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AMIGA GRAFX

The Complete Amiga Graphics Resource

Two Disks Inside

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Volume 1, Number 2
April 1990

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ANIMATED BRUSH MAGIC ...

Professional ScanLab

Professional Publishing Results

1.

16 million Color Scan

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Able to control the SHARP JX-300, JX-450 and JX-600 color scanners, Professional ScanLab's pre-press capabilities include global color correction, brightness and contrast controls, the ability to process and convert between positive and negative images, and the ability to optimally choose smaller palettes based upon 256 grey or 16.7 million color scans.

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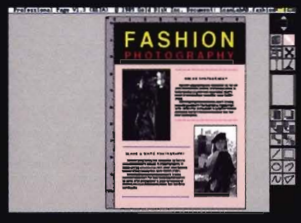
