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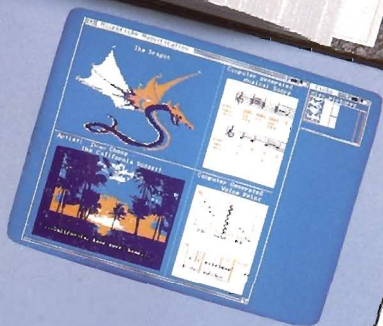
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microkinematography
microfiche
one of the submicro of the plant cell wall — [F, fr. *mic-* + *fiche* in point, fr. *ficher*, *fichier* FICHU]: a sheet of mic rows of images



SOFTWARE VISION Inc.
26 FOREST ROAD, FRAMINGHAM, MA 01701

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&
Editor-in-Chief**
Thomas E. Bucklin

Senior Editor
Stephen Dock

Production Designer
Gary L. Gehman

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On Point

Notes from Editor Tom Bucklin . . .

"The times, they are a changin'....."

Bob Dylan

One would think that after a while, a person could get tired of the phrase, "new and innovative", but that's exactly what we're talking about here.

The recent Spring Comdex show in Atlanta, Georgia was proof of that. The hall was teaming with "new and innovative"...and although a very small portion of the event was dedicated to Commodore, there were few booths on the entire floor that matched the spectacle created by the Amiga.

No more limping along with half-baked displays and demos; instead, the Amiga booth was almost luminous with first rate props and first rate developers with diversity ranging from Electronic Arts, to WordPerfect Corporation. There was even a touch of "Hollywood" with the continuous running video taped productions that showed off the awesome graphics power of the machine to an endless crowd of curious onlookers.

We've dedicated a lot of this issue to this important event; important because under the man-

agement of new CEO Irving Gould, the times, they ARE a changin. After hearing what Commodore was conveying to the press, and speaking with Gould directly, I'm convinced that the "new direction" they spoke of is a reality; a reality that they seem to be going after with almost a "no holds barred" approach. But the best news is that they are pursuing this new quest for success with the AMIGA as the spear head, and consequently will be concentrating most of their efforts on promoting, producing, and supporting the AMIGA. Just a quick glance at our report on Commodore's press conference will show you what I mean. It is the sound of a new, aggressive attitude within all of the ranks of the company pledging support for the Amiga line.

Obviously, this is all due to the presence of Irving Gould, who is determined to let the buying public know about the power of the Amiga. The majority of people never even heard of Gould until the recent shake up at the Commodore organization, in which he replaced Thomas Rattigan as CEO. But, it seems clear

that he is destined to be a name that neither we or his staff will soon forget. The truth of the matter is that it is almost puzzling in trying to determine why Irving Gould didn't step in earlier. I feel certain, based on his enthusiasm for the Amiga, that the sales figures on the A1000 would have told a very different story.

Some have debated the fact that Commodore succeeded the A1000 with two very compatible Amigas, as opposed to creating a whole new, next generation machine. I for one, agree with Commodore's decision on this point; and never did I agree with it more than while listening to the press conference speakers. There was no more anxiety in regards to how to position their computer between the business and home markets. Instead, they confidently address the respective new machine to the area they designed it for, praising the attributes that it could bring to that particular market place.

If Commodore maintains this new focus, there is no reason why Gould cannot achieve his new "ambitious goal".

AVAILABLE NOW! StarBoard2

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

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

It's small, but it's BIG–

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

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

This card has decks!

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

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

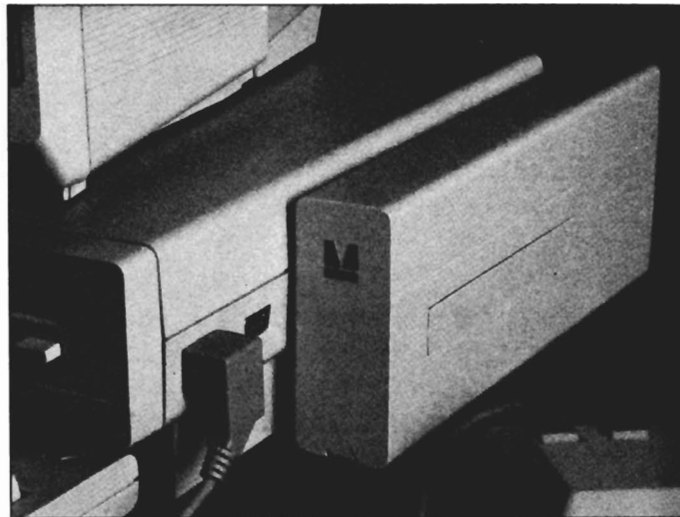
StarBoard2: functions five!

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

THE CLOCK FUNCTION:

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

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



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

THE FLOATING POINT FUNCTION:

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

THE PARITY CHECKING FUNCTION:

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

THE IMMORTAL MEMORY DISK FUNCTION (STICKY-DISK):

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

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

Fast RAM –no waiting!

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

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

A passing bus? Indeed!

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

The sum of the parts...

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

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



MicroBotics, Inc.

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Comdex Spring '87

Amiga Steals the Show!

by Tom Bucklin



Excited onlookers crowd the Commodore booth at Comdex in Atlanta.

Two well dressed business executives, touting briefcases stuffed with agendas, turned the corner of a well lit booth bustling with activity. The taller one says to the shorter one: "Oh, this is the booth for the Amiga." The shorter one perks up and says: "Oh yeah, I heard that they are doing some viable things with the Amiga now." Wing tips glistening, they round the corner and enter an area of colorful sights and sounds. One can just tell by the expression on their faces that this is a virgin visit to the world

of Amiga. After a period of pointing out to one another the barrage of displays that seem to increase in intensity, they realize that they have been viewing images created on the new A2000 model of the Amiga. Like a sort of telepathy, they rush to be the first to spit out the inevitable comment: "You know, this new Amiga model has IBM compatibility." They continue on with a renewed sense of interest, perhaps now being able to justify to themselves their presence in this booth. What was a "curiosity

cruise" has now miraculously evolved into a "productive examination of a viable product".

Such was the tone of the COMDEX show in Atlanta, Georgia, in which Commodore participated in grand style. Covering a period of June 1st through the 4th, the well known event represented Commodore's first large show participation since the recent restructuring of the Commodore organization.

Sporting a large floor area and backlit posts designating specialty areas, the Commodore booth was easy to spot. It was clear that Commodore was there to promote only one thing.. the Amiga. As a matter of fact, there were over 30 Amigas running at any given time, displaying a wide range products.

However, the mix of exhibitors was not accidental. Rather, the participants were hand picked by Commodore to set a particular tone in regards to the machine's abilities, and that tone was *productivity*. Spreadsheets, desktop publishing systems, video processing systems, and advanced word processors were in abundance.

On the 31st of May, Commodore held a meeting for some

200 dealers. The dealers were told about the company's new aggressive position, and guaranteed that they would be provided, "solutions to market the Amiga." Later that week, in Commodore's press conference, Rich McIntyre, director of U.S. sales and dealer development said, "We had over 200 dealers there. They came in skeptical, and left fired up...we had a presentation with over 200 slides, all generated on the Amiga."

The "slides" that McIntyre spoke of were actually a video tape which was produced jointly between Commodore and their recently appointed advertising agency, Griffin Bacal. Two versions of this video tape (one thirty seconds and one 60 seconds) were continually shown at the Amiga booth at Comdex. A very high powered sound track accompanied the tapes, which contained scenes from seemingly countless Amiga software packages. Commodore is reportedly producing an even more refined version of this video tape for use in a TV ad campaign; certainly a major improvement over the previous weak (or non-existent) advertisements.

One of the highlights of the show is when Gould signed an enlarged replica of a letter he sent to Wordperfect president Alan Ashton. The contents of the letter indicated Commodore pleasure to have the Wordperfect organization's support for the Amiga. Indeed, this is an important step to gain credibility for this machine. It is not unlikely that other major companies will follow the example of Wordperfect,



Commodore CEO Irving Gould welcomes aboard WordPerfect president Alan Ashton.

and begin to port their products over to the Amiga.

However, like any good show, the real highlight of the show was the products, and there were plenty of them (Look for our product roundup in this issue). There were also plenty of people to view the new products as well. Countless patrons jammed the Amiga booth over the four day show, making it visibly one of the busiest booths on the entire Comdex floor.

This is certainly an encouraging sign for Commodore, and for Amiga owners as well. Like any company, Commodore will want to put it's eggs in the most profitable basket. By the looks of things, it would seem that the Amiga is finally being recognized as the goose that lays the golden eggs.

Product News And Previews:

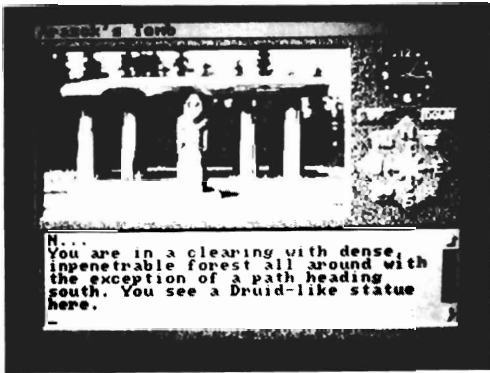
A COMDEX sampler

The Comdex show was a haven of developers introducing new Amiga products to the public. It was apparent that these members of the Amiga community felt that this was a very important event for their organizations, and for Commodore. Although many of the products were in the early beta stages of development, others were either completed, or remarkably functional. In the pages that follow, we've brought you a sampling of many of the innovative new packages that will be offered for the Amiga. >>>>>>

A Comdex Sampler

*Selections from the list of new and
soon-to-be released Amiga products.*

Arazok's Tomb: Aegis Development Corporation 1-(213)-392-9972



This new mysterious adventure game from Aegis contains a warning: "NOTICE: This adventure game contains adult situations and language. Parental guidance is advised for persons under 14 years of age."

Indeed, Arazok's Tomb is billed as "Classic Horror - not for kids" by the authors. Sent to investigate your Uncle Jason's strange disappearance at an archeological dig, you are given a two page riddle, which doubtless, contains information vital to your success and survival in the Welsh countryside. Not much is provided other than basic program operation procedures, which has become standard procedure with adventure games.

Control within the adventure is accessed by pull down menus sporting options such as speech, sound effects, and print. One of the potentially useful selections, the print option will provide you with a hardcopy of all text exchanges between you and the computer throughout the adventure. This will allow you to examine at length that wrong turn you made just before everything went black.

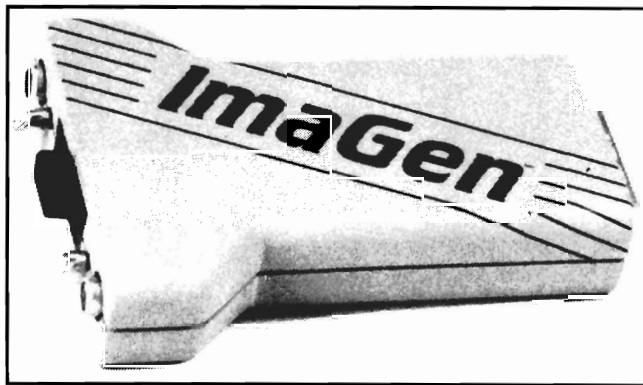
IMAGEN: Mimetics Corporation

Plugging in to the Amiga's RGB port, and containing an appropriate RGB pass through, IMAGEN by Mimetics is a state of the art, low cost, high performance genlock device for Amiga based television production. It allows the Amiga to synchronize with, and overlay graphic images on VCR, broadcast, or camera video. It can interface with video switching and special effects generators as well.

Incorporating a low power consumption circuitry, the unit is reportedly compatible with all Amiga models, including the low power A500. When used in conjunction with the A500, the unit can provide a color composite output to use on standard video devices (such as VCRS').

Electronically, IMAGEN is said to have no vertical or horizontal image shift characteristics, and be compatible with any external video source.

List price is \$179.95



VIDEOSCAPE 3D:

With this highly innovative program from Aegis, a new era of simplified object generation and manipulation has arrived.



Some of the features included in the program rival those of dedicated graphic workstations. The ability to create a smooth metamorphic evolution from one shape to another, and a disk based playback system dubbed "Playanim", comprise some of the more unique qualities of this new offering for the Amiga.

Created by Allen Hastings for Aegis, the three disk set contains the main program, object and motion libraries, and a disk of IFF artwork examples.

Although the "Playanim" module can allow you to view your animation, a single frame recorder is the recommended medium for video production. Functional on a 512K Amiga, the program's authors recommend a minimum of one to four megabytes of memory in order to play back any useful lengths of animation from memory. All screen resolutions are supported, including the full array of overscan modes necessary to produce broadcast quality productions.

Suggested List Price: \$199.95
Aegis Development 1-(213)-392-9972

Comdex Sampler - (continued)

WORDPERFECT: Wordperfect Corporation

Anyone who has been around the micro-computer industry for a few years will recognize Wordperfect as one of the leading software titles for the IBM/PC and compatibles. The Amiga version of the program retains all the advanced features found in the MS-DOS format, with the addition of making extended use of the Amiga's intuition interface. A major attempt to keep all keystroke sequences the same between the two machines will result in a very short learning curve when switching from PC to Amiga versions.

Wordperfect comes with an extensive manual and drivers for 263 different types of printers. Within a given driver, the user may pick up to eight font styles (provided the printer supports font changes under software command).

The program, scheduled for completion in late July, is expected to draw the attention of many MS-DOS users by way of lending a much needed credibility to the Amiga for productivity purposes.

