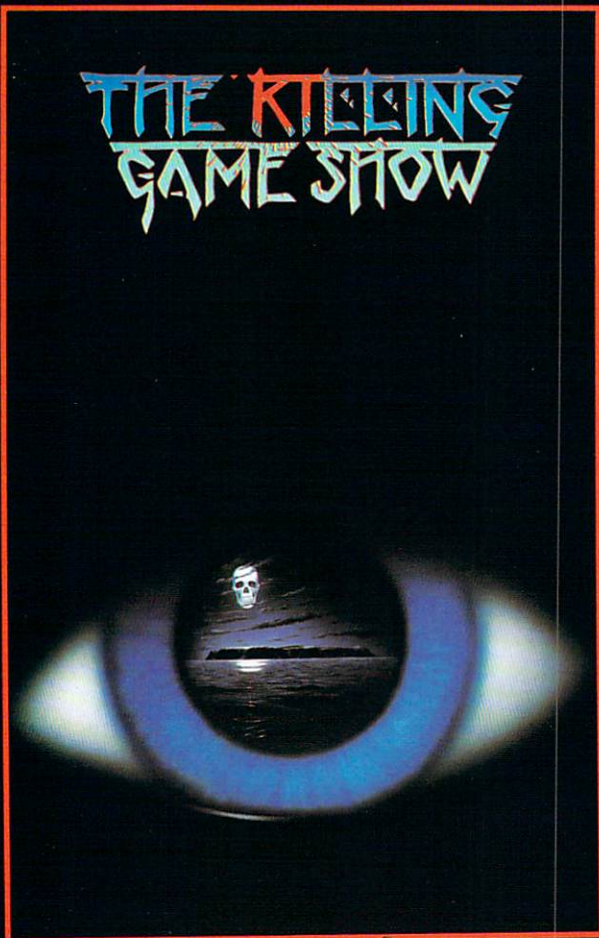
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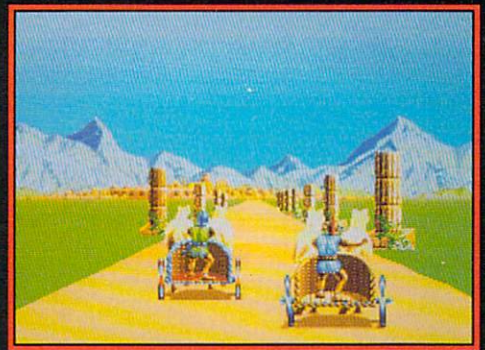
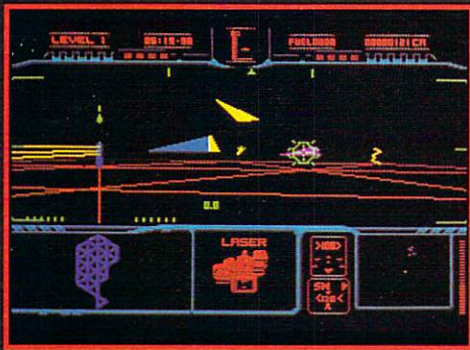
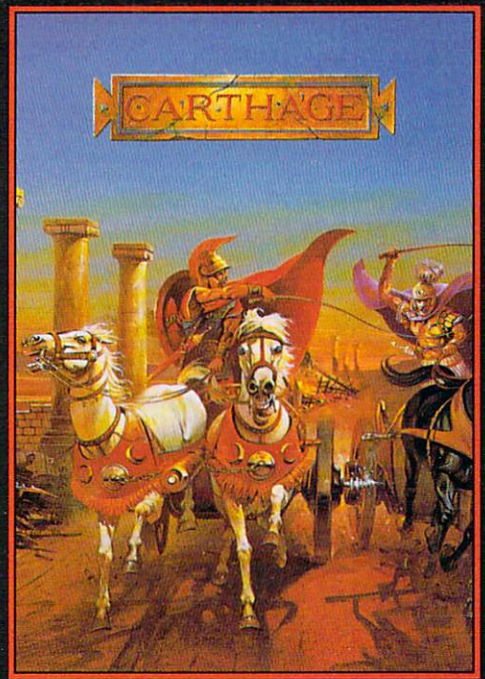
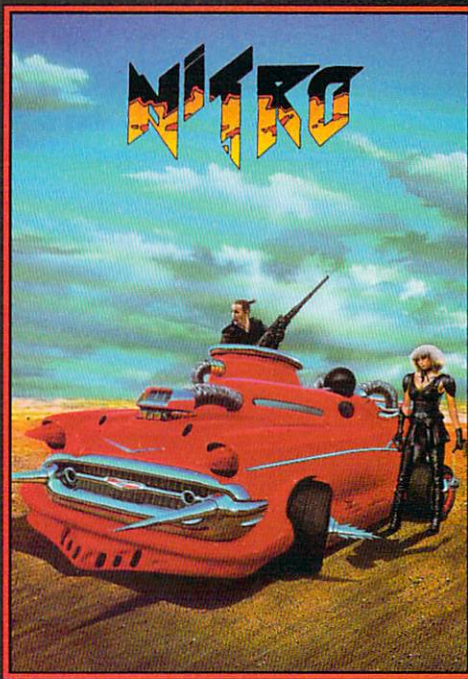
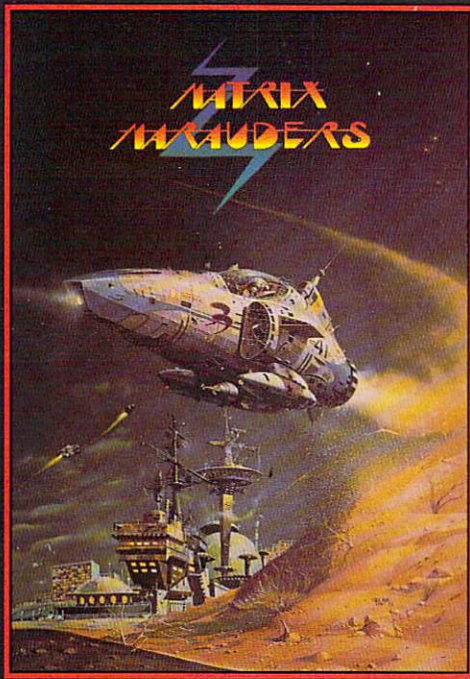
But . . . don't forget the rising fluid or it's "next contestant time". You must give the viewers their value for money - collect the awesome weapons and tools - if you can.

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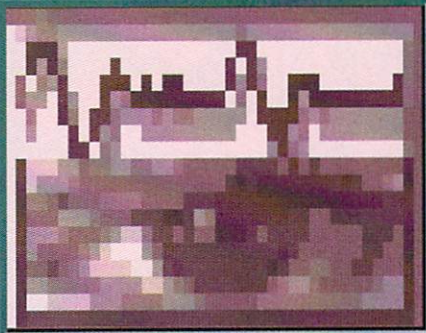
(coming soon)

Amiga/Atari ST

SEEING IS BELIEVING



.info #33 CONTENTS

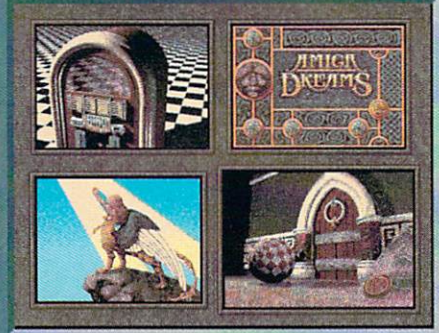


18



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| Target | Camera |
| 3840 | X 3840 |
| 0 | Y 7680 |
| 1 | Z 1496 |
| Lake | River |
| Snow | 997 |
| Tree | 499 |
| Haze | 28 |
| Light→ | N E |
| Blend | N E |
| Colors | Smooth |
| Poly | 1 2 4 8 |
| Hide | Zoom |
| Render | View |
| Vista | 1.0 |
| F | 1259797956 |

24



44

FOCUS

- 18 INSIDE AMIGAVISION:** Denny Atkin takes *.info* readers on an in-depth tour of this important new authoring system from Amiga.
- 24 FRACTAL FRONTIERS:** Tom Malcom looks at the new crop of fractal terrain generators and previews Seven Seas' upcoming release, *Math Vision*.

the AMIGA PRO

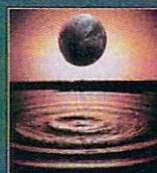
- 28 MUSIC & SOUND:** *.info* is pleased to welcome Peggy Herrington back to the pages of *.info*! Peg kicks off her new column with an update on the latest in Amiga MIDI sequencers.
- 30 VIDEO:** Oran J. Sands reviews **PRO VIDEO POST**, Shereff Systems' New character and DVE generator.
- 42 3D & ANIMATION:** John Foust begins his regular column by surveying the state of 3D for the Amiga.
- 44 GRAPHICS:** Amiga graphic artist Brad Schenck examines ASDG's impressive **THE ART DEPARTMENT**.
- 52 .info technical support:**
 - **Amiga COMAL** by Chris Zamara
 - **CONSOLE MAGIC** by Chris Zamara
 - **TESTING THE ARCHIVERS** by Loren Lovhaug and Frank Hudson
 - **DUNLAP UTILITIES** by David Martin

DEPARTMENTS

- 6 .info Monitor**
- 8 Reader Mail**
- 8 .info Update**
- 10 New Products**
- 15 News & Views**
- 16 Rumor Mill**
- 17 Show Report**
- 23 Bryce's Video**
- 47 Public Domain**
- 54 Back Issues**
- 64 Unclassifieds**
- 64 Advertiser Index**

CYBERPLAY

- 32 17 New Diversions**
- 40 Player Tips**
- 40 Coming Soon**
- 41 Adventure Road**



Cover Illustration: by Larry Keenan

.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.

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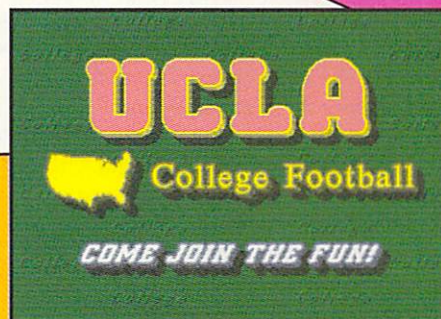
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Taking Stock

So far, 1990 has been a year of evolution and change in the Amiga marketplace, and there are a lot of changes yet in the works. We're still trying to sort it all out.

On the hardware front, Commodore has introduced the Amiga 3000, and CDTV is "Coming Soon" as this is written. Rumor has it that CBM is still working on a cartridge-based Amiga console game machine, though the marketing types aren't ready to talk about it yet. And Commodore's controversial C64-based 8-bit computer is apparently still alive, though we hear it's hanging by a thread. In the meantime, the A500 has been split into two units retailing at the same price. One, for the dealer channel, has a meg of RAM and *AmigaVision*; the other, for the consumer channel, comes with 512K, an RF modulator, and a 3-pack of software. Somewhere in the middle are several different models of A2000 and A2500 with and without hard drives and accelerator cards. And Unix is still a big unknown - the last word we have through the grapevine is that it may initially only be made available pre-installed on an A3000. Soon the Amiga may be available in more models and styles than the Macintosh. And that's good, if Commodore, the dealers, and the public can keep them all straight.

Competition is stiff from the Mac and MS/DOS machines, which have added enough options to start looking pretty good up against the Amiga, albeit for a price. Even Hewlett-Packard - which for years has been the subject of rumors that they might actually take over Commodore - has entered the fray with competitive workstations modeled after the Amiga.

Meanwhile, the hot vertical markets for the Amiga continue to be multimedia and desktop video. *AmigaVision* (see page 18) will be the great equalizer in these markets, with version 2.0 due from Commodore by the time you read this. Though the Amiga has not made much of an inroad into business, it looks like it is well on its way to wrapping up the multimedia and

video markets for itself, much as the Mac did with desktop publishing. And with network solutions now becoming available for the Amiga, business should find it possible, and even appealing, to begin integrating Amigas into existing MS/DOS and Macintosh networks.

24-bit graphics *a la* the Macintosh will be the next big wave for the Amiga, with new 24-bit capable software and hardware coming from ASDG, Hash Enterprises, Digital Creations, Impulse, NewTek, and others. Commodore is even talking operating system upgrades for device-independent graphics. In fact, it may be easier to get 24-bit graphics on the Amiga than it will be to get 8-bit graphics! Go figure.

On the fun side, game development seems to be going the way of Nintendo and MS/DOS, which means we may see more and more games that are simply ports of games developed for those less capable platforms. Or we may see some game companies pulling back from the Amiga completely in order to concentrate on these more lucrative markets. Our crystal ball is cloudy on this one, but it seems like a good time to support those companies which are dedicated to creating playable Amiga games.

In the productivity arena, big-name companies are still staying away from the Amiga in droves. WordPerfect isn't even moving very far or very fast on upgrades to *WordPerfect*. Truth is, as far as productivity software goes, there's little more high-quality, pro-level stuff to choose from than there was two years ago.

So what does it all mean, and where is the Amiga headed? Well, grasshopper, life is a journey. If you worry too much about your destination, you won't enjoy all the great scenery you pass by on the way. So just relax and enjoy the trip.

- Mark & Benn

This is the first issue of the new .info with all our Amiga columnists on board. We hope you like our new "look & feel." Please write and tell us what you enjoy (and what you don't like) about .info. We listen.



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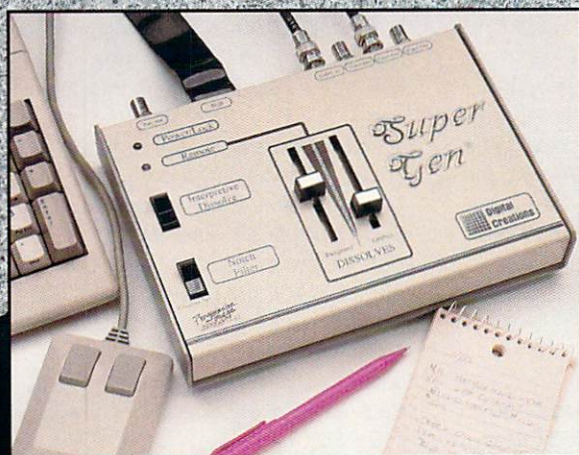
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I want to commend you on your article covering the Amiga 3000 (see .info #31). It was just the 'info' I needed. The 3000 is a truly amazing machine, but until software publishers produce programs that will work on the 3000 under 2.0, I can't see how too many people can upgrade to a 3000 with any confidence that the hundreds of dollars of software many of us own will be usable.

- John Dutka, Jr. (CompuServe)

As with any major upgrade, the 3000 and AmigaDOS 2.0 contain design enhancements which may crash some older programs.

Commodore assures us that programs which "follow the rules" shouldn't break under 2.0. Big names such as DeluxePaint III shouldn't give you any trouble. Games will be your biggest headache. Games (and European games in particular) are notorious for ignoring the standards. Hopefully publishers of the most popular game titles will update them for 2.0 compatibility. Watch for "2.0 Compatible" stickers to appear on software boxes soon. The stickers certify that the software is fully functional on the 3000 running under 2.0.

- Mark & Benn

Are those Commodore stereo speakers (pictured on page 32 of .info #31) compatible with the A500?

- Mike Hopfenspirger (Rochester, MN)

The self-powered Commodore Amiga 10 Stereo Compact Speakers that Commodore introduced with the 3000 can also be used with the 500 or the 2000; but you can achieve the same effect with any inexpensive pair of mini-speakers available at your local home electronics store. Or you can hook up

your 500 to your stereo system with regular audio-in/audio-out RCA cables for really awesome sound.

- Mark & Benn

What a relief! I had noticed your brief absence from the newsstands and for a while there I thought you might be gone for good. Perish the thought! What would computing with Commodore without .info be like? Disaster! I have all your issues. I remember driving clear across the Dallas/Ft. Worth metroplex to get a newly released copy. And so here it is: .info is the very best computer magazine in the whole world. And possibly the best magazine in all the universe and everywhere else, too. Seriously, keep up the good work.

- Andrew Eschenauer
(Virginia Beach, VA)

What a blatant attempt to be chosen as this month's ".info Is Great" letter! But as someone more cynical than us once said, "flattery will get you everywhere!" Thanks for the pat on the back!

- Mark & Benn

.info UPDATE

MOVES

- > We've been telling you about other people's address changes and now we have one of our own. That's right, .info is moving! (Volunteers to help carry heavy objects should contact the old .info offices for instructions on when to report for duty.) Our new address is 705 Highway 1 West, Iowa City, IA 52246. All of our phone numbers remain the same: 319-338-0070 for editorial, 319-338-3620 for the Advertising Department, 319-338-0897 FAX, 319-338-0703 for Subscriptions.
- > **NewTek** has moved to 215 E. 8th St., still in Topeka KS, still 66603, phones still 913-354-1146 voice, 913-354-1584 FAX.
- > **TTR Development** has a new address at 1120 Gammon Ln., Madison WI 53719. 608-277-8071 voice, 608-277-8072 BBS. TTR is also shipping the first update to their *Waste Management System* (see New Products

in this issue) to registered owners. If you haven't sent in that registration card, do it now.

SPECIAL OFFER

- > **Accolade** is running a promotion where, when you buy one of their products for \$20 or more, you can then send away for another for only \$5. Among the titles included in the offer are *Test Drive*, *4th & Inches*, *Grand Prix Circuit*, *Mini-Putt*, and *Hardball*. 550 S. Winchester Blvd., Suite 200, San Jose, CA 95128. 408-985-1700.

PRICE CHANGES

- > **GEnie Information Services** has restructured their prices starting October first. 300, 1200, and 2400 baud access are all now available during non-prime time (evenings & holidays) at one rate: \$6/hour. GEnie has also instituted a new flat rate service. For \$4.95 a month, you can connect up with basic services like top news stories, closing stock quotes, EMail, an online encyclopedia, single-player games, and most non-computer

RoundTable areas for unlimited non-prime time access. The computer RTs, multi-player games, software libraries, chat areas, etc., will still incur regular connect time charges. Call 800-638-9636 for sign-up information.

- > **Star Micronics** has reduced the prices on five of their printers. The *NX-2415 Multi-Font* is now \$659, down from \$699. The *NX-1500 Multi-Font* is now \$499, the *NX-1000 Multi-Font* is \$269, the popular *NX-1000 Rainbow* color printer is reduced to \$329, and their *LaserPrinter 8 II* is down to \$2649. 420 Lexington Ave., Suite 2702, New York, NY 10170. 212-986-6770.

- > **Not to be outdone by Star, QMS** has also reduced the prices of some of their PostScript laser printers. The *PS-810* (the one we use here at .info) is \$3995, the *PS-820* is \$4995, and the turbo models of each are \$5495 and \$6495 respectively. One Magnum Pass, Mobile, AL 36689. 205-633-4300.



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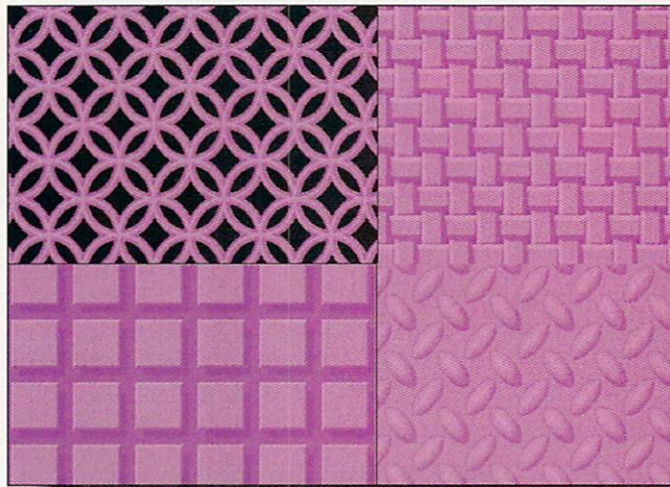
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NEW PRODUCTS



Four of the many fill patterns from JEK Graphics' Pro Fills.



THE '040 WARS BEGIN

There are not one, but two 68040 accelerator boards in the works for the Amiga. *RCS Management's* entry is called the **Fusion-Forty**. The thing runs at 25 Mhz, has a built-in math coprocessor and MMU, physical caches (the '030 has only logical ones) of 4K instruction and 4K data with simultaneous access to both. It claims a performance of 20-27 MIPS, and has a concurrent integer unit, FPU, MMU, Bus Controller, and Bus Snooper for maximum throughput. *RCS* states very specifically that this is not a RISC chip, but a CISC (Complex Instruction Set Chip), meaning that the instruction set is not reduced. Mostly due to delays of getting '040 chips, the board won't be shipping until mid-October. Cost - hang onto your checkbooks, folks - is \$3000. 2075 University St., Suite 1712, Montreal, PQ Canada. 514-288-7825.

The second entry is coming from *Supra*. They had a prototype sitting in a glass case at AmiExpo in Chicago, and it's scheduled for release in the fourth quarter. The **SupraTurbo 040** runs at 25 Mhz, also uses separate 4K instruction and data caches, with each cache having 64 independent areas. This design eliminates most accesses to DRAM, running over 90% of the time from the cache. On those occasions when the thing does need to use DRAM, it oper-

ates in a high-speed burst mode that fills the cache quicker than any human (or at least this one) can even comprehend. The board also gains performance points by an integral floating point unit and an improved MMU. The unit is made to fit into the coprocessor connector in the A3000 and will retail for \$1295 for the 25 Mhz version. *Supra* promises even faster versions to come. 1133 Commercial Way, Albany, OR 97321. 503-967-9075.

MEMORY EXPANSION AND LOTS OF IT

With the cost of RAM at affordable levels again, there's been a recent flurry of memory expanders hitting the market from several sources. Here's a quick look at a couple of them.

ICD has been a familiar name in Mac hardware products and now they're getting in on some Amiga action. Their **AdRAM** system for the A500 will add up to 6 megs of internal memory via two separate modules. The **AdRAM 540** is available either populated (price depends on current RAM pricing) or not (\$159.95) and fits into the belly slot of an A500. If you buy the thing unpopulated, you can plug 256Kx4 DRAM chips into it in easily affordable 512K increments. You can also add an additional 512K of chip RAM if the A500 has a Super Agnus chip installed (provided you're not

squeamish about computer guts - the procedure does require making a modification to your A500). The unit also contains a battery-backed system clock. The other module, the **AdRAM 560D** (\$279.95) contains 2 megabytes and plugs into the AdRAM 540 (which must have at least 4 RAM chips on it). A little addition shows the total additional RAM to be 6 megs. *ICD*, 1220 Rock St., Rockford, IL 61101. 815-968-2228.

Spirit Technology has been making hardware products for the Amiga almost since Day One. The latest in their series of expansion products is an economical memory expansion board for the A500. The **Fat Trapper** (and just who thought up that title, hmmm? I'm taking names here) has sockets for up to 4 additional megabytes of 256Kx4 RAM chips, acceptable in 512K increments. It plugs into the belly slot of the 500 and also has a 68000 daughter board with a battery-backed clock which is connected inside the computer with a ribbon cable. The thing is compatible with the Super Agnus, giving it 1Mb of chip RAM and conveniently has an on/off switch which can be controlled either through software or by an installing a hardware switch mounted outside the computer. The retail price is \$119.00 unpopulated. 220 West 2950 South, Salt Lake City, UT 84115. 801-485-4233.

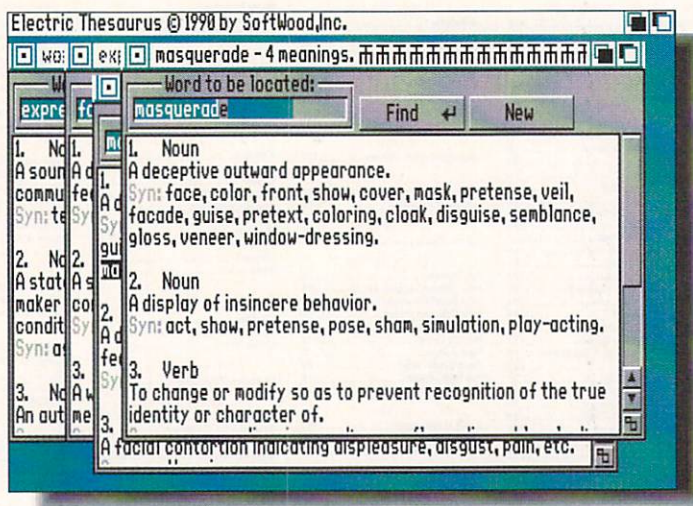
BACKGROUNDER

Pro Fills is a collection of textures and patterns to use in desktop video and presentations. The disk includes over 100 standard IFF brushes (which are then used to make full screens using, for example, the Brush Fill option in *DPaint*) in various resolutions. Most of them look like they would be very useful and they would be a real timesaver if you waste much time constructing background screens. There are extra palettes included as well, to save you messing around to come up with different color sets. *JEK Graphics*, 12103 S. Brookhurst, Suite E-125, Garden Grove, CA 92642. 714-530-7603.

NEW PRODUCTS



Woody Williams' Electronic Thesaurus is based on Roget's II.



FREE THE VIDEO SLOT! RIGHT ON!

MicroWay has come up with a method for freeing up the video slot so you can plug in a genlock and still use their *flickerFixer* board. The **Denise Extender Board** (DEB) transfers the video signal to the *flickerFixer* which is, and I quote this directly from the press release, "positioned behind the existing XT slots and connected to the DEB 2000 by means of a cable". It apparently just sits there, not plugged into anything. The net result, however, is a free Amiga video slot. The DEB has been priced at \$75, and MicroWay has also lowered the price of the *flickerFixer* to \$495. PO Box 79, Kingston, MA 02364. 508-746-4678.

SYNONYMOUS

Woody Williams, the author of *Pen Pal* among other impressive products, has finished work on **Roget's II Electronic Thesaurus**. Every writer we know has been waiting for a stand-alone thesaurus and this one looks like it will earn a permanent place on a lot of hard drives. (It can be run from floppy, but at a considerably slower speed; using it from RAM is recommended if you don't have a hard drive.) Derived from Houghton Mifflin's *Roget's II* database and search engine, the thesaurus con-

tains over 500,000 synonyms. Each head word has a short definition and the synonyms for each are categorized by part of speech, making it a little easier to be sure you're picking the right one. The *Electronic Thesaurus* multitasks very cooperatively, so you can use it with whatever wordprocessor you like. Word-browsers will like the fact that simply clicking on a word will open a new window with the synonyms for the new word. (It's possible to open about 40 windows before everything crashes, though anyone silly enough to try opening that many windows deserves a visit from the Guru.) Price is \$49.95 from *SoftWood*, PO Box 51209, Phoenix, AZ 85076. 602-431-9151.

TRANSLATION MACHINE

There are untold bazillions of *AutoCAD* objects and drawings in the world and **ACAD Translator 2.00** gives the Amiga access to them. The software will translate standard *AutoCAD* DXF files Rev. 9 and Rev. 10, including 3D extensions. Output can be in either *Sculpt* or *Turbo Silver* format, and the program has tools for controlling the number of subdivisions in circles and arcs, colors and textures, block and layer selection, and the overall scale of the drawing, among other things. \$179.95. *Access Technologies*, PO Box 202197, Austin, TX 78720. 512-343-9564.

DIGIWORKS REDUX

Louis Markoya talked at length about **DigiWorks 3D** in his article in the last issue, so we thought we'd give you the scoop on it. The package provides tools for creating and editing 2D and 3D objects from any IFF graphic, using edge detection routines for creating objects from flat images, including digitized ones. (I can think of all sorts of interesting and peculiar things that might make interesting objects.) Once the edge detection is done, you can edit and shape the object to your own needs with provided tools. There's also a fast-fill rendering option. Output is to the inevitable *Turbo Silver* or *Sculpt* formats. \$129.95. *Access Technologies*, PO Box 202197, Austin, TX 78720. 512-343-9564.

KEEPING PACE

Comspec has come out with the **ARM-1000**, a hardware device that plugs into the expansion slot of the A1000, accommodates both 1.3 and 2.0 Kickstart ROMs, and is switchable between them. It does, in keeping with Comspec's usual, and much-appreciated, consideration for the user, have a pass-through so you can still use the expansion buss for other things. Since the *ARM-1000* allows using Kickstart in ROM, that means you can also free up the additional 256K of system RAM where Kickstart normally loads if you're willing to make a small hardware modification to the machine. Price is \$119.00 Canadian; US price hasn't yet been set. 74 Wingold Ave., Toronto, ON Canada M6B 1P5. 416-785-3553.