Suggested List Price: \$395.00
Wordperfect, Inc. 1-(801)-225-5000

LAND OF LEGENDS: Micro-Illusions

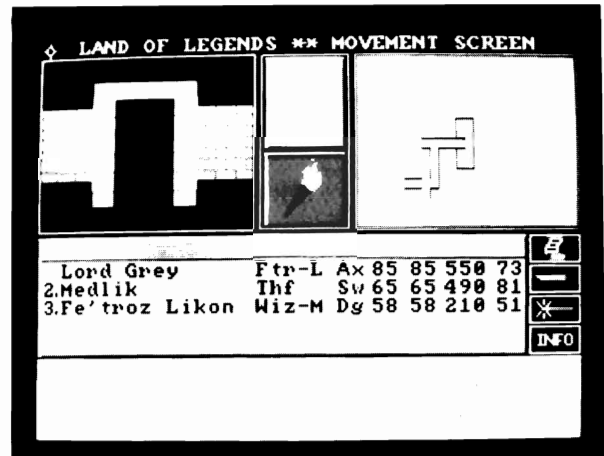
Land of Legends will be the first in the "Questmaster" series of adventure games planned for development by Micro-illusions. These games will have a dungeons and dragons type of theme.

The graphics in Land of Legends are done in the first person viewpoint. The program is said to have numerous dungeons to explore, most with multiple levels, and having a host of secret passages and tele-porting areas. Many of the shops and towns that lie above the cavernous underworld can be accessed from the underground dungeon world.

When the inevitable confrontations occur with the not so friendly occupants of the dungeons, your view will switch to an overhead combat mode, allowing you to observe all the action.

To follow the release of LAND OF LEGENDS will be the DUNGEON CONSTRUCTION SET. This program will allow you to create your own sinister traps and twisting tunnels, where you can create your own monsters, treasures, and magical items.

Suggested retail price will be \$ 49.95
Micro-Illusions 1-(800)-522-2041



The Demonstrator: Meridian Software

The Demonstrator, a new mouse/keyboard macro tool from Meridian Software, was displaying selected routines which were recorded with the program. To use The Demonstrator, the program is first installed, then you call it up and select the "record button". All input from the keyboard/mouse will then be stored to the desired output device in a special file.

Suggestions for use by Meridian include the recording of a set of complex instructions to alleviate tedious repeat actions, such as with opening a database and performing certain required functions in order to get to a desired work area; storing precise mouse movements from within a paint program to reconstruct a drawing. In any of the applications, a provision is made to vary the speed, or to stop the pre-recorded playback. This could be very useful in the case of a set of recorded instructions in which an error was made. You could examine the recording, stopping at the point the mistake was made.

Designed to fill a variety of applications, the program would be very useful for the organization needing to create presentations of any kind, whether that be a dealer demonstrating the capabilities of the Amiga, or general presentations.

Suggested List Price: \$34.95
Meridian Software 1-(713)-488-2188

Liquid Light: Polaroid Palette Torrance, CA.

Via a special interface designed by Liquid Light, images from the Amiga can be electronically transferred to a number of different types of photographic mediums via the Polaroid Palette. The presence of a separate interface allows the palette to retain IBM compatibility when used with a direct input. A program is included to display your desired pictures, manipulate the exposure parameters, and control functions of the palette system. The system will work with any IFF image, as well as Hold And Modify displays.

(continued)

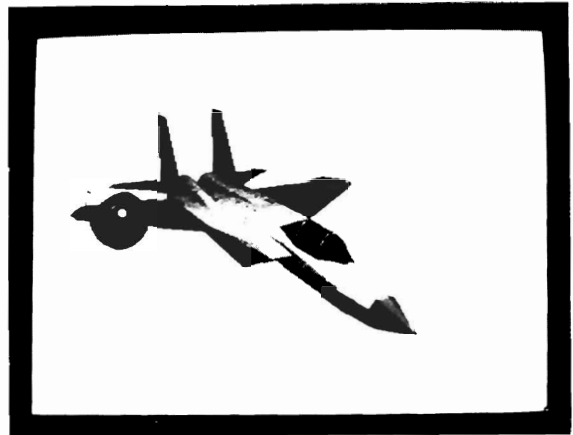
Comdex Sampler - (continued)

SCULPT 3D: Byte By Byte Corporation

B.B.B. was showing a prototype of their new generation object rendering program which allows complete control over the color and surface characteristics of the object. The program is being written by Eric Graham, who is most notable for producing the famous ray-traced JUGGLER demo.

In SCULPT 3D, the observer's viewpoint can be set and changed, as can the angle of view. Object creation is handled on a wire frame basis, in which the operator views the subject in three distinct x, y, and z windows simultaneously. Complex scene creation is simplified by an object library which contains basic building block shapes such as spheres, cubes, and prisms. Molding tools can then be used to modify these stock shapes by means of spinning, extruding, or grabbing.

As complex ultra smooth rendering can take some time, fully automatic rendering (batch mode) of multiple scenes is supported. You simply tell the program which files that you want to render, and Sculpt 3d will perform the scene generation procedures, and then save the images to the designated output device. A future counterpart animation module will allow full animation of your self-made masterpieces, and is expected to sell for around the same price as SCULPT 3D.



Suggested list price: \$99.95

Byte by Byte, Inc. 1-(512)-343-4357

FIRE POWER: Micro-Illusions

The First in Micro-illusions' One-on-One series of arcade style games, FIRE POWER is targeted to be a fast paced tank scenario game pitting you against the computer, another player, or battle via a modem.

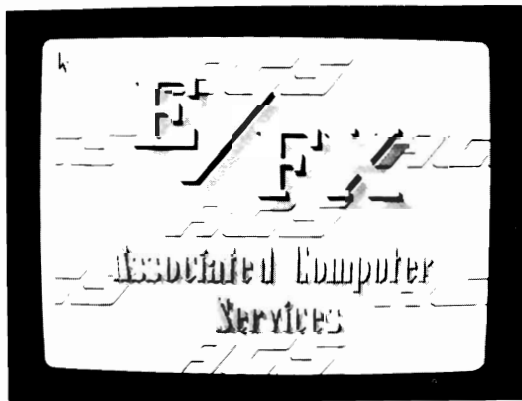
Some of the features of the program are high level graphic representations, digitized true stereo sound effects, and realistic tank response.

Suggested retail price will be \$24.95

DYNAMIC WORD: Micro-illusions

DynamicWord is reported to be a powerful, professional, and easy to use word processor for the Amiga. It incorporates a 100,000 word+ spell checker, a full featured thesaurus, the ability to do mailmerge, indexing, table of contents, and can change the viewing colors of both screen and text. The program fully supports unlimited multiple fonts, automatic page numbering and columns, as well as full justification functions, multi-windowing, and multi-tasking. Macros, screen editing (for programmers), an on-line calculator and help screens are some of the other key features included as a standard part of DynamicWord. You can also use the program in the full array of Amiga resolutions.

Suggested retail Price will be \$199.95



STATION MANAGER - E/FX: Associated Computer Services

The E/FX package from ACS is designated for the TV Broadcast industry to produce sophisticated graphics and animations. However, anyone who has the need for high quality graphics could benefit from this package.

The creation process is simplified by using a story board method of describing the scenes and/or action. Each story board may contain up to 12 different high-resolution pictures or backgrounds, and each may be displayed using a variety of wipes. Utilizing a screen overscan mode, broadcast quality productions can be generated, incorporating animated brushes created in any IFF compatible high-res painting/drawing program.

E/FX uses a double-buffered animation technique to achieve smooth movement of objects and text around the screen. A wired remote control unit (purchased separately) plugs into the joystick port, and can start/stop sequences, as well as abort a given.

The E/FX program forms the nucleus of a complete TV broadcast package. The Weather Graphics program, available separately from ACS, integrates with

E/FX, and contains dozens of high-resolution weather maps and backgrounds. The built in download software enables reception of maps and weather data from all the most popular weather services.

E/FX Suggested list Price: \$295.00
Weather Graphics List Price: \$295.00

(continued on page 38)

The Flow™ Idea Processor Helps You Survive the Information Age

The age of the computer has produced a virtual wilderness of personal complications. So much information needs to be organized. So many things need to be done. And there's only so much time to do them in. To survive you need a tool that lets you organize things the way you want them organized. You need Flow, the Idea Processor for the Amiga™ computer.

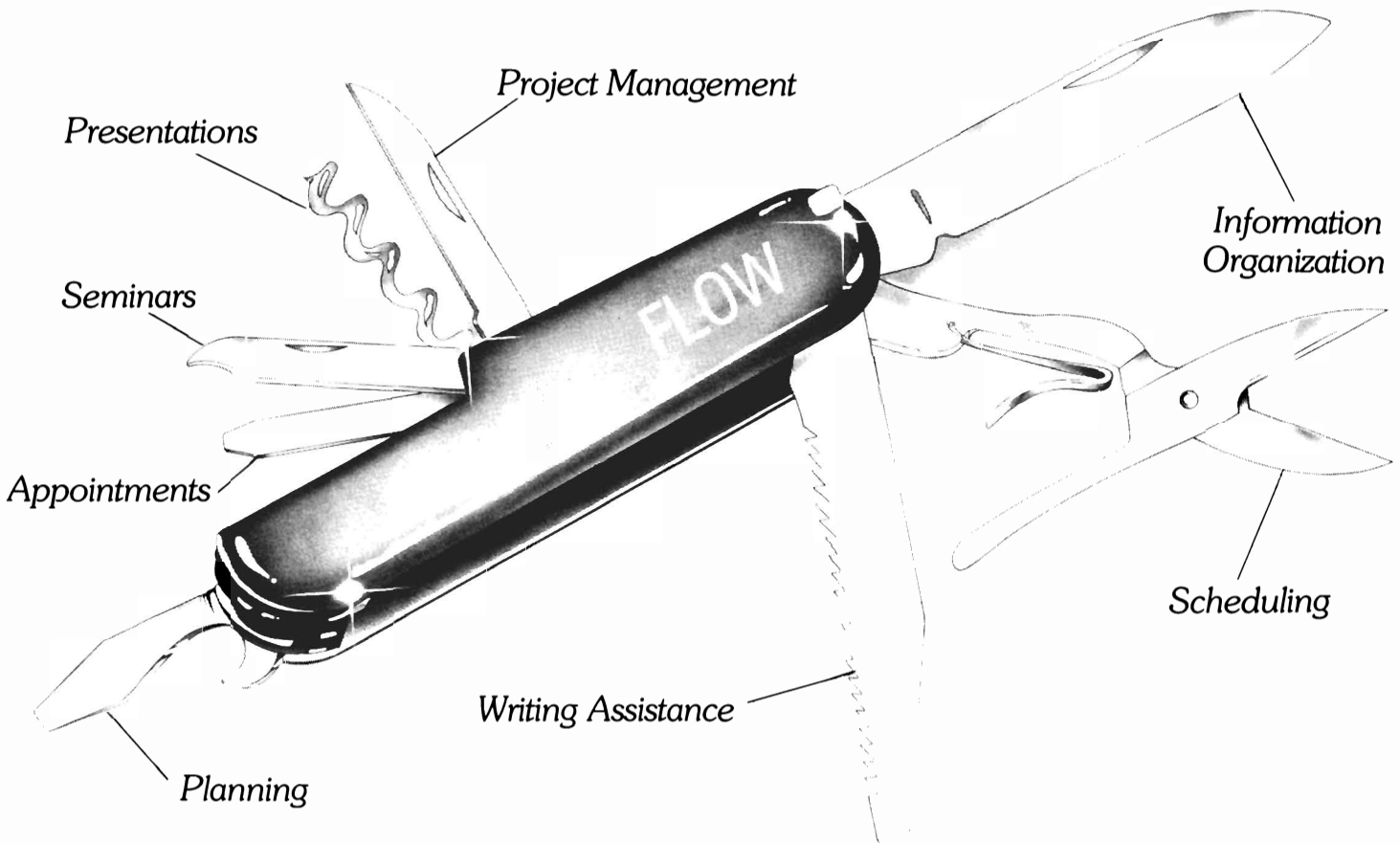
With Flow you can formulate and organize your business and creative endeavors with absolute ease and flexibility. Enter your information in an outline form and give it the structure you want. Then selectively hide and show only the subtopics of interest. You can see the big picture, or just the details you need.

And because Flow takes full advantage of the mouse, using it is intuitive. With the touch of a finger you can arrange and rearrange, find, sort, expand and condense at will. Drag whole blocks of entries to where you want them. Click twice to zoom in on the subtopics. Sort your entries, and quickly find the information you need.

Flow is a tool for organizing your writing, a tool for arranging schedules and appointments, a tool for categorizing and storing any kind of information. Flow is the multi-purpose tool you need to survive in the information age.

Available now from your Amiga dealer. Suggested retail price \$99.95.

A Personal Productivity Survival Tool



New Horizons Software, First in personal productivity and creativity

New Horizons
S O F T W A R E

New Horizons Software, PO Box 43167, Austin, TX 78745, (512) 280-0319

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A Comdex Press Conference

Commodore shows it's new stripes to the press

On June 2nd, at the Omni hotel in Atlanta, Commodore officials gave a press conference for members of the microcomputer press. Present were all of Commodore's top brass, including Clive Smith, Al Duncan, Julie Bauer, Frank Leonardi, Rich McIntyre, Director of Engineering Dr. Henry Ruben, and chairman Irving Gould.

Gould began by acknowledging the skepticism of the press in regards to a statement about a new direction for the company. Said Gould, "Some of the recent articles about Commodore have accused me of being an impatient man, and I plead guilty to that charge. Especially when it comes to Commodore taking it's rightful place in the US, and international computer markets. Alluding to the reasons behind the Rattigan dismissal, Gould stated, "Well the only reason I can give is that it was done because it had to be done to improve the jobs that we hadn't been doing in the United States. There is absolutely no reason why this company cannot do the job in the USA that we do in the rest of the world. This is why you are looking at new management."