FENESTRATION IN X

Bringing the Amiga ever further into the mainstream of Unix computing, *GfxBase* will be releasing their **OpenLook Window Manager** and **XView Toolkit**. Taken together with *GfxBase's X11 X Window* system, these two products will provide a virtually

ASDG's **ScanLab 100** and **The Art Department** • Active Circuits' **ImageLink** and **CineLink** • Applied Engineering's **AE 3.5 Disk Drive**, **DataLink Express**, **DataLink 2000**, **RamWorks 2000** and **RamWorks 500** • Avatar Consulting's **Heart of the Dragon** • Black Belt Systems' **Softpanel LED Display**, **RWI-1 Analog Card**, **HAM-E Color Adapter** and **Board Master** • Brøderbund's **Where in Time is Carmen Sandiego?**, **Where in the World is Carmen Sandiego?**, **Where in the USA is Carmen Sandiego?** and **Where in Europe is Carmen Sandiego?** • Brown-Wagh Publishing's **BGraphics**, **Easy Ledgers** and **Service Industry Accounting** • Commodore Business Machines' **AmigaVision** • Consultron's **CrossDOS V4.0** • Diemer Development's **C-ZAR** • Dr. T's Music Software's **Tiger Cub**, **Keyboard Controlled Sequencer** and **Level II** • Elan Design's **Elan Performer 2.0** • Felsina Software's **A-Talk III, Rel. 1.3** • Gfx Base's **X Windows System** • GlassCanvas Productions' **Art Libraries**, **Enhanced Xerox 4020 Printer Driver** and **Enhanced Sharp JX-730 Printer Driver** • Gramma Software's **CalCalendar Maker**, **Fred Speed Dialer** and **NAG Plus** • Hypercube Engineering's **Vista** and **Fractal Flight** • Inovatronic's **CanDo** • InnoVision Technology's **Broadcast Titrer 2** • Interactive Video Systems' **IVS Trumpcard Disk Utilities** and **Trumpcard/Disk Manager Mac Utilities** • JMH Software of Minnesota's **The Talking Coloring Book** and **The Talking Animator** • KFS Software's **The Accountant** • Microsearch's **City Desk 2.01** • Micro-Systems Software's **excellence v2.0** • Natural Graphics' **Scene Generator** • New Horizons Software's **ProWrite V3.0** • NewTek's **Digi-Paint 3** • The Other Guys' **Synthia Pro 2.40** and **Synthia II 2.40** • Palomax's **MAX-125 Hard Disk Adapter** • Passport Designs' **Master Tracks PRO** and **TRAX** • The Puzzle Factory's **Resource** • Radical Eye's **Amiga T_EX** • Right Answers Group's **The Director** • Saxon Industries' **Saxon Publisher** • Shereff Systems' **Pro Video Gold** and **Pro Video Post** • Slide City's **TV Graphics** • Softwood's **Pen Pal** • Syndesis' **TSSnet**, **Interfont** and **InterChange** • Talliesin's **ProVector** • Vega Technology's **Amikit 2.0** • Virtual Reality Laboratories' **Distant Suns** • Zuma Group's **TV*SHOW Version 2** and **TV*TEXT Professional** •

THE LIST KEEPS GROWING



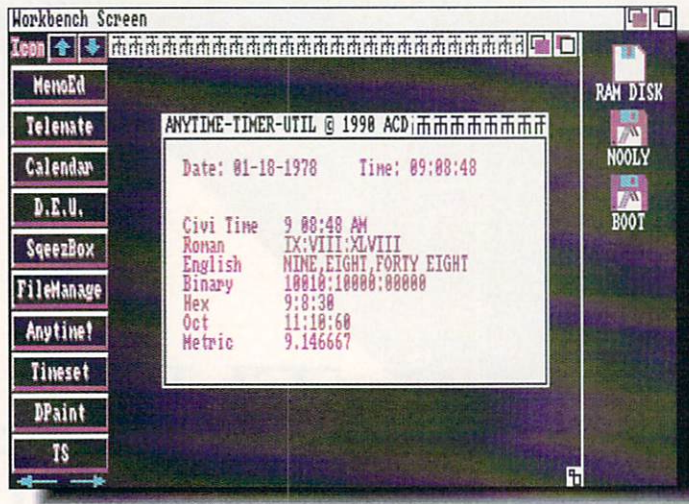
Watch for the Release 2 compatibility sticker on your favorite software.

Commodore®
AMIGA®

NEW PRODUCTS



TTR's Waste Management System, Showing its realtime clock window. Note the very strange Roman numeral display.



complete development environment for bringing XView applications to the Amiga, not to mention creating new ones. Release is set for the third quarter for the *OpenLook Window Manager* and fourth quarter for the *Toolkit*. Pricing hasn't yet been determined. 1881 Ellwell Dr., Milpitas, CA 95035. 408-262-1469.

FOREIGN WORDS

Too many people think English is the only language spoken in the world, but *New Horizons* has had the good sense to realize that people might want to do wordprocessing in other languages. They have released three new dictionaries to use with *ProWrite*, their graphic wordprocessor. Available in German, French, and Swedish (a rather strange choice, but an inquiry reveals that *New Horizons* has a publisher in Sweden), each retails for \$35. The German version has 85,000 words, the French has 130,000, and the Swedish 150,000. PO Box 43167, Austin, TX 78745. 512-328-6650.

GENLOCK

Another entry in the Amiga genlock parade is *Spirit Technology's Interlock*. It was originally shown at Ami-Expo last October as a prototype, and is now shipping, after a revision and a case redesign. One of the main points to

be made about the *Interlock* is that it handles pause and fast forward/reverse search without crashing your system, a problem with some genlocks. The thing has an internal selection system that permits matching RGB levels to the genlock, no matter which model Amiga you use it with. Since the A1000, A500, and A2000 all produce slightly different levels of RGB output, this feature makes it possible to duplicate colors and intensities in encoded video on the RGB monitor. The unit also has a removable front panel that can be used as a remote. Price is \$569 for NTSC or \$749 for PAL. 220 West 2950 South, Salt Lake City, UT 84115. 801-485-4233.

CLIPS

Hi! Tech News is shipping more volumes in their series of clip art disks. **Collection Two** (\$99.95) consists of five disks of art, some in IFF and some in *Aegis Draw* format. There are 350 *Aegis*-format drawings and 350 screens (with a total of over 3000 individual images) of hi-res IFF drawings. Subject matter includes symbols, cartoons, holidays, animals, and sports. The same company is also shipping **PGS.Struct.#1** (\$19.95), a collection of 48 structured drawings specifically created to use in *SoftLogik's PageStream*. 86 Lanvale Ave., Asheville, NC 28806. 704-252-4933.

DUMPSTER WARE

The Waste Management System actually has nothing to do with landfills or those smelly, noisy trucks that come around in the wee hours of the morning and wake up the whole neighborhood. It does have to do with managing wasted time. Basically a desktop environment, it provides a collection of buttons that can be clicked on to perform various system functions on your Amiga. When run, *WMS* pops up a long, narrow window with eight buttons that perform various functions. There's a memo pad, a phone book, appointment calendar, what is called the Decisive Environment Unit (online help for Amiga-DOS error codes, the Shell, and an ASCII chart), a file manager, and an archive utility. The file manager looks very useful; it will show pictures, read text, play sounds, and execute files all with the click of a mouse. The Squeeze-Box Shell archive utility handles Arc, Warp, Zoo, and Lharc files, either compressing or decompressing them. The best part of the Waste Management System, though, is that you can add an unlimited number (well, I suppose you might have a little trouble if you tried to add 36,897,239,547,244 of them) your own buttons to it for executing whatever software you want. For example, it takes about a minute to add a button for *DPaint*, which will then load and run when the button is clicked. *TTR Development*, 2058 Leeward Ln., Hanover Park, IL 60103. 708-213-2697.

BACKUP

Software Support International is bringing their long experience with C64 archive utilities to the Amiga. **Maverick Amiga** provides a parameter-based system for backing up your software (and please, folks, only use it for software you've paid for: Don't Steal Software!) and SSI is offering an optional subscription service for updates, scheduled for every 90 days. \$39.95. 2700 NE Andresen Road, Suite A-10, Vancouver, WA 98661. 206-695-9648.



NEWS & VIEWS



COMMODORE NEWS

Commodore has announced that the Amiga will now be available to consumers in a number of new major consumer outlets. The new retailers include Montgomery Ward, Macy's of California, VideoConcepts, McDuff, Highland Appliances, Sun TV, and Famous-Barr. These stores will give Commodore a presence in an additional 1,200 consumer outlets nationwide. This increase in Amiga visibility is part of Harry Copperman's strategy to establish four distinct distribution channels for the Amiga - business, education, consumer, and government. Commodore is currently working to sign up more outlets. Watch for additional outlets to be added by November 15th.

Introduced in April for the Amiga, Commodore has extended its CommodoreExpress door-to-door customer service program to include the C64 and MS/DOS-compatible Select Editions machines. Part of an aggressive new customer service package, CommodoreExpress' 24-hour, toll-free "helpline" offers free pick-up and return service only to U.S. orders and in-warranty repairs and requires proof-of-purchase, so save those receipts. The CommodoreExpress contact number is (800) 448-9987.

Commodore has developed a new program for Value Added Resellers (VARs) and Original Equipment Manufacturers (OEMs) who wish to develop custom Amiga-based solutions for key professional markets. The new program was created to address specialized markets not traditionally served through the retail channel. The VAR/OEM program will capitalize on the Amiga's multimedia capabilities, which lend it to a variety of interactive applications, such as the information kiosks we see in grocery stores, shopping malls, and airports. The program is expected to significantly increase the Amiga's penetration into these important markets.

NO AMIGAS FOR IRS?

There's a lot of money involved in government bids. There's \$400

million at stake in one contract recently awarded to Sears Business Systems by the Treasury Department. The contract, which Sears intended to fulfill with a mixture of Unix, Macintosh, and Amiga 2000 systems, was recently contested by other bidders, who asked the Government Services Administration's (GSA) Board of Contract Appeals to review the Sears bid. (With so much of Uncle Sam's money at stake, it is standard procedure for the other bidders to file such a protest with the GSA.) Unfortunately for Sears (and for Commodore), this time the GSA ruled that Sears had not met with ten of the hundreds of mandatory requirements for the bid. Among other things, they were cited for specifying a math coprocessor for the Mac systems without including the expansion board it has to be mounted on, substituting a 80286 Unix system where a '386 system was specified, and failure to FCC recertify Amiga 2000s equipped with non-standard 101-key keyboards and '030 accelerator boards. The Treasury Dept. has the option of awarding the contract

to the second lowest bidder or re-writing the specifications and re-bidding the contract.

LET YOUR FINGERS DO THE SHOPPING

Do you have lots of people on your holiday list but you hate to shop, detest the crowds, and find it's almost Groundhog's Day before you find a parking place? Then just take a quick, painless trip down to the electronic mall with your Amiga and modem. Sears Roebuck and Co., has added its online catalog to the Mall area of GENie Online Information Service. The Sears online catalog offers GENie subscribers in the U.S. more than 1,500 products to choose from. Items can be ordered with an "Electronic Order Blank" and can be shipped directly to your home, your office, or to a nearby Sears store. Let's check the Naughty/Nice list; an electric beachball for Tom, man-made mink socks for Megan, the *Compleat Rod McKuen Anthology* for Mark...

COMPUTER SHOWS 1990

Here's a schedule of upcoming North American computer shows for the remainder of 1990. At presstime, Commodore had announced plans to exhibit at the shows marked with an asterisk (*).

| DATE | SHOW | LOCATION |
|--------------|----------------------|-------------------|
| Sept 11-13 | *Video Expo | New York, NY |
| Sept 14-16 | World of Commodore | Valley Forge, PA |
| Sept 14-16 | ComputerFest | San Francisco, CA |
| Sept 16-19 | Spectrum 90 | Phoenix, AZ |
| Sept 17-19 | *Federal Comp. Conf. | Washington, DC |
| Sept 26-27 | *Business & Govt. | Ottawa, ON |
| Oct 3-5 | Seybold | San Jose, CA |
| Oct 3-5 | *Unix Solutions | Anaheim, CA |
| Oct 5-7 | AmiExpo | Anaheim, CA |
| Oct 5-7 | *World of Amiga | Chicago, IL |
| Oct 10-13 | SPA | New Orleans, LA |
| Oct 14-17 | *EDUCOM | Atlanta, GA |
| Nov 7-9 | MATRIIX 12 | Milwaukee, WI |
| Nov 12-16 | *COMDEX | Las Vegas, NV |
| Nov 30-Dec 2 | *World of Commodore | Toronto, ON |



RUMOR MILL

DISCLAIMER: The following are among the most entertaining rumors we've heard the past couple of months. 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.

➤ It was reported in the August issue of *Video Games & Computer Entertainment* that Commodore had sent out a letter to game developers asking them not to develop games for CDTV. The thrust of the letter was supposed to be that CBM wanted the "Baby" to be seen as an educational machine, not a games machine. But the more we dig, the more apparent it becomes that such a letter never went out. No one in our vast array of game industry contacts reports having actually received the letter, and no one we have talked to has even seen a copy. Though Commodore hasn't returned our calls on the subject, a reliable industry source tells us that a CBM

spokesman has told him that the story is untrue. The whole thing seems to be yet another unfounded Commodore-bashing story. We've gotta ask: with so many true examples of Commodore shooting themselves in the foot, is it really necessary for people to make these things up?

➤ A source close to Commodore tells us that in addition to CDTV, CBM is again working on a stand-alone Amiga-based game machine. If this thing sees the light of day, the Amiga will have come full circle in the five years since its introduction.

➤ We had heard that Jay Miner might be working for Commodore again, this time as a freelance consultant, developing new 8-bit versions of Agnus, Denise, and Paula. Jay tells us it just isn't so. "But I do share my ideas with anyone who will listen, including Commodore," he adds.

➤ Who is the new Party Queen of the Amiga? Industry wags say it's no contest: It's gotta be Kiki of NewTek.

➤ And whatever happened to Marla Svoboda, the original Party Queen of the Amiga?

DAT backup system we've heard about. Streaming tape has been popular for archival purposes for years, but Maynard has developed a computer-grade Digital Audio Tape system that will store up to 1.3 gigabytes on one 4mm DAT audio-grade cassette. The MaynStream 1300DAT units have embedded SCSI controllers, so they should be compatible with Amiga SCSI controllers. If not, we're betting someone will come up with a way to use them. There are two basic models, one external and the other internal, with prices ranging from (sharp intake of breath here) \$5495 to \$6195. 460 E. Semoran Blvd., Casselberry, FL 32707. 407-263-3500.

FEDERATION II AVAILABLE ON GENIE

Federation II, the most popular multiplayer online game in Europe, is now available on GENIE. *Federation II* is a role playing game. Each player explores the galaxy in a personally designed space ship becoming rich (or poor) by exploration, bribery, and trade. Developed by the Federation Partnership, *Federation II* is the 14th multiplayer game on the GENIE service. For further info on GENIE Online Information subscription service call 800-638-9636.

CARMEN SANDIEGO STEALS HOLLYWOOD

In an industry which usually sees TV shows spawning computer games, Broderbund Software, in conjunction with PBS TV stations WGBH Boston and WQED Pittsburgh, is developing a game show based on its award-winning mega-hit computer game **Where in the World is Carmen Sandiego?** The TV show is planned for national broadcast in Fall 1991, as a Monday through Friday half-hour program. The show will promote geographical literacy with the same sort of excitement that made hits of such game shows as *Jeopardy* and *Double Dare*. The game show will challenge contestants and viewers to recover exotic trea-

sure swiped by the infamous Carmen Sandiego gang by competing to answer geography-related questions and deducing Carmen's whereabouts from clues disclosed during the game. With only one in seven Americans able to locate the Soviet Union or the Pacific Ocean on a map of the world, producers of the the *Carmen Sandiego* game show are hoping to excite the viewing public to greater geographical awareness by making geographic knowledge entertaining and fun through the use of the popular and engaging game show format.

PRICY, BUT PIONEERING

It may be a little premature to announce this, since we haven't been able to find an Amiga driver for it yet, but *Maynard Electronics* is shipping the first

AVID VIDEOPHILES TAKE NOTE

Amiga desktop video users will be happy to discover *Avid, the Amiga Video Journal*. Published by Jim Plant, *Avid* is a professional-looking, hefty newsletter/magazine devoted to Amiga video production. The issues we have seen are chock full of tutorials, reviews, hints, and tips for Amiga video, and boast such big name writers as Matthew Leeds and Jay Gross. *Avid* is available by subscription only by contacting Avid Publications, 370 Altair Way #207, Sunnyvale, CA, 94086. A one year (12 issue) subscription is \$34, and if you tell *Avid* that you read about them in *.info*, Jim will send you a free sample issue. ★



GLOOM AND DOOM IN CHICAGO

by Tom Malcom

People stayed away from the Chicago AmiEXPO in droves, and those who did come were confronted with only a handful of exhibitors and few enough other attendees that a laser cannon fired through the aisles wouldn't have done much mayhem.

The official attendance figure released is listed at 9683. I must have completely lost my ability to judge numbers of people (it's simple - just count the number of feet, hands, and heads, and then divide by 5), because the figure for the most crowded AmiEXPO I've ever seen (Chicago, 1988) was also listed at about ten thousand.

There were, however, plenty of new products at the show to make it interesting. *NewTek* completely dominated the show floor with two booths, one at the entrance and another stretching the complete length of one aisle. They were showing, of course, the **Video Toaster** and some videos made with it, including the Penn & Teller opus. Allen Hastings demonstrated his new **LightSpeed 3D** rendering package.

Pulsar was showing (and quickly selling out of) their new **Power PC Board**, which fits into the belly hole of the A500 and provides an 8 MHz Turbo XT as well as Amiga expansion RAM. Pulsar is a new company operating on the affiliated labels concept, having already added *Lake Forest Logic*, *Axiom*, *CSA*, and *Joe's First Company*. Axiom is the developer of a new 3D object creation package called **Pixel 3D**. Lake Forest Logic showed their **ADAPT 68030 Assembler**, **AmiExpress BBS**, and **Macro Paint**, a new hi-res 4096-color paint package.

Xetec was showing several of their



Pulsar/Axiom's new 3D object creation program **Pixel 3D**.

products, including the **FastTape** TEAC-based SCSI streaming tape backup system, along with the **FastTrack** hard drives to back up from, and the **Fast-Card Plus** SCSI controller for the A2000. *Applied Engineering* displayed the first high density floppy I've seen for the Amiga, the 1.52MB **AE High Density Drive**. Also at the show, but not exhibiting on the floor, were *Progressive Peripherals* and *California Access*. *Progressive* showed the press their new **GicTape-40** streaming tape backup system. *Progressive* is also releasing **DoubleTalk**, an AppleTalk compatible network that will run at double the speed of a standard Mac network if there aren't any Macs hooked up to it (ironic, huh?). *California Access* showed me their **Bodega Bay**, an expansion box that fits over an A500, making it look and function much like an A2000. Though the final specs haven't yet been finalized, some of the features include a heavy-duty power supply, two A2000-type slots, and two drive bays that will accommodate either 3.5" or 5.25" styles.

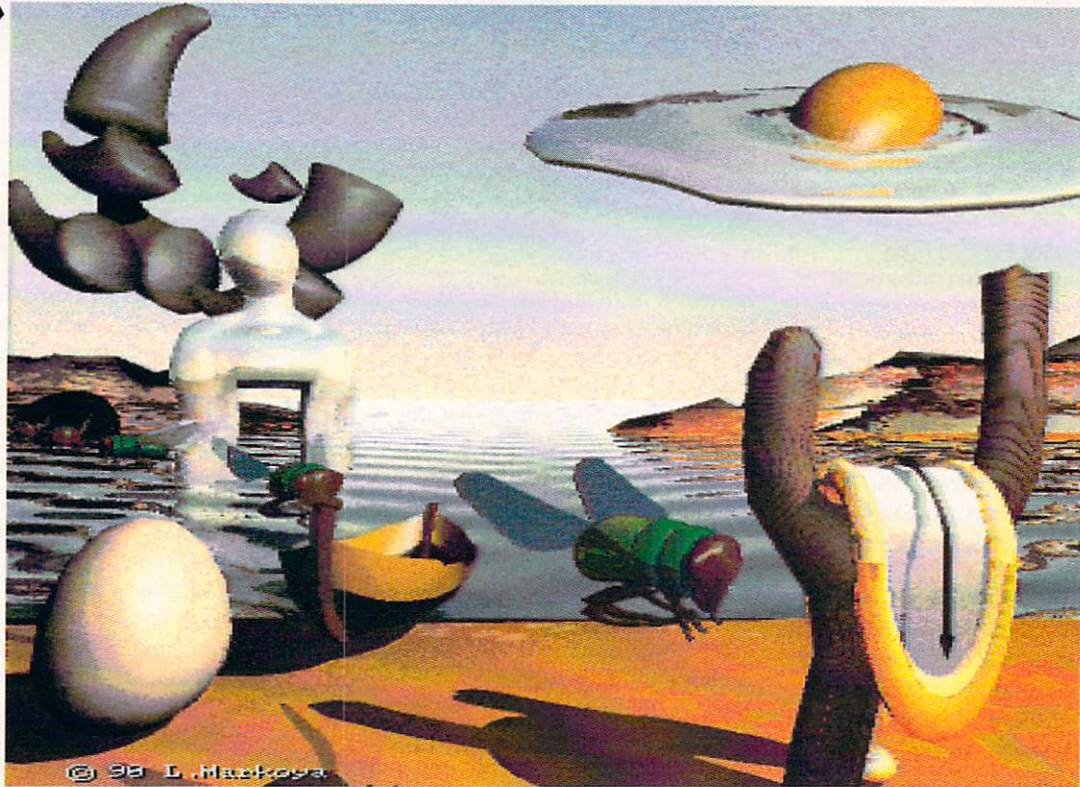
The most fun I had at the show came on Saturday afternoon when a herd of press people were taxied over to the loft offices of the *E.S.P. Corporation*, which is opening an entirely new type of arcade called **BattleTech Center** (scheduled to be open at the Navy Pier in Chicago by the time you read this). Each player sits in a cockpit filled with displays, controls, and all sorts of gee-

whiz lights and readouts. Steering with your feet, you guide your battlemech walker as a member of a four-mech team and try to annihilate a like-equipped team as you roam around the same virtual-reality landscape. The system itself is a hybrid, based on custom boards, Amigas, and PCs all tied together in what promises to be one of the more exciting developments in gaming history.

Supra had a prototype 68040 board in a glass case in their booth, along with several hard drives, controllers, memory boards, and modems. *Digital Creations* was showing their **DCTV** video capture and display system. *Black Belt Systems* displayed their **HAM-E** box which provides two new 24-bit video modes. *ICD* had their **AdRAM** and **AdSCSI 2000** boards which, respectively, are an internal 6-meg expansion board for the A500 and a very fast hard drive controller for the A2000. I also ran into Liz Arnold of *Readysoft*, who told me that **A-Max II** is ready to ship. *M.A.S.T.* showed their first software project, **Blitz BASIC**. *DigiFeX* had their **Interact** Appletalk network on display, along with several of their other hardware devices.

I had mixed emotions on the way out of town on Sunday. I was very disappointed by the lack of users at the show, but highly encouraged by the quality of products I saw. With the enthusiasm and guarded optimism I've seen in other segments of the Amiga marketplace, this can only have been a fluke. ★

Denny Atkin on Multimedia



When Commodore announced their new flagship Amiga 3000 at an event called "Multimedia Live," it set the tone for their latest marketing push. While Bill Gates preaches about future CD-ROM equipped 286 PCs with special video boards that will make multimedia a viable market, Commodore is shipping a multimedia maven's dream machine now: the Amiga.

The Amiga has the hardware muscle for multimedia applications, with excellent graphics and color capability, NTSC video output, broadcast-quality genlock availability,

and stereo sound. It was also one of the first computers with multimedia software, such as EA's original *Deluxe Video*.

But hardware is useless without the software to support your application.

Enter *AmigaVision*, Commodore's multimedia program bundled with all new "professional" Amigas. This isn't a presentation or hypermedia program masquerading as multimedia software: This is a dedicated multimedia authoring system. It's a database program too. And a programming language. And an ARexx host. And... Well, let's take an in-depth look.

So what is a multimedia authoring system? It's a program that lets you tie pictures, animations, full-motion video, sounds, music, and words into an interactive presentation. *AmigaVision* will let you replace boring slideshows with animated graphics. And because *AmigaVision* is interactive, you can account for "what if" possibilities when creating your presentation.

Teachers can create mouse-driven drills for their students, complete with audio feedback and graphic examples. Or they can grab students' attention by illustrating course materials with Amiga graphics. Instead of scribbling an outline of Civil War events on an overhead projector, why not have it fade in from a multicolor illustration of the Battle of Vicksburg?

AmigaVision also has applications in corporate training, computer art, videodisc-based Computer Aided Instruction (CAI), and simulation.

Best of all, people with little or no programming experience can create *AmigaVision* applications. *AmigaVision*'s object-oriented user interface will have anyone familiar with operating an Amiga creating applications in a matter of minutes. Most similar programs force you to learn a specialized scripting language before you can create all but the most basic applications. With *AmigaVision*, you create your presentation by dragging icons onto an on-screen flowchart.

GO WITH THE FLOW

Flowcharts are a great way to design programs. You can illustrate each task that your program is going to perform, and all of the possible branches your program can take in response to user input, on an easy-to-follow graphic outline. If you've ever taken a BASIC programming class, you've probably learned how to



You can group often-used audio/visual resources in the Content Window.



AmigaVision's icon menus bring programming power to the rest of us.

draw flowcharts. And after you finished that class, you probably never drew one again. They're a great way to plan out a program, but most programmers are anxious to start writing actual code. Plus it's a pain to draw all of those little boxes and circles.

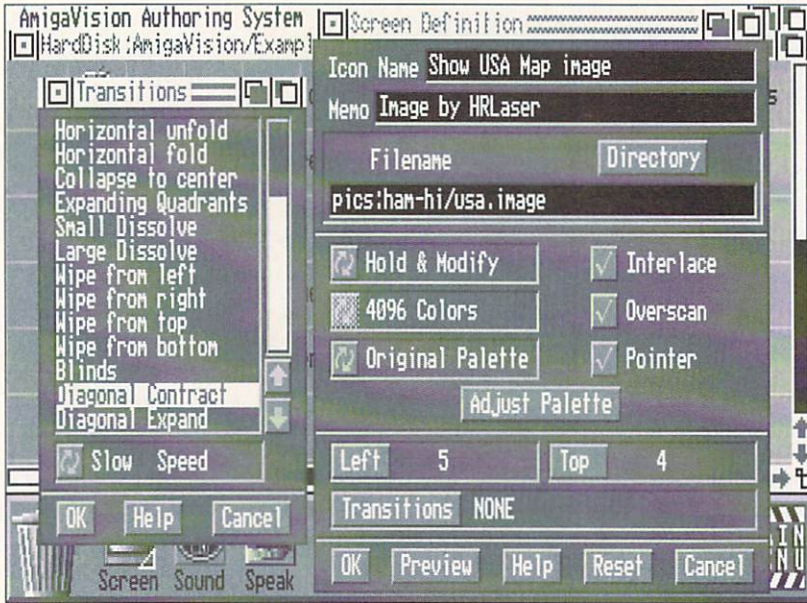
AmigaVision actually makes flowcharting easy and fun. The program starts up with a gridded window at the top of the screen, and a set of icons at the bottom. Each icon represents an *AmigaVision* function. To create an *AmigaVision* presentation, you simply drag icons from the bottom of the screen into the Flow Window, which will contain your program "listing." When *AmigaVision* executes your presentation, it simply starts at the top of the flow window and works its way down the screen, executing each icon's action. Icons can control the actions of other icons, depending on their positioning and relationship.

The initial *AmigaVision* screen presents you with seven icons. The Control, Data, and Module icons are used to manage program variables and flow. Wait and Interrupt handle user input, and AV controls the audio/visual features, everything from pictures and animations to videodisc effects and MIDI music output. The final icon, the Trashcan, is used when you want to delete an icon from your program.

While the icon interface makes programming simple, it doesn't limit you to creating simple programs. Your *AmigaVision* presentations can contain subroutines, branches, keyboard and mouse interrupts, and complex if/then/else routines. If you do come across a task too complex for *AmigaVision* alone, an ARExx port and the ability to launch external programs from within your presentation give *AmigaVision* nearly infinite extensibility.

THE AUDIO/VIDEO CONNECTION

Graphics and sound are the cornerstones of



Choose among 18 different special effects when showing an IFF picture.

While the icon interface makes programming simple, it doesn't limit you to creating simple programs.

multimedia, and a click of the AV icon brings all of those capabilities within easy reach. With a few minor exceptions, you'll never find yourself thinking, "gosh, if I could only do this..."

The Screen icon lets you clear the current screen, or load a background picture. You use this icon to define the resolution and palette for your application's picture. *AmigaVision* supports all non-ECS graphics modes, including HAM, Extra Half-Bright, overscan, and PAL resolutions.

To add a picture to your application, just drag the Screen icon into your flow window and double-click on the icon. A requester will appear, where you can type the name of the picture, or choose it using a file requester. You can also use a string variable in place of the filename, allowing you to select a different picture based on user input.

You can alter a picture's palette, or offset it from the top and left corners of the screen to center it. Depending on your application (whether or not the user will be clicking on on-screen gadgets), you can choose whether or not to display the mouse pointer.