Commenting on the famed financial "turn around" of Com-

modore in the last quarter of '86, Gould was quick to say, "...a turn around in itself in not an objective. If you stay in a turn around mode, you end up going in circles. A turn around is supposed to position you to take off in another direction, and toward an ambitious goal."

With just a casual glance around the room, one could easily pick out the still unconvinced members of the press. With an apparent knowledge of their skepticism, Gould went on to say, "We are very much aware that our product line must be marketed with aggressiveness, vision, and street smarts if we are to reach our goal. Some of the recent changes in our organization were designed to make that happen. We're certainly not lacking in technology, and never have been. Look at multi-tasking. We offered that with our first Amiga computer in 1985. IBM and Apple are still promising."

Al Duncan has put in six years with Commodore as general manager of the European group in Canada and Italy, and has now come to the US to take the post of general manager in the US. His assignment will be to make the Commodore organiza-

tion be more profitable, and stabilize their dealer distribution.

Duncan stated that Commodore reduced inventory levels by 240 million dollars, and applied 145 million of that toward paying back bank debt. He rightfully cited the fact that this was done while several new computers were introduced to the market. He described the Amiga 500 as the "ultimate home computer with it's multi-tasking, speed, and graphic capabilities.

Newly installed director of U.S. sales, Rich McIntyre discussed the now present (due to third party support) solutions available to the Amiga dealer base. Commenting on Commodore's extremely last minute decision to pull out of the CES show in Chicago in favor of Comdex, McIntyre said, "We were originally positioned to go to CES three weeks ago, but decided that that was a mistake..we changed it, and decided to come to Atlanta. Al (Duncan) and I went to the CES show on Saturday..and we made the right decision."

In regards to Commodore's plans to capture an expanded dealer base, McIntyre said, "We had a dealer meeting here on Sunday with 200 deal-

Press-

ers..skeptical when they walked in, turned on and ready to roll when they walked out. We have exciting products that we are going to market through the independent computer dealer channels. We currently have approxi-



Frank Leonardi introduces the Commodore execs.

mately 900 independent dealers selling the products today. We are going to increase that number to approximately 1500 locations. We are committed to the independent dealer channel, both with the A500, and the 2000...we are going to take to our dealers packages of solutions that we can go to

the marketplace with....we are going to advertise the A500 to the home market with television, etc..you'll see these ads later in the year..the A2000 ads will be coming in August-Sept.

This meeting represents very good news for present or would-be Amiga owners for a variety of reasons, not the least of which is the fact that Commodore seems to be taking a highly visible position on the market. Just a few years ago, the company seemed to be highly *invisible*, and there were very few comments to the press of any kind. To be frank, one almost got the feeling that they viewed the press as "bad news". (During the time of the introduction of the Atari ST, many Amiga owners wished that Commodore would answer some of the mudslinging that the folks at Atari were shoveling out about the Amiga.)

Probably one of the most noticeable changes about the companies policy is that they are taking a committed position on answers to specific marketing questions, seemingly unintimidated about laying out advertising and production information to the press.

All in All, there is reason to be encouraged.

The Insider

An Internal board can provide a 1 Meg memory upgrade

by Reve' Valenz

Let's face it. There is much apprehension associated with taking your Amiga apart. Even I (with many extensive hours of electronics hobbling under my belt) was apprehensive about dismembering my late night friend. But the ability to add 1 additional meg of auto-booting memory to my machine without hanging anything off the side was just too tempting.

Enter the Insider, from Michigan Software. It is a board that fits inside your Amiga 1000, and has been designed so as not to interfere with the internal construction of the machine, while maintaining elevation off the motherboard to facilitate cooling.

A very comprehensive, easy to understand manual is included, which reads like a Heathkit electronics kit construction manual. Each and every step necessary in order to install your insider is covered in detail, starting with the disassembly of the Amiga.

With illustrations, the manual explains where the various screws are that hold the covers which must be removed in order to install your board. By simply sticking with this guide, you can safely be in a position to install your new 1 meg of memory. There are, however, a couple of

(continued on Page 26)

Amiga's Good Luck

The Sentry tracks down a Star Programmer

Recently, *The Sentry* had a chance to catch up with the Dale Luck, one of the original designers of the Amiga's system software. We asked him about his present role with the company, and what, if anything, he is working on in regards to the Amiga.



Dale Luck makes the rounds at COMDEX

SENTRY: Dale, when I spoke with you at the NCGA conference in April, were you still with Commodore?

LUCK: No, at NCGA, they (C/A) were just shutting the company down in Los Gatos. They (C/A) have since decided to keep a small presence in California; a very small presence.

SENTRY: Is there actually any assemblance of a Los Gatos team out there now?

LUCK: There is an office; actually it's really for Commodore Semiconductor...Commodore sells IC's. The other half (of this office) is a small R&D setup for software development...Barry Whitebrook is in charge of that...he used to work for me.

SENTRY: What happened to Terry Ishida? (former head of development in the Los Gatos office.)

LUCK: He's at Activision. All the original people, except for Karen Michael, who is on a leave of absence; all the original people are gone. I am there as a contractor/consultant.

SENTRY: So, are you guys actively working on anything?

LUCK: We are working on some new system software to bring some hard disk boot capability (ala kickstart 1.3). We are also looking at these new chips, and we're starting to get a handle on the software required to support some more varied resolutions than what we have now.

SENTRY: *My understanding was that they are going to try to produce some new custom chips to achieve a higher resolution, or something along those lines. I also understood that there are some companies working on boards to go in the A2000 that would do the same thing.*

LUCK: Yes, I've been hearing that too from several different places.

SENTRY: *Do you feel that it's a rumor, or do you think that they are working on it?*

LUCK: Well, I haven't seen any of these boards, so I don't know any of the details.

SENTRY: *Do you know enough about these projects to ascertain whether or not what they are saying can be done?*

LUCK: I think it can be done.

SENTRY: *Only in the A2000 because of it's proposed architecture?*

LUCK: It could probably be done on the A1000 as well as the A500.

SENTRY: *Where would you connect such a device on the 500 and 1000 machines?*

LUCK: The video comes out on the RGB port, so it would probably be something that connects there. For instance, there are scan converters, you can get in digital TV technology, like the type that was being displayed at CES, where you can take interlaced images coming from the TV, and De-interlace it.

SENTRY: *Could this product be used with the Amiga in it's current form, or would you need to get a different monitor?*

LUCK: You would have to use a monitor that scans at twice the frequency of the Amiga monitor. Things like that, the technology, might be useful to project a non-flickering display.

SENTRY: *Is Commodore going to be addressing that problem in house?*

LUCK: The thing is, For different resolutions of displays, some of the system software needs to change, and unless Commodore addresses that, it's really not going to get done.

SENTRY: *So, really you feel then that the hardware end of it is no problem?*

LUCK: I think the technology exists, but someone needs to do it.

SENTRY: *So in other words, someone has to say "spend all your time and my money on making this thing happen"*

LUCK: Yes.

(continued on page 27.)

QUALITY

Facc

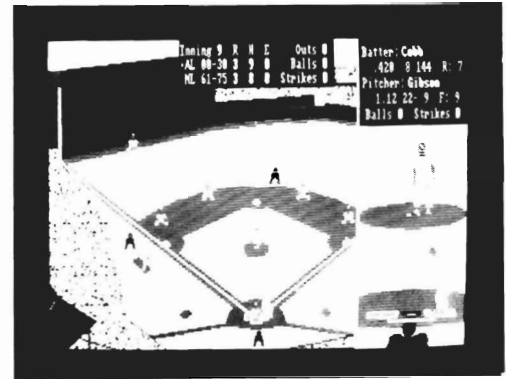
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PERFORMANCE

Earl Weaver Baseball

Computer Baseball at its Best!



by Glenn M. Heck Jr.

The roar of the crowd, the smell of spilled beer and fresh hot dogs. The bases are loaded in the bottom of the ninth inning as rookie pitcher Lou Burdette winds up and pitches a fast-ball...the crowd is on its feet as the batter swings hard. The ball slaps against the catcher's mitt "Steerike Threeee! Yer outa there!" This game is over. The Milwaukee Braves have just won the 1956 World Series!!

I was just eight years old when the Braves won the series, and although I was in a hospital bed with a broken leg on the afternoon of the final game, I will never forget the excitement of that last pitch. Neither I nor the Braves stayed in Milwaukee and yet my heart will always be with that 1956 World Champion team. Perhaps that's why I was so excited about Earl Weaver Baseball. Here was a chance to reacquaint myself with some childhood heroes. Eddie Matthews, Lou Burdette and Hank Aaron (along with many other all-time great players from both leagues) are here waiting to be coached to another championship.

Earl Weaver Baseball, released

by Electronic Arts, is a full featured baseball simulation in which you can choose to manage, play, and even act out the part of Commissioner of Baseball. The game is key disk protected (i.e.: you can make as many copies of the disk as you want but the master — key — disk must be inserted for purchase verification whenever you attempt to play a game).

As the disk boots up in your kickstart 1.2 environment, you are presented with a semi-digitized title screen and a honky-tonk version of "Stars & Stripes Forever" eventually (about 1 minute) the main menu appears. Within this menu are all of the choices for setting up game action. The game defaults are set to play an arcade style game against Earl Weaver, but there are many options available.

The first choice that you need to make is between arcade style or regulation game. In the regulation game you create your own lineup, play regulation rules and can save the adjusted stats for each player at the end of the game. Next you need to select the level of difficulty. There are four levels of difficulty from sandlot to Major league and each team can play at a different level.

This allows for handicapping according to players' abilities. Then decide your level of control within the game. You have the choices of playing and managing, managing only, or letting Earl control all aspects of the game.

Now choose an all-star team from either American or National League "teams" spanning the years 1900 through 1975. You can even select which ball park to play in. Two unique options available from the main menu are Commissioner of Baseball and General Manager. As Commissioner, you design your own leagues and ball parks. As General Manager you can control the drafting of players, setting up trades with other players, and creating new players and statistics. The manual includes suggestions for setting up league play among several Amiga owners in your area.

Finally, you can select PLAYBALL from the menu. (There is also a PRACTICE option). At this point you will be prompted to insert your key disk for verification. The following description assumes that you have chosen to both play and manage your team. After verification, each player will be shown a ros-

ter of players and will be asked to set up the starting lineup and pitchers in the bullpen. When these choices have been made, the ball game begins.

The game play can be nearly as complex as the setup options. You can realistically control nearly all aspects of your team. This includes play strategy and action, changes in your lineup and warming up players in the Bull Pen. However, you can ignore these options and play Earl Weaver in the Arcade mode.

Play action occurs in a split screen. The entire field is shown in a large window on the left and the pitcher and batter are shown in closeup on the right. Game action includes adequate graphics, and very well done Amiga sound effects. The players are an-

nounced by the Amiga 'Say' command and you can modify pronunciation using phonemes. (One of the first things you might want to do is to change the announcer's "John DiMaggio" to "Joe"). You may find your first time at bat difficult since the pitcher has nine pitches, plus pickoffs and pitch outs. As batter, you can swing or bunt and runners can be go for extra bases, stop, retreat, or steal.

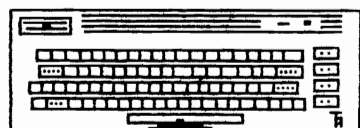
When the ball is hit, the fielding is controlled by the computer until after the player catches the ball. Then it's up to the defensive player to determine where the ball is thrown by pointing to the desired spot in the infield. In response to the runners, players in the field can choose which of their team mates to throw to.

The fielding team can even cutoff throws if they desire.

The batter's run to first base is also computer controlled but after rounding first it is up to the offensive player to control his base runners. All play options can be controlled by mouse, joystick or keypad. This is a real convenience, since most of us have a strong preference for one or the other input medium.

Management strategy, including positioning of players in the field, lineup and bullpen changes, and baserunning strategies are controlled by either onscreen menus or keyboard choices. By including a range of Manager decisions, Electronic Arts has elevated Earl Weaver beyond most other baseball simulations. Real

(continued)

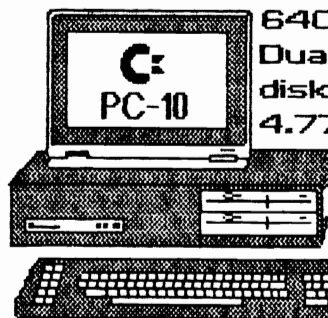


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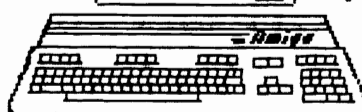
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Weaver - (from Page 15)

baseball fans know that firing the manager often produces dramatic change.

The compromises made in player versus computer control of play action are well chosen by the game designers. One of my few complaints about the game play, is the difficulty of determining the path of the pitch but this is a minor flaw.

Earl Weaver Baseball is a rich simulation, much more than a simple arcade game. Although I was overwhelmed at first, after spending time with it, I am impressed and delighted by nearly all aspects of the program. I would not have chosen the particular music or instruments used in the introduction and after homeruns. The graphics on the ballfield are not up to Amiga capabilities, but animations are fast and smooth. Even the sound effects of the crowd do not adequately show off the capabilities of the machine. These are all minor flaws which do not take away much from the overall quality of this product. Whether you are a baseball fanatic or simply enjoy a good sports simulation, Earl Weaver Baseball deserves a place in your games library.

EARL WEAVER BASEBALL

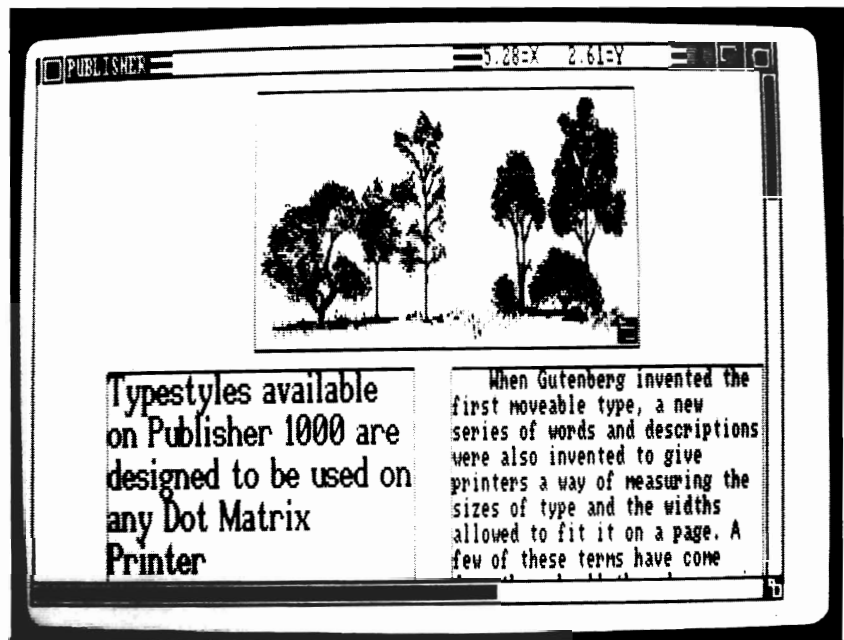
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REQUIREMENTS:

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Step up to Desktop Publishing

Publisher 1000



The most quoted computer phrase in and out of computer circles these days is "Desktop Publishing." No other group of programs and products has done so much to pump new life into the industry; while at the same time, sparking new interest among people who never before dreamed they might have use for a computer.

Desktop Publishing consists mostly in drawing shapes on a page that look attractive with respect to each other. Like the variously shaped tubes in a neon sign that glow into meaningful-

communication when infused with luminous gas, these "invisible" outlines define the character of a document when filled with your words and images. You decide what proportion a headline should be or how a photo would look sandwiched between two columns of type. You "design" your page like painting a picture and, if you decide it doesn't look right, you can simply push things around and resize them until they do.

Although it has lagged somewhat in the development of quality desktop publishing software,

the Amiga is also making its way into this broad new market. Among the latest Desktop Publishing entries is *Publisher 1000*; written by the Northeast Software Group, and published by Brown-Wagh, Inc.

Publisher 1000 is part of the first wave of software introduced to address the "professional" market. It comes in a nicely slip-cased 3-ring binder that contains 1 non-copy protected disk, about 60 pages of documentation, and a "dongle"; an insidious little device that more and more software houses are using in lieu of disk-based copy-protection.

The dongle is a small nine-pin plug that you attach to the rear joystick port on your Amiga. You must this device plugged in or *Publisher 1000* won't save or print your page. This is a relatively painless way for the publisher to protect his/her copyright, without planting booby traps all over the disk.

After bringing up your system using Kickstart version 1.2, the *Publisher 1000* disk boots directly from the Workbench prompt.

After setting your preferences up for the desired printer, You are ready to work through the manual and learn basic program operation. The *Publisher 1000* documentation stresses the need to keep page length, paper, and margin settings to program specifications. These will ensure faithful reproduction of the screen image onto the page. The manual then immediately launches into a quick and fairly complete tutorial that details for the novice how to create "guides" or blocks on the page that will re-

ceive the various graphic elements. You are then instructed how to load text and graphics from pre-existing disk files. As with Gold Disk's *PageSetter*, these guides may contain text in any standard Amiga typefont, and point size; importable from

"Publisher 1000 is part of the first wave of software introduced to address the professional market"

any standard ASCII or other word processor (*TextCraft*, *Scribble*, etc.) file. Graphics can be accepted from any pre-existing IFF-format file. There are also tools for creating straight lines (called "rules"), for drawing boxes, and filling them with various shades of gray or patterns. *Publisher 1000* cannot create its own picture elements.

Although the program allows you to type directly into guides once they have been created, it is best to use this facility only for headlines and minor editing chores. When in "Type" mode, the columns revert to flush-left regardless of your choice of formatting; and the sluggishness of Amiga's onscreen font rendering makes it impossible to type faster than about twelve words a minute. *Publisher 1000*'s strengths are in page formatting, not word-processing. But there are some unique feature within the text processing operations.

Of particular note are the typefonts provided by Northeast Software Group. While most

Amiga fonts are designed to look good on the screen, a high percentage of them look pretty ragged when dumped to conventional printers. The font designers at Northeast attacked the problem from the other side, crafting typestyles that may not appear particularly refined on the screen, but which roll off the standard dot matrix printer looking dense, crisp, and relatively "jaggie" free.

The program's publisher promises that support for PostScript compatible output devices (Apple LaserWriter, Linotype Linotronic 100, etc.) and the Hewlett Packard family of laser printers is imminent, and will offer the upgrade to all registered owners. And while this will tend to increase the program's output quality, it will likely not pose much of a threat to the established products in this market.

One weakness I found was the inability to combine multiple fonts and/or sizes within a single block, forcing you to create an additional block for each font or size change. Since there is no limit to the number of blocks you can create on a single page, this is not a serious drawback, but the more blocks or guides you have hanging around, the greater the likelihood that lines and edges will not be straight. To protect against this eventuality, the programmers have provided a continuous pointer-coordinate display at the top of the screen. Using the coordinates to verify mouse position, you can effect accurate placement of each element on the page.

When it comes to importing graphics, the process is quite simple; even elegant. You select

(continued on next page)

Publisher 1000

"Get Image" from the "Place" menu, selecting the image you want from whatever IFF source file you wish. (be careful where you call it from — see warning below!). Then, depending on the complexity of the graphic, you wait from 2 to 40 seconds while it is converted into a gray-scale image appropriate to Publisher's screen resolution. The graphic then appears in its own frame, "hanging" on the pointer. You simply use the mouse to drag your picture to the proper location, click the left mouse button, and it's fixed. Resizing of the image can be easily done by manipulating either the top-left or bottom-right corners of the image frame.

Publisher 1000's gray-scale rendering is similar to the quality of a digitized image on a Mac-Intosh.

As for the professional features that characterize today's best publishing programs, *Publisher 1000* allows you to manually route text around graphics elements, and do kerning, but that's about as adventurous as it gets. I would like to see a bit more integration between the various modes in *Publisher*, but the program, with a few notable exceptions, is fairly solid in its present form.

There are, however, several criticisms of *Publisher 1000* that should be raised at this juncture; some of them serious. The first of these concerns the onscreen Type mode:

To be useful at all, Type mode rendering must keep pace and the screen must scroll automatically as you type off its edge. The

magic of WYSSIWYG (What You See Is What You Get) programs is that if something is wrong, you see it — immediately — right in front of your eyes. Any time you have to switch back and forth from one mode or program to another, you introduce the chance that something will be missed.

You must also be able to combine fonts of different sizes within a single block, as this is the only way to ensure that text baselines will remain straight and consistent. It is also often desirable to resize just the horizontal or vertical dimension of a block and to be able to make these changes from a variety of points around the perimeter of the block (in any magnification!). *Publisher 1000* forces you to use the common resize gadget in the lower right corner of a block. Using this gadget immediately affects both horizontal *and* vertical dimensions and often forces you to scroll the screen.

WARNING: *Publisher 1000* records text and graphics information in discrete files separate from the overall document file. Once you have saved a document (or even opened a new one), the

When it comes to importing graphics, the process is quite simple; even elegant.

directory (drawer) name in the file requester will become frozen, preventing you from saving your document on any other disk. Therefore, it is wise to combine all the elements you intend to use on a single disk, before starting *Publisher 1000*, so you won't

wind up hung in the middle of an operation, only to find that you can't save your work because your disk is too full, and the program won't let you switch to another. I also found, on a number of occasions, that the program inadvertently corrupts files if you have printer trouble or if the computer itself crashes. All of the difficulties seem to have their origin in the peculiar way that *Publisher 1000* does its filing. A drastic overhaul of these routines would seem to be a necessity. .

In spite of these real and perceived weaknesses, I prefer *Publisher 1000* because it *feels* better than some of the other products of this type. For as much as many users will need to do page processing, *Publisher 1000* will provide very useful tools.

Publisher 1000, in my opinion, is not for professionals who need to turn out high volume, high-quality, consistent, and "printed" looking material. It just doesn't seem to have the kind of grace or power that will allow you to produce the same thing that is offered on less powerful machines. But often programs start out as bare frameworks, with the tacit understanding that much more is on the way. It's usually about the second "official" revision when the product "blossoms" into something truly refined.

Publisher 1000 constitutes a quantum leap in power over previously available tools, such as *Deluxe Print* from Electronic Arts. In terms of the complexity and sophistication of both its ope

(continued on page 37.)

Fiche 'N' Chips

Standard Library Microfiche provides the Metaphor for new database program.

by Fred Freeland

METAPHOR - a figure of speech in which a word or phrase ordinarily used of one thing is applied to another.

Amiga users are used to metaphors. Our "WorkBench" is a metaphor for a busy desktop. "Drawers" are visual metaphors for a hierarchal file structure. In fact the Amiga Workbench environment is similar to the Desktop metaphor popularized by the Xerox Star and Apple MacIntosh.

Software Visions, of Framingham Mass, has discovered a new and powerful metaphor for database software. MicroFiche Filer (MFF) uses the familiar concepts found at your public library to increase the usefulness of computerized data. If you've ever sat in front of a microfiche reader, sliding the pointer over a screen full of images, you know how MicroFiche filer works.

MFF can organize a two dimensional sheet of data for quick and flexible retrieval. And unlike a true celluloid microfiche, you can change your MFF "Fiche" at any time. Most of us rarely use our computer for routine data storage and retrieval. MFF and the Amiga may just change that.

MFF is a single, non-copy pro-

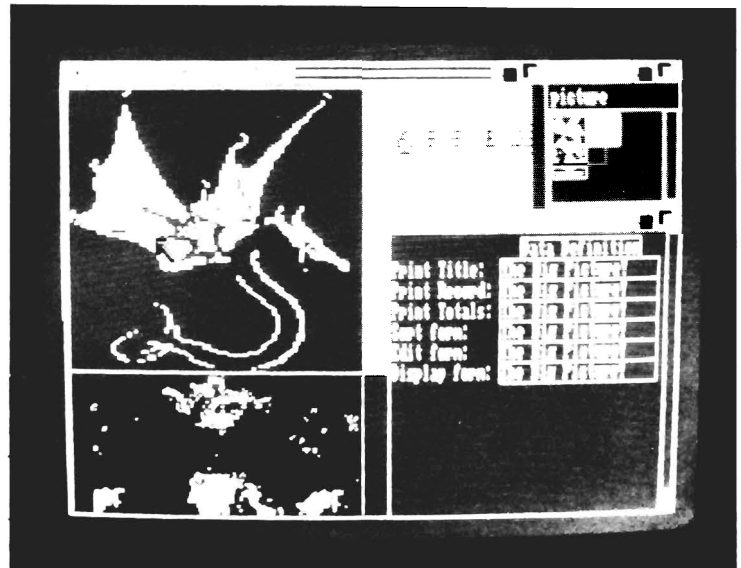
TECTED disk, and a spiral bound manual. The manual is readable, thorough, and includes a useful index. In short, a top notch job. Not surprisingly, so is the software. MFF can be used from the WorkBench or CLI. You may begin with a database loaded, or start from the "File View".

The "File View" is MFF's method for file operations. You can access, rename, copy, or delete files from here. To open an MFF database, click on its name. You'll soon see the heart of the MicroFiche metaphor.

Three windows occupy the screen. In the upper right corner is the Fiche Window. Click in this area to make it the active window. The Fiche Window contains a reduced representation of your data which acts as a visual index. As you slide your mouse, an outline of a magnifying glass moves around the Fiche. Scrollbars are also availa-

ble if your database is large. Just like a physical microfiche reader, the magnified data moves as you scroll.

The Magnification Window



displays selected data from your database. This may be a name and telephone number for instance. If you use the address book file supplied on the disk, at least fifteen names and addresses fit in the Magnification Window. To find John Smith, simply move the Fiche pointer down and left until the Smiths appear. (You'll be impressed with the speed and smoothness of the scrolling) *(continued)*

Microfiche

(Continued from Previous Page)

Once you've found a particular record, you can display all of its fields by clicking with the left button. MFF lets you use the "Shift-Click" technique to select several records if you wish.

The third window on your screen is the Form List Window. Here you will find a list of all the FORMS pertaining to this database. MFF uses FORMS to control which fields appear in various screens and how they are presented. There are six designated form slots. Type a name in the "Display Form" slot to tell MFF how to display data in the Magnification Window. The Sort form is used to control the order in which your data appears. Edit Form, Print Record, Print Title, and Print Totals are the remaining form slots.

In its use of Forms, MFF is similar to a relational database. You can create many forms, each providing a unique view of your data. Once the form is created, it can be used for Display, Editing, or Printing. The process of form creation is entirely Intuition driven. That is you use your mouse

to click and select, drag and size. The "getting started" tutorial in the MFF manual presents this topic very well.

To give a working example of Microfiche, let's assume that you are searching for someone's name and address. You load the appropriate MFF file which starts with a Display Form of First and Last name. As you scroll around the names, you think you've found your reference. Clicking on the Name opens the Record Editor and shows the rest of the data items for that name. You can easily add more information to the Magnification window to improve your visual search. Click in the Forms List window to activate it. Now click and hold on a Form Name which shows City and State, in addition to the name. Drag this form name to the Display Form slot and presto, the magnification window changes to display City and State. You can change the sort order just as quickly. Either drag a previously created sort form into the Sort Slot, or double click on the sort slot and change the form on the fly.