When loading a new picture, you can choose among 18 different special effects, including dissolves, fades, and some very impressive wipe transitions. Each transition can take place at three speeds.

The Brush icon lets you place brushes (or full pictures) on the current screen. The brush can instantly appear, or you can bring it onscreen using one of the wipe effects, which is sure to grab the attention anyone watching your presentation.

You can add any ANIM OPT 5 animation from a program such as *VideoScape 3D* or *DeluxePaint III* to your presentation with the Animation icon. Choose to display the animation on its own screen, or load it on top of another screen. You can offset a full-screen ani-

mation from the top and left corners, but you can't load an AnimBrush. Animations can be shown once, or looped. The first frame of the animation can appear using one of the special effects.

Depending on how the animation fits into your presentation, you can pause the presentation while it plays, or allow it to continue. For instance, you might display an animation showing three products rotating on screen. You could allow the user to click on a product to get information on it. In this case, you'd want the presentation to move on to the information screen as soon as the user clicks on a product. On the other hand, you might display an animation showing how the product is built. In this case, the user isn't interacting with the presentation, so you'd want the program to pause until the animation has finished.

The Videodisc icon may not get much use by the average home user, but it will make *AmigaVision* an invaluable resource in business and educational settings. With it, you can control a variety of Sony, Pioneer, and Philips CAV (Constant Angular Velocity) videodisc players, which allow frame-by-frame access. While developing your presentation, you can view the video and save frame numbers on the fly. Add an ARexx-controllable genlock, and you've got the perfect system for corporate training sessions. Trainees can select gadgets from an Amiga graphics screen using the mouse or a mouse-emulating touchscreen, triggering a live video segment. The application can continue while the video is being displayed, allowing you to overlay graphics and animations over the live video. You can even display control gadgets on the screen while the video is playing, so the user can fast forward, rewind, or exit the video.

These control gadgets, called Hit Boxes, are added by the Graphics icon. This icon also lets you toggle color cycling (up to four cycle ranges), but its primary purpose is to give you access to the Object Editor. In the Object Editor, you can add open or filled polygons and circles, lines, brushes, input windows, and text fields. Objects can be displayed onscreen, or rendered invisible so they can serve as transparent Hit Boxes. The objects can be set up so that they change a variable when clicked on, so you can use them to get user input. You can also simply stamp the objects down as graphic elements.

Best of all, you can create an irregularly shaped hit box, something impossible in programs like Apple's Hypercard. Without this feature, for instance, you couldn't create a states and capitals quiz that allowed the student to click anywhere on a state to choose it. You'd be limited to box-shaped hit boxes. With *AmigaVision*, you could load a HAM IFF picture of a US map and outline each state with an invisible hit box.

The Object Editor is also called by the Text File icon, which lets you display a formatted text file on your application's screen. While the display box doesn't have scroll arrows or scroll bars, you can define hit boxes to allow the user to scroll up and down a line or page at a time.

SOUNDS LIKE FUN!

Soundtracks are easily added to *AmigaVision* applications using the Music icon. *AmigaVision* supports SMUS format music, which can be created by *Deluxe-Music* and *Synthia*. *Sonix* files won't work because of their non-standard instruments, although you can call the shareware *Sonix* player using *AmigaVision*'s Execute icon.

Music files can be played once, or looped. You can use Amiga sampled sounds, or up to four MIDI voices. Music can play in the background while the rest of your presentation continues, or you can force *AmigaVision* to pause until the song has finished.

The Sound icon plays IFF 8SVX format sampled sounds. You can select stereo, left, or right speakers, volume, and the number of times the sound should play. You can also assign sound samples to hit boxes, allowing audio feedback for mouse clicks.

The final Audio/Video icon is Speak, which will add synthesized speech to your application. You can control all of the standard speech settings. The synthesized speech under Amiga DOS 2.0 is much clearer than earlier versions - it actually pronounces most words correctly.

BASED ON WHAT?

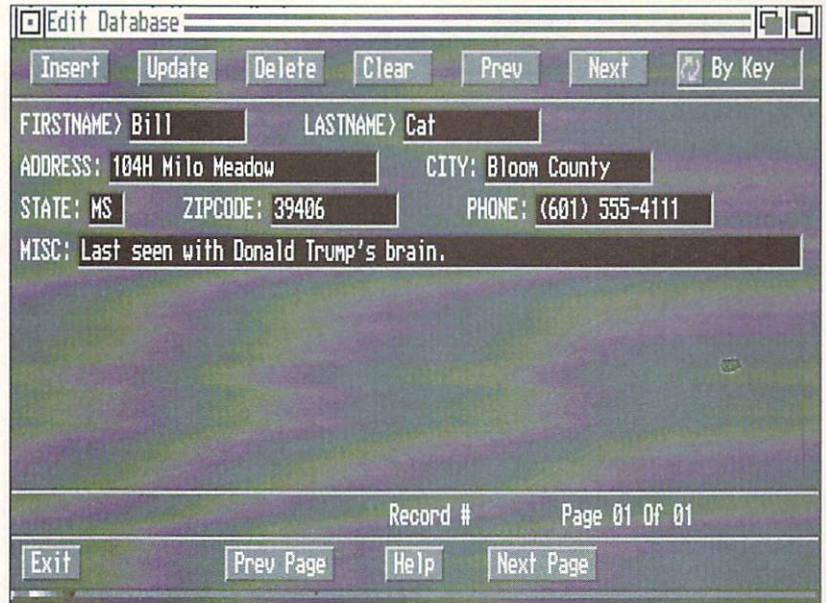
The Database icon group contains all of the functions needed to create and maintain a *DBase III*-compatible database. While these functions may seem out of place at first in a multimedia authoring system, they make a lot of sense. Many businesses and schools maintain a wealth of information in *DBase III* databases. With *AmigaVision*'s database functions, you can access this information for your presentations or academic courseware without having to re-type it. You can also import information from Amiga database programs that use the *DBase* file format, such as *Super-Base* and *Organize!*

The database is full-featured, good enough to justify the purchase of *AmigaVision* as a stand-alone database program. You can open up to 10 files simultaneously. Each record in your database can contain up to 128 fields, with a 4000 character per record limit. The number of records is limited only by available disk space. *AmigaVision* supports string, boolean, numeric, and date variables - it won't read *DBase* "memo" fields.

You can combine the database functions with *AmigaVision* Audio/Video functions to add new features to your database. For instance, if you were building an employee database, you could create an IFF brush of each employee's picture. Store the name of each appropriate brush in a string field in that employee's record. Then you can call up the employee's photograph each time you access his or her record.

The *AmigaVision* program has a forms screen where you can enter records to build your database, or you can use the Object Editor to create data entry fields within your application.

The Output icon allows you to print *AmigaVision* database records, formatted text, or any variables in



AmigaVision's full-featured database rivals that of stand-alone database programs.

your application. While each Output icon is limited to printing a single 132-column line of text, you can use multiple Output icons if you need to print more information. Output can be directed to the printer or a text file.

NO MORE INPUT A\$

There are three ways to get user input. You can define variables to be changed by hit boxes using the icon editor, and check the status of those variables. There are easier ways, though. Interrupt icons are used to get input at any point in your presentation. If you want the user to be able to hit certain keys during any part of your presentation, such as ESC to exit or HELP for assistance, you'd use the Keyboard Interrupt icon. The Mouse Interrupt icon allows the user to click on a hit box to perform a function, such as exiting the program, whether or not you happen to be checking for a click at that point. Interrupts can be added or removed at any point in your presentation.

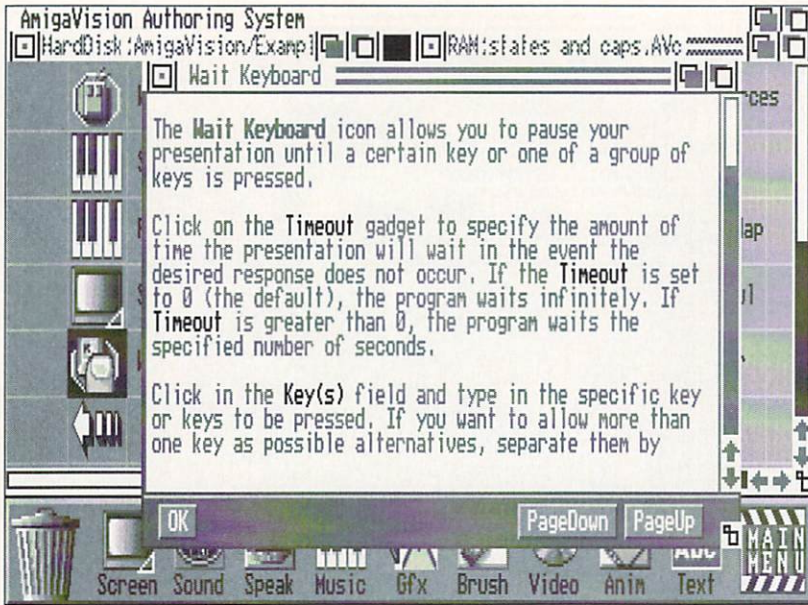
The Wait icon group lets you pause the presentation while waiting for a certain condition. You can wait on the keyboard or mouse, for a specific variable or condition to change, or for a fixed amount of time. You can use the Grouped Wait icon to combine multiple wait icons. You can perform a logical AND or OR on the wait icons, so you can wait for one condition or the other to be true, or for both to be true.

MORE BASIC THAN BASIC

Finally, we come to the only icon groups that may send non-programmers scurrying to the manual for reference: the Control and Module groups.

The Control group contains icons that allow you to modify your presentation's flow. IfThen and IfElse let you perform certain operations depending on whether

The Videodisc icon will make *AmigaVision* an invaluable resource in business and educational settings.



Complete online help is available for all *AmigaVision* functions.

This program is as big a leap over Apple's much-touted HyperCard as HyperCard was over BASIC.

a certain condition exists. Loop and End Loop allow you to repeat certain operations. Call jumps to a subroutine, Goto branches to a different section of your program, and Conditional Goto branches only if a particular condition is true.

The Module Group includes a mixed bag of functions for handling program structure and resources.

The Module icon serves as a way to group other icons. Your presentation might consist of an IFF slideshow, followed by a quiz on the materials presented, and a refresher course on the questions you missed. You could create a different module for each section of the program. Then, if you wanted to bring the slideshow into another application, you could simply drag the Module icon for that section over to the new application, and all of the icons contained in that module would be transferred as well. Every *AmigaVision* program begins with a Project icon.

Frequently-used procedures can be represented as subroutines. Simply place the procedures (surrounded by Subroutine and Return icons) after the Quit icon at the bottom of your program, and use Call to access them.

If your application will be running on an Amiga with plenty of RAM, you can use the Resource icon to pre-load any external data files. This will prevent pauses in your program while it goes to disk to load the next animation or song file.

The Execute icon is the bridge from *AmigaVision* to the rest of your applications. You can use it to launch workbench or CLI programs, or ARexx scripts. While *AmigaVision*'s ARexx command set is very limited (the program only has three ARexx commands: SetVar and GetVar, which allow you to view or change variables in your presentation, and Version, which returns program's revision number), most of the *AmigaVision* control icons are variable-oriented, so you do have a fair amount of control from ARexx.

JUST WAIT...

The computing world has never seen a product like *AmigaVision*. This program is as big a leap over Apple's much-touted HyperCard as HyperCard was over BASIC. For the first time, a program authoring system exists that doesn't require the computer user to type any program code to fully use its abilities. As I write this, *AmigaVision* is only in the hands of a few hundred testers. Soon, it will be in the hands of thousands of Amiga users, I'm sure everyone will be amazed at the applications those users build with it. Even folks who are scared to death of computer keyboards will probably find themselves mousing around in *AmigaVision*. Before you know it, they'll go from computerphobes to programmers!

I've never been this enthusiastic about a computer application before. Not only is *AmigaVision* the authoring system for "the rest of us," programmers will appreciate it too. Sure, I'm fluent in Modula 2, but why spend 3 weeks writing a mailing list application when you could create it in *AmigaVision* in a matter of hours?

That's not to say *AmigaVision* is perfect. There are some areas where it could definitely stand to be beefed up. AnimBrush support would be good for starters, along with support for more MIDI voices. It would be nice to be able to display text files in real Intuition windows, complete with scroll bars and arrows. While videodisc support is nice, CD-ROM support would be nice too. The ARexx command set is very limited, and the program doesn't handle HAM pictures very well. (Placing a visible hit box or brush on top of a HAM picture results in terrible fringing.) Worst of all, while you can automatically create Runtime disks containing all of the files needed for your *AmigaVision* program, these disks require the original 600K+ *AmigaVision* program to run. This will definitely discourage people without three megs of RAM and a hard disk from using *AmigaVision* to create often-used utilities. Plus it will prevent current Amiga owners who haven't purchased *AmigaVision* from running the applications. Commodore should provide a stand-alone run-time browser module, as do all of the other multimedia programs.

But even with its limitations, *AmigaVision* may be the Amiga's ticket to multimedia supremacy. Next time you dazzle your friends with a neat Amiga graphics and music demo, you'll be able to tell them "I made it myself." ★

AmigaVision
\$149.95

Requires 1 Megabyte of RAM, 3 Megs and harddrive recommended.

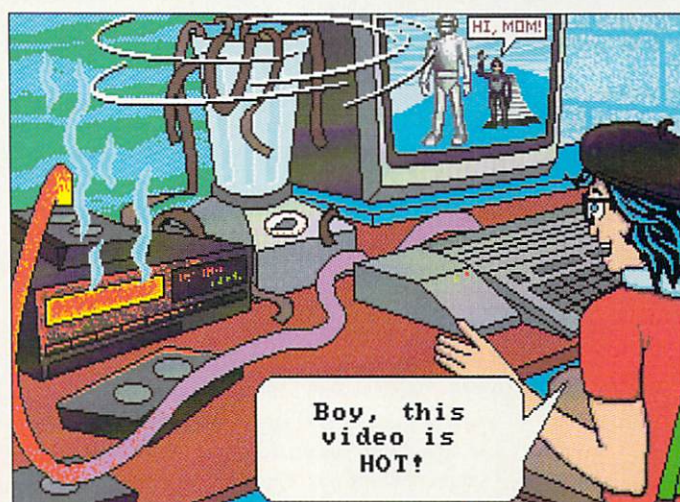
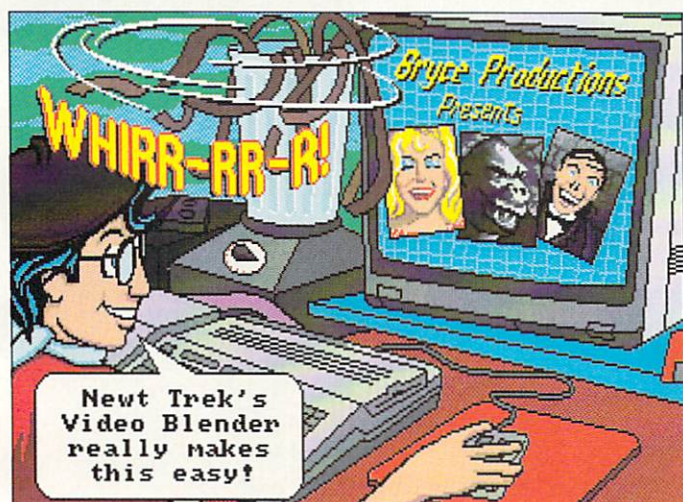
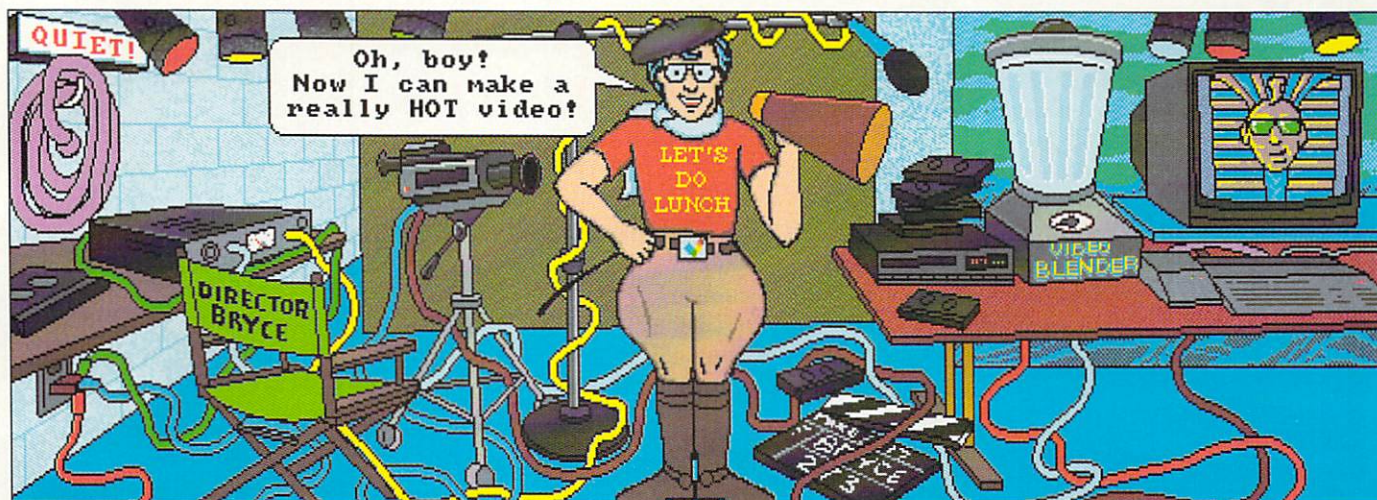
Commodore Business Machines
1200 Wilson Drive, West Chester PA 19380
215-431-9100

At presstime, Commodore announced AmigaVision 2.0, with new features and capabilities. Watch this space for an AmigaVision update!



BRYCE, CAMERA, ACTION!

ART: Gregory Conley
CONTINUITY: Mark R. Brown



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

FRACTAL FRONTIERS

by Tom Malcom

I think I have an inkling of how explorers like Lewis and Clark, Daniel Boone, and Davy Crockett must have felt as they trekked West. Seeing a new landscape no one else has ever seen is an experience like no other. There's something primal about it, probably that ancient territoriality all humans share. The planet we live on has been mapped, measured, walked, and flown until nearly all its mysteries are gone. (And we won't even get into the topics of pollution, deforestation, and all the rest of the general blight our species has caused.) Even space isn't the great unknown it used to be. So what does that leave the would-be frontiersman to explore? There are whole continents waiting inside your Amiga, universes waiting only for the click of a mouse to be revealed.

SCENE GENERATOR

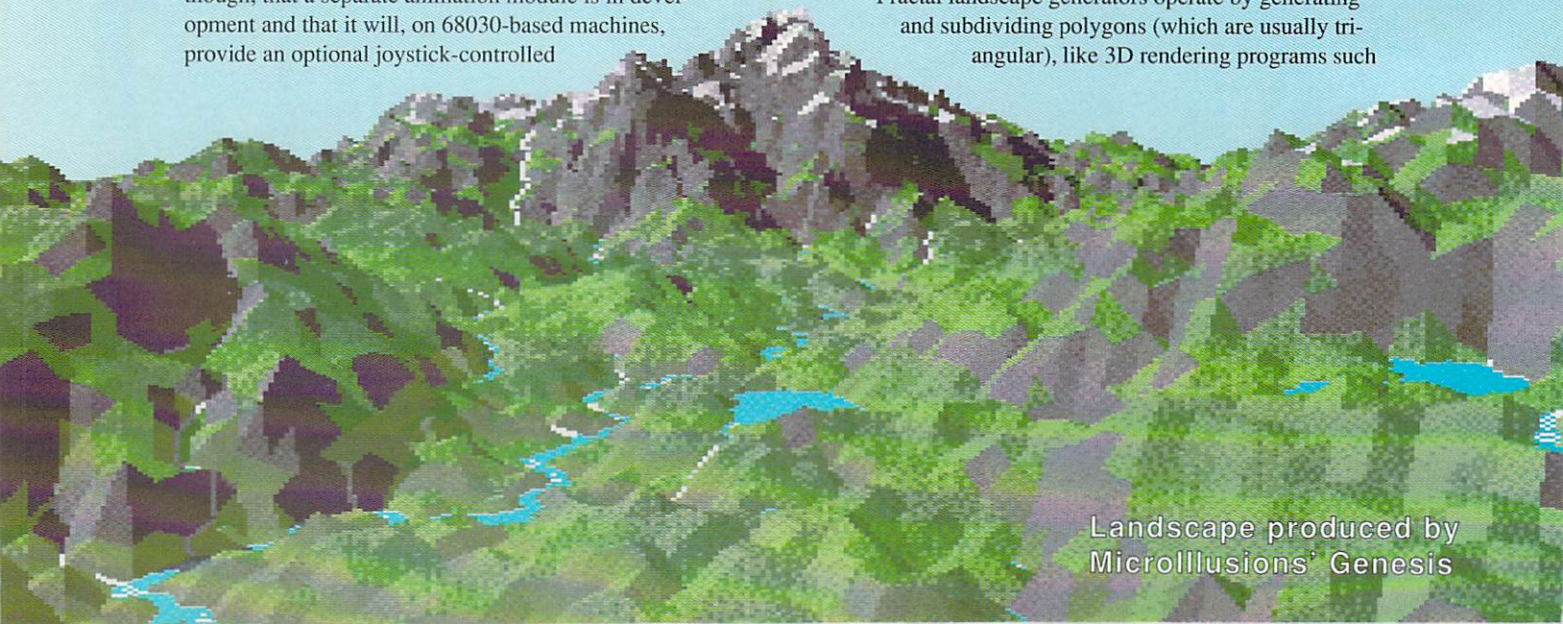
The first fractal landscape generator I ever saw was Brett Casebolt's public domain *Scenery*, which he has since reworked and released commercially as *Scene Generator*. While it does lack a few features, Version 2.11 still produces the most photographically realistic fractal landscapes I've seen on a computer screen. The program works only on seed numbers (from 0 to 65535), and lets you adjust such things as land height, tree line, snow level, and how the scene is lit. It also has the option to include clouds and texture the surface of any water in the scene. It handles these last two functions extremely well, and they add greatly to the overall realism of the scene. There are a few shortcomings in the program, though. The biggest of these is that the viewpoint cannot be changed; the view you're presented with is the one you wind up with. I've frequently found landscapes that I'd like to zoom in on or nudge a bit to one side; since those functions aren't supported, that also eliminates any possibility of generating single frames for animations. (I'm told, though, that a separate animation module is in development and that it will, on 68030-based machines, provide an optional joystick-controlled

preview mode.) Screen resolution is limited to lo-res overscan, either interlaced or not. That really isn't a problem, since you're most likely going to load the image into a paint program anyway. The overall look of *Scene Generator*'s landscapes can be varied; things like the steepness, spikiness, water level, tree line, and color palette can be adjusted to your requirements. If you're interested in doing some fractal landscape exploration, *Scene Generator* is a good place to start.

VISTA

Vista is the most versatile of the landscape generators, encompassing both the real and the imaginary. It produces landscapes based on real-world US Geological Survey data, fractal seed numbers, or even Mandelbrot-type data, provided it's in the correct format. *Vista* produces only HAM images, and those only in non-overscan. Like *Scene Generator*, though, that still isn't a problem if you're planning to use the images in other applications. Specifically, *Vista* will save files in either DEM (which stands for Digital Elevation Model and includes the necessary topographic data), plain IFF, or as *Turbo Silver* objects. What makes *Vista* very different from *Scene Generator* is its ability to move around a landscape. Since it uses the standard 3D rendering metaphor of a camera and target point, it's very easy to visualize what kind of scene you're going to get in the end. You're given a small thumbnail sketch of the territory you're exploring, on which you place the camera and target, set the height of the view, determine where lakes and rivers go, and set the overall look of the scene. From there, Virtual Realities has incorporated all sorts of bells and whistles to add other characteristics to the image. There is a haze factor that adds to the illusion of depth, a smoothing algorithm, a blend function for fuzzing out those parts of the image in the distance, and several methods of tweaking the fractal parameters.

Fractal landscape generators operate by generating and subdividing polygons (which are usually triangular), like 3D rendering programs such



Landscape produced by
Microllusions' Genesis

as *Sculpt 4D*. If the polygons are subdivided enough times, they become so small that the individual faces blend together, making a smooth, naturalistic surface. Where this becomes a problem is when the viewpoint is close enough to a surface where, because the scene has to be kept in proper perspective, the foreground polygons are magnified so much that they become distinguishable as facets, spoiling the illusion of reality. This is a problem all landscape generators share.

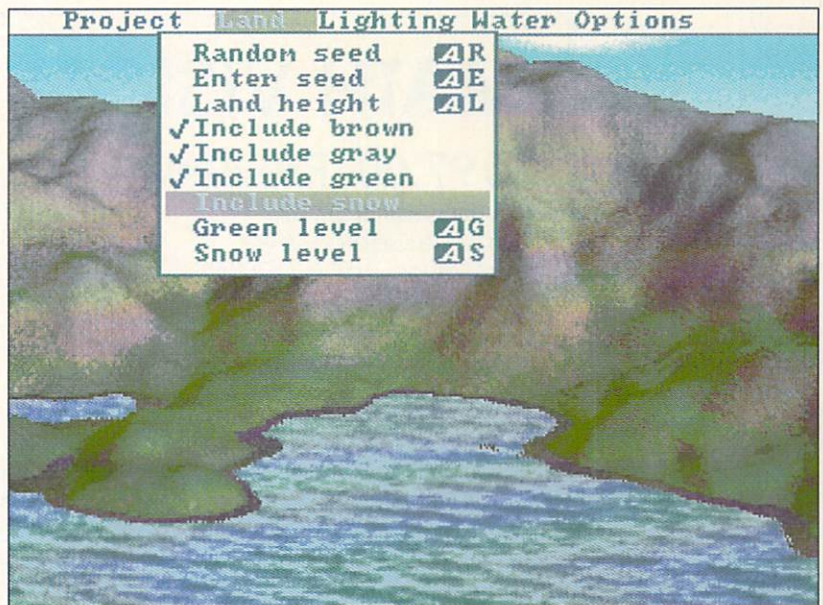
Vista's manual offers some suggestions for getting around this, but I'd rather see some kind of higher resolution rendering method for the foreground while keeping a lower resolution for the distance.

The strongest point to be made for *Vista*, though, is that it has the ability to generate views of real places. *Vista* can load in DEM data, which has been compiled for a good bit of the planet by the US Geological Survey; in fact, the program comes with data for Mt. St. Helens, Crater Lake, and El Capitan, among other places (including, of all things, Olympus Mons on *Mars*). I like best, though, the eerie pseudo-reality of a Mandelbrot Set (which has been put into DEM format) landscape or one generated from one of over 4 billion possible seed numbers. Virtual Realities will be shipping supplemental disks of USGS data in the coming months.

[Note: there is another package, Digital Landscape, from Digiscape Software which will generate wireframe models using USGS data, but since it doesn't produce full landscape renderings, it's really outside the scope of this article. -Ed.]

GENESIS

The appropriately named *Genesis* creates, like *Scene Generator*, only landscapes based on fractal seed numbers. It does allow you to directly manipulate



Scene Generator Version 2.11

the general height (but not the layout) of the land mass on a wireframe model, which is a nice touch and saves you having to look through endless random possibilities for suitable terrain. I've been working with a beta version of the software, so there will certainly be some changes before the final version is released late in the Summer. *Genesis* is the least intuitive of the lot, and there are some functions I still haven't figured out how to use (or use properly), but it offers more options for tweaking the landscape than any of the others. The challenge is learning to use them all. The landscapes I've produced with it have something of the same polygonal problems as *Vista*, tending toward the chunky in the foreground. It also has the capability to move around a landscape under script control and record frames for animation. What I like best about *Genesis*, though, is the way it handles rivers and lakes. It lets you define where springs originate (it will also decide the most likely spots by itself if you're too lazy to do it), and then flows the rivers and lakes naturally from there. It works better in practice than in the telling; the rivers and lakes always look like they're where they should be. At least so far, there's no direct provision for putting fractal clouds in the sky and the dithering patterns for water could be made to look a little more realistic. Palette control is a little weak, though utilitarian. Overall, *Genesis* offers the most control over the parameters of the final scene, but with complexity of function comes complexity of use. *Genesis* isn't an easy program to learn to use well, but it will certainly reward you if you're patient.