The ease and speed of this FORM based system complete the MicroFiche metaphor. It is very straight forward to design a practical data based application. Most everyone can use MFF in real life situations.

MFF includes a variety of menus to aid in its use. The SELECT menu in-

cludes a Select by Field option. Here you can search for friends in a specific area who are at least 30 years old. A sophisticated query system is included for use in this process. When you select the "By Field" option, a Selection Editor Window opens. This window shows each field in your database with a blank line next to it. If you type in your designated choice next to State, MFF will search for that text anywhere in the field. Now type >29 next to age and click on the close gadget. MFF will highlight all the records which meet these criteria.

At this point, you might want to print just these records. Simply choose PRINT from the menu and the selected records will be printed according to the Print Form and other options in effect. MFF lets you print multiple records on a page, print titles on every page or just the first, print totals and record counts, and print to a file. The print facility is fairly good but no substitute for a full blown report writer.

MFF works just as well with IFF pictures. Every Amiga owner has disks full of great pictures. Now you can use MFF to create a Fiche view of them, and click to display the full picture. In truth, the reduced version of your pictures is, for all practical reasons, limited to four colors, and memory constraints will prevent you from including a full disk of pictures on a fiche. However, the MFF format is meant to act as a *representation* of your data. By reducing the size and the amount of colors contained in your fiche data, you can maximize the use



Microfiche

(continued)

fulness of your database.

You can also store IFF pictures as fields. If you own a Digi-View, you can create IFF pictures of your valuable possessions, and include the picture as a field in the MFF database. These pictures will print right along with the other data if your printer is graphics capable.

MFF is not intended to be a DBASE or Superbase. However, it does include many functions that are standard in most good database programs; as well as performing its tasks with speed and elegance.

My major disappointment was the lack of a File Import function. I'm too lazy to re-enter my database files. If MFF could read in report formats from other software, transferring data would be a breeze.

Obviously MFF is something new. It demonstrates the fact that the Amiga can be used to create new whole new ways of managing data. In my opinion this product will encourage Amiga owners to computerize data and use it. Software Visions is an appropriate name for the developers of this product. I hope that their vision will lead to further unique product developments.

MicroFiche Filer:

Software Visions Inc.
1-(617)-877-1266

Suggested List Price: \$99.00

PD-3D

Will Wonders Never Cease?

by Fred Freeland

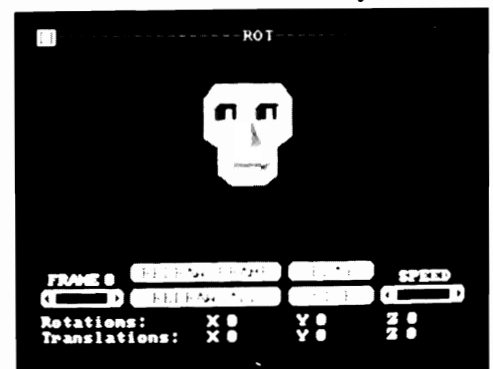
The quality and quantity of Amiga public domain software constantly amazes me. Utilities like Blitz!, BlitzFonts, constantly improving ShowAll programs, Assemblers, C - Compilers, Logo, ConMan, ShortCut, Flip, Melt, DK, etc. keep me busy downloading and testing day after day.

Once in a while I'm awestruck by a particular effort and spend the next few weeks telling everyone who'll listen about it. ROTO V.5 is the latest Amiga PD wonder. Written by C. French in Ottawa, Canada, ROTO is a 3D object editor and animator!

The executable program is 58 Kbytes and multitasks with no problem. This small wonder begins with three blank windows and a 32 color palette on screen. Mouse activated menus let you load previously created objects, save new objects and switch to the action editor. The documentation suggests loading 'Demo Object'. After a brief pause you'll see a wire-frame representation in each of the three screens. This particular object is hard to figure out until you switch to the ACTION EDITOR. However, once ROTO switches

modes, you'll see a solid arrangement of letters and numbers arrayed around a colorful cube.

Yes. ROTO manages to perform hidden line removal, 3d perspective transformations, and solid modeling based on the wire frame drawing! But there's more to come... Select load action from the menu and click on DEMO ACTION. Now sit back as ROTO redraws the DemoObject in different positions 24 times. As each FRAME is drawn it is kept in memory for instant recall. Now click on the PLAY gadget and watch as the complex set of solid objects move and rotate smoothly!



Very short instructions are accessible from within ROTO or from a text file. It takes some time and perceptive acuity to master the 3D object editor, but

(continued on page 32.)

AC-BASIC

ABSOF T delivers: A new tool for Amiga Basic Programmers

By Walter Steuber

Release of Absoft's AC/BASIC compiler is BIG news for the Amiga community. Here is a new tool that promises to substantially reduce the effort required to write useful Amiga programs. BASIC remains a widely known and easy to use programming language. However its use in the Amiga community has been very limited.

AmigaBASIC is a very rich and complete dialect of the BASIC language. Since it was developed by MicroSoft, it shares most of its syntax with the IBM and MacIntosh varieties of basic. Many successful applications and games are written in BASIC for these machines. The Amiga version even adds the ability to call most operating system routines if desired!

QUESTION: What has prevented BASIC from success on the Amiga? **ANSWER:** Lack of execution speed and poor built-in editor.

In the IBM, MacIntosh, and even C64 environments, BASIC compilers have been available at the beginning of the machine life cycle. Until the AC/BASIC compiler became available, it was necessary to write code in a

compiled language to improve execution speed. Mastering C, Assembler, Modula-2, or FORTRAN all require a formidable amount of work. Those coming to the Amiga with knowledge of BASIC have been discouraged from its use. At last a BASIC program can be sped up by an easy compilation with little or no rewriting.

How much speed-up? How easy to compile? What trade-offs? Quantitative answers turn out to be complicated, but they emerge from case-by-case trials of some familiar Amiga BASIC programs. Sometimes, speed of operation is not the only improvement that matters. A program running under an interpreter is never exactly the same as its compiled counterpart. For instance, the compiled program can be put into the C-directory and called up the way other programs are. While this difference may often be negligible, sometimes it is the main reason for doing the compiling.

The AC compiler is a relatively small program that can be run from either WorkBench or from CLI. When called up, it presents an attractive but intimidating requester. Besides asking for the name of the file to process, the

Requestor offers about sixteen mysterious, technical options. All these options can be ignored when you have a normal-sized, average sort of Amiga BASIC program. You simply click on the "Compile" button. In perhaps 30 seconds, everything is done and you have some new files in your directory and a new icon on your WorkBench. The original program is still there, unchanged. But it has now been joined by its compiled counterpart, which can be run from CLI or by the new icon on the WorkBench. It's that easy and why not?

Later, you can spend some time with the manual, with its eighteen chapters and seven appendixes, digesting the import of those technical options and expanding your awareness of how powerful Amiga BASIC really is. The manual discusses dozens of fine points on programming in AmigaBASIC, so quite apart from the compiler, it turns out to be a worthwhile (but, like most manuals, kind of dull) tutorial.

There are many demo programs described in the manual and included on the disk. The manual spells out and clearly explains those commands and procedures in AmigaBASIC that

must not be used if you are going to compile a program. There are also some commands described that can be used only if you are going to compile it. Although you can plunge ahead and compile some programs without reading the manual, there are so many ways to go astray that it is advisable to allocate a fair amount of time to "manual" labor.

The very first pitfall you might tumble into is trying to compile a program that has been saved without specifying the "A" option. AC/BASIC will accept only an ASCII (plain text) file. The default format for a saved AmigaBASIC program is binary. Fortunately, it's easy to convert formats. Simply start AmigaBASIC, load your program, and SAVE it using the "A" option. The program code can now be viewed using TYPE, edited using ED or your favorite word processor, or compiled using AC/BASIC! (You can overcome the clumsiness of the AmigaBASIC editor by typing your BASIC programs using a word processor.)

Most programmers customize their environment by creating a disk with files and support tools they use often. The Absoft people suggest several ways to organize your AC/BASIC system. The suggestion I followed was to strip 205 Kbytes of the least needed stuff from a copy of WorkBench and then to fill up the disk with their compiler, their set of support files and Amiga BASIC. Programs and products get stored on a disk in DF1: while the vital support files are kept in the L directory on the in-

board drive. You copy AmigaBASIC onto this disk so that development and testing won't require disk swapping.

AC/BASIC turned out to be easy to use and to take only a short time to process a file. Usually it compiled without a hitch and presented a version of the program that executed a hundred to a thousand percent faster. On some occasions, though, it totally failed to help, either by not compiling at all or by producing a program that did not work right. In these cases, there was always the suspicion that it was I who was doing something wrong and that if I fiddled around some more, the trouble would be corrected.

You're likely to run into at least two problems which can be resolved. AmigaBASIC can make use of operating system functions including DOS calls, graphic routines, and speech. The BASIC LIBRARY statement opens access to these functions. If you compile a program with

Speed isn't the only thing - Compiling makes a basic program work in the C directory.

LIBRARY statements, you may get a "File not Found" error when you try to run the compiled version. This happens if you did not have a .BMAP file corresponding to the LIBRARY. A .BMAP file acts sort of like a C structure. It provides a way for BASIC to find and pass information between itself and the oper-

ating system. Your AmigaBASIC disk contains some .BMAP files in the LIBS directory and in the AmigaBASICDemos directory. Be sure to copy them to your AC/BASIC LIBS directory.

(If you plan to use the SAY statement, or change FONTS, you'll need to create a .BMAP file for the appropriate library. The EXTRAS disk includes a basic program CONVERTFD which will produce the needed .BMAP files. Keep all your .BMAP files in the LIBS directory.)

The other common problem concerns mouse events. There are several ways to code AmigaBASIC to read the mouse. One technique uses timing loops. If you compile a program coded this way, it probably will not function properly. The compiling process speeds up loops to the extent that your mouse click is just not noticed. The solution is to recode loops using the ON MOUSE statement.

REPRESENTATIVE COMPILATIONS: HELLO - 8.5-Kbyte program on the AC/BASIC disk.

This example is used in the AC/BASIC manual's description of how to get started, so you know it's going to work fine. When operating under the interpreter it presents very big, flashing, sluggishly-rotating letters that just happen to spell out a-b-s-o-f-t. After calling in AC/BASIC, clicking "Compile" and waiting 28 seconds, a new program, HELLO.RUN, was ready to go. When it was run, everything looked the same except the letters zipped around at a rate I measured to be 12.0 times faster than

(continued)

Basic Compiler

(continued from Page 23)

before. With very little effort, a program that seriously suffered from the slows was cured and back on its feet.

PICTURE – 19-line demo on Extras 1.1 disk

Remember the program used to introduce AmigaBASIC, the one that draws a globe that jumps around to wherever you click the pointer? It's put here for sentimental reasons because it is the first AmigaBASIC program most of us ever saw. It compiled (without any options being specified) in about 15 seconds and the compiled version ran just the same as the original, as far as I could see. With closer measurement of the timing, though, it turned out that the interpreted program drew the picture in 2.2 seconds and the compiled program took 2.6! Playing around with the options reduced its time to 2.1. Now it could be put in the C-directory and renamed NOSTALGIA.

PRIMETIME – from *Conversation With A Computer*.

Gil Dodgen wrote this Amiga BASIC program to illustrate the speed advantage of writing in C. There are only about 15 lines, but the program contains a large amount of number-crunching and reference to arrays. It takes a range of numbers and tests each, collecting all the prime numbers in an array. To test the numbers up to 10000 took AmigaBASIC 189 seconds and it took C 1.9 seconds. Compiled BASIC without options took 64 seconds but got down to 57 with some attention to choice of options. The second step, displaying the 1229 primes, took interpreted BASIC

30 seconds and took the compiled BASIC 16. (C needed 21 seconds for this step, an example of compiled BASIC being faster than C.)

EXAMPLE3.BAS – AC/BASIC manual, Chapter 8.

Another demo. It times how long it takes to make 100,000 tight loops in which nothing happens except an integer incrementing. Interpreted AmigaBASIC took 190 seconds while its compiled counterpart took 19. (The same program in C took 1.0 second.)

CALEIDOSCOPE – Peter Kitel on Fish Disk 71.

This 60-line program generates a melange of moving colored shapes. Using regular Amiga BASIC, the movement was decidedly slow. Compiling increased the speed by a factor of 2.0, barely enough to give it a pleasing speed. (Using options improved the ratio to 2.2.)

MIGASOL – Jon Scarpelli on Amicus Disk 15.

This is a version of Solitaire for the Amiga, a computerized version of the old card game written in 784 packed lines of Amiga BASIC with lots of graphics and mouse action. It would be more fun to play if it responded to the mouseclicks faster, so it seemed a natural for compiling. Compilation proceeded normally, and the compiled program started running, but there was no response to mouseclicks. Oh, well.

Conversation with A Computer, 554 nice clean lines of Amiga BASIC that ran fine with the interpreter, but were rejected by the compiler with a syntax er-

ror that cited a particular line. Even with a fair amount of fooling around, I could not get it to compile. The error message seems erroneous and indicates a deep-seated bug that had nothing to do with that particular line.

CONCLUSIONS: My personal reaction to the AC/BASIC compiler is a mixture of admiration and disappointment. It's clearly an important product which fills a gap in the Amiga community. AC/BASIC's ease of use and resulting speed improvements are admirable. However the existence of bugs in this release will require speedy remedy by ABSOFT. Equally clear is the realization that it may still be necessary to use C or assembler for many programs. My initial hopes that this compiler would be a cure-all have been dashed. The AC/BASIC compiler has begun "giving respect" back to BASIC, but now that I've seen some speed increase, I want a lot more.

AC/BASIC:

ABSOFT
4268 N. Woodward
Royal Oak, MI 48072
313-549-7111

REQUIREMENTS:

512 K Amiga
Suggested Price: \$195.00

FACC

A Software Speed-Up for your Floppy Drives

by Steve Dock

ASDG Inc. is well known for their 'Mercedes' quality Amiga hardware expansion devices. They have also contributed significant software to the public domain. The *ASDG Recoverable Ram Disk*, *Sysmon*, and *Fastmem* have gained wide acceptance.

FACC (Floppy ACcelerator) is ASDG's first commercial software product. It is designed to greatly speed up the operation of Amiga's floppy disks. FACC comes packaged in a Compact Audio Disk box with a brief descriptive flyer. The flyer includes start-up instructions which get you up and going. A twelve page manual is included on the disk for those who want detailed information.

Well, what is it? How does it work? FACC is a dynamic cache for the "trackdisk.device". It works on the same principle as the `ADDBUFFERS` command. Once started, FACC allocates a block of memory to act as temporary storage for floppy disk data. (Unlike `ADDBUFFERS`, FACC will look for and use expansion memory, and can be deactivated without rebooting). When a program calls for data from a floppy disk, FACC inter-

cepts the request and searches its memory buffers. If the data is found, FACC responds to the call much faster than the floppy disk could. If the data is not in memory, FACC passes the call to the "trackdisk.device", copies the retrieved data into its buffers, and passes the information to the calling program. The next time a program calls for that information, it's in memory and FACC responds quickly.

FACC can be started by clicking on its `ICON` or typing `RUN FACC` from the `CLI`. The current release keeps a small window open at all times. The window can be expanded to allow dynamic changes in the number of buffers. Just click on the `MORE` or `FEWER` gadgets to increase or decrease the number of buffers. This display also provides information used to manage FACC. The number of read and write accesses is tallied, along with the number of read "HITS" and hit percentage. The hit rate indicates how successful FACC has been in responding to data requests.

The net result of all this activity is fast response. A medium-sized `DIR` request normally took 13 seconds. Repeating the same `DIR` request with FACC installed

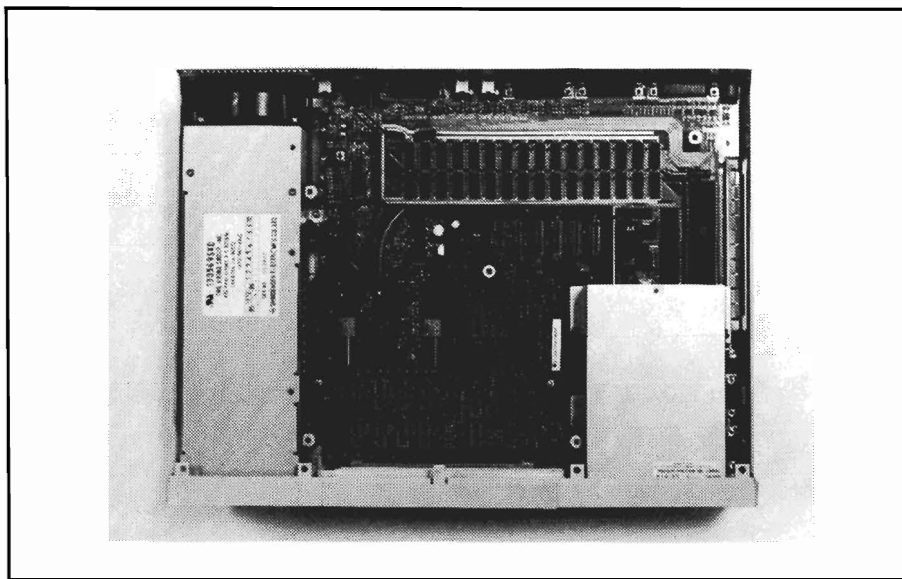
took 3 seconds. FACC works almost transparently with other applications. You can use your favorite Directory Utility and FACC together to get blazing results. Keep FACC active and you'll notice improvement in a wide variety of applications. If you play a text or graphic adventure which accesses the disk frequently, an improvement of 4-5 times is likely. If you use a particular DOS command like `COPY` or `ECHO` repeatedly, you'll be pleasantly surprised at the improvement.

I use a database often, and find searches and fast-forward operations relatively slow. Using FACC and a database file of about 100 records speeds up fast-forwards from 12.7 to 8 seconds. Searches improve even more from 4.5 to 1 second! Does FACC speed up disk writes? Not really, but when using my database the record save function was 3 times faster. Since FACC updates its buffers first then passes the write request to the floppy disk, Superbase can continue with the next action. ASDG is hard at work on FACC-2, the next release of FACC. FACC-2 will use a more intelligent cache re-

(continued on page 36.)

Insider-

(continued from page 11.)



The Insider installs on top of the motherboard

real tricky parts to the installation process. One comes when you are asked to remove the 68000 chip which resides on the motherboard. The chip is positioned just behind your disk drive (removed earlier), and does not lend itself to easy access. I would strongly recommend the purchase of an IC extraction tool for the purpose of removing this chip. This is inexpensive, being nothing more than an "L" shaped lever, and with it you can gradually pry the chip from its socket. The chip is removed because the space that the 68000 leaves becomes the socket to which the Insider board installs. (For those would-be 68000 pullers, either for this project, or when installing a different processor, remember that this chip is sensitive to static electricity. Make every effort to not touch the pins.)

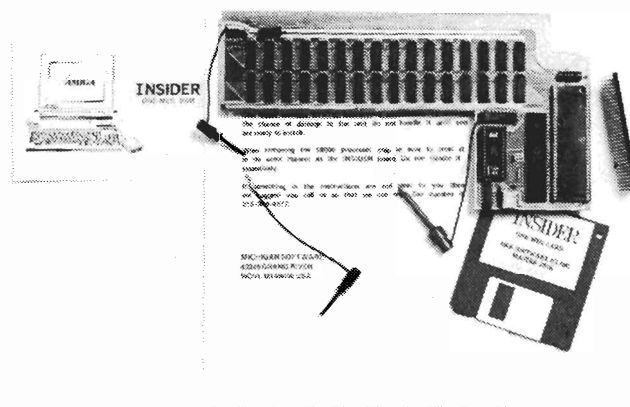
Another area that deserves special care is the installation of the three contact clips that are attached via wires to the Insider

board. These clips connect to VERY specific points on the mother and daughter boards. However, once again, if you follow the manual closely, you should be able to perform this feat with only a medium degree of difficulty.

Once installed, you can decide at what "address" you want the memory to reside. An address can be compared to your street number on your house. If someone sent you mail with only the street name on it, you won't get it. In the same way, the computer must know the exact address where your board resides, or it will not rec-

ognize it. Although several addresses can be set by means of the configuration of on-board switches, only one of the addresses will perform an auto-configuration function. Having the board set to this address (C00000) will allow the computer to automatically recognize your Insider board during boot up. Otherwise, you have to run a software program called Addmem (supplied on disk, along with a utility to turn your expanded memory on and off) in order to configure the memory.

I have used this board extensively and have had problem free, reliable operation. The consensus of all the people I know who use the Insider have been the same. However, this is not really a project for the faint of heart, nor for those who have



A disk of memory utilities is included

had no experience in "serious" tinkering with electronics.

Insider:

Michigan Software

1-(313)-348-4477

Suggested List: \$349.00

(continued from page 13.)

SENTRY: *If you came up with the right system software, do you know what would be required in the way of hardware...could you just replace the custom chip set with a new enhanced set?*

LUCK: I'm not exactly sure. There are several ways of doing it...a whole new motherboard, which obviously would be a Commodore product then.. or some kind of plug in thing, or an adapter.

SENTRY: *Could this be emulated through pure software?*

LUCK: I don't think so.

SENTRY: *What's your feeling on what Commodore will go after....do you think that they will go after a higher res display?*

LUCK: Well, I hope so. See, there are a couple ways of approaching better performance. You can go to a higher resolution, and get more dots on the screen. Or, if they're serious about the video industry, you don't need any higher resolution, you just need more colors.

SENTRY: *Sure, I understand that when you have a lot of colors, you don't see the jagged pixel outlines around objects, and your display takes on a smooth look.*

LUCK: ..and see, the TV can't show any more dots on it than we put out anyway, but it does show a lot more colors than we can. If we upgrade that aspect to take advantage of the abilities of the TV then we can have a lot more applications, and a lot more uses for the Amiga.


SENTRY: *It would be easier for you to increase the amount of colors than to increase the res.*

LUCK: In a compatible manner, I think that's true, yes. There are open spots in the system now that would support up to 8 bit planes, or 256 colors, and we're looking into the work that would be needed to expand to that level.

LEXCHECK

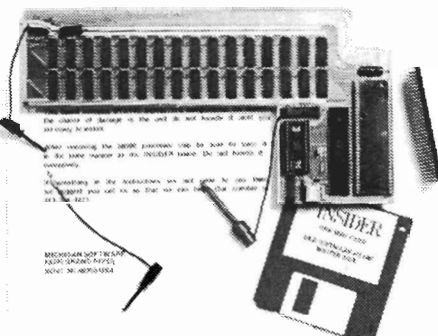
Spellcheck program for the Amiga Computer

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Animator: Apprentice

Disney Style Animation Debuts on the Amiga!

*Reviewed by Steve Dock &
Tom Bucklin*

The graphic capabilities and composite video output of the AMIGA make it a natural platform for computer animation. First there was Aegis Animator. Animator used "tweening," polygon metamorphosis and windows to present high quality two-dimensional animation. Electronic Arts followed soon with Deluxe Video. DVideo brought wipes, effects, and music to Amiga animation. Recently several three-dimensional animation products have been introduced or promised.

Animator:Apprentice is one of these new 3D products. Its author, Martin Hash, has developed a unique "Organic" approach to computer animation which he describes as "Disney-like". Think for a minute about your favorite cartoon character. Whether its Donald, Mickey or Snoopy, your mind's eye can replay scenes of him moving realistically. This realistic motion is composed of many simultaneous and related movements. Animals and humans move in this "Organic" manner. Although Animator and DVideo can produce stunning visuals, and the

demos of programs like *Video-scape* and *Sculpt-3d* show realistic object motion, only *Animator:Apprentice* (AA) attempts realistic character animation.

The package includes five disks and a hefty three ring binder of documentation. True, two of the disks are demonstrations, but Mr. Hash has been working overtime to produce all the modules in AA. The entire package has the unmistakable stamp of an involved, intelligent "author".

Let me state frankly that AA is not for the faint of heart. Realistic character animation requires dedication and patience even with the aid of intelligent software and an Amiga. Walt Disney knew this and now so do I. *Animator:Apprentice* is not for the basic Amiga system either. AA requires at least 1.5 megabytes of ram and two disk drives.

There are several modules in AA. The Character module is used to design the skeleton of a character. The basic concept is based on bones, so the word "skeleton" is appropriate. A biped character's hip is the master bone for movements. This would be called the patriarch bone in AA. Leg bones are progeny of the patriarch, which means that their movement is af-

fectured by the hip. In short, you draw a stick figure where the relationships between the sets of bones are defined. This set of lines and relationships are saved as a Character. Later you will wrap Mattes around the bones to produce the finished rendering.

Viewing the Smurf demo included in the package illustrates the lifelike quality possible with this technique. Unfortunately, the terminology chosen by Mr. Hash makes this process seem more difficult than it need be. "Progeny" "divorce" "cull" "adopt" "sibling" and "patriarch" are a few examples. Once you get past the terms, load an existing character and exercise the menu options, you'll understand the workings of this module.

The Action module is used to build actions. Interestingly, actions are independent of characters. You can build a "run" which will work with all twelve boned bipeds. Over time you will accumulate a library of reusable movements. Begin by loading a character. You will be working on a range of frames with a stick figure. Point to a bone, and it will be highlighted along with its "progeny". Next specify the desired roll, tilt, or swivel motion for that segment

of the character. Finally select the number of frames it will take for the motion to occur.

There are other options which increase the realism of these motions. You can specify the acceleration and deceleration of one bone in the segment by using the "ease" and "hold" parameters. Action also includes an Audition menu which will preview your finished movement. It takes some time for the calculations to occur, but I was impressed with the smoothness and realism of the stick figure actions.

The Director module is like a movie studio. You plot the path of characters, the viewpoint of the "camera," the camera placement and movements, lighting intensity, and more. Again there are many new terms to master. Fortunately, the menu options and requestor choices produce visible results. The bottom line to this module is this: you can direct multiple characters through complex motions, and track them with appropriate camera movements.

With the Sculpt module, you can flesh out your characters. Here you will take sets of three two dimensional IFF drawings (Mattes) and produce 3D objects. It may sound like magic but Sculpt really works. The Mattes represent the front, back and profile of an object. These, along with the pivot coordinate, will be used to create slices. You build the slices one after another by moving the coordinate through your object. Sculpt uses crosshairs to show your movements. Finishing the slice will usually require touching up. Sculpt pro-

vides screens for fixing color, shape and texture. You must use the saveslice option to store each slice.

In the display module, you get to view your finished work. You simply click on the display icon, and indicate the animation you wish to view from the requestor box. Using a non-standard requestor box, this may seem rather tricky at first. Instead of being able to click on the name of the file itself, you must drag the square along side of your selected file. This action will cause your selection to be highlighted. You can then click on OK to start the playback.