Main editing screen from Vista

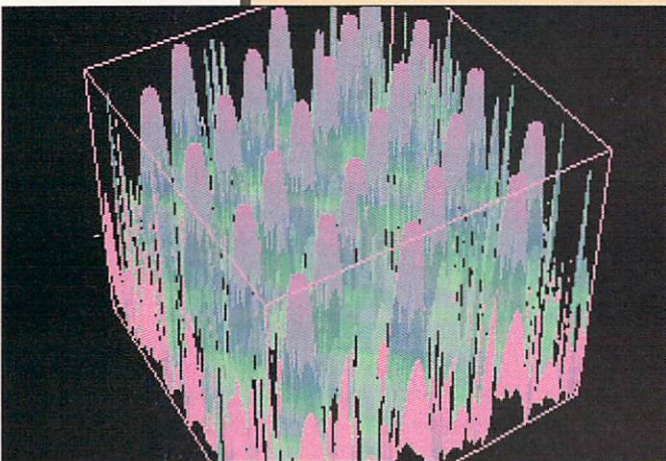
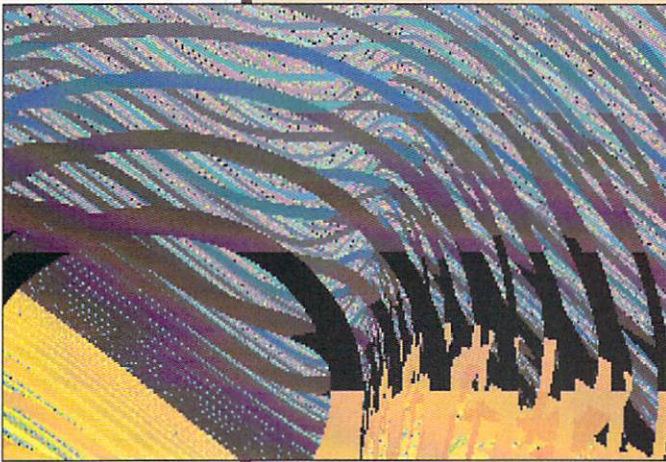
SPEED AND ANIMATION

Fractals are by their very nature slow; they require hundreds of thousands of calculations to produce even the simplest scenes. If you're a serious fractal explorer, or have a desire to produce fly-through ani-

MATH VISION

\$197.00 Preview

Seven Seas Software
35 Cape George Wye,
Port Townsend, WA 98368
206-385-1956



What I've always liked best about *Doug's Math Aquarium* is the fact that you don't have to know diddly about mathematics to have a good time generating beautiful and interesting graphics with it. If you're proficient in math, so much the better. I've probably wasted almost as many hours with *DMA* as I have with *DPaint*. Lately, I've been wasting a large quantity of hours with this completely redone and renamed version called *MathVision*.

MathVision still operates along the same general principles as *DMA*, with text boxes to enter formulas and coordinates into, and then rendering the results on a separate screen. There are now nine function lines in addition to the top Val line that calls and puts them together, plenty of space for insanely complex equations. However, there are many strange and wonderful new things hidden in the menu bar. There are three separate plotting menus now, Simple, Contour, and Perspective. The Simple plot does standard XY mathematical plots, Contour produces 2D color screens, and Perspective gives you a rotatable box that determines the viewpoint of a 3D plot. Each of these plot mode menus has many options to give you better control over your final output.

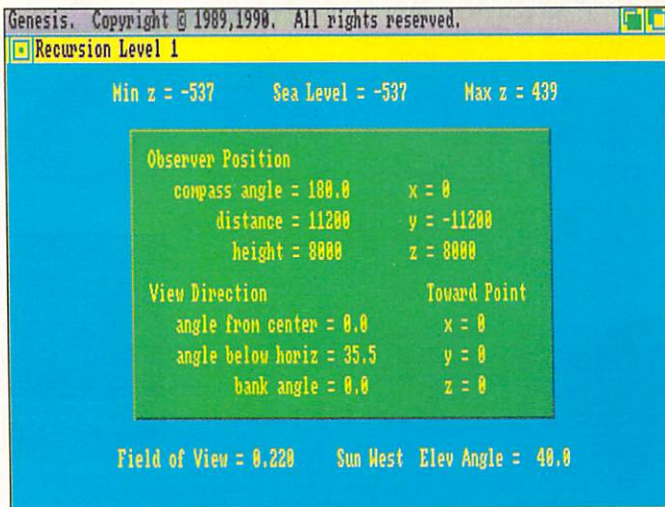
The biggest change, though, is that *MathVision* has been redesigned as an open-ended system. Instead of being limited only to the functions and tools provided, the programmers have left openings for Hooks so you can add your own. The hooks themselves don't appear on the Hook menu in *MathVision* until they're called by clicking on an icon. What that means in practical terms is that you load only those hooks you want to use. These hooks can be additional functions (like Mandelbrot and fractalization), plotting methods (there's one included called Focus, which performs a reverse-pixelization plot), or whatever else you can dream up. In addition to this type of hook, full ARexx support has also been added. Taken together, the external hooks and ARexx capability give you the ability to expand *MathVision* into virtually any kind of plotting engine you want it to be. I expect we'll see some extraordinary graphics coming from new functions over the coming months. Be aware, though, that these hooks have to be written in C or some other such language. Seven Seas will make the specifications available to those who write and request them.

There's something almost mystical about plugging in numbers (whether you know what you're doing with them or not) and seeing them transformed into images. *MathVision* is a wonderland for those of us who have a fascination with computer-generated graphics.

- Tom Malcom

mations, you should consider accelerating your Amiga if you haven't already. *Vista* and *Genesis* already have the ability to generate single frames for animation, and *Scene Generator* will in a future release. Each of the titles I've talked about either directly supports accelerated machines or includes a separate version of the program for souped up computers. The reason for being so concerned about speed is animation. For example, a scene at the highest possible resolution in *Vista* can take around 20 minutes to render. *Genesis* is even slower. If you're generating an animation at a professional animator's rate of 30 frames per second, it's going to take about 10 hours of rendering time for one second of animation. On an accelerated machine, you can cut that time by a factor of about three. At the highest level of detail, *Vista's* rendering time on an A3000 is cut to between 7 and 10 minutes, making the benefits of an accelerator crystal clear.

Fly-around animations take enormous amounts of time, storage and memory. Since the view is constantly changing, the compression routines used in page-flipping animation programs don't do much good: each frame is too different from the next. However, if you have the hardware resources, the



Control screen from Microllusions' Genesis

end result is breathtaking. Seeing the still images of an imaginary landscape pales when compared with actually flying through it.

LAST IMPRESSIONS AND WISHLIST

I'm glad I have all three of these programs; I'd be very hard-pressed to choose only one. Each has things it does better than the others, and each has limitations the oth-

ers don't. For overall realism, I like *Scene Generator* best. I also like its lighting options better than the others. Point of view manipulation is best in *Vista* - I find it much more difficult to get the exact viewpoint I want in *Genesis*. That also makes *Vista* a slight favorite in frame generation, which requires very precise viewpoint positioning

continued on page 49 . . .

EXPLORE!

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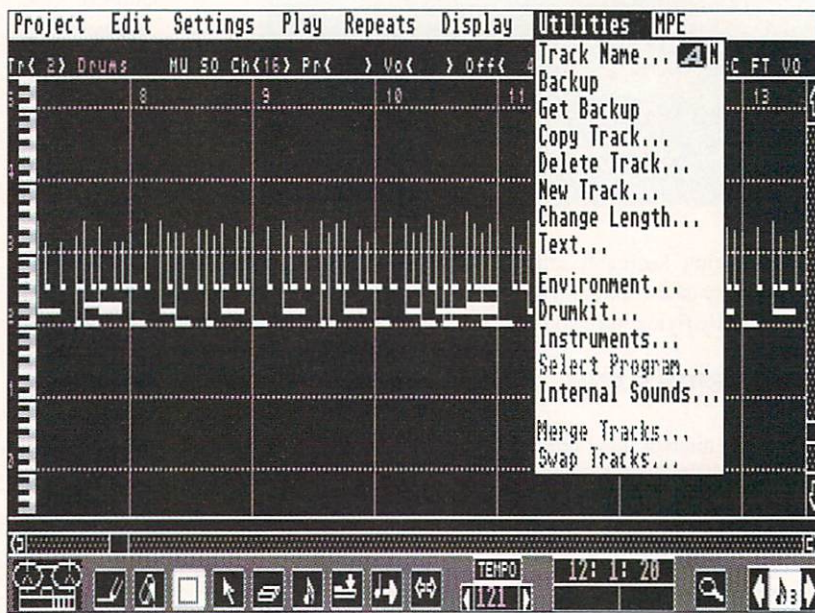
"...it's really beautiful, especially when the lights are off. I'm totally awed by what you have done!"

Arthur C. Clarke Author of 2001: A Space Odyssey

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Peggy Herrington Music on & Sound



Dr.T's *Tiger Cub* depicts music graphically, with the editing window showing a single track in distinctly non-traditional notation.

Amiga music
expert
Peggy
Herrington
examines
available
MIDI
sequencers.

At long last, Amiga maestros have music products practically coming out of their ears. From semi-automated composition to printing gorgeous manuscripts to 48-piece orchestras - all these applications and more are available, and in more than one form, too. All too often, however, numerous choices result in a cacophony that has everybody from tuneful toe-tappers to prime time pros trying to figure out which does what, not to mention which does what *better*. And since it's not easy to flex your chops with a handful of disks, here - ultimately for your listening enjoyment - is some info on the latest releases of Amiga MIDI sequencers. It's good news time.

The Mighty Music-X

MicroIllusions' *Music-X* (\$299.95) is a powerhouse of a sequencer that you can tell right off is professionally oriented by its ability to synchronize to SMPTE. (If you're interested, find out about MicroIllusions' *Micro SMPTE* [\$299.95], their reader that syncs *X*'s output to video or audio tape decks.) A slick graphics interface makes *Music-X* easier to work with than those number-based MIDI programs, and its open-ended modular design permits expansion and person-

alization. It comes with a chorus of bells and whistles, including a built-in patch librarian/editor that can be configured to process sounds for just about any kind of 5-pin DIN-equipped synthesizer. The only catch is that YOU must configure it for your particular synths (which, admittedly, will finally give you something to do with the books that came with them), although you can exchange modules with *Music-X*-owning friends and find them on the online services as well.

This librarian module (which has a separate protocol editor) is only one of *Music-X*'s four primary sections. Others are the sequencer (which leads to bar and event editors), a filter section including a keymap editor, and an Amiga samples screen. All are easy to get to, offer pull-down menus, and have both Amiga and synth keyboard shortcuts. If this sounds like a lot to you, you're absolutely right. Like fine wine, with a little refinement and some aging, *Music-X* could rival any sequencer ever written for any personal computer.

Even in its first release, *Music-X* (which really needs a minimum of 1 megabyte of RAM to perform) was stable, although MicroIllusions has just released V1.1 which offers a new velocity flattener module. Make sure you send in the registration card on all the products you buy - and especially this one - as you'll automatically get upgrades without doing anything more.

Here Comes Jr.

Realizing that not all Amiga musicians need high-end MIDI features, MicroIllusions has trimmed some of them from *Music-X* in their recent release of *Music-X Jr.* (\$149.95). While you still get the great interface of *Music-X*, it doesn't have the editor/librarian module nor the SMPTE hooks. And (because the bar editor is sufficient for hobby use) you also don't get the numerical event editor. But like its big brother, *Music-X Jr.* plays and lets you edit internally produced Amiga sounds (both IFF and, interestingly, *Sonix* RFF format) right along with sounds from MIDI-connected synths and drum machines.

MicroIllusions is about to release a *Music Extras Disk* as we go to press, although some of the details (like its price) weren't available. It's a collection of modules for use with *Music-X* and *Music-X Jr.* which include:

- Quantize2 - Another timing fixer
- Scatter - Unquantizes MIDI scores
- Print Event List - Won't work with Jr.
- Selector - I forget of what, sorry
- Swing - Liven up your timing
- D-Flam - Removes unwanted grace notes

Dr. T's Ever-Expanding Practice

Besides *M* ("The Intelligent Music Instrument") and *Music Mouse*, which distribution they recently assumed, Dr. T has two MIDI platforms for the Amiga: Two versions of their mighty *Keyboard Controlled Sequencer (KCS) 3.0* (\$275) and *KCS 3.0 Level 2* (\$375), plus their newest baby, *Tiger Cub* (\$99). The distinction between platforms is that *KCS* is designed in two stages for the professional while *Tiger Cub* (which is meant to ultimately replace *MRS*) is intended for novices.

Typical of Dr. T's line, their music scoring utility, *Copyist DTP*, (\$325) is at the professional level while *Copyist Apprentice* (\$129) is intended for the less demanding amateur. Although both print unbelievably splendid scores, the difference between them is that *Copyist DTP* (which stands for DeskTop Publishing) includes macros, transposition capability, printing enhancements and PostScript drivers. Since they both use special fonts, output from either - even on an Epson-compatible 9-pin dot matrix printer - looks like it was store-bought. Lastly, Dr. T's horde of MIDI librarian/editors are interchangeable between platforms except that *Tiger Cub* requires updated versions.

You see, *Tiger Cub* has a fancy new feature called MPE. That stands for "MultiPlayer Environment" and because of it, multitasking programs by Dr. T can share information - provided they are MPE-smart, of course, which librarians developed before MPE are not. But not only can you multitask *Tiger Cub* with Dr. T's upgraded librarians, when you run it with a scoring utility, any music you enter or change in either program shows up immediately in both.

Intended for the hobbyist, *Tiger Cub* is a dramatic departure from Dr. T's powerful number-oriented sequencers. Of course you can enter music in real- or step-time from MIDI-connected synths, and *Tiger Cub* incorporates a graphics music display - with readable, although pseudo-traditional notation - in which you can enter or edit scores from the Amiga's keyboard and mouse. But purists need not fret: it also has a module that displays and prints traditional scores. QuickScore, as it is called, puts a manuscript on the screen notably faster than *Copyist* and will even extract a single track, an option not available in *Copyist*. Although QuickScore only outputs to Preferences printers, the idea is to doctor the notation of your tune some in QuickScore as you enter it, then switch to *Copyist Apprentice* or *DTP* - both of which have special printer drivers - to add things like guitar tablature and text before you print.

Tiger Cub (which reads MIDI and .ALL files in addition to SMUS) and *KCS* both play MIDI and/or internally-generated IFF sounds. Both perform wonderfully with the new Fatter Agnus chip, too, and never let anybody tell you that twice the graphics and music memory don't equal twice the fun. Annoyingly, I had several system crashes with the first release of *Tiger Cub* but Dr. T says an upgrade will be available by the time you read this. All the good Doc's products are cursed with on-disk copy-protection, although I



Tiger Cub's QuickScore module shows the full score at the same point, but this time in standard notation.

understand some commercial copy utilities will allow you to create backups.

Personal 48-Piece Orchestras

If you use more than one Amiga serial device, you really should check out Checkpoint Technologies' *Serial Solution* dual-port board for the A2000. It provides two additional serial ports (one IBM-style, one Amiga) that permit simultaneous use of multiple devices like modems, digitizers, and MIDI interfaces. Better yet, using the *Serial Solution* with Blue Ribbon Bakery's *Bars & Pipes* sequencer (which I can't recommend highly enough if you're new to MIDI - and actually, even if you're not) permits access to a staggering 48 MIDI channels - more instruments than some orchestras have today. Of course, you have to provide the synthesizers. I hear this capability will be available in other Amiga sequencers Real Soon Now.

I'll have info on a couple of FUN, new music-makers and the lowdown on a proposed sound format called AudioIFF next month. This format (which is MUCH better than IFF) would improve the quality of Amiga internal sounds and, since it's already being used on Macintosh and IBM, potentially give us more sounds to pick from. Keep listening! ☆

Companies Mentioned

Blue Ribbon Bakery, 1248 Clairmont Rd., Suite 3D
Atlanta, GA 30030, 404-377-1514

Checkpoint Technologies, P.O. Box 2035, Manassas,
VA 22110, 703-330-5353

Dr. T's Music Software, 220 Boylston St., Suite 306,
Chestnut Hill, MA 02167, 617-244-6954

MicroIllusions, P.O. Box 3475, Granada Hills, CA
91344, 818-785-7345

This column
brings
Peggy
Herrington's
writing career
full-circle;
her first
steady gig
back in 1984
was a music
column for
INFO-64 called
"Sound
Advice."

Oran J. Sands III Video



Shereff Systems new character and DVE generator, *Pro Video Post*.

Those of you who have been using *CGI*, *Pro Video Plus* or *Pro Video Gold* have gotten used to Shereff Systems releasing newer versions of their character generator software. Each release has brought new features with older features being expanded, sped up, improved, etc. And the best part of all this has been that each upgrade has been quite inexpensive. And now the latest version of their software has arrived, *Pro Video Post*.

Pro Video Post is the latest in a long line of programs that make the Amiga serve as a character generator. Character generators (or CG's) are usually dedicated units whose entire reason to exist is to produce text on a TV screen. They may offer various sizes of text in different styles and colors with numerous other variations, but primarily they put text on the screen. Being designed to do that and only that, these devices are usually straightforward and easy to use, but most importantly they are quick!

Pro Video Post operates in a similar manner. It is powerful but doesn't get in your way when creating page after page of text. The user interface doesn't use pull-down menus, mouse clicks, or other Workbench-

like interface items to make choices. What it does use are the function and cursor keys, and in such a consistent and logical manner you'll find yourself cranking out pages of text in no time.

Icon-Ready

To many, the most important change from *Pro Video Gold* to *Post* will be the ability to run it from Workbench. It can be run from an icon, and upon quitting will return to Workbench. Where *Gold* needed only 512K of chip RAM to run, *Post* needs one full megabyte. Part of this added hunger for chip RAM is due to its need to co-exist with Intuition for the Workbench start-up. The rest of that hunger is because of the new features that have been added.

Digital Video Effect Transitions

Pro Video Gold offered over 90 different page transitions. The pages could slide, wipe, checkerboard, and page peel on or paste off to appear or disappear from view. *Post* has gone that one better by offering Digital Video Effect transitions (DVE's).

The program verbally cues you to make your DVE selection using the Amiga's built-in speech capabilities. Once selected, the computer crunches the data needed to spin and tumble your text page off into infinity or back again at the press of a single key. The DVE style effects are numerous and varied and include mosaics as well as moves. While the picture shrinks and moves away, the empty background is all color zero. This means that when using a genlock, your video is revealed beneath the transitioning page.

These DVEs could be considered mini-animations of as many as 64 frames of high-res screens. The resulting data grows to more than 800K. That means using a lot of chip RAM. The result, though, is an incredibly smooth DVE transition. Now I'm sure that many of you are wondering, how long does the software take to create a DVE transition? Depending upon what CPU you have, anywhere from a few seconds to a few minutes. Until now, some packages could take a full day to make a similar effect.

Since only one DVE transition can be held in memory at one time, you can't bring in a page with one transition and make it leave with a different DVE. If that's what you want, then you'll have to edit, hence the name *Post*, from post-production.

I know of several people who have put their Amiga

.info's
Video Guru,
O. J. Sands,
takes a look at
an excellent
titling
program.

graphics onto tape and then taken them to post-production studios to have them spun and tumbled, all at the low, low cost of \$350 an hour. For only \$300 you can buy *Pro Video Post*, which makes for quite a savings! And if you already own *Pro Video Gold* then its only an upgrade.

Genlock Control

A long time in coming, *Pro Video Post* can now control some genlocks. *SuperGen*, *SuperGen 2000s*, and *Magni 4004* series genlocks can be activated and controlled live via keyboard, or be programmed to change with the page transition. Imagine preprogramming a series of pages with the genlock fading in a key at the appropriate moment and then fading the entire picture to live video and then to a *PVP* page, etc., all preprogrammed. No longer do you need three pairs of hands to lay a section of graphics down to tape.

Remote Control

What other neat things can we find in *PVPPost*? Glad you asked! With *Intuition* operating fully we can now use the mouse to act as a slide changing control. Click one mouse button and we transition to the next page. Click on the other mouse button and you transition to the previous page. (I've waited a long time for that!) Hook up your editor's GPI contacts to the right pins in Joystick Port 2 and you can trigger your transitions remotely. (I expect to see more of this sort of remote triggering in other programs in the near future.) All in all, a welcome change from the old days when disconnecting the mouse was necessary.

Picture Manipulation

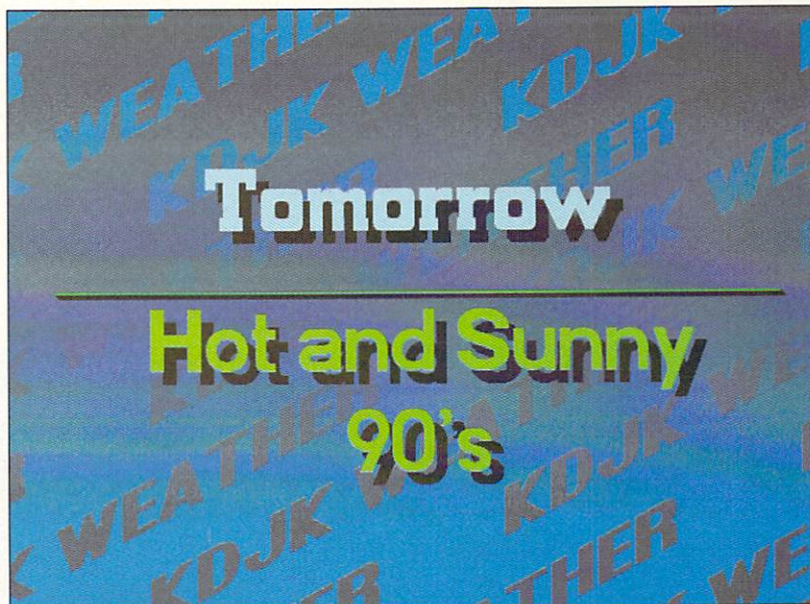
The routines that make the DVE transitions possible are also used to provide the ability to manipulate the page images. You shrink or enlarge the screen vertically, horizontally, or both as desired. You can also tilt, slant, or rotate the picture. And you can remap colors within the palette. Any of these features can be combined. Shrink it to quarter-screen size, tilt it back and then rotate it. Then use the *Move* feature to place it wherever you want within the screen area. Now you have little reason to bounce back and forth between *Pro Video* and *Deluxe Paint* in order to get the look you need. You'll be amazed at the possibilities!

Audio Cueing

Other niceties you'll find are the addition of cue tones for various functions. Press the wrong key and you'll get the warning tone. Selecting a page to transition to will give you a cue tone indicating that the next page is ready. You no longer have to guess. Another tone you might encounter is the cancel tone, which indicates that you have deselected a selection or stopped a page roll or crawl that was in motion.

Improved Roll and Crawl

And while we're talking about page rolls, you'll be happy to hear that *Post* now rolls pages with no breaks



Typical TV production slide produced by *Pro Video Post*.

or jerks. The key to doing so was the 1 meg of chip RAM. Now you have one hi-res page scrolling off the screen, one scrolling on, and one stored in RAM ready to roll on next. With 512K of chip RAM the third page was unavailable, forcing the scrolling to stop while it was created, hence the jerkiness. This should finally end the complaints about the program's scrolling ability.

Several other transitions have been enhanced as well, while many transition speeds have been sped up tremendously. Some transitions now occur so fast they can't be seen at the fastest speed setting.

Conclusions

Pro Video Post is a worthy successor to *Pro Video Gold*. It offers new and exciting features while retaining *Gold's* best features: anti-aliased, multi-colored and patterned fonts, IFF overscan backgrounds up to 720x480, and 100 hi-res pages of graphics available at all times, running in RAM. Based on code that's been debugged over five years, it's stable as can be.

The upgrade fee is nominal, less than some companies charge for bug fixes. The new DVE transitions, picture manipulation, and genlock control put this program into the forefront of titling packages for the Amiga. If you own any other Shereff System products, then upgrade now. If you have no titling package, then *Pro Video Post* should be your first choice. You'll rarely need another.

O. J. Sands III is an Educational Media Specialist for a major metropolitan hospital, and is the acknowledged expert on Amiga video.

Pro Video

Post

☆☆☆☆

Shereff

Systems

1507 SW Koll

Parkway,

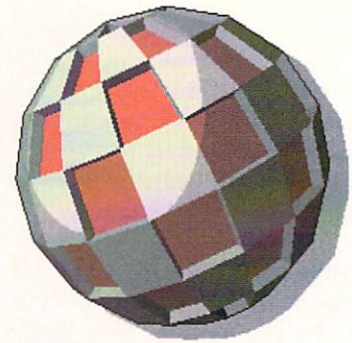
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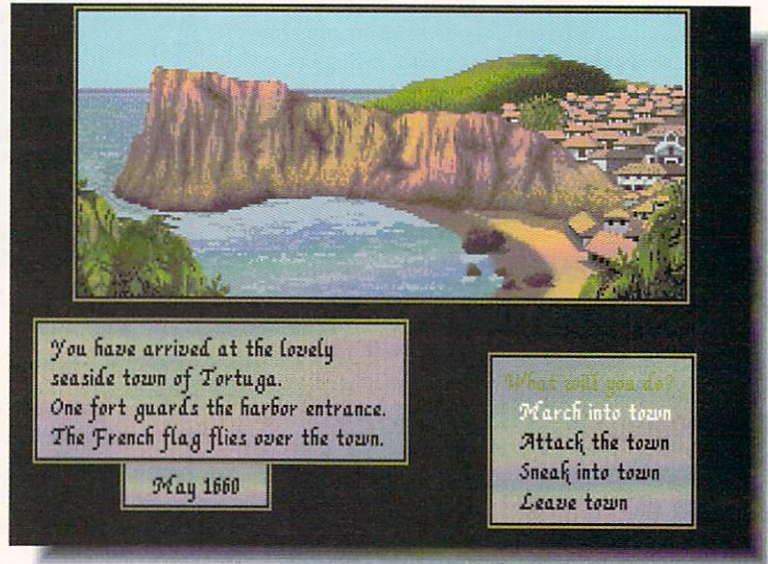
Incredible ★★★★★ Very Good ★★★★★ Average ★★★ Awful ★★ Drek ★

A migoids have been waiting a long time for the conversion of this game and it's been well worth the wait. MicroProse has done an outstanding job of enhancing the graphics, including adding touches of animation here and there. The sound effects are very good, and the 18th Century music is cleverly done, and reasonably authentic (personally, I'm delighted to see it in here - obscure Baroque music is about all I listen to any more).

Pirates! itself is a combination of rapiers, navigation, pillage, plunder, adventure, pillage (I like pillage), and loot (which I like even better). You can choose among several historical scenarios, set between 1560 and 1700, or set off on your own, buckling your swash across the Caribbean. I like the pacing; while there's always something going on, whether encountering another ship on the open sea or sailing into various ports, *Pirates!* doesn't get too frantic nor does it bog down into tedium.

Versions of *Pirates!* I've seen for other computers haven't been nearly as good as this one. It's nice to see real enhancement in an Amiga port for a change. Thanks, Microprose.

- Tom Malcom



PIRATES!



Medalist / Microprose, 180 Lakefront Drive
Hunt Valley, MD 21030, 301-771-1151



NEUROMANCER

Preview

Interplay Productions, 1575 Corporate Drive
Costa Mesa, CA 92626, 714-549-2411

The future isn't a pretty place, especially in Chiba City where *Neuromancer* starts out. Based on my all-time favorite science fiction book, this version of the game has the same format that the C64 version did, but Interplay has enhanced the graphics considerably. The game is nearly all point and click, including movement and conversation. The beta version I've been playing is a little slower than I would like, but it's worth the waiting time just to be involved in this cyberpunk classic again.

In case you missed it (and be advised that *Neuromancer* is required reading for every right-thinking computer jockey), the story takes place in a grim future where you are hired to track down a rogue AI living in cyberspace. (Isn't the jargon of cyberpunk wonderful?) Cyberspace is a "consensual hallucination", a virtual reality inside computer-generated space. It's also a very dangerous place; copy protection has evolved into Black Ice that can flatline you in a blink.

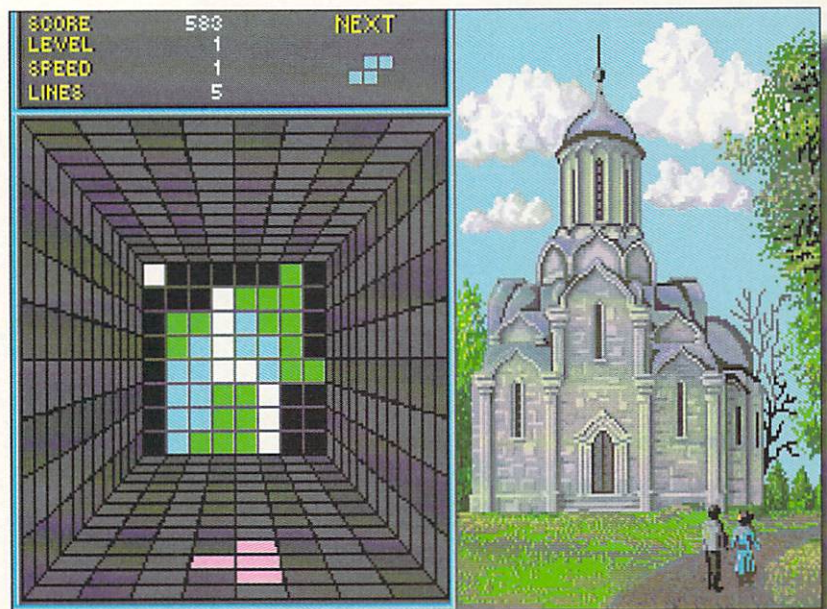
I've been saying for years that I'm ready to have the socket installed behind my ear so I can jack into cyberspace. With the release of this game, I guess I can wait for a little while longer.

- Tom Malcom

Some of the magic has worn off the *Tetris* theme, and while this variation on it is a very good game, it doesn't offer anything different enough to make it stand out. I think one of the problems is that it doesn't have any real depth; it only plays one game and there are only a couple of minor variations on that game. Instead of using 3D pieces, it uses flat ones that slide down the sides of a square well. You move the pieces around the four sides to position them, attempting to create solid rows in either direction. It does do some interesting things in the corners, splitting and folding pieces in ways that can be a help in fitting odd spaces.

Welltris is just as addictive and just as playable as *Tetris*, but I came away from it thinking that the two should have been released as a single package. It does, of course, invite comparison with California Dreams' *Blockout* and comes off a distant second. I found myself wishing I could change the shape of the well, or at least play some variations. I'll keep playing *Welltris*, but I'll play *Blockout* more.

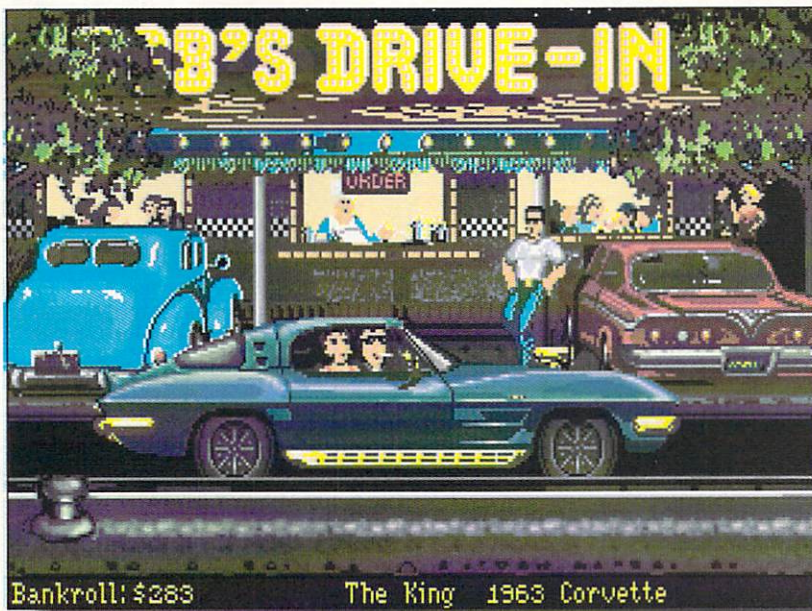
- Tom Malcom



WELLTRIS



Spectrum Holobyte, 2061 Challenger Drive
Alameda, CA 94501, 415-522-3584



STREET ROD



California Dreams, 780 Montague Expwy., Suite 403
San Jose, CA 95131, 408-435-1445

Being a classic car owner myself, I've been waiting for months to rev up this game. Now that I've played it, I'm both pleased and slightly disappointed. *Street Rod's* atmosphere is perfect: the still innocent world of California boulevards on Saturday night, where cars are the main attraction and racing them a guilty pleasure that can result in tragedy or high triumph.

You start out with a small amount of cash, buy a car, and start souping it up. By challenging other drivers to drag or road races, you can win extra money to sink into your hot rod. If you customize it carefully and you're a good enough driver, you can eventually win enough to buy a really hot car and challenge the King of the Drive In. Beat him and his '63 'Vette and you win both his girl and the game.

What I'm disappointed about is that *Street Rod* builds so slowly: play is good but it takes far too long to build up cash. I'd also like to see a multi player option. (I'm also a little let down that there's no '64 Mustang convertible like mine.) See you cruisin' on the strip.

- Tom Malcom

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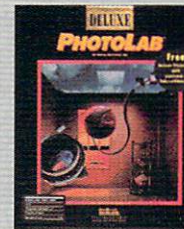
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| GRAPHICS | Animator/Images 67 | Autoscript 95 | B Graphics 126 | Board Master 74 | Booster 2.0 25 | Calligrapher 69 | Comic Setter 69 | Comic Set Data Disks 25 | Design 3D 69 | Digi-Droid 74 | Digi-Mate III 31 | Digi-Point 3.0 62 | Digi-View 4.0 129 | Elan Performer 2.0 99 | Font-Works 67 | Frame Grabber SW 74 | Imagine 22 | Interchange 40 | Interchange Object 15 | InterFont 62 | Modeler 3D 59 | Photon Painter II 99 | Photon Paint Expansion 23 | Photon Video EDP 54 | Pixmate 54 | Print Master Art Gallery 1 or 2 20 | Print Master Fantasy 22 | Print Master Borders 24 | Print Master Plus 33 | RESEP 56 | Scanlab 69 | Sculpt-A-Mate 4D 39 | Turbo Silver Terrain Disk 22 | Turbo Silver 109 | Turbo Silver Conversion 15 | Turbo Silver Video 30 | Video Gen 99 | Videoscape 3D 2.0 122 | Videoscape Promotion 56 | Wrap Session 59 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VIDEO | Abacus Desktop Vid Book 18 | AniMagic 89 | Animation Studio 109 | Animation 67 | Broadcast Titrer 199 | Caligari Consumer 185 | Gredit Titler Scroller 30 | Director 90 | Director 2.0 28 | Director Toolkit 28 | Director Video Tutorial 31 | Easy Titrer 34 | Fantavision 39 | Lights Camera Action 58 | Movie Setter 109 | Page Flipper Data Disks 24 | Page Flipper FX 101 | Pro Video Gold 199 | Pro Video Gold Fonts (ea.) 77 | Pro Video Post 219 | Scene Generator 29 | ShowMaker 399 | Super Prompt 129 | Title Page 129 | TV Graphics 36 | TV Show 74 | TV Text Professional 112 | Video Effects 3D 142 | Video Titrer v1.1 99 | Vista 74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CAD | 3D Pool 27 | 4th & Inches 27 | AB Zoo 38 | After The War 36 | Airborne Ranger 36 | Allien Legion 36 | All Time Favorites 42 | AMC 36 | Amiga Karate 24 | AMOS 20 | Andromeda Mission 28 | APB 31 | Archipelago 29 | Arena 15 | Art Of Chess 24 | Art of Go 42 | Asterix 36 | Astrath 36 | Auto Duel 28 | Baal 20 | Bad Company 36 | Bad Dudes 36 | Ballistic 22 | Bandit Kings of Ancient China 56 | Barbarian II 29 | Barbarian 47 | Bard's Tale II 43 | Batman the Movie 31 | Batman 34 | Be Chess 34 | Battle Squadron 29 | Battleship 20 | Beam 23 | Bermuda Project 31 | Beyond Dark Castle 41 | Black Shadow 36 | Black Tiger 36 | Blades of Steel 32 | Blitzkrieg/Ardenes 42 | Blood Money 149 | Blood Wych Data Disk 18 | Blood Wych 36 | Blue Angel 69 28 | Blue Angels 36 | Bobo 24 | Boing the Game 31 | Bomb Busters 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GAMES | Bombuzal 29 | Breach 2 27 | Breach Scenario 19 | Breach 29 | Bride of the Robot 31 | Bubble Ghost 29 | Buffalo Bill 36 | Caligari 29 | California Games 29 | Capone 28 | Captain Jack 21 | Carr Command 33 | Casino Fever 24 | Crown-of-Mania 28 | Chariots of Wrath 27 | Chinese Karate 31 | Chrono Quest 34 | Circus Attractions 29 | Civilians 28 | Code Name Iceman 42 | Colonel's Bequest 43 | Colorado 36 | Colossus Chess 27 | Combat Course 29 | Conflict Europa 36 | Corporate Raiders 31 | Corruption 31 | Cosmic Bouncer 21 | Cosmic Pirat 27 | Cosmo Ranger 36 | Courtroom 36 | Crackdown 36 | Craps Academy 26 | Crash Garrett 27 | Crazy Cars 29 | Crucible William Tell 31 | Crossword Creator 35 | Crystal Quest 36 | Cyber Complex 25 | Cycles 29 | Daily Del Horse Racing 24 | Damocles 31 | Danger Freak 24 | Darius 36 | Dark Century 32 | Day of the Viper 36 | Deep Sea 29 | Defenders of the Earth 36 | Detonator 28 | Distant Armies 31 | Dive Bomber 37 | Dominator 29 | Doom 18 | Double Dragon II 31 | Dr. Doom's Revenge 31 | Dragon Spirit 31 | Dragon's Lair II 47 | Dragon's Lair 31 | Dragonage 31 | Drakhen 41 | Dungeon Master Asst. 24 | Dungeon Master Editor 24 | Dungeon Master Hint Disk 15 | Dungeon Master 29 | Dungeon Quest 34 | Dyler 07 29 | Eliminator 28 | Emperor of the Mines 37 | Enunciator 17 | Esqueleto 28 | European Games 20 | Evolon 28 | Eye of Horus 29 | F40 Pursuit 31 | Fairy Tale 29 | Falcon Scenery 20 | Falcon 34 | Famous Course Disk 17 | Fast Break 30 | Femme Fatale Data 17 | Femme Fatale 28 | Fend 18 | Fenud 36 | Fightin' Freddy 35 | Fighter Bomber 44 | Final Mission 25 | Fire & Forget 27 | Fire Brigade 33 | First Contact 36 | First Person Pinball 36 | Fish 31 | Flight Simulator 2 32 | Fool's Errand 29 | Forgotten Worlds 29 | Formula One 21 | Four in One 22 | Fract Night 28 | Galactic Invasion 19 | Ganymed 22 | Garfield's Winter Tale 36 | Garfield 36 | Gemini Wing 29 | Genius 29 | Ghouls & Ghosts 29 | Gridiron 30 | Guns 37 | Hardball 2 36 | Heat Wave 36 | HellRaiser 35 | Hero's Quest 42 | Heroes of the Lance 29 | High Steel 28 | Hockey League Simulator 31 | Hole in One Courses 15 | Hole in One 25 | Hollywood Poker 25 | Holmes 37 | Hometown USA 37 | HoneyMoons 29 | Hot Rod 36 | Hoyle's Book of Games 28 | Human Killing Machine 28 | Hyperbolic 35 | Ludicrous 25 | Indiana Jones (Doom) 28 | Infestation 29 | Insanity Fight 29 | International Soccer 28 |
| BUSINESS | Advantage 129 | BG Calc 104 | Budgeter 36 | Critic's Choice 178 | Desktop Budget 48 | Easy Ledger 199 | Home Accounts 63 | Investor's Advantage 73 | Nimbus 1.3 (New Version) 99 | PHASAR 4.0 61 | Publisher's Choice 139 | Real One 106 | Securities Analyst Service Industry 274 | Take Stock 34 | The Accountant 189 | The Works! Platinum 199 | Time Waste Management 62 | Top Form II 36 | WordPerfect Library 93 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WORD PROCESSING AND DTP | City Desk 2.0 134 | CygnusEd 67 | Excellence 2.0 (1MB) 159 | Kind Words 2.0 74 | Micro Text 75 | Page Setter II 129 | PageStream 129 | PageStream Fonts (each) 27 | PageStream Fonts (Mag. Images) 28 | PageStream Forms 29 | Pal Pad 38 | Pro Templates 38 | Professional Page 1.3 189 | ProFonts (each) 26 | ProScript 109 | ProWrite3.0 174 | Scrubble Platinum 99 | UltraForms for PageStream 56 | UltraForms for ProPage 56 | WordPerfect (Updated) 179 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COMMUNICATION | A-Talk III (New Version) 70 | Baud Bandit 35 | BBS-PC 66 | Online! Platinum 106 | Skyline 99 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ART & FONTS | 600 Amiga Fonts 37 | Airships 32 | Aircraft Pics 36 | Aloha Fonts (each) 15 | Amiga SciFi 52 | AmiZoo 34 | Architectural Design 24 | Ashes Fonts 64 | Bird Pics 25 | Chine Pics 27 | Clip Art Disks 1-8 (each) 15 | Desktop Artist 23 | E-Clips 34 | EPS Clip Art 26 | For Art's Sake 16 | Future Design 24 | GEN Animations 37 | Human Design 24 | Kara Anim Fonts 1 32 | Kara Anim Fonts 2 32 | Kara Anim Fonts 3 32 | Kara Anim Fonts 4 32 | Kara Anim Fonts 5 32 | Kara Anim Fonts 6 32 | Kara Anim Fonts 7 32 | Kara Anim Fonts 8 32 | Kara Anim Fonts 9 32 | Kara Anim Fonts 10 32 | Kara Anim Fonts 11 32 | Kara Anim Fonts 12 32 | Kara Anim Fonts 13 32 | Kara Anim Fonts 14 32 | Kara Anim Fonts 15 32 | Kara Anim Fonts 16 32 | Kara Anim Fonts 17 32 | Kara Anim Fonts 18 32 | Kara Anim Fonts 19 32 | Kara Anim Fonts 20 32 | Kara Anim Fonts 21 32 | Kara Anim Fonts 22 32 | Kara Anim Fonts 23 32 | Kara Anim Fonts 24 32 | Kara Anim Fonts 25 32 | Kara Anim Fonts 26 32 | Kara Anim Fonts 27 32 | Kara Anim Fonts 28 32 | Kara Anim Fonts 29 32 | Kara Anim Fonts 30 32 | Kara Anim Fonts 31 32 | Kara Anim Fonts 32 32 | Kara Anim Fonts 33 32 | Kara Anim Fonts 34 32 | Kara Anim Fonts 35 32 | Kara Anim Fonts 36 32 | Kara Anim Fonts 37 32 | Kara Anim Fonts 38 32 | Kara Anim Fonts 39 32 | Kara Anim Fonts 40 32 | Kara Anim Fonts 41 32 | Kara Anim Fonts 42 32 | Kara Anim Fonts 43 32 | Kara Anim Fonts 44 32 | Kara Anim Fonts 45 32 | Kara Anim Fonts 46 32 | Kara Anim Fonts 47 32 | Kara Anim Fonts 48 32 | Kara Anim Fonts 49 32 | Kara Anim Fonts 50 32 | Kara Anim Fonts 51 32 | Kara Anim Fonts 52 32 | Kara Anim Fonts 53 32 | Kara Anim Fonts 54 32 | Kara Anim Fonts 55 32 | Kara Anim Fonts 56 32 | Kara Anim Fonts 57 32 | Kara Anim Fonts 58 32 | Kara Anim Fonts 59 32 | Kara Anim Fonts 60 32 | Kara Anim Fonts 61 32 | Kara Anim Fonts 62 32 | Kara Anim Fonts 63 32 | Kara Anim Fonts 64 32 | Kara Anim Fonts 65 32 | Kara Anim Fonts 66 32 | Kara Anim Fonts 67 32 | Kara Anim Fonts 68 32 | Kara Anim Fonts 69 32 | Kara Anim Fonts 70 32 | Kara Anim Fonts 71 32 | Kara Anim Fonts 72 32 | Kara Anim Fonts 73 32 | Kara Anim Fonts 74 32 | Kara Anim Fonts 75 32 | Kara Anim Fonts 76 32 | Kara Anim Fonts 77 32 | Kara Anim Fonts 78 32 | Kara Anim Fonts 79 32 | Kara Anim Fonts 80 32 | Kara Anim Fonts 81 32 | Kara Anim Fonts 82 32 | Kara Anim Fonts 83 32 | Kara Anim Fonts 84 32 | Kara Anim Fonts 85 32 | Kara Anim Fonts 86 32 | Kara Anim Fonts 87 32 | Kara Anim Fonts 88 32 | Kara Anim Fonts 89 32 | Kara Anim Fonts 90 32 | Kara Anim Fonts 91 32 | Kara Anim Fonts 92 32 | Kara Anim Fonts 93 32 | Kara Anim Fonts 94 32 | Kara Anim Fonts 95 32 | Kara Anim Fonts 96 32 | Kara Anim Fonts 97 32 | Kara Anim Fonts 98 32 | Kara Anim Fonts 99 32 | Kara Anim Fonts 100 32 | | | | | | | | | | |
| MUSIC | AMAS 135 | Amiga Sings 12 | Audio Master 2.0 63 | Bars & Pipes 199 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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CyberPlay



FLOOD



Bullfrog / Electronic Arts, 1820 Gateway Drive
San Mateo, CA 94404, 415-571-7171

I was expecting innovative and wonderful things when I saw the Bullfrog name on the box. After all, they're the British developers who gave us *Populous*. What I got was an OK ropes-and-ladders game that is very playable, with buckets of charm, and not much to set it apart from a dozen others. Employing (a kudo here) an ecologically sound premise, it has you running around mazes picking up litter while trying to stay ahead of rising flood waters. An entertaining game, though not what I would have expected from Bullfrog. I suppose developers need a break now and then, too.

- TM



BUDOKAN



Electronic Arts, 1820 Gateway Drive
San Mateo, CA 94404, 415-571-7171

Much closer to a realistic simulation than an action game, *Budokan* offers the player training and competition in four of the traditional martial arts; Karate, Kendo, Nunchaku, and Bo. The manual gives oodles of historical background and clearly explains the dozens of intricate moves. Recreating the subtle moves with a joystick is easier than you would expect. Smooth animation and detailed graphics elevate this game into a pleasing and accurate martial arts simulation, rather than settling for a badly dubbed Bruce Lee free-for-all as many martial arts games do.

- JKC



TYPHOON THOMPSON



Broderbund, 17 Paul Drive
San Rafael, CA 94903, 415-492-3200

At first glance *Typhoon Thompson's* graphics appear impossibly tiny. Closer scrutiny, however, reveals a wealth of graphic detail, superb animation, delightful 3D effects, and stereo sound to boot. This arcade dazzler must be played to be truly appreciated; a picture doesn't do it justice. The far-away perspective produces a very realistic feeling of fluid motion as you swoop and zoom over the shimmering waters of Aguar on a mouse controlled Jet-Sled searching for a marooned child adopted by adorable Sea Sprites who refuse to give him back. An innovative and very addictive game.

- JKC

THEIR FINEST HOUR The Battle of Britain

☆☆☆+

Lucasfilm, P.O. Box 2009
San Raphael, CA 94912, 415-662-1800

If this game were Amiga-tized at all, I would have rated it much higher. As it is, *BOB* has MS/DOS written all over it. Sixteen colors, even a good sixteen colors, don't make for very impressive games. As a game, *OB* emphasizes historical accuracy, and on that count it is very successful. As a playable game, it's just another flight simulator with a plot. Everything about the package, including the book-quality manual, is top drawer, but I felt like I'd played it all before. If you don't already have a WWII flight simulator, this one will fill the bill nicely.

- TM



HEATWAVE

☆☆☆

Accolade, 550 South Winchester Blvd.
San Jose, CA 95128, 408-985-1700

Vector graphics, adjustable detail level, two viewpoints, a variety of race courses, and all sorts of bells and whistles can't get around the fundamental problem with this speedboat racing simulation: it's boring. Maybe it's just that skimming over the water is only interesting if the spray is flying in your face while you fry in the sun; perhaps if you spritz your face with water now and then, you'll find *Heat Wave* more fun. As it is, I'll leave it to boating fanatics and go back to Accolade's air and land based racing games.

- TM



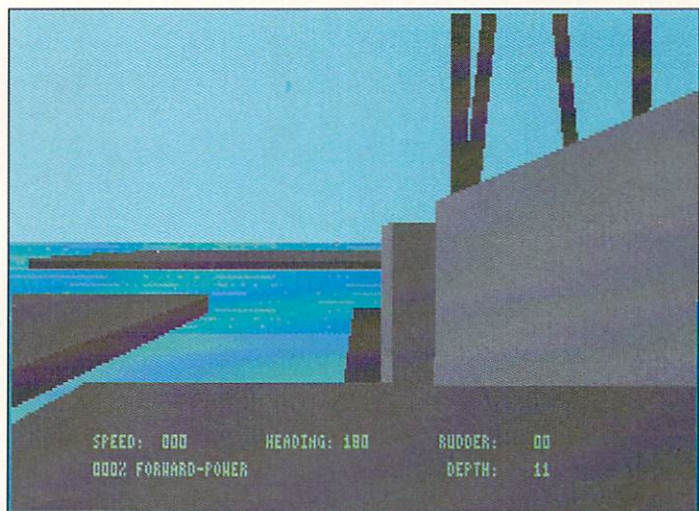
OPERATION SPRUANCE

☆☆☆☆

Parsec Software, PO Box 234
Land O'Lakes, FL 34639, 813-757-0360

Subtitled "The Naval Warfare Simulation", that's just what this is. You're the captain of a Spruance-class destroyer on duty in the Persian Gulf, and it's not a nice place to be. Not only are there crazed Iranians in speedboats, but the Russians are in on the action, too. The vector graphics are well-done, and getting the hang of working the game is reasonably easy provided you read the manual carefully. Play is realistically slow, but it's been said that war consists of long periods of boredom punctuated by periods of absolute terror. Good stuff.

- TM



CyberPlay



WILLIAM TELL

★★★★+

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

A 14th century Swiss crossbow archer named *William Tell* is credited with inspiring a revolt against oppressive foreign rule. The exploits of the legendary folk-hero are recreated in this refreshingly original adventure. Stunning half-brite graphics, delightful music (although I keep looking over my shoulder for the Lone Ranger), and an accessible point-and-click interface are combined with a unique combat perspective that really gives you the feeling of participation. The manual provides a tutorial on the finer points of crossbow archery techniques. Great Stuff!

- JKC



MIGHT & MAGIC II

★★★★+

New World Computing, 14922 Calvert Street
Van Nuys, CA 91411, 818-785-0519

Sequel to the classic *Might And Magic*, *Might And Magic II* revisits the kingdom of CRON, now sinking fast into a chaotic mire of death, doom, and despair. Your mission, of course, is to save the world. Two new character classes, and new spells and weapons have been introduced, along with auto-mapping. All are complemented by colorful, animated graphics. What is really needed, however, is an updated game system with mouse control, digitized sound effects, music, and a fast loader. An enjoyable, but dated, hit-points-and-dungeons RPG.

- JKC



CHAMPIONS OF KRYNN

★★★★+

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

Yet another chapter in the DragonLance series of AD&D games, *Champions Of Krynn* chronicles the days after the War of the Lance and the on-going battle to defeat Takhis. For this installment, SSI has updated the game system and added a new character class. Rounding out the adventure experience are realistic sound effects and nicely animated graphics in the style of *Curse of the Azure Bonds*. Previous DragonLance games have been admittedly long on story and atmosphere and somewhat short on playability, but *Champions* succeeds in striking a pretty good balance.

- JKC

HEART OF THE DRAGON ★★★★★

Avatar Consulting, 9733 Roe Drive
Santee, CA 92071, 619-562-8697

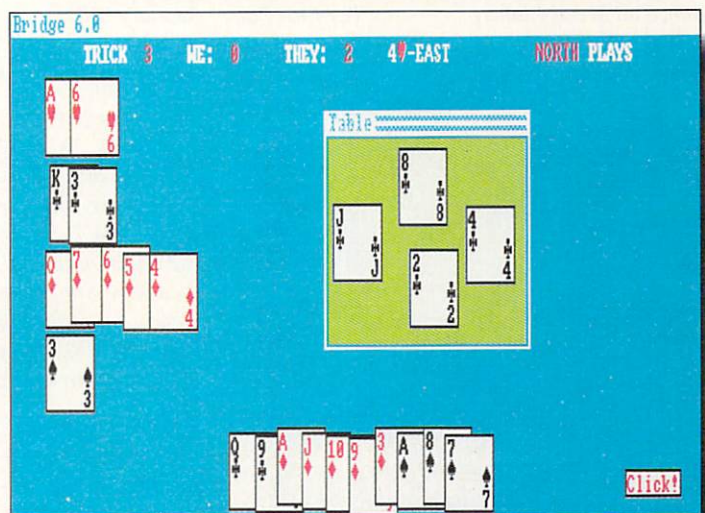
Heat of the Dragon is a tough game to categorize. Advertised as a fantasy/arcade adventure, this two-player game is much heavier on the arcade than on the adventure. The cerebral Master Chi and the well-muscled Tommy Lee must rescue the sacred Dragon's Heart and Tommy's significant other. Typical martial arts action is shown off in 192 dazzling colors. The not-so-typical half-brite graphics and animation are gorgeous and are complemented by excellent music. A quick HD installation procedure speeds up loading time. Unfortunately, more fun to look at than to play. - JKC



BRIDGE 6.0 ★★★★★

Artworx, 1844 Penfield Road
Penfield, NY 14526, 716-385-6120

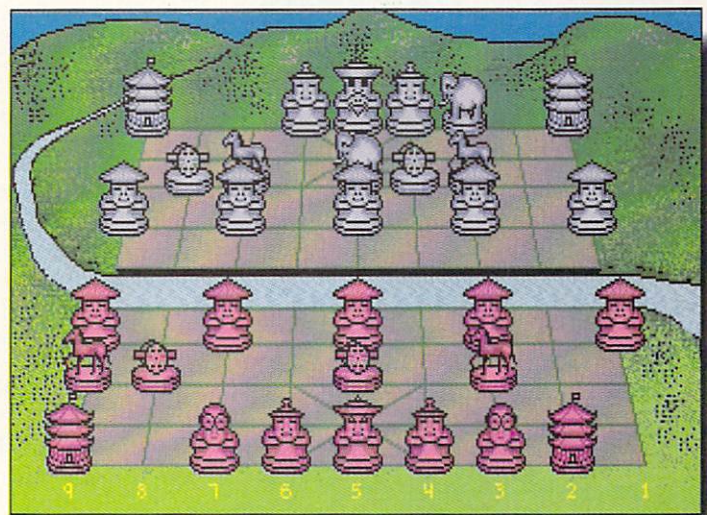
I haven't played much bridge in the past couple of years (I've been too busy blasting aliens instead), but this game brought it all right back. There aren't many bells and whistles, the graphics are only adequate, and the sound next to nonexistent. However, cutthroat bridge players don't much care about the niceties: they're more interested in the game for its own sake. And *Bridge 6.0* plays a vicious game of either contract or duplicate - I only pulled off a couple of finesses in several hours. Bridge fanatics will love it. - TM



CHINESE CHESS ★★★★★

Eagle Tree Software, PO Box 164
Hopewell, VA 23860, 804-452-0623

Eagle Tree released *Distant Armies*, a collection of ancient chess variations, a year or so ago, and *Chinese Chess* was included. Now the same people have expanded and enhanced it into a very slick package of its own. It takes, of course, some effort to figure out the unfamiliar moves and strategies, but if you're a chess fan, you'll find much of interest. (Otherwise, I'd stick to *Distant Armies*.) There are several 3D sets of pieces, some with little bits of barely noticeable animation. A good game, if obscure. - TM



CyberPlay

COMING SOON

The following games have been announced by the game companies listed. Games that had been received in our offices at presstime have been marked with an asterisk (*).

Accolade: *Elvira, Mistress of the Dark, Strike Aces**, *Stratego, Ishido, Search for the King, Altered Destiny*
Avatar: *Heart of the Dragon**
Bethesda: *Damocles*
California Dreams: *Street Rod**
Data East: *ABC's Monday Night Football, The Dream Team, Full Metal Planet*
DigiTek: *Dino Wars*
Disney: *Arachnophobia,*

Dick Tracy
Electronic Arts: *Might & Magic II** (New World), *Storm Across Europe** (SSI), *Dragon-Strike* (SSI) *Flood** (Bullfrog), *Imperium**, *Loom* (Lucasfilm), *The Secret of Monkey Island* (Lucasfilm), *Wings* (Cinemaware), *Nightbreed* (Ocean), *The Untouchables* (Ocean), *The Lost Patrol* (Ocean), *Billy the Kid* (Ocean), *Battle Command* (Ocean), *UnReal*

(UbiSoft), *B.A.T.* (UbiSoft), *Powermonger* (Bullfrog)
Electronic Zoo: *Xiphos, Black Gold, Spherical, Berlin 1948, Kahlaan, Treasure Trap, Tennis Cup**
Free Spirit: *Barney Bear Goes to the Farm**
Innerprise: *The Plague**, *Globulus, The World of Turrican, Time Guardian, Aviators*
Interplay: *Neuromancer, Future Wars**, *Checkmate*
Intracorp: *Bill & Ted's Excellent Adventure*
Konami: *Double Dribble**
Live Studios: *Future Classics Collection*
Mastertronic: *Wonderland, Spot, Spirit of Excalibur*
Microprose: *Pirates!**,

Railroad Tycoon
Parsec: *Operation Spruance**
Psygnosis: *Beast II, Killing Game Show, Tempus, Aquaventura, The Keep, Fire Stone, Turbo Buggies, Carthage, Planet Busters, Barbarian II, Gore, Awesome, Puggsy*
Software Toolworks: *Loopz* (Mindscape)
Spectrum Holobyte: *Welltris**, *Vette!*, *Stunt Driver, Flight of the Intruder, Tank*
Taito: *Castle Master, Day of the Pharaoh, Kiwi Kraze* (formerly titled *New Zealand Story*), *Operation Thunderbolt, Puzznic*
UnSane Creations: *Accordion**, *Calculation**, *Seahaven Towers**

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GAME TIPS

Here are some secret "side doors" and "back doors" to your favorite Amiga games, discovered by .info readers. Share your "secret tricks"! Send to: .info Game Tips
705 Hwy 1 West
Iowa City, IA 52246

Battle Squadron: To become invincible type *castor* when you first begin playing. - Gilad Vinitzky

Baal: In the second cavern there is a force field that seems impossible to get rid of. To get the time machine chunk beyond it, simply fall off the right side of the phone booth platform above.