As you wait for the loading process, it becomes clear why the author recommended 1.5 megabytes of ram for program use. There is a LOT of information that is loaded into memory before playback. Once your animation sequence begins, you can control the speed by way of the function keys. You can also view each frame independently. The latter is accomplished by clicking the left mouse button, which will freeze the action. Every subsequent click will advance the scene by one frame. This is an excellent tool for examining the quality of a given frame. Motion is resumed by clicking the right button.

Animator:Apprentice, and it's author, are to be commended for having produced such a unique product. *AA* leads you down the path to new horizons for computer usage. It will certainly be just a short time until all commercial cartoon animation is created via a computer, and the rendering pro-



The Hash approach to animation

cess will probably be much the same as with *AA*.

I would recommend a visible option with a detailed explanation for dumping the frames to a video recorder. Although, with the use of a frame grabber, you could record individual frames to tape, an automatic method of doing so would be nice.

While many ordinary products nowadays come to market touted as "*groundbreaking*" ... and even "*revolutionary*," here is a case where those terms are truly appropriate.

Apprentice:

Requirements:

Amiga with 1.5 meg.
2 disk drives

Conversation with a Computer

Teaching Computer Programming by Illustration and Gentle Guidance.

By *Walter Steuber*

A game of Checkers, with an extensive menu of features and options much like we see in ChessMate or ChessMaster, is on this disk. In addition, several minor games and the classical Pegboard puzzle are included, all reasonably entertaining, at least for a while.

BUT, games are not what this disk is about. It's about the intellectual delight of programming, and it's about the personal tutorial approach of Gil Dodgen. He supplies these games in Amiga Basic to illustrate and to discuss the programming of Amiga's special talents (outstanding graphics, voice synthesis, animation, sound, menus, and the mouse). The examples are graded in increasing complexity, starting with carefully commented demos, and culminating in Checkers, a long monstrosity in which he lovingly uses compiled subroutines written in C, artificial intelligence algorithms, BOB animation, STATIC subprograms, sophisticated error trapping, disk file IO, and just about every other programming tool he knows about, along with explanatory notes on his philosophy and reasoning.

Gil Dodgen's personality is a central feature of this disk. He is not formally a computer scientist. However, he obviously delights in the intellectual challenge of making a computer do his bidding, and in helping others who want to be masters, rather than merely users of the beast. His approach to programming is like his approach to hang gliding--get in there and DO it!

The 22-page manual is directed to people who have already dabbled some with Basic programming and seriously want to get better at it, but are not all that sure of how to proceed. It is a thinking man's guide to advancing from writing trivial routines to using Amiga's full capabilities to create complex programs. It caters especially to people who have a pronounced interest in games and puzzles, and are planning on spending a considerable amount of effort learning how to program them on the Amiga. The manual definitely is not one of those "Programming is easy! Learn it in an hour!" things. Rather, it outlines a course of reading, study and experimenting that could take years to complete. It is surprisingly well-written, with wit and clarity and felicity of phrase that almost nev-

er appear in a computer manual. Gil (the style of writing makes you feel that you know him personally) urges you to call him up if you have a question or problem, and the whole tone of his documentation encourages contemplation and experimentation with the coding.

After you load the disk by inserting it in place of Work-Bench, you click icons to run one or another of the games and demonstrations. You can be playing immediately, without ever opening the manual or thinking about programming, and you will be rewarded with a medium level of graphics, voice, music, and game activity. After playing the games for a while, winning a few, losing a few, you can start speculating on how you might like them to be different. The set-up does not leave much room for criticism--if you don't like something, go in and change it!

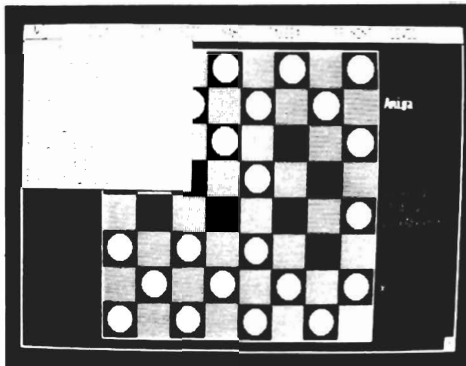
Pegboard is not what a purist would call a game, but a puzzle that nearly all of us tried when we were young. This graphical counterpart, though more convenient than the familiar mechanical board, is exactly the same action. When you solve it, you are rewarded with a bit of

Brahms. Very neat from a programming standpoint, and very instructive.

Everything runs under Amiga Basic, so it is straightforward to interrupt the program to look at the code and to fiddle with it. (Gil recommends printing a hard copy to guide you in studying and modifying the code--all 100 pages of it.) Most of the main programs, and especially Checkers, are terribly long for detailed study, but they are neatly arranged in subroutines that can be digested one at a time. Many of these have general usefulness (to draw a rosette, for instance, or to play a Brahms fragment) and can be lifted out, with guidance from the manual, to be used someplace else.

One of the demonstrations is a short program that calculates and prints out prime numbers. It is written in both Amiga Basic and in C, to give the reader a taste of the C language. (The C coding looks comfortably similar to the Basic, implying a little deceptively that it will be easy to learn.) Each version of the program can be run by simply clicking an icon. The difference in speed of operation is astonishing! The difference is so great, in fact, that an earnest programmer will immediately conclude that C must be learned and used in all subroutines that are calculation-intensive. *Conversation With A Computer* does not try to teach C or to show how to compile C programs, but it does show how to incorporate a C subroutine into a Basic program, and it gives some suggestions on how to go about learning C.

Artificial intelligence is a phrase that gets bandied about and used in many ways, but in computer science it refers to a specific group of algorithms. The Checkers program uses some of these, and is accompanied by very good explanations of what is going on. Although this disk gives only a few nibbles out of the large and difficult field of artificial intelligence, it is a start.



One of the central procedures in artificial intelligence is to build in a provision that enables a game to learn from its losses and thus to modify its future play. Checkers, regrettably, does not employ such a procedure, but it lays the groundwork for one, and sort of leaves it as an exercise for the reader.

To sum up my personal impression of *Conversation With A Computer*, I would advise anyone who is looking simply for a game disk to pass it over. Unless of course, he particularly likes a game of checkers. But, to anyone who already has a modest amount of experience writing Basic programs and who has made a commitment to master the art, I say emphatically -- get it and study it. It is a pleasant and witty, but deeply serious, guide
(continued on page 32)



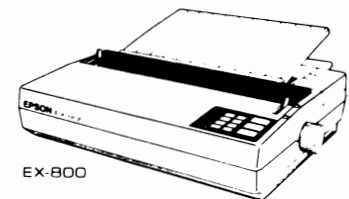
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But this is just the beginning! All the source code is provided — more than 4,000 lines of Amiga Basic and nearly 1,000 lines of C. The documentation explains how everything works and, along with the program listings, will lead you from simple Basic routines to advanced programming techniques such as:

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(CONVERSATION: Con't'd)

(PD-3D: Cont'd from Page 21)

to the next higher plateau of programming expertise and it gives glimpses of the still higher plateaus that lie beyond.

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by studying the examples you can succeed. The action editor is simplicity by comparison. Start with frame 1 and advance one frame at a time. You can change the X, Y, and Z coordinates in each frame by typing in the gadgets. Or you can select TWEEN from the menu and specify a range of frames. ROTO will compute the intervening transformations for you! All this in 58k!

I found ROTO on a local bulletin board, and have not seen it on a FISH disk yet. Check with user's groups and commercial networks, but by all means track it down. C. French's ROTO has earned him a place in the Amiga hall of fame!

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ProWrite 1.1

This latest revision refines ease of use

by Sal Conde

New Horizons Software, the developers of FLOW, have recently introduced version 1.1 of this multi-faceted word processor for the Amiga. ProWrite is a unique Amiga product which bridges the gap between word processors and desktop publishing systems. By combining the WYSIWYG features of Amiga word processors with multiple fonts, color, and graphic capabilities, New Horizons created 'something new under the sun'.

ProWrite runs under Workbench 1.2 and can be invoked from Workbench or CLI. A minimum of 512K of memory is required. The hardware configuration used for this review was an Amiga 1000 computer, an Amiga 1080 monitor, 512K of memory, an external 3.5" disk drive, and a JUKI 5510 color dot matrix printer.

ProWrite is the first word processor to include IFF graphic files. This feature gives you the capability to load graphic art created by a paint program into your document. Once loaded the Iff text and/or picture can be placed anywhere in the document.

ProWrite is also the first Amiga word processor to support multi-

ple fonts. In addition to the standard Amiga fonts (Diamond, Emerald, Garnet, Opal, Ruby, Sapphire, and Topaz), ProWrite provides three additional fonts called Granite, Marble, and Serpentine. In fact, you can use any Amiga font by copying it onto your ProWrite disk or using the ASSIGN command to point to a disk of fonts. You can freely change fonts within a document, paragraph or line. ProWrite remembers where each font is used, thereby allowing corrections even after you change fonts. This variety in fonts gives ProWrite the ability to produce interesting effects.

Color text support is another first for Pro Write. Text can be printed in seven different colors (black, red, yellow, green, blue, purple, and pink). ProWrite can even import files produced by FLOW, an "Idea Processor" from New Horizons.

It is Intuition driven, and therefore makes use of multi-tasking, projects, menus, sub-menus, windows, and of course the mouse. You can enter many commands via function keys or command key sequences. This option is especially useful in a keyboard oriented program such as a word processor.

Getting Started:

For safety sake, the first thing to do is to create a working copy of ProWrite. Use CLI DISK-COPY or the Workbench DISK-COPY function (ProWrite is not copy protected). After that, copy your customized preferences file from a Workbench disk (DF0:) to the new ProWrite disk (DF1:) using the following CLI command:

```
COPY DF0:DEVS/SYSTEM-CONFIGURATION TO DF1:DEVS
```

This approach assures that your usual preferences settings are transferred to your working disk. Once this mundane but necessary task is done, you are ready to begin.

Double clicking on the ProWrite icon starts you in the High Resolution mode. ProWrite uses the interlace mode of the Amiga to implement its WYSIWYG (What You See Is What You Get) capability. Unfortunately, this causes the display to flicker very badly. This flicker would occur on most monitors including the Amiga 1080. (The new Amiga 2080 long persistence monitor should not have this problem.) The documentation suggests four solutions: one, buy a product called JITTER-

(continued)

Prowrite 1.1 (continued from previous page)

RID; two, buy a new monitor; three, press Shift-HELP to change the screen colors; and four, use the medium resolution version of ProWrite. Since I didn't have the desire, time, or money to buy anything, I went straight to option three. This did reduce the flicker, and turning down the contrast and brightness controls of the monitor helped

text is twice as tall on screen as on paper. After using the Medium Resolution display, I decided to make it my permanent choice. (This requires renaming files). Any word processor requires a clear and jitter-free display which ProWrite medium resolution provides.

The RULER

Prowrite uses visible rulers to

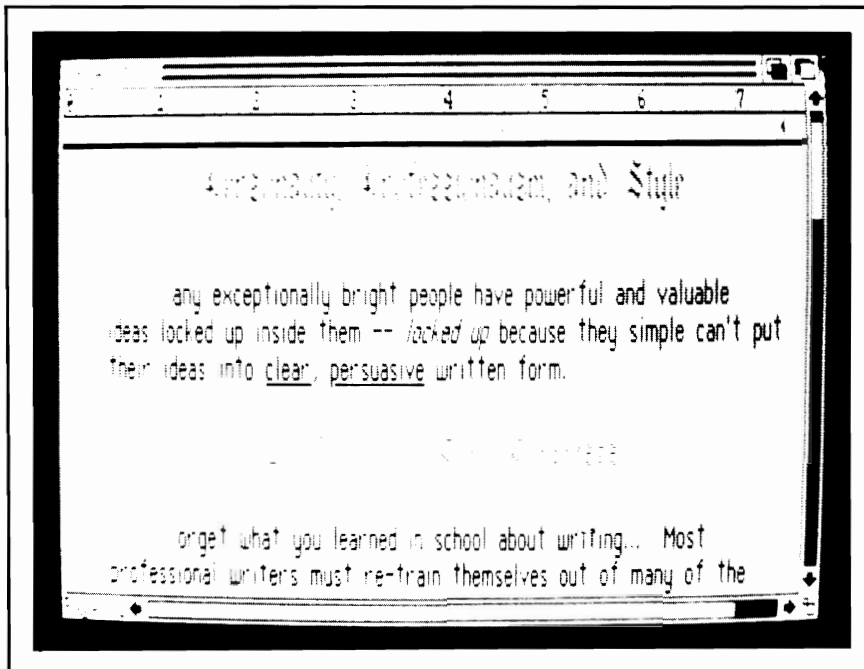
The margins are set by dragging the left and right margin indicators to the position on the ruler where you want the margins to be. I found setting the margins to be tricky. When dragging the margin indicator, if you don't hit it exactly you will end up with a tab setting!

Paragraph indentation is also controlled by dragging an indentation marker. Hanging indents are supported. I prefer to write with no paragraph indentation. In order to accomplish this I had to drag the paragraph indentation marker and the left margin marker and put them in the same spot.

In the process of doing this I generated many tab settings which had to be dragged off, and it took me a while to get the two markers on the same spot. I could have used a hanging indent, but this would have forced me to tab at the beginning of every paragraph. The ruler is only eight inches long, hence, ProWrite will not support more than 80 characters per line.

The PROJECT MENU

This menu controls opening/closing documents, saving documents, printing, and quitting. Each time ProWrite opens a document (old or new) it opens another window. Each window uses more memory and 512K could disappear fairly quickly. ProWrite issues a friendly 'not enough memory' message when this happens (instead of an infamous GURU MEDITATION message). The OPEN requestor has two displays, one for drawers and the other for files. Double clicking on drawers or files would immediately load the file,



even more. However, I still found the display uncomfortable. The advantage of ProWrite's high resolution mode is the accuracy of the display and printed page. The text and graphics appear on your screen almost exactly as they will when printed.