- Derek Godat

Stryx: Hit the Help, M, and E keys at the same time to get maximum strength and fuel levels. Hold down the HELP M, E, and P keys at the same time to get all four door passes. - Albert C. Lin

The following tips are from Zach Meston, *Amiga Games Guide*:
Chamber of the Sci-Mutant Priestess: You don't have to complete

all five Ordeals. Instead, go into the tunnels (from The Noose) and wait an hour. Then leave the tunnels and go to The Master's Eye. Wait around until The Master dies. Search his body for the whistle. Use it and a panel will open up. Reach inside and grab the egg.

Leonardo: Enter *FREIBIERC* as your password for unlimited lives. The screen will flash and tell you that you have discovered the secret of Leonardo.

Rings of Medusa: Enter the following on the main map screen: *DESIOXYRIBONUKLEINSAEURE*. Get all that in there and a cheat menu will come up.

Eye of Horus: On the title screen, type *SPAM*. The game will start, and you will have infinite lives. You'll also be able to use the elevators without needed colored keys.

Zany Golf: On the Energy hole, hit the ball into the mouse hole when the mouse's eyes are red, and you'll be taken to a secret tenth hole.



photo by Tom Ives

Shay Addams' Adventure Road

Sex, Swords, & Satire from Sierra

If any outfit in the Adventure Industry is supporting the Amiga, it's got to be Sierra. Sure, they develop on Another Computer and are likely to continue doing so, but their 3D animated adventures are converted for the Amiga before they go over to other systems - and as a matter of fact, you won't see them on the IIGS or Apple II at all, since Sierra's new development system is just too sophisticated for that machine.

The most recent Sierra adventures - *Leisure Suit Larry III*, *Hero's Quest*, and *Code-name: ICEMAN* - offer journeys to diverse locations that are populated by even more diverse individuals. I had more fun playing Mr. Sleaze himself, Larry Laffer, than striving to save a prince and princess from an evil curse, or rescuing a diplomat from terrorists in the Mideast. And Larry's latest quest, whose full title is *Polyester Patti in the Pursuit of the Pulsating Pectorals*, also features the best payoff I've seen in an adventure this year.

This tale commences with a divorce that sends Larry back to the singles bars of Non-toonyt Island, scene of the previous game. Besides looking for love, as always, he's got to cash in on a real estate deal, beef up his muscles, get a good tan, and rummage up a copy of his divorce decree before he'll have a shot at Patti Polyester, the girl of his dreams. And when he finally sweeps her off her feet, a misunderstanding leads him to think she's still in love with an old flame.

When this happens, you assume the role of Patti and must track him down, a clever twist on the well-worn theme of the *Leisure Suit* series. The humor ranges from double entendres to sight gags, and you can even type in the names of the ethnic groups you want a



Hero's Quest

stand-up comedian to offend. The abundance of animated sequences contributes to the flow of the story, and there's only one action-style game to cope with (a welcome relief after *Space Quest III*). When it's all over, Larry and Patti wind up in Sierra's headquarters, where you get a satiric look at how adventure games are produced. Roberta Williams stars in one scene, shouting stage directions to Rosella, the game's main character, as they "film" *King's Quest IV*.

For those who prefer swords and sorcery, *Hero's Quest* combines logical puzzle-solving with the skill-building aspects of role-playing games. The emphasis is still on the former, but regardless of whether you play as a Thief, Magician, or Fighter, you won't get far without developing the character's special skills. That's pretty easy, though, since it's done by repeating an action such as "pick lock."

I never fully mastered the knack of combat, in which you face the foe head-on and use the cursor keys to duck, dodge, and attack, but was usually able to outrun the monsters. This one's not as funny as a *Space Quest*, not as enchanting as a *King's Quest*, yet will still intrigue fantasy fans. *Code-name: ICEMAN* is the latest from the author of the *Police Quest* series, and will be appreciated by simulator enthusiasts, since

you get to command a nuclear sub as well as unravel puzzles around the world.

In The Offing

Just when I was getting warmed up, it's time to leap back into playing adventures instead of writing about them. At least I'll be back next month instead of two months down the road, and in the meantime, you might try these new quests, which are worth your gold if you've got any left: *Chamber of the Sci-Mutant Priestess* (which deserves an award for the title), *It Came from the Desert II: Antheads* (you need the first game to play it), *Loom* (though it may be the first lukewarm Lucasfilm adventure) and *Champions of Krynn*, the best AD&D game yet from SSI. Meanwhile, *Ultima VI* is being converted for the C64 and Amiga and could be out by Christmas.

Shay Addams, "the world's foremost expert on adventure gaming™," is the publisher of the excellent gaming newsletter *Questbusters* (\$18/yr., \$24 Canada, \$32 Int'l., PO Box 5845, Tucson, AZ 85703). He also owns more computers than you can shake a stick at, so he may occasionally mention a game he has played on the Macintosh (Gag!) or even on an MS/DOS computer (Puke!)

3D & Animation

John Foust

on



Pitch.pic was created by Kirk Piepho using *Turbo Silver*.

3D expert
John Foust
snapshots
the "state
of the art"
in Amiga 3D.

Welcome to *.info*'s regular column about Amiga 3D modeling and animation programs. This column will keep you informed about the best and the brightest of 3D/animation programs for the Amiga. Advances in modeling and animation software certainly fuel much of the enthusiasm for the Amiga in the video arena.

First, an introduction. I'm both a reader of and a writer for computer magazines. I'm a programmer as well as an avid computer user. I write programs for the Amiga and the PC, enjoy my *A-Max* Macintosh emulator, and speak C in my sleep.

And I love Amiga 3D: I cut my 3D teeth on *Sculpt 3D*, routinely drop objects into *VideoScape* just to spin them around, pretend I'm a Cylon robot warrior while wearing my Haitex *X-Specs* glasses to speed through traces in *Turbo Silver SV*, and still wear red-blue 3D glasses to play with *Forms In Flight*.

I keep in close contact with Amiga users and Amiga developers, too. I'm the president of Syndesis Corporation, the makers of *InterChange*, *InterFont*, and *TSSnet*. *InterChange* is a system for converting objects between different file formats of 3D modeling programs such as *Sculpt*, *VideoScape*, *Turbo Silver*,

PAGErender, and *Forms in Flight*. *InterFont* works with *InterChange* to produce structured text objects for those 3D programs and desktop publishing programs. *TSSnet* is a departure from 3D - it's an implementation of DECnet networking software for the Amiga.

I'd like to say this is last time you'll hear me mention my own products, but it wouldn't be true. I wrote the first incarnation of *InterChange* because I needed it, having no way to get objects from *Sculpt* to *VideoScape*, not because I planned to sell my soul to the Amiga by starting a computer software company. *InterChange* is the only way to do certain things, so I might mention it in the future. To avoid conflicts of interest, I've promised myself I would never write a review of anyone's 3D product in print. I'm happy to write general impressions about them, along with hints, tips, and news.

State of 3D

Now, a similar introduction to the current state of Amiga 3D. In the past year, the Amiga market underwent a shake-out, and the 3D marketplace felt it, too. Companies restructured, and new versions arrived. Here's the latest news about the most popular programs, along with current version numbers and upgrade policies.

Turbo Silver

Judging by the sales and number of telephone calls at Syndesis, *Turbo Silver* is a very popular 3D program. This reputation is deserved for no other reason than speed and quality of rendering. Impulse has a great upgrade policy to the latest version, *Turbo Silver SV3.01*. It's only five bucks if you've got *Turbo Silver 2.0*, or \$30 if you've got an earlier version, such as 1.0, 1.1 or 1.2. Best of all, they've got a toll-free support number, (800) 328-0184, or (612) 566-0221 if you're outside the USA.

Sculpt

Today's lineup of *Sculpt* products for the Amiga includes *Sculpt Animate 4D*, listing at \$499.95, *Sculpt 3D XL* at \$179.95, and *Sculpt Animate 4D Jr.* at \$149.95. *Animate 4D*'s current version is 2.09c, and updates are \$15. *3D XL* and *4D Jr.* are both at version 1.0. What's the difference? *4D* has everything, *3D XL* has ray-tracing but no animation, *4D Jr.* has animation but no ray-tracing.

It's been said that Byte by Byte has dropped out of

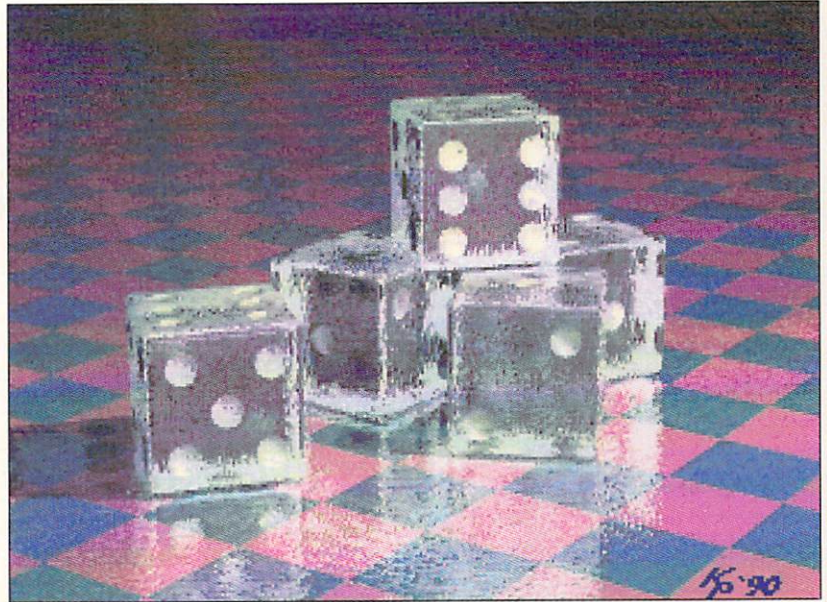
the Amiga market, but it's not true. According to their PR department, Centaur Software has not taken over the *Sculpt* products. Confusion and rumors started when Centaur gained rights to advertise *Sculpt*, in conjunction with their distribution of the product. At that point, Centaur was the only distributor of the product. (Normally, a developer works with many distributors to sell a product to local dealers.) At roughly the same time, Byte by Byte turned their energy away from Amiga products and towards a Macintosh port, and some people drew their own (incorrect) conclusions.

The Macintosh version of *Sculpt* is priced at \$1595. *Mac Sculpt* has no animation abilities, still, it's getting rave reviews in Mac publications. One review said you should buy it for the manual alone, because it explains 3D so well. This neatly describes the Macintosh Way: You should be willing to pay \$1595 for a nifty book, which happens to include a copy-protected 3D program.

Support for the *Sculpt* series is free, regardless of bluster in the manual that says otherwise. Updates are available from the many past incarnations of the *Sculpt* series, but there are so many permutations of upgrades, it's best to call for prices, at (512) 343-4357. For example, upgrading your original *Sculpt 3D* to today's *Sculpt Animate 4D* would cost \$275. There's even a price break for going from an Amiga version to the Mac version, if you're interested in reading the manual.

Videoscape

Support and sales of *VideoScape* are now handled by Oxxi, who in fact took over the entire Aegis Development product line when that company went belly-up. They continue to sell *Modeler 3D*, the object editor of choice for *VideoScape* users, along with a new package called *ProMotion* by Dave Durham, which makes an incredible variety of *VideoScape* motion



Dice.pic was created by Kirk Piepho using *Turbo Silver*.

It took five hours on his 68030/68882 board.

paths. Oxxi's number is (213) 427-1227.

The future for updates to *VideoScape* and *Modeler* is dim, at least under those product names. *VideoScape* remains at version 2.0, and *Modeler* at version 1. The history of Aegis's demise reportedly includes gory tales of (I'll be tactful) "screw-ups" involving royalty checks, which do not endear programmers to publishers. Unhappy with Aegis, *VideoScape's* Allen Hastings and *Modeler's* Stuart Ferguson walked to Kansas to work on Toaster-based 3D products for NewTek. These products are planned to ship after the Toaster, which might mean we'll see them during President Quayle's first 100 days in office. (It's only a joke!)

PAGErender and Others

A relative newcomer to Amiga 3D is *PAGErender*, from Mindware International. This program distinguishes itself by having a strong scripting language and ARexx support for controlling objects and animations. Mindware's number is (705) 737-5998. I've learned an update is in the works, but it's not official at this point.

Space prevents me from mentioning every 3D product. In future columns I'll be talking about *Caligari*, *Design 3D* and others, along with a little news about *Forms In Flight* and new releases for the 3D realm. Progressive Peripherals has long promised a 3D program called *3D Pro* (with the "pro" meaning either "professional," "promised," or "prolonged," I assume). It has now shipped, and we'll take a look next time. Impulse plans a new product called *Imagine*, which promises *Turbo Silver* rendering power plus an improved object editor, and more IFF texture wrapping options. It should be available in late 1990. And at February's Amiga Developer Conference in Paris, I spotted two or three new European 3D programs that may make their way to the North American Amiga market by the time you read this. ☆



InterFont_Logo.pic was created by artist James Shook using *Turbo Silver*, with letter objects made with *InterFont*.

Brad Schenck on Graphics



In this 16-color, high resolution montage, four images have been resized and combined on one screen.

Amiga artists have more ways of creating 24-bit graphics than they have ways to display them. The 16.7 million color 24-bit palette makes truly photographic quality possible in scanned, digitized and raytraced images. Unfortunately, a stock Amiga's display is outclassed when it comes to this level of graphics power. It's quite possible to create these images, but one is left working blind if one can't see at least a representation of what the images look like.

ASDG has developed a small but impressive line of applications including scanning software for the Sharp scanners, and was the developer of the 24-bit IFF format. With the release of *The Art Department* (which we'll call *TAD* for short) ASDG now offers a package that manipulates IFF 24 and 8 bit graphics files, converts other such files to IFF format, and allows users to translate images to any Amiga format with remarkable control - and with the smartest color dithering anywhere. *TAD* also produces color separations from 8 and 24-bit data which ASDG's *ReSep* will strip into *Professional Page* documents for Postscript printing.

The Art Department loads any IFF image file

(including 24-bit IFF's), the DV21 format used by *DigiView*, 'SHAM' files (developed by Rhett Anderson), and 'Dynamic HAM' and 'Dynamic HiRes' files generated by *DigiView 4.0*. Since it also saves out any of those formats with the exception of DV21, *TAD* may be used to convert 24-bit and other images to whatever displayable mode you like.

ASDG also offers modules that add to *TAD*'s import abilities. Currently, loaders are available for these formats: Impulse 12 and 24-bit, *Sculpt 4D* 24-bit, GIF, Targa, *DPaint* IIE (from the IBM version of *DPaint*), and Rendition. Loaders for TIFF, PICT, PCX and other formats are currently under development. The loader modules don't allow *TAD* to save in the new formats, only to read them.

TAD comes with a simple installation program for hard disks, requiring a single 'assign' which you can place in your startup-sequence. Any loaders *TAD* finds in its Loaders directory on startup will automatically become available, though it's necessary to select the load format you want before loading a file.

When loading any color image *TAD* creates a 24-bit copy of it in memory; if the picture is greyscale, *TAD* creates a similar 8 bit image. For this reason, the program needs a larger amount of memory than simpler image processing programs. Once this 'virtual' image has been constructed it's used as a master while you adjust a number of attributes that affect the image you'll see onscreen. Most of *TAD*'s functions will affect only this displayed copy, though the 'Image Controls' panel (with the exception of the ominously labelled 'RIP' button) will also change the 24 or 8 bit data. At any time you may save out the displayable image or the 8 or 24-bit buffer.

Microillusions' *Transport Controller* is directly supported: *TAD* can check to see if the TC is present, then direct it to record the displayable image to video.

Unbridled Enthusiasm

With the specifications out of the way, I can tell you that this program is an absolute gem. It doesn't just convert one IFF format to another: it offers six dithering modes in order to mix colors - especially effective in high resolution - to give the impression of many more colors than are actually present. These techniques are equally powerful when matching pictures with different palettes to a single palette, as shown in Figure 1. *TAD*'s abilities to wring excellent image

Amiga graphic
artist
Brad Schenck
delves the
depths of
*The
Art
Department*

quality out of a high resolution 16 color screen are nothing short of phenomenal. In some of my more severe tests I remapped raytraces into high resolution in IBM's EGA palette - which, if you don't know it, is the most hideous collection of colors in history - with results that actually looked GOOD.

Normal image processing functions offer control of the brightness, contrast, size and color balance of the displayable image plus a 'Gamma' quality (a sort of color-based contrast).

TAD's dithering abilities also shine when converting color graphics to greyscale or black and white for newsletter work. The 'RIP' button mentioned above stands for 'Remove Isolated Pixels'. It's very handy for this type of conversion. RIP searches the displayed image for pixels that are not adjacent to any other pixels of the same color, and erases them. 'Line Art' examines a greyscale image and uses edge-detection to extract a line drawing from it in up to 16 (displayable) or 256 shades of grey. This is useful in cleaning up digitized logos and lettering, and can be used along with RIP to create pictures that resemble pencil drawings (see Figure 2). Recombining a Line Art image in a few shades of grey with solid or dithered color fills can produce very interesting pictures.

Raytraces are another prime target for *TAD*. After hours of rendering one often finds that an image is just a little too... something. Possibly the color is a little off, or it's a bit dark. Rather than changing the lighting in the scene and rendering it again, a *TAD* user can load it in - preferably in 24-bit rather than HAM - to fine tune and translate it into any IFF format.

The program's possibilities in desktop publishing range from image conversion to 24 or 8 bit color separations. There's equal potential for presentation graphics or any Amiga graphics application. *TAD's* dithering abilities can even be useful in porting software to other computer systems, as suggested by my EGA tests.

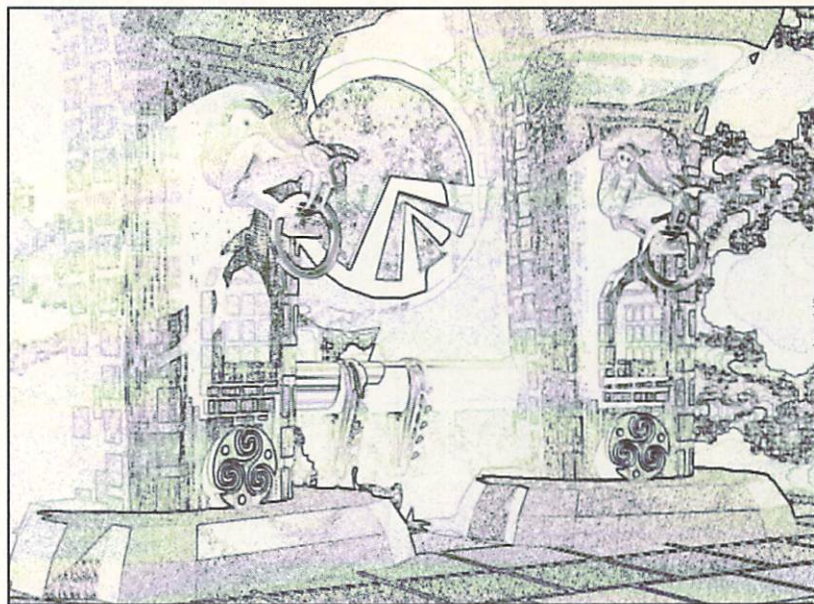
Picking Nits

TAD wants memory in a big way. With seven megabytes I was able to process practically anything while multitasking *DPaint*. I also tested the program under a 68000 with five, three, and two megabytes. As you'd expect, it ran slower under a 68000, but not painfully so.

While ASDG recommends at least one megabyte, I found that even with two there often wasn't enough memory to create the 24-bit buffer, so most functions were unavailable. Even at three megs things were tight. In greyscale, memory was less of a consideration as the buffer took less RAM.

TAD's screen isn't slidable, but does have screen to front and back gadgets. These aren't obvious at first. They're in the title area of the 'Commands' panel.

There are only two features missing that I believe are of real importance. First is the ability to save in all supported file formats. As it is, loader modules (priced from \$24.95 up) allow one to import various types of



This image began as a 24-bit *Turbo Silver* file; it's been converted to 'Line Art' in 16 shades of grey for a natural, pencil drawing effect.

graphics formats, but not to save in them. While *TAD* doesn't claim to be a complete file conversion system I think that this would double the usefulness of the program.

The other 'must-have' feature is some type of batch processing, either via AREXX support or an internal function. Without that, *TAD* doesn't offer a convenient way to automatically process frames for animation.

When asked about these two features ASDG said that they were already working on them for future release.

On the whole, *The Art Department* is an excellent product, and very affordably priced. The modular nature of the loaders means that all users aren't made to pay for features like Targa compatibility, which most won't need, and makes *TAD* inherently upgradable. *TAD's* powerful image processing tools are unmatched, and if you have the RAM to really exploit it you just can't do better than to put *The Art Department* to work for you.

Specifications

Tested: Version 1.0.1
 Modules: Impulse, GIF, *DPaint* IIe
 Configurations tested: Amiga 2000 with 2620 accelerator and 7 megabytes RAM; same, under 68000 with 5, 3 and 2 megabytes

At Presstime

ASDG informed *.info* that they are working on important additions and improvements to *The Art Department*, including the ability to render images directly into 24-bit framebuffers! Watch this space for details as they develop.

Bradley W. Schenck, a freelance artist and two-time winner of the BADGE Killer Demo Contest, can be reached on PeopleLink as -BWS.

THE ART DEPARTMENT

☆☆☆☆+

\$89.95

ASDG, Inc.

925 Stewart

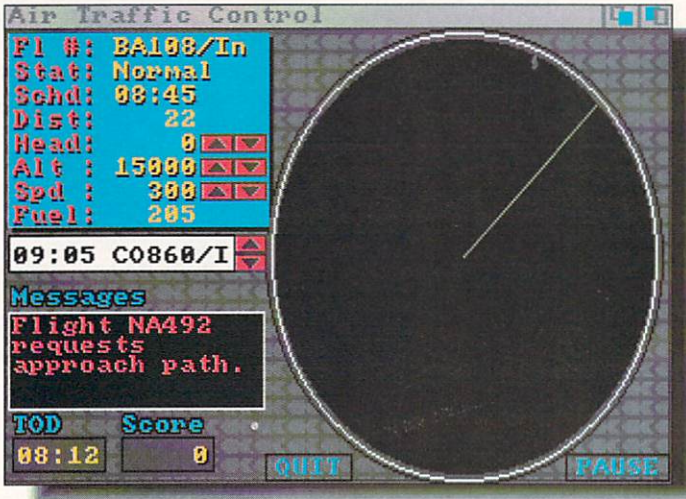
Street,

Madison, WI

53713

608-273-6585

PUBLIC DOMAIN



The programs discussed here are all available from free sources such as local BBS services and user group public domain software libraries. However, our columnists acquired them through one of three commercial sources: the online communications services American People/Link and GENie or commercial public domain software collections (see listings). For further information, contact these sources directly.

AMERICAN PEOPLE/LINK

The Amiga Zone and The Amiga Zone Pro are American People/Link's Amiga support sections. Each file's access number is tagged with either "AZ" or "AZPRO" to indicate which section it can be found in. (For information on signing up for People/Link, call 800-524-0100.)

ATC.LZH [23,099/AZ]

ATC (left) is a nice little air traffic control simulation game. You play the part of the controller of a regional control center and direct arriving and departing flights which you monitor from your radar screen. Multitasks well. Don't fall asleep at the screen, please!

RIXPIX.LZH [23,363/AZ]

Here are three more hand-drawn masterpieces by the enormously talented Rick Parks. It's hard to believe these pictures aren't digitized. *STYMIE* - the Little Rascal (left), *NORMAN* - Rick's *AMIGAWORLD* Cover in Rockwell's familiar style, and *BRYCE* - A beautiful canyon in Nevada. If you know Rick's work, I'm sure that you will be eager to download these. If you're not familiar with his art, do yourself a favor and get these, as well as his other works.



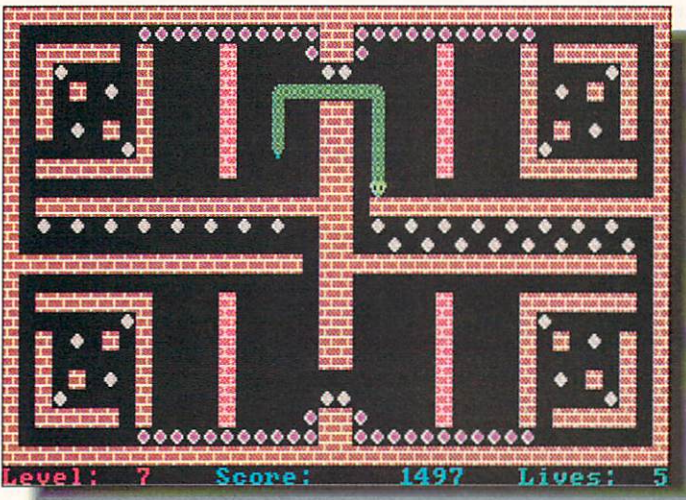
SNAKEPIT.LZH [23,260/AZ]

SnakePit (left) is a simple action game in which your character (the snake) must be maneuvered through mazes. However, a snake can not back up, nor can it "bite" itself. You can modify each of the many included level screens for an endless supply of new game variations to conquer. This game has both eye and ear appeal (with catchy sound effects and "jungle drums" music in the background), and can provide hours of mindless, addictive fun.

SUPERECHO.LZH [21,264/AZ]

SuperEcho does something I've never seen (or heard) another program do: given an audio input to the left channel of an audio digitizer in the parallel port, (*Perfect Sound*, *Future Sound*, or others), this program will perform a variety of *live* special effects on that signal, including echos and pitch changes without speed changes! A bunch of gadgets allow you to change the parameters of what is going on. The default, which creates a low, booming echoing voice, does wonders to scare the kiddies on Halloween! You can even make a radio announcer st-st-stutter like Max Headroom!

- Harv Laser [CBM*HARV]



PUBLIC DOMAIN

GENie

GENie is General Electric's commercial online information service. GENie's *Starship Amiga* software library has about 8000 files available for downloading. (For information on signing up for GENie, call 800-638-9636.)

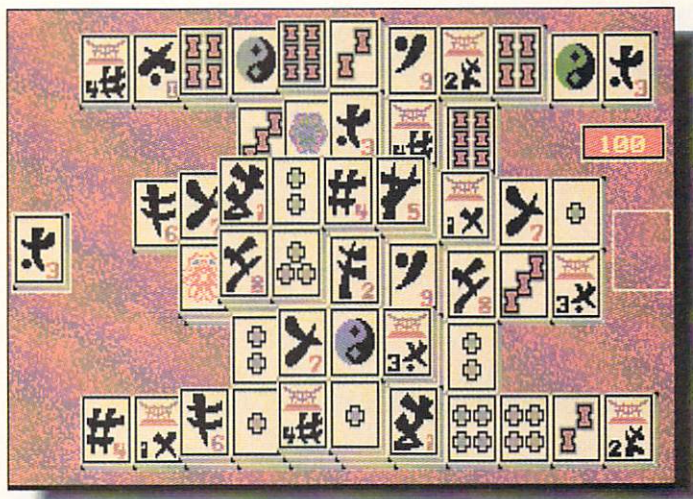
CAR_2.00.LZH [8343]

One of the snazzier Amiga PD games I've come across, *Car v2.0* (right) is a joystick-controlled freeware racing game that features clean full-screen scrolling action and digitized stereo sound. You race against the clock on ten different Swedish tracks, from simple ovals to figure eight layouts. To add to the challenge, track sections may be slick wet, where your tires squeal like a *Dukes of Hazzard* soundtrack; or bone dry, where your machine tracks as if on rails. (I love power skidding through those "S" turns!) Those with only 512K may want to create a bootable disk as per instructions. *Car v2.0* is the freeware handiwork of Anders Bjerin.