Fortunately, release 1.1 includes a medium resolution mode. Even though this mode is not exactly WYSIWYG, it should be close enough for most applications. In this mode your

control margin settings, paragraph indentation, and tab settings. Some or all of these settings can be changed for each paragraph! For ease of use, you should get in the habit of setting everything before you begin typing.

Tab settings are set by clicking on the ruler where you want a tab. The tab setting can be dragged anywhere on the ruler or it can be removed by dragging it off the ruler entirely.

a nice easy method of file retrieval. The SAVE AS requestor has a similar setup.

PRINT AS allows you to choose how the document should be printed. STANDARD prints the document graphically (required if you want to print fonts, or pictures). NLQ prints the document in near letter quality mode. DRAFT prints in the faster draft mode. You can also choose between continuous or cut sheets. DRAFT and NLQ modes require the Topaz 11 font, otherwise the text is not properly spaced or aligned.

Using the STANDARD mode your document prints fonts, colors and pictures exactly as they appear on the screen. However, on a dot matrix printer each page takes a long time. I found that printing was faster if the left-Amiga key and 'N' were pressed to swap to the Workbench screen. I soon realized that the power of ProWrite becomes more useful if you happen to own a laser printer.

QUIT closes all documents and terminates ProWrite. If you did not save your work, ProWrite will ask you if you want to save your work. You can also use the close gadget to terminate your current window.

The EDIT Menu

This menu allows you to cut, copy, and paste text using the Amiga clipboard function. You can also erase text. This is generally done by painting the text to be modified with the mouse (left button down and drag over the text desired) then choosing the option desired. This implementation should be second nature to

experienced Amiga users.

There is a COPY FORMAT and PASTE FORMAT which allows you to copy and paste the formats specified from one paragraph to another. This feature is very handy since all formats in ProWrite are paragraph based. You can also choose whether or not the paragraph symbol should be displayed. This is a useful option when deleting paragraph markers to move text around.

The SEARCH Menu

This menu invokes functions which allow you to search for character strings or words, change text, and go to a specific page.

The FIND option is used to search the document for character strings or words. You can tell ProWrite to search using upper/lower case. You can search for multiple occurrences with the FIND NEXT option.

The CHANGE option allows you to find text and replace it with another character string. You can change specific occurrences or all occurrences.

The GO TO option tells ProWrite to go directly to a specific page.

The CHARACTER Menu

This menu controls character formatting. You first select the portion of the document that you want formatted by holding down the left mouse button and dragging it across the document. Next select the format desired. You can choose plain, bold, italic, or underline. As in other Amiga text processors bold, italic, and underline can be specified in any combination. Subscript,

superscript, font, and color are also specified from this menu.

The PARAGRAPH Menu

This menu tells ProWrite how to format a paragraph. Once again paragraphs are selected by dragging the mouse over one or more paragraphs.

You can specify that the paragraph be left aligned, centered, right aligned, or right and left justified. You can also specify whether ProWrite should use single or double spacing.

Tabs can be set up to be left, right, or on a decimal point at the tab marker.

The DOCUMENT MENU

This menu controls headers, footers, page breaks, and page numbering. Creating headers and/or footers puts you into another window where your text can be manipulated like any other ProWrite document. Page numbers must appear in a header or footer. In many cases the header or footer will only contain the page number.

Normally headers and footers are not displayed on the screen. However, there is an option to display headers and/or footers. There is also a TITLE PAGE option which tells ProWrite not to put headers and/or footers on the first page of the document.

The PAGE NUMBERING option specifies the style of page number ProWrite should use and a starting page number.

GRAPHICS

Using Graphics within a word processor is a key feature of ProWrite. This is done by opening another window and loading an IFF file. At this point you must select the type of shading re-

(continued)

Prowrite 1.1

(continued from previous page)

quired (full, partial, or none). Greater shading gives a more blurry image. Experimentation is required with each picture to determine which gives the best result. Unfortunately, once a shading is chosen there does not seem to be a way to change it, and you have to open the window again and load the file with a different shading.

Once you are satisfied with your picture, the next step is to use the copy function to place it in the Amiga clipboard. You then switch back to your document window and paste the picture where you want it. The picture can be moved in your document by dragging it with the mouse.

DOCUMENTATION:

I found the documentation straightforward and fairly easy to understand. It is divided into four parts. The first part is an introduction to ProWrite. The second "Learning ProWrite", is intended for first time word processing users. This section uses illustrations and step by step instructions to present a useful tutorial for the novice. The third section "Using ProWrite", is for users familiar with word processing concepts who only need specifics on the use of ProWrite. Finally a "ProWrite Reference" section is provided. Happily, the manual also includes an index. I suggest that you read the entire manual since important information may be mentioned in one section but not another.

RECOMMENDATIONS FOR IMPROVEMENT

1. Forcing the user to remember to choose Topaz 11 font for

DRAFT and NLQ modes is annoying. ProWrite should automatically select Topaz 11 in these modes. 2. ProWrite is always in insert mode. It would be useful at times to have an overtype mode. 3. If ProWrite is a full featured word processor, where is the spell checker? Similarly, where is the mail merge function? 4. Finally ProWrite should be able to create a print format file. This would allow offline printing.

CONCLUSIONS:

ProWrite is an easy to use word processing package that can also be used as a personal desktop publishing system. It has many unique features such as multiple fonts, IFF support, and multiple colors. A laser printer could become essential in order to produce a volume of graphic documents in a reasonable amount of time. As with most recent Amiga software, additional memory may be required to get the most from ProWrite. When writing this review I saw many "Getting Low on Memory - Please Save Your Work" messages. Multitasking is a problem with 512K. I ran into trouble opening a preferences window while in ProWrite.

If your word processing requirements are business oriented, then the lack of a spell checker and mail/merge could rule out ProWrite as an option. On the other hand, if your requirements are for a word processor which can dazzle like a desktop publishing system, then you should definitely consider Prowrite.

ProWrite Version 1.1

New Horizons Software Inc.
P.O. Box 43167
Austin, TX 78745
(512) 329-6215

REQUIREMENTS:

512 K Amiga
One disk drive

FACC -

(Continued from Page 25)

refreshing scheme to increase the "HIT" rate. It will also offer CLI users the choice of using a CONTROL window or not. Registered owners will be provided lifetime updates free of charge

If you really use your Amiga, FACC is a must-buy. By speeding up many floppy disk tasks, the utility of the system is greatly increased. More than this, FACC is an example of a unique feature of the Amiga experience. Software developers and talented programmers continually produce operating system enhancements which work together and with the original software. I'm looking forward to more software offerings from ASDG.

FACC:

ASDG Inc.
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Requirements:

512 K Amiga
Suggested Price: \$ 34.95

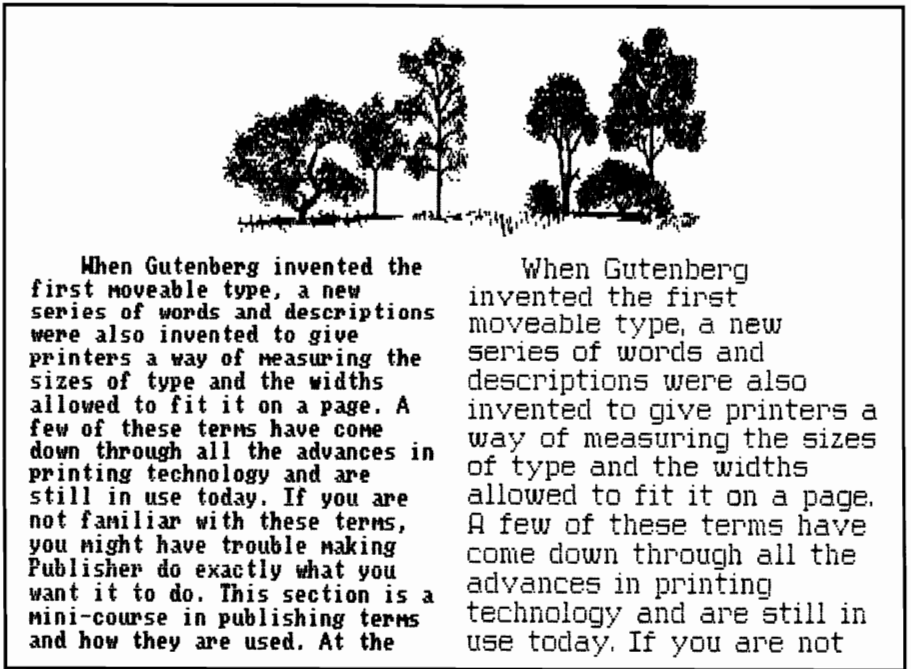
Publisher 1000
(continued from page 18)

eration and output, it really raises the user to a higher plane of creative control. It plants itself four-square in the middle ground between 8-bit (Commodore 64, Apple II) technology of the *Print Shop* and *Certificate Maker* variety, and the pre-existent (and much more expensive) 16-bit (MacIntosh) technology characterized by *Ready,Set,Go* and Aldus' *Pagemaker*.

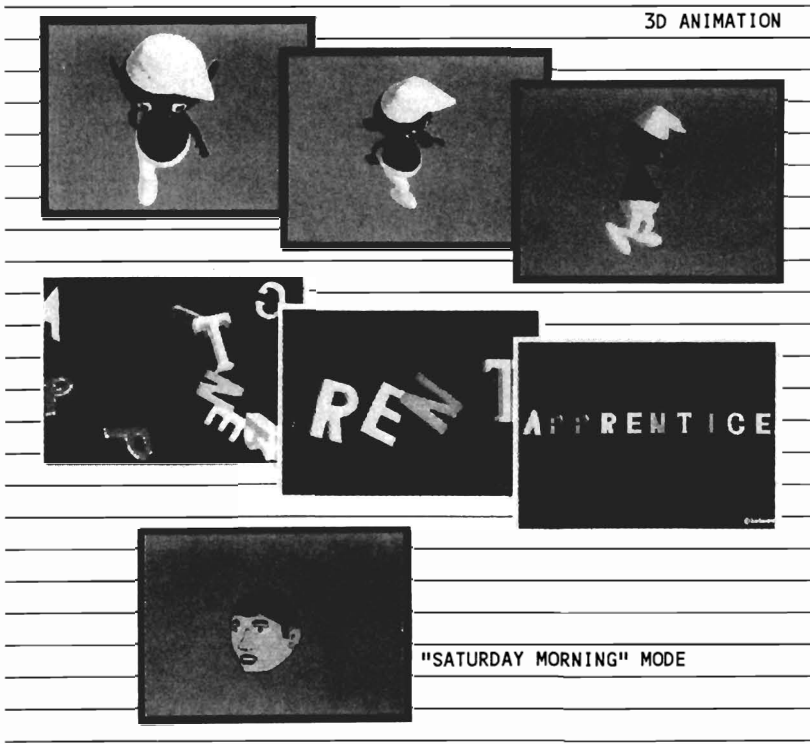
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Comdex Sampler

(continued from page 8)

The Calcomp thermal transfer printer; **Calcomp, Inc.**

Calcomp Corporation of Anaheim California, was showing their line of thermal transfer color printers. Their "Plotmaster" model encompasses all the abilities of their lesser priced "Colormaster", with the additional ability to make multiple copies of your original, as well as taking standard type pen commands that work with Calcomp's line of plotters. The main reason for increased performance between the two is due to the increased on-board memory in the Plotmaster. Both units have a 200 dots per inch resolution, enabling them to do perform very fine shading operations.

A special driver for the Amiga is included on disk, which has been custom designed by Calcomp to support the graphic capabilities of the computer.

The printer uses a ribbon not unlike that found in the Okimate 20. Utilizing the Magenta, Cyan, and Blue color scheme that constitutes a whole variety of mixed shades, including a very convincing black. The cost of ribbon replacement is around \$25.00. The breakdown of cost per copy works out to be about twenty-five cents.

Colormaster: \$4500.00
Plotmaster: \$5000.00

AEGIS extends deadline for desktop video competition

Aegis Development Corporation recently announced that the proposed deadline for their desktop video contest of August 31, 1987, has been extended to October 10, 1987. Mostly due to the high number of requests from Aegis product users, the extension will enable contestants to use Aegis' new product, Videoscape 3D, for their productions. The rules specify that the video must be produced with at least one Aegis product to animated sequence. Submissions must be in 1/2" or 8mm format, and should not be over 5 minutes in length. Prizes range from \$1000.00 for first prize, to \$100.00 for honorable mentions.

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A-TALK lists for US \$49.95. A-TALK PLUS lists for US \$99.95. \$2.00 shipping (\$10.00 Overseas).

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Erratum

In our report on the adventure game "Alien Fires", we suggested that it could be inconvenient to use the two disk program on a single drive system. However, Jagware informs us that after the main program disk loads, you may replace it with the sound and graphics disk, eliminating the need for disk swaps.

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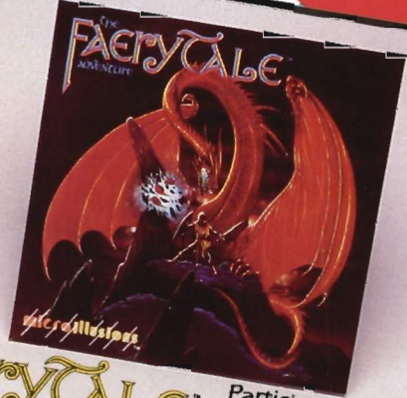
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