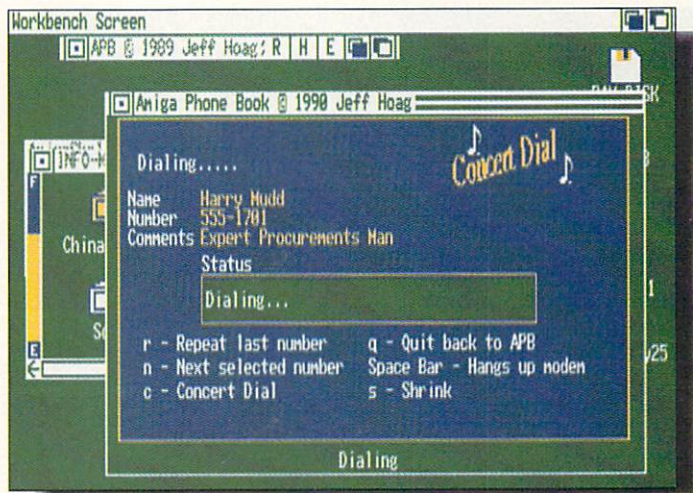
CHINA_CHALLENGE.LZH [8345]

Another game from Europe, *China Challenge* (right), is a 120-tile solitaire version of Mah Jongg. This version doesn't have all the bells and whistles of the commercial game *Shanghai*, but it gets the job done and qualifies as one of the better freeware Amiga mind-stumpin' time passers. (I like these graphics better, too.) Completely mouse driven, *China Challenge* only allows you to either take back one move or start all over from the beginning. The docs hint about a possible sequel. This game was written by Dirk Hoffman, runs easily in 512K, and seems to be well-behaved.



APB1.1.LZH [7789]

APB v1.1 (right) is a nicely done "Rolodex™" style phonebook & autodialer. It's small and can make itself smaller by "iconifying" to a mere title bar in Workbench. *APB* stores names, numbers, and one comment line. For autodialing, it defaults to a Hayes-compatible modem, but can be reconfigured easily. This program supports a number of options for how it looks when it comes up: window or title bar, default phonebook/directory, X-Y location onscreen, and so on. *APB v1.1* is a shareware program (\$20 requested) written by Jeff Hoag, and it runs easily in 512K.

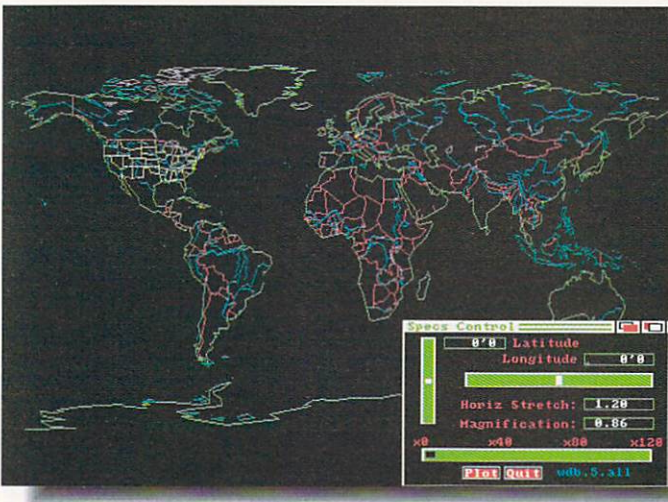
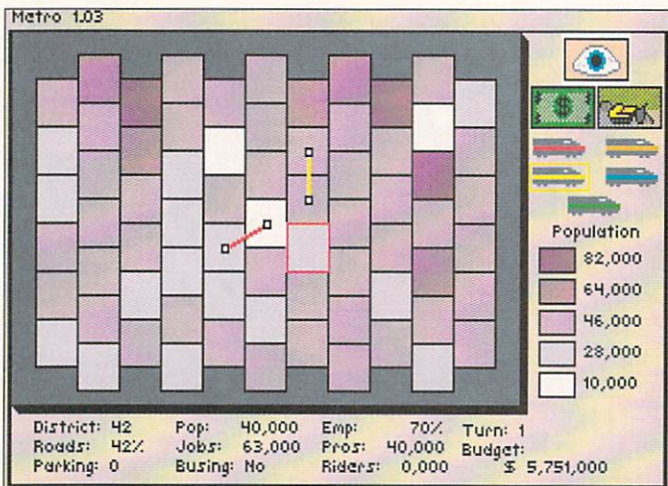
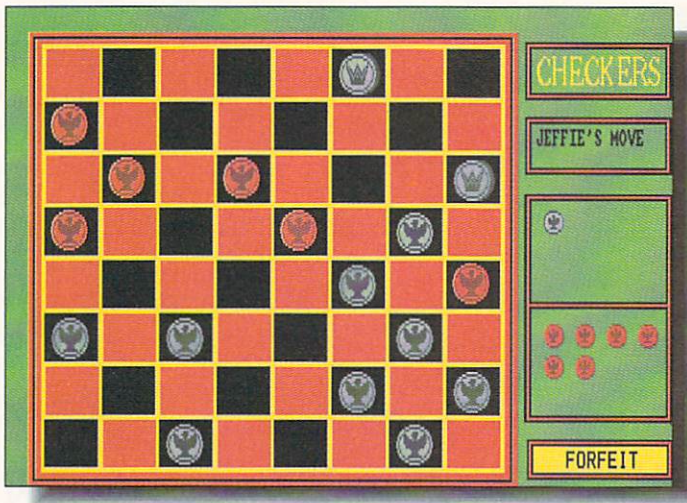


MEMBERS_V1.00.ZIP [7860]

Members is designed as an Amiga user group membership database, but with a little effort and imagination it can be used for maintaining a wider variety of mailing lists. *Members*' main charm is the ease of data entry and maintenance and the clean, easy-to-read layout. It also does a fair job of printing labels. *Members* can sort on several fields and search on the last name and the ten user "Interests" categories. This is a shareware demo (60 entry limit per database; \$15 requested) which easily runs in 512K. It was written by Lorraine Crawford of the Central Pennsylvania Amiga Computer Club.

- Don Romero

PUBLIC DOMAIN



DISK COLLECTIONS

DEVWARE

This month we're going to look at some programs distributed by DevWare. They have available, at this writing, a library of over 130 custom-assembled PD disks, with more being put together every month. These are divided into three basic categories; 63 DevDisks with tools for developers and advanced users, 36 WorkBench disks containing general interest programs run from icons, and 31 FunDisks devoted to games and entertainment.

FUNDISK #6 [FD006]

Speaking of games, FunDisk #6 contains seven, including an excellent version of **Checkers** (left) by Ronnie Pertuit. Play is smooth, and it's a nice game because both adults and children can play against a computer opponent of suitable ability (there are four). My 12 year old daughter is able to beat the Amiga on levels one and two, but is still challenged, especially when I "help" her. You can play against another human instead of the Amiga, but it's hard to get the Amiga on a cracker barrel. **Dumbbell** will be familiar if you remember the pre-computer "sliding fifteen" puzzle. If the 6-piece *Dumbbell* isn't enough of a challenge, try the 10-piece **Gold** by the same author. These puzzles look impossible at first, though children seem able to solve them through some intuitive Gestalt method. Still in a gaming mood? Play **Metro** (left). In this game you are a planner who must construct a subway system for a city with well-defined needs. If your mass transit isn't profitable, you'll be fired.

DEVDISK #54 [DD054]

This disk contains 10 compression utilities, including popular favorites **PowerPacker**, **Lharc**, and **Zoo**. **PowerPacker** compresses programs and then decompresses *as you need them*. The effect is more data on every disk, almost immediately (and transparently) available. But wait, there's more! **PPMore** to be exact, a gadget-driven replacement for CBM's **More**. The other programs are good too, and it's handy to have them on one disk.

WORKBENCH DISKS [WB025 & WB017]

World Data Base [WB025] (left) is based on CIA-collected geographical information, and provides views of the earth in Mercator projection or as a satellite view. Latitude and longitude can be changed via gadgets. **Calendar Factory** [WB017] is a small utility which produces calendars in any of eight formats; it will print or save them as ASCII files which can be used in desktop publishing packages.

HOW TO ORDER

DevWare disks are \$5.95 each, including shipping. Visa/Mastercard accepted with a \$20.00 minimum. Credit card buyers may order by calling 619-673-0759. A catalog disk with good descriptions costs \$ 2.50. DevWare, Inc., 10474 Rancho Carmel Dr., Rancho Bernardo, CA 92128

- Jeff Lowenthal

Fractal Frontiers

... continued from page 27

to get a smooth animation. However, *Vista* renders only in HAM, which makes it more involved to put together animations and touch up screens without fringing. *Genesis* has, by far, the best handling of rivers and lakes (though it is horribly slow filling lakes at higher levels of detail), even including waterfalls and rapids in the rivers. Water is something of a problem in *Vista*. There is no direct method of defining sea level; flowing a lake at the edge of the land mass is the only way to raise the level and there is no provision at all for lowering it, making its lack of an Undo feature a serious frustration if you flow a lake in the wrong spot.

Considering that these are really only the first generation of fractal landscape generators, they are remarkably sophisticated. But, being picky by nature (some software developers might use another phrase), there are some things I'd like to see in the future. First, I'd like an option to make fractal trees and bushes; good as the current scenes are, they lack the finishing details that naturalistic (or fantastical) vegetation could add. I'd also like to have better control over terrain editing. *Vista* offers DEM support, but entering your own requires running the data through a C compiler in order to put it into a format the program can understand. *Vista* supports a limited zoom, but I'd like to be able to load in, for example, a Mandelbrot scene and zoom in on it infinitely. I'd also like to have unlimited panning, meaning a fractally generated perspective view that scrolls toward an infinite horizon, with the landscape changing constantly underneath.

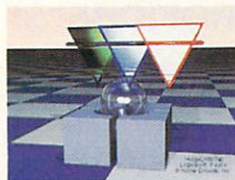
I've been asked on occasion what practical good fractals are. (I think the people who have asked me that are the same ones who would have asked Columbus just where the hell he thought he was going.) Until now, the only way to see an imaginary scene was through a painter's art and vision, or through special effects in movies. The great landscape artists, like Frederic Church and Albert Bierstadt, examined nature and painted their own versions of it in loving, realistic detail. Painters like Dali and Magritte, on the other hand, dreamed up completely imaginary landscapes, drawn not from nature, but from the psyche, and painted surrealistic visions based on them. How they would have loved the world of the Mandelbrot Set! Whether fractal landscapes are art, I'll leave to the aesthetic philosophers, but I think they are. Movies are beginning to see the value (and economy) of artificially created graphics; the Genesis planet in *Star Trek II* is a prime example. One of Psygnosis' new games, currently titled *Tempus*, uses fractally drawn landscapes. We'll certainly see more games, movies, and video using fractals. After all, why go to the expense of location shooting when special effects techniques can put actors in perfectly realistic electronic settings? This first wave of fractal landscape software takes the best of the real and the imaginary and brings them as legitimate graphic tools to the Amiga. I can only dream about what will come next. Perhaps I'll run into you in a cyber-reality somewhere - I'll be the one wearing the fractal buckskins and fractal coonskin cap. ★

Vista, \$99.95, Virtual Realities Laboratories
2341 Ganador Court, San Luis Obispo, CA 93401
805-545-8515

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PO Box 1963, Rocklin, CA 95677

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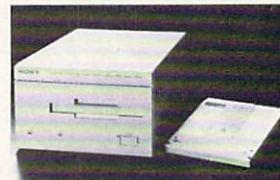
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Amiga COMAL What Amiga BASIC should have been? by Chris Zamara

A *Amiga COMAL* is a programming language for the Amiga that's as simple to use as *Amiga BASIC*, but has a much better development/debugging environment, and the language itself is richer and more easily extended. Also, with an optional developer's system, you can create stand-alone programs written in COMAL, making the language a viable alternative to C or assembler for some applications. This article is not a review of the product, but more of an introduction to *Amiga COMAL* for those tired of the shortcomings of *Amiga BASIC* and other BASICs on the market.

COMAL's History

Amiga COMAL is an improved implementation of the venerable COMAL80 standard, which has been well-established since being adopted as the standard programming language for education in Denmark in the early 1970s. COMAL was developed as a structured alternative to the BASICs of the day, which were generally pretty terrible; GOTO was a fact of life, and Borge Christensen, the creator of COMAL, couldn't bear to expose generations of students to its evils. The first COMAL implementation introduced students to structured programming, using IF-THEN-END and DO-WHILE constructs instead of messy GOTOs and line numbers. Since then, versions of COMAL have existed for most microcomputers, starting with the Commodore PET, and many Commodore 64 users have for years been using the *COMAL 2.0 Cartridge*, which is an enhanced version of the language that allows access to the machine's sound and graphics hardware. *Amiga COMAL* is a further step forward in the advancement of the language, with some additions that adapt the language for programming on the Amiga (pointers and records, which are like structures in C, are the most notable enhancements).

Amiga COMAL is distributed in North

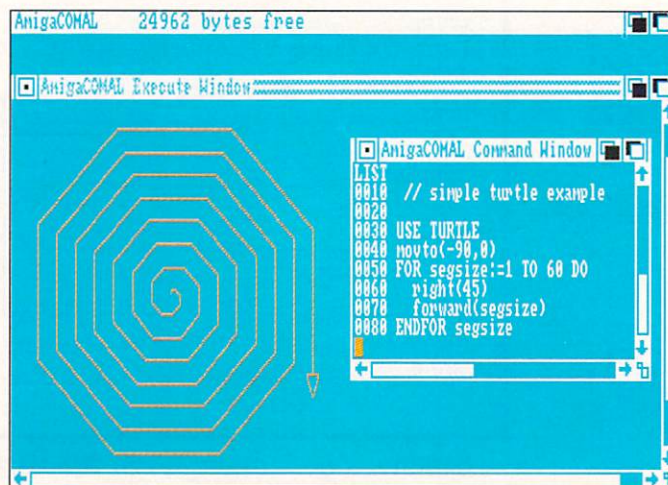
America by the COMAL User's Group, a small organization dedicated to spreading the COMAL word. The *Amiga COMAL* package, which consists of a single disk and a manual, costs \$99.95. The optional developer's package, which includes the COMAL compiler to create stand-alone COMAL programs, is \$34.95. The COMAL User's Group also publishes a regular newsletter, *COMAL Today*, and sells several books about the COMAL language. Their address is given at the end of this article.

The Amiga COMAL System

Like *Amiga BASIC*, *Amiga COMAL* is both a language and a programming environment. A "Command" window lets you enter and edit programs and give direct COMAL commands to the interpreter, and an "Execute" window is used to display output from the program (text and/or graphics). The command window has horizontal and vertical scroll bars, like those in Workbench windows, to let you view more of the display than can be seen at one time, and to let you go back through your command history to reveal previously-typed commands and program lines. You can also scroll back-

wards and forwards through the lines in your program using the cursor up and down keys. By default, *Amiga COMAL*'s windows appear on a custom screen, but you can use the Workbench screen or a different custom screen by setting up different configuration options. While the environment is similar in concept to *Amiga BASIC*'s, the feel is completely different due to the faster response and easy error recovery. This improved response, coupled with sophisticated tracing capabilities, makes debugging and testing very convenient.

The command window doubles as the editor for the language, but instead of a regular line-oriented text editor (a bad example of which is the one provided by *Amiga BASIC*), COMAL program lines are entered as numbered lines like the BASICs of yesteryear. Auto line numbering and other features make this a little easier, but this throwback to an earlier age can be inconvenient for those used to working with a good text editor. Fortunately, you can use your favorite text editor to create your program, and load it in as an ASCII file. The advantage to using the *Amiga COMAL* editor, however, is that each program line is checked for syntax as it is entered. When an error is found in a newly entered line, a small window appears with the error message, but you can keep editing the line and try again; when an acceptable line is entered, the error message disappears. This is a far better approach than *Amiga BASIC*'s annoying message windows that require a response before you can con-



A simple COMAL program has just been listed in the command window and then run, creating the display in the execute window.

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tinue programming.

The programming environment has its advantages, but the real reason for using *Amiga COMAL* is the language itself. *Amiga COMAL* acts like an interpreter, allowing you to stop and continue programs, examine variables, etc., but each program line is compiled as it is entered, resulting in efficient, fast code (see benchmark results in sidebar). The language is BASIC-like, but unlike *Amiga BASIC*, it supports true recursive procedures and functions with parameters. Once you define a procedure or function, you can use it in your program just like a built-in command or function; you can also call such procedures and functions from direct commands typed in the command window.

The syntax of the language has slight differences from BASIC, for example "!=" is

used for assignment instead of BASIC's "=", but *Amiga COMAL* will automatically correct code typed using BASIC syntax without reporting an error. Since the program lines are compiled when entered and un-compiled again to display when listed, COMAL automatically "fixes up" your code in other ways as well. For example, an example of a simple "FOR/NEXT" loop in BASIC might look like this:

```
for i=1 to 10
print i
next
```

If you typed the above three lines as a COMAL program, some changes would appear as soon as you hit RETURN on each line: keywords are capitalized, code inside the "FOR" loop is indented, and some of the

code itself is slightly changed as it is translated from BASIC syntax. If you listed the resulting COMAL program, it would look like this:

```
FOR i:=1 to 10 DO
PRINT i
ENDFOR i
```

Notice that not only has the code been converted to COMAL syntax, but information has been added as well: the "NEXT" has been translated into "ENDFOR i", since the COMAL compiler matched the ENDFOR with the corresponding FOR statement and added the correct variable name.

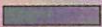
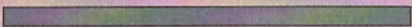
As you can see, programming in COMAL is highly interactive, and helps you along as you develop a program. The specific and informative error messages add to the environment's interactive nature as well.

Benchmarks AmigaCOMAL vs. AmigaBASIC


These figures are from a program supplied on the AmigaCOMAL disk. We have not duplicated the tests, but other observations of AmigaCOMAL's performance tends to support these results. The benchmark results are preceded by the following comments:

"We would like you to begin programming in COMAL because it is easier to use, more friendly, and more powerful [than BASIC]. However, most people want to know how fast it is, so we ran some quick tests and found that you will not be disappointed."



Ahl's Benchmark - Creative Computing Magazine

| | | |
|------------|---|------|
| AmigaCOMAL |  | 3.1 |
| AmigaBASIC |  | 12.8 |



Calc Benchmark - Byte Magazine

| | | |
|------------|---|------|
| AmigaCOMAL |  | 7.2 |
| AmigaBASIC |  | 16.9 |

Sieve Benchmark - Byte Magazine

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|------------|---|------|
| AmigaCOMAL |  | 6.6 |
| AmigaBASIC |  | 16.0 |

Substring Benchmark - COMAL Info booklet

| | | |
|------------|---|-----|
| AmigaCOMAL |  | 0.2 |
| AmigaBASIC |  | 5.1 |

System Interface and Packages

Any language that sets limits on access to the machine's hardware or operating system is no more than a toy, since you can't use it to develop real-world applications. *Amiga BASIC* does let you use system routines and access system structures, but only in a most unwieldy fashion. This problem has been dealt with properly in *Amiga COMAL*. Access to all system libraries and functions is supported, and a new (for COMAL) data type called the *pointer* can be used to point to system data structures. This allows you to access the Amiga's operating system in the intended way, similar to the C-language techniques.

A feature that makes *Amiga COMAL* unique among interpreted languages on the Amiga is its use of "packages" to extend the language's capabilities, similar to the way libraries are used in C and other languages. A package is a collection of procedures or functions that exists as a separate program. Any package can be USED by a COMAL program (or by issuing the USE command directly), and the routines in the package are loaded from disk and are ready to use as regular procedures and functions in the program. The use of packages keeps the basic COMAL system down to a relatively small number of generic commands, with system-specific commands in packages where they can be used only if needed. For example, the COMAL disk comes with packages for speech, graphics, screens and windows, and interface routines to most of the system libraries and devices.

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You can write your own packages simply by defining procedures and functions in a program and saving it with a ".pck" extension on the filename; this package can then be used like any other. Packages can be written in C or assembler as well as in COMAL, so you can extend the language in useful ways to allow you to build a completely usable application. Not only can you extend the language by defining new procedures in a package, you can enhance the COMAL programming environment through the use of a special "comal structure" that is available for package routines to read and modify.

The current version of COMAL, called 2.0+, needs more pre-defined packages before the casual programmer can access all of the essential parts of the Amiga's operating system. Most notably absent are packages for menus, animation, sprites, and sound. Such packages may be included in future releases of *Amiga COMAL*, but public domain versions created by industrious COMAL programmers everywhere will probably be available long before then. Until such packages are available, only advanced programmers with the ROM Kernal manuals and knowledge of the Amiga system software will be able to use the Amiga to its fullest under *Amiga COMAL*.

Three separate graphics packages are included. The standard graphics package

includes some thirty routines to set graphics modes, plot points, draw lines and other shapes, fill areas, and similar operations. A "PCGraphics" package provides compatibility with the C64 and MS/DOS versions of COMAL. The graphics package that will be dearest to the hearts of COMAL fans, however, is the traditional "turtle" package. Turtle graphics commands let you draw by specifying the direction of a software "turtle" and the distance the turtle has to travel (see figure). Simple rotations and forwards or backwards movements of the turtle - while raising or lowering the turtle's "pen" as required - can make complex patterns very easy to produce, compared with the standard x,y coordinate system of graphics.

How to Learn More

If you like the idea of being able to easily put together a program in an interactive fashion but are turned off by *Amiga BASIC*'s faults, limitations and rough edges, you should look into *Amiga COMAL*. A good start would be to learn more about the COMAL language itself. You can get a free 24-page COMAL Info booklet by sending a self-addressed stamped (45 cents) envelope to the COMAL User's Group, 5501 Groveland Terrace, Madison, WI 53716. You can also investigate *Amiga COMAL* with the demo disk, which is available for only \$2 and may be freely copied and passed around.

CLI windows, you can put the codes in text files to do special display tricks when the file is displayed. Some of the codes even work when sent to a printer!

A Few More to Try

Here are a few more examples of code sequences to play with before you learn more about how they work, just as a teaser.

```
echo "e[4" use only the top 4 text lines in
           the window
echo "e[H*e[L" move cursor to top line, then
              insert a line
echo "e0 p" make the cursor disappear (note
           the space)
echo "ec" reset: set everything back to
          normal
```

How The Codes Work

The display tricks instigated by the special codes are not done by the CLI or Shell program, but by a special software "device" in the Amiga called the *console device*. The console device can be used for text input and output, and it is used by many text-based programs like the CLI. When such a program wishes to print some text, it sends the text to the console device. The console device looks through this text for the special Control-Sequence Introducer codes and interprets the special commands, while plain text is simply printed to the console window.

One of the nice things about these codes is that they are standardized: they will work with any program that uses the console device. You can put these codes in a text file, for example, and any program that can display a text file using the console device will interpret the codes correctly. Some of the codes, specifically those to set text styles and colors, are also interpreted in the same way by the printer device, meaning that the text file with the console codes in it will also have the desired affect on the text when sent to a printer.

With the exception of the "reset" command and a few other special characters, all of the console codes begin with the Control-Sequence Introducer (Escape followed by left square bracket) and end with a character, usually a letter, that specifies the command. Commands that can take numerical values as arguments have the number or numbers sandwiched between the CSI and the command code. In most cases, the number is optional and a default value will be used if the number is left out.

CONSOLE MAGIC

Special codes to transform your CLI window

by Chris Zamara

Here's something to try from a CLI or AmigaShell window (double-click the "Shell" icon in the Workbench if you don't have a shell running already). Type the following line exactly as shown, then press RETURN:

```
echo "e[33;42m*e[H*e[J"
```

All of a sudden, your CLI window has a whole new look, using spiffy-looking orange text on a black background (assuming you haven't changed the default Workbench colors). How do these magic codes work and what more can you do with them? You are about to find out.

The command that you typed may look like gibberish, but there is a simple expla-

nation behind the odd-looking codes. First of all, the *echo* command is used to print whatever is between the quotes to the CLI window. If you had put ordinary text in the quotes, it would simply be displayed on a new line in the window. The secret is in the characters "*e[", which the *echo* command translates as an "escape" character (ASCII 27) followed by the left square bracket. This sequence of characters has special significance as a *Control Sequence Introducer* (CSI), and gives you access to a whole range of text controls, including inserting and deleting lines, scrolling up and down, changing text styles, moving the cursor, changing border sizes, and others. Not only can you use these codes to customize your

As an example, the command code to move the cursor up a given number of lines is "A" (the case of the letter is significant for all CSI codes!). Since this command can take a number representing the number of lines to move the cursor, the format of the command is <CSI><n>A, where <CSI> represents the Control-Sequence Introducer, Esc-[(which you can print to a CLI window by using "*e[" in the *echo* command), <n> is the number of lines to move the cursor, and A is just a capital (shifted) A. So, to move the cursor up by four text lines, you could use the following command from the CLI window:

```
echo "*e[4A"
```

If you left the "4" out of the command, the default value of 1 would be used, and the cursor would move up by a single line.

Some Useful Commands

Below is a list of some of the codes you can try from a CLI window. Experiment with these to see how they effect the display. Some of them may prove useful for special

tasks, for example changing the text borders within the window to preserve text and keep it from scrolling away. If you find a command sequence that you may want to use in the future, you can define it in an "alias" in the Amiga Shell and just use the alias name to invoke the command in the future. For example, this line:

```
alias bold echo "*e[1m"
```

will allow you to change the CLI text to bold at any time by simply typing "bold" at the CLI prompt. By adding an alias definition to the "s:Shell-Startup" file, you can make the alias permanent. The standard Shell-Startup file in Workbench 1.3 already comes with a few pre-defined console code commands: "reverse", "normal", and "clear". You can take a look at these aliases (type "alias" to see them) and see how the codes are used.

Not all of these commands are useful from a CLI or Shell window; many make sense only when used from a program. They are listed here for reference, however, and for you to experiment with. Remember, if

things get too messed up, use the reset command: **echo "*ec"**.

In the commands below, Escape is represented by the characters "*e", which is interpreted as Escape by the AmigaDOS *echo* command. Numerical values in commands are represented by <n>. The actual command character is in boldface.

- *ec Reset to initial state
- *e[<n>@ Insert <n> characters in front of cursor
- *e[<n>A Cursor up <n> lines
- *e[<n>B Cursor down <n> lines
- *e[<n>C Cursor forward <n> characters
- *e[<n>D Cursor backward <n> characters
- *e[E Cursor to next line (to column 1)
- *e[F Cursor to previous line (to column 1)
- *e[<n>[<m>H Move cursor to row <n>; column <m>
- *e[J Erase to end of display
- *e[K Erase to end of line
- *e[L Insert line above the cursor's line
- *e[M Delete line
- *e[<n>P Delete <n> characters (default 1)
- *e[<n>S Scroll up <n> lines



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- *e[<n>T Scroll down <n> lines
- *e[<n>t Set page length (in text lines)
- *e[<n>u Set line length (in characters)
- *e[<n>x Set left margin (in pixels)
- *e[<n>y Set top margin (in pixels)
- *e[0p Make cursor invisible (note the space!)
- *e[p Make cursor visible (note the space!)

Graphics Rendition Mode

```
*e[<style>;3<fg>;4<bg>m
Select graphics rendition
```

This command lets you select the text style and foreground and background colors. Any of the parameters can be left out, and they can be put in any order.

<style> is one of the following:

- 0 Plain text
- 1 Boldface
- 3 Italic
- 4 Underscore
- 7 Inverse-video

The value for <fg> and <bg> is a single digit representing the pen color to use for the text's foreground or background color, respectively. For example, to set the text to orange italics on a black background, you would use the command:

```
echo ""e[3;3;42"
```

Since 3 represents italics (from the above table), 3 is the orange pen color (using the default Workbench screen colors) and 2 is the black pen.

Further Uses

Console codes are much more than just tricks to change your CLI window. For programmers, they can be very useful in programs that output to the standard I/O stream, which is the CLI window if the program is run from the CLI or a special console window if the program is run from Workbench. For example, if you wish to display some sort of constantly changing numerical display like a time or memory counter, you can turn off the cursor, print the number as usual (using the printf() function from C, for example), then use cursor movement commands to reposition the cursor to print the next number in the same place again. Console codes let you do some effects that would otherwise have to be rendered using the text primitives in the graphics library, which could involve a lot more code. A simple text editor could use a console window and the console codes to provide the basic cursor movement and text insertion and deletion operations.

Non-programmers can also benefit from console codes: you can add special effects like colors, boldface, etc. to your "ReadMe" files or other text files that are typed at the CLI or read with a console-driven text reader. (You must use a text editor or word processor that allows you to put an Escape character into the text to do this.) By putting the cursor-movement codes into the text file, you can even create a file that will plot a graph or change the display in strange ways,

just by typing it. If you stick to using only the text style commands (<Esc>[<n>m), your file will also have the proper effect when sent to the printer. If you have a color printer, the text foreground and background color commands will work as well.

Of course, those of you without an important use for these codes will just have fun experimenting with them and learning a bit more about your Amiga. That, in itself, is not such a bad deal.

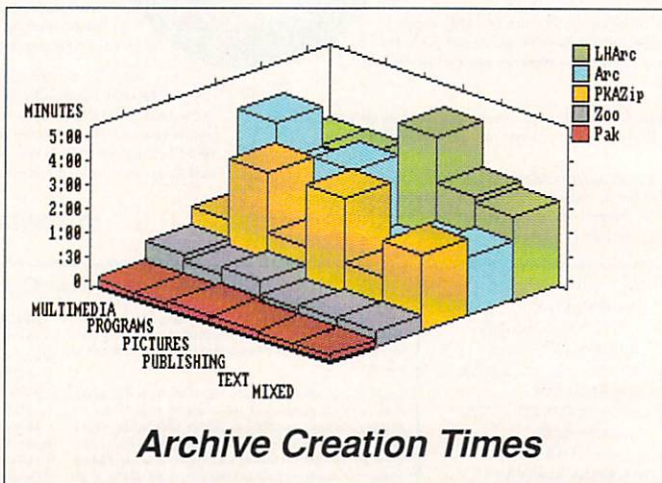
TESTING THE ARCHIVERS
There's more than one way to crunch a file
- but which is the best?
by Loren Lovhaug and Frank Hudson

Anyone who ventures into the file transfer section of a BBS or national information service will soon note that nearly every file sports a three-letter suffix such as .ARC, .ZOO, or .ZIP. These suffixes denote that the file has been treated by a file archiving utility that took the original file, compressed it, and then perhaps linked it with several other compressed files that are all in some way related to one another. When you download a file such as SOMETHING.ZOO it is not yet usable on your Amiga; you must first reverse the archiving process with the same archiving utility that was used to compress and link the files in the first place.

At first this might seem like a lot of extra trouble. However, archiving utilities can compress the original file(s) to less than half their original sizes in some cases, greatly

shortening their transfer times and the burden on the Sysop's storage capacities. Furthermore, linking related files is a great boon to online file transfers, assuring that the proper instructions, associated data, and icon files accompany each download of the program. Archiving is also a good way to free space on your hard drive or floppies. Programs and data files seem to always grow in size and number until they fill the storage available. "Housecleaning" takes time, and no amount of moving around solves the problem of what to do with those "don't use them often, but can't throw them out" files. By archiving those files, you can keep them available, but use up only a fraction of their usual storage space.

But which archiving utility should you use? If you ask four Amiga users you might well get five answers, and any survey of



File compression speeds of five public domain archivers

THE TEST DATA

Six sets of data consisting of three files each were chosen, and each archiver was tested for compression (archiving) speed, compressed file size, and decompression (un-archiving) speed. All tests were done from the RAM disk on a stock 68000-based Amiga. The results are shown in the bar graphs. These were the types of files chosen for the tests:

Multimedia: This is an arbitrary sample of various multimedia data. These test files were a *Deluxe Music Construction Set* song, a *FantaVision* movie, and a *Deluxe Paint III ANIM* format animation, adding up to 160K. Both the *FantaVision* and ANIM file formats already perform some data compression themselves, making this

a tough test for programs designed to further reduce file size.

Text: Three text files totalling 161K were archived. Text is notoriously easy to compress, and so we see some real space savings with all the archivers in this test.

Publishing: Desktop publishers collect lots of old files that they don't want to discard. Luckily the file types native to their programs are extremely compressible, producing the best results across the board for each of our five archivers. Beginning with a set of *Professional Page* files, a PostScript "print to disk" file, and a *PageStream* file adding up to 162K, the best compressors returned with files of just a bit more than 24K!

Pictures: The Amiga IFF picture format features built-in file compression, but some of the archivers were still able to slightly decrease the file size of a set of three IFF pictures that began as 161K of data. An exception was *Zoo*, which actually increased the total size of the files!

Programs: The archivers varied widely in their abilities when faced with three Amiga executable programs totalling 161K.

Mixed: For this test, the programs were asked to archive the song file, a 50K program file, and the large text file, a total of 162K of data. Mixing data types tightened the field a bit, but there are still some obvious differences among the archivers, especially regarding compression time.

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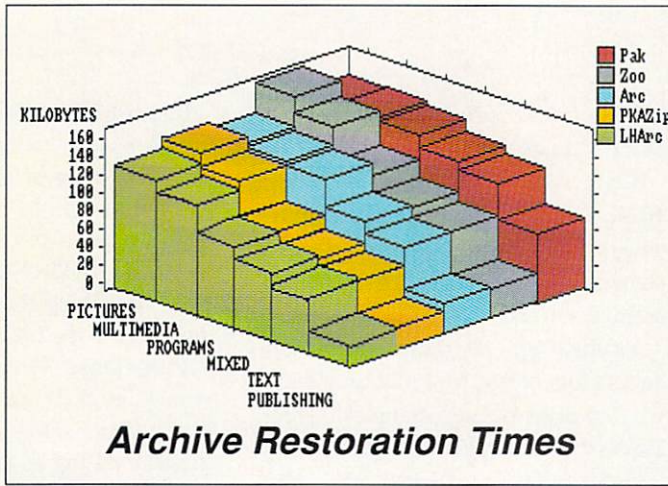
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File Decompression Test Results



complex installation process before PKAZip can be used for the first time, which will add a few seconds to the reported performance times for floppy disk users. PKAZip holds the AmigaDOS subdirectory structure within the archive in such a way that it can be passed back to the storage device at the time of un-arc'ing, a useful talent that is unfortunately not universal among file archivers. PKAZip offers an easy method of increasing archive construction speed at the price of final file size. Those in a hurry can choose "Force Shrinking" from the "Compress" menu, dispensing with the time-consuming file analysis phase of the compression.

Arc, Zoo, and LHArc work from the CLI. Typically users place the archivers in the C: directory with other AmigaDOS commands. All three then follow the same format to archive or un-arc a file. Using the Arc program as an example, the line

```
arc a BigFile.arc file1 file2 file3
```

creates a new archive BigFile.arc containing file1, file2, and file3. The line

```
arc x BigFile.arc
```

will extract (un-arc) the files in the archive BigFile.arc returning them to their previous state. Replacing "arc" in the above example with "zoo" or "lharc" runs the appropriate archiver from the C: directory. Arc extracts files to your current directory, as does Zoo, so if you wish to arc some files sitting in ram: to df1: you can **cd df1:** and then enter **arc x ram:BigFile.arc**.

Zoo has an important advantage over Arc and LHArc: like PKAZip, it can store complete pathnames of the files in the archive, and restore them to the appropriate subdirectories, creating the directories if they don't exist. This is very useful for sending a whole disk or a number of files in different directo-

recent Amiga uploads proves that the issue is far from settled. Are the Amiga archive programs pretty much all that same? Are any of them faster, more efficient, easier to use, or more powerful than the others? We decided to test them and see.

The Tests

I selected six groups of three files (see sidebar), each group adding up to approximately 160K. The three files within the six groups were chosen to be of a similar range of sizes, one of around 10K, a second of 50K or so, and a large file of at least 100K. I used the latest versions of Arc, LHArc, Pak, PKAZip, and Zoo available online (see sidebar for more information on these programs). All the utilities and data files were copied to the RAM disk on our stock 68000-based Amiga for the tests. Execution times were rounded to the nearest five seconds, file sizes to the nearest kilobyte. Of course actual execution times would vary depending on your Amiga configuration, but these times are accurate for comparison purposes. I found the performance of the five archivers to vary considerably depending on the sort of data file archived; there is therefore no one best archiver for all kinds of data. Even working with the same data, archivers vary widely in the three main performance areas: archive creation speed, un-archive speed, and file compression efficiency.

The test results are shown in the accompanying graphs.

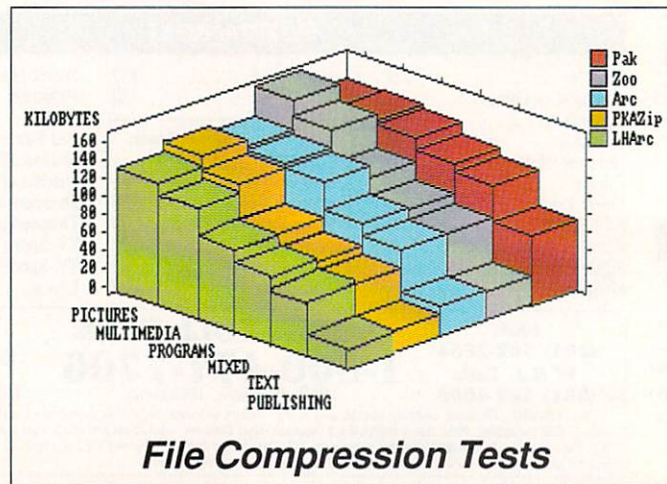
The User Interface

What about other capabilities and ease of use?

Pak and PKAZip are different in signifi-

cant ways from the other utilities. Pak requires an external program only for the "packing" process, including in the resulting archive the self-executing code to un-pack it later. This is convenient for the beginner and for archiving archive utilities themselves for upload. To un-Pack a .PAK suffix file you only need to type the filename on a CLI line and hit RETURN. In a few seconds the constituent files are unpacked and ready to go. Pak's command syntax is also the simplest, but at the expense of some options offered by the other archivers.

PKAZip, like the other Amiga archivers, requires the program for arc'ing and de-arc'ing its files, but the process is Amiga-tized, with a built-in mouse and gadget directory utility. To Zip or un-Zip a series of files, all one has to do is click and highlight the files and directories displayed in the Zip program's window and finish with a click on the appropriate button. As easy as this process sounds, it contributes to a slightly more



File Size Compression Efficiencies

ries, and can be an important enough factor by itself to choose Zoo over Arc. Another drawback of Arc concerning filenames is that the utility ignores files with names more than twelve characters long. This can cause important files to be left out of an archive, and at the very least can be an inconvenience, since you will have to rename these files before archiving, and give instructions to the un-archiver to rename the extracted files back to their correct names again. (Twelve characters is not all that much, especially when you consider programs that have associated ".info" files.) Fortunately, LHArc does not have this shortcoming.

Arc, Zoo, and LHArc will all display the command template and a series of additional options if you type the archiver's name and RETURN with no file specification.

One disadvantage to using Arc, LHArc, and Zoo's command line interface is that it can lead to lots of typing. Luckily there is a shareware answer to this problem, a wonderful file utility called S.I.D. that lets you

list files in two scrolling windows and click on those that you wish to archive or uncompress. S.I.D. is well documented and will allow the four other archive utilities to be handled in the easy, Amigatized manner offered by PKAZip. I highly recommend it.

Conclusions

What's the bottom line in archive choices? PKAZip is the overall speed/efficiency champ, the archiver to use except in cases of IFF pictures and animation data. Zoo is the second choice when you are in a hurry or want to use a CLI-based program, but never use Zoo with picture or animation files. LHArc is the best choice for those tough, already compressed, file types and also performed about as well as PKAZip on program files. If you need to compress or link IFF pictures and can't wait for LHArc to do its work, consider the otherwise inefficient Pak. Never choose to use Arc, which these tests show has been superseded by the other faster and more efficient utilities.

Programs Used

Arc version V0.23 March 14th 1987 by Raymond S. Brand. Arc is free for personal (non-business) use with no suggested donation. .ARC is arc's file suffix.

LHArc V1.10 January 29th 1990 by Paolo Zibetti and Haruyasu Yoshizaki. LHArc is copyrighted freeware. The suffix .LZH denotes a LHArc file.

Pak V1.0 November 2nd 1987 by Mark Riley. Shareware, fee \$10. .PAK is the pak file suffix.

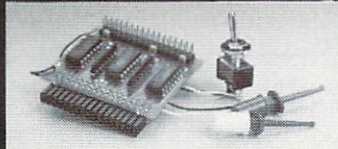
PKAZip V1.01 January 21st 1990 by Brian Hoffman. It's Shareware, two levels of registration mentioned, \$23 or \$43 from PKWare Inc. .ZIP file suffix.

S.I.D. V1.06 December 2nd 1989 by Timm Martin. Shareware, with a suggested fee of \$25.

Zoo V2.00 April 19th 1988 by J. Brian Waters and Rahul Dhesi. Zoo is copyrighted, but non-commercial use is permitted. .ZOO is its suffix.

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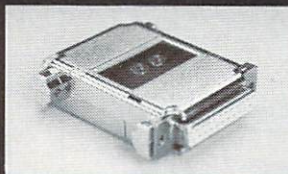
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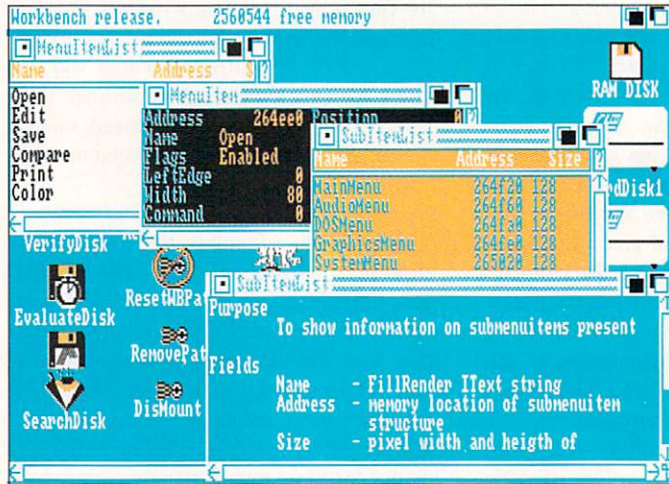
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By David W. Martin
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The wealth of commercial and public domain software available on the Amiga make it a truly fantastic machine. Some public domain software is so good that commercial vendors are finding it hard to compete against it. It's too bad that Progressive's *Dunlap Utilities* falls into this category.

Novices will find this product a very hard one to swallow due to its amazing size and complexity - there are forty interactive programs in this package! Reading the documentation may not clear up all the complex-



Analyzing menus- one of the many *Dunlap Utilities* at work.

ity of the package's utilities, but it certainly does not hurt. The documentation is well done, with examples throughout and several tutorials to help you get started.

Using Dunlap Utilities

Some setup is required to get *Dunlap*

Utilities up and running. A few special programs govern the whole system of utilities and must be installed and executed before any of the utilities will work. The manual clearly covers the installation and is mainly for reference. References are available "online" from within the utilities by clicking



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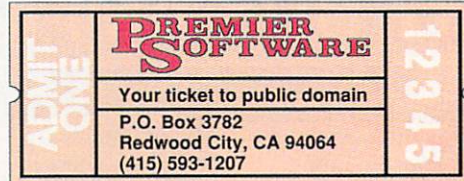
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on question-mark gadgets.

The utilities themselves are interesting at first, but due to their complex nature are not much fun to use. It's true that you can customize your Amiga environment using *Dunlap Utilities*, but I found that the time used setting up the utilities generally did not meet the results I expected or wanted.

Many utilities similar to those in this package are available in the public domain. These include screen blankers, function key utilities, mouse enhancements (i.e. click to front for windows, etc.) and color controls. I personally use a public domain screen blanker, *HOTKEY!* (a function key program launcher published by *COMPUTE!'S Amiga Resource*), and a variety of other public domain utilities. These programs not only work together, but were much easier to install than the *Dunlap* equivalents.

A major portion of the *Dunlap Utilities* provides programs which let you monitor your Amiga's operating system. Most of the elements of the Amiga operating system from windows to gadgets consist of lists.

These lists are structures used in programming that make manipulating related data easier to use and track. The *Dunlap Utilities* allow you to view the lists within the Amiga's operating system. You can monitor the reactions your Amiga has to functions that you ask it to perform. This feature is nice to watch, but again, many public domain utilities can easily replace it.

Conclusion

Overall the *Dunlap Utilities* is a good collection of useful utilities, but it simply is not necessary to have *Dunlap Utilities* to start such a collection. The utilities are interactive and full of features, but the clunky, slow, and complex system provided by *Dunlap Utilities* is best avoided by all but the bravest of Amiga users; novices beware! You will probably be more happy with the wealth of public domain utilities available than with this commercial product.

David Martin is a freelance writer and author of *INFO's* popular Tech Corner.

PUBLIC DOMAIN UTILITIES

Here are a few PD utilities similar to those in the *Dunlap Utilities* listed here with their PeopleLink library numbers.

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| sum files in a directory | |
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| ZAP.LZH | #21441 |
| Zap file editor | |
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| disk track copy | |
| SID30-MB.ZIP | #21467 |
| system info display | |
| GMAN.LZH | #22076 |
| find duplicate files | |
| DIRUTIL-M2DU.ZOO | #22127 |
| directory utility | |
| SORT.LZH | #22253 |
| multifield sort | |
| FIND110.ZIP | #22709 |
| find files/dirs | |

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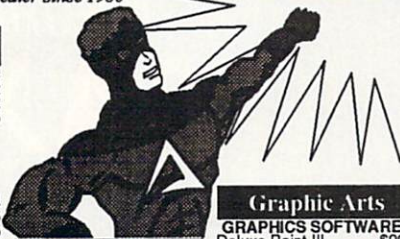
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Advertisers' Index

| Page | Advertiser |
|-------|------------------------------------|
| 49 | Active Circuits |
| 40 | Amiga Games Guide |
| 13,68 | Commodore |
| 63 | Computer Basics |
| 9 | Computer Systems Associates |
| 53 | DataTime |
| 65 | Devware |
| 7 | Digital Creations |
| 5 | Eschalon |
| 67 | Fuller Computer Systems |
| 34,35 | Go Amigo! |
| 55 | Intercomputing |
| 66 | Montgomery Grant |
| 62 | Premier Software |
| 2,3 | Psygnosis |
| 62 | Redmond Cable |
| 59 | Software Concepts |
| 11 | Software Support International |
| 61 | Utilities Unlimited |
| 27 | Virtual Reality Laboratories, Inc. |

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Featured Disk

WB38: Plotting and Graphics - Plotxy 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. Tessellator - a program that helps generate fantastic looking, recursive M.C. Escher type pictures

New Disks

FD32: Game Cheats and Flight Simulator - Includes an instrument flight simulator for a DC10. Also Cheats and Hints for the following games, Shadow of the Beast, Earl Weaver greats, Falcon, I.C.I.d., SimCity, SpaceAce, Space Quest, Test Drive hd install, and Extract a program that gets all of the text from within a game (or other) which helps cheating easier. Also several football teams (team files).

FD33: Arcade Games - Freddy a mario brothers type game, Gerbil's target practice game, Pipeline a german interpretation of Pipe Dreams, from a light cycles version, and wretroids a wonderful version of asteroids with a hilarious twist.

FD34: Games - Includes WellTrix a derivative of the addictive game of tetris, Dot2Dot - the connect the dots to make a box game, and new version of BackGammon. Also included are several new "Schwabie type Hacks".

FD35 Omega (v 1.3) - A new outstanding dungeon and outdoors adventure game in a similar vein as hack, rouge, and moria. This version is considerably faster and better than all previous versions. Play time several weeks or months.

WB37: Educational - Educational games and puzzles that cover math, geography, spelling, and books. Ages 6 - 15

WB39: Music - IntraTracker is a german offer of an exquisitely well done program that allows you to play Amiga music as if from a CD like controls. Lets you strip out music from your favorite games or others and include them in your music library. Strongly recommended for Amiga music lovers.

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DD66 Programming ToolBox - Many programs to help in your development efforts (most for C, some for basic) including programs to generate requesters, an incredible spritmaker toolbox, to greatly aid compiling, convert DPaint brushes to C structures, a great library manager, and many more wonderful time savers!

Other Great Disks -

FD5: Tactical Games - BattleForce(3.0) see MechForce on FD20. 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 good Amiga version of Kingdom, Golden Empire, Etc. Very very habit forming.

FD6: GAMES! - This disk is chocked full of games including; Checkers, Clue, Gold - A new slide the pieces puzzle, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.

FD7: PACMAN - This disk contains several pacman type games including; PacMan87, MazMan and Zonix.

FD9: Moria - a very well done port of an UNIX based character adventure game. This has great graphic controls, multiple spells, similar to Larn and Hack. Takes up the whole disk. Play time several weeks!

FD10: HackLite - A dungeon adventure game. Considered a must have classic. This is the second release of this game on the Amiga. Originally a UNIX game. Great Amiga graphic interface. Fills the whole disk. 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. Reg. 1Mb 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 arknoid/break out type game, Tris - a Cix type clone.

FD16: Strategy Games - Includes Diplomacy and Empros, both great conquer and rule multiplayer games similar in concept to Simcity and Populus. 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(3.65): 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. This game is the full featured update to BattleForce(3.0) on FD5.

FD22: Arcade Games - This disk has MoonBase - The best lunar lander game we have seen in a long time, very challenging and addicting. Also BoingGame - a maze type, donkey kong type game.

type clone, MM a master mind type clone, Flipper an othello type clone, China a great implementation of Shangi, CircuitWars a challenging game based on electronics, and Etrain a computer based model train set construction set for the enthusiast.

FD25:Tactical Games - Empire (133w)Empire is a rich simulation of international politics, economics and war, which is played over a period of a few months by 2 or more people. Players can run their countries from the normal Amiga keyboard, or via a modem at 300 to 2400 baud.

FD26:Arcade Games - Marble_slide, truly this is a commercial quality game. Similar to a Lucas game named PipeDreams, excellent playability and entertainment. Mutants - a small version of the arcade game of the same name, also SuperBreakout a pong/arknoids type game.

FD27: Arcade Games - This disk is loaded with some great games. Includes, Raceorama a great racing car game with ten different courses, MiniBlast a helicopter gunship type clone, Shark in the same class as frogger.

FD28: Games! - This disk contains several great games including, DnpGame - Sort of belongs to the PacMan type clone category but not exactly. This is truly a new and great original gaming idea. Very addicting, excellent playability, highly recommended. Pyramid - a Q-Bert type clone. Also, KingOil - a challenging board game were you are the leader of a wild cat oil team. Object - try and become another Exon.

FD29: Shoot'em up's - WWII - your the pilot of a world war II plane flying through enemy territory, you've just been spotted, good luck on you mission, SpKiller - try and penetrate enemy lines with this game, and Retaliator - another great game.

FD31: Games! - Air Traffic Control - a good ATC simulation game, Black Jack Lab - a full featured set of card games, ChessTel - play chess with your friend in distant and remote places with this game and a modem, labyrinth - a well done text adventure game (like an infocom game), and MouseTrap - a 3d maze game.

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 terminal emulator, and JRComm (0.94a) another great com program.

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).

WB11: Business - Clerk(4.0), finally a full featured business accounting PD program for the small to medium company. Includes receivables, payables, end of month and much much more.

WB12: Disk Utilities - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and file recovery archive and organizing, and all sorts of file manipulation. A real must have!

WB13: Printer Drivers and Generator - over 70 different drivers, and if these don't do it, PrtDrvGen an easy to use program to make your own.

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 permywise a good "Cash Book" accounting for home or office.

WB18: Word/Text Processors - This disk contains the best editors that we could find. Includes, WordWright(v6.2) a full featured word processor with mail merge and outlining capacity, Dme(v1.35) a great programmers editor with strong macro features, and TextED(v2.8) an enhanced Emacs type editor.

WB20: General Interest - On this disk is, DiskSalv V1.42 a disk recovery program for all Amiga file system, FixDisk V1.0 another file recovery program with features DiskSalv doesn't have, 3DLook a program that gives a 3D appearance to your WorkBench, Clean V1.01 a program to de-fragment memory, Tracer - trace any part of that image.

WB22: Fonts #3 - Several more great fonts. These, like the other font disks work great with DPaint and WYSIWYG word processors.

WB23: Graphics and Plotting - Plot (20b) a three dimensional mathematical function plotter. Can plot any user defined function, all aspects controllable., BezSurf2 is a program for producing bezier surfaces of revolution. It produces awesome pictures of objects one could turn on a lathe. Can also map if image files onto any

surface that it can draw. Now compatible with most 3D packages and VScreen makes a virtual screen anywhere. For you DTP people this is a absolute must have, it allows full page editing without redraws!

WB25:Educational - On this disk are two programs that can generate maps of different types, World Data Base uses the CIA's data base to generate detailed maps of any enter user global coordinate. 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 much like NewZap, LabelPrinter - a brand new Disk label printer with some of the most powerful features. We have seen to date, each designed to give maximum control over what shows up on your labels.

WB27: Nagel - This disk contains 26 Patrick Nagel pictures of beautiful women.

WB28: Scientific - On this disk is MATLAB or MATrix LABoratory. This provides comprehensive vector and tensor operations.

WB29: Graphics and Sound - This disk has several different Mandelbrot type programs for generating stunning graphics. Includes, MandelMountains - a realistic terrain generator, FractalGen - 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 Mcad (1.26) 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 raytracing program, create your own beautiful 3d graphic models.

DD45: AREXX PROGRAMS - This disk contains several useful arexx programs and examples, PopCLi4 - The latest of a must have utility.

DD47: Pascal - This disk contains everything needed to program in pascal. Includes, A68k (1.2) 68000 assembler, Blink linker software and PCO (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, Blink linker.

DD50: ARexx #2 - a must have set of tutorials on ARexx and several useful examples and utilities for ARexx development.

DD51: Circuit Analysis - Aspicpe (2.3) A full featured program for electric circuit analysis.

DD52: Scientific - This disk contains several great programs and C source routines for the scientist and science student. Includes Elements - an incredibly well done periodic table program with source, Scientific plotting - over 600k of Lattice C source FFT - fft C source.

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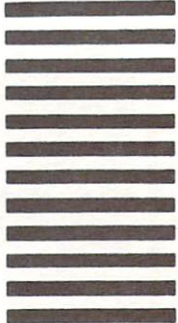


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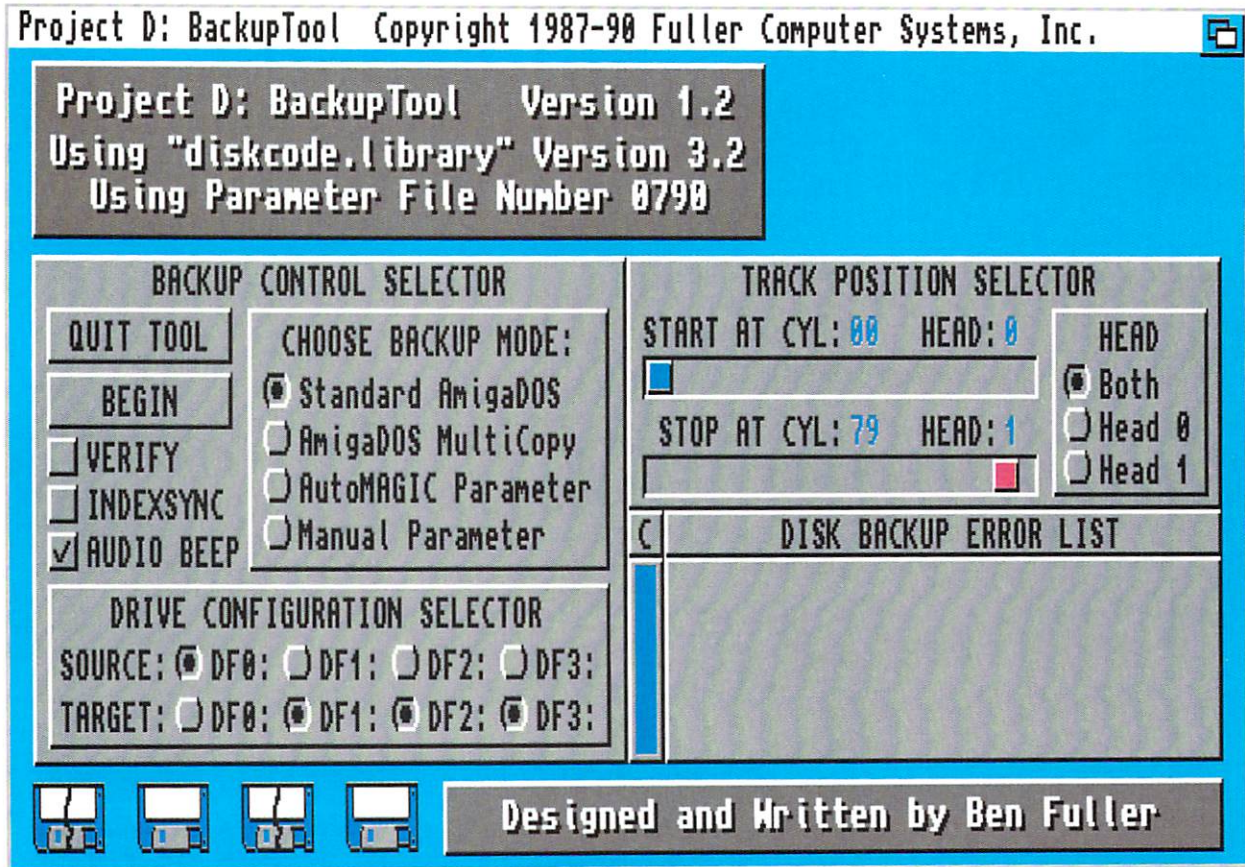
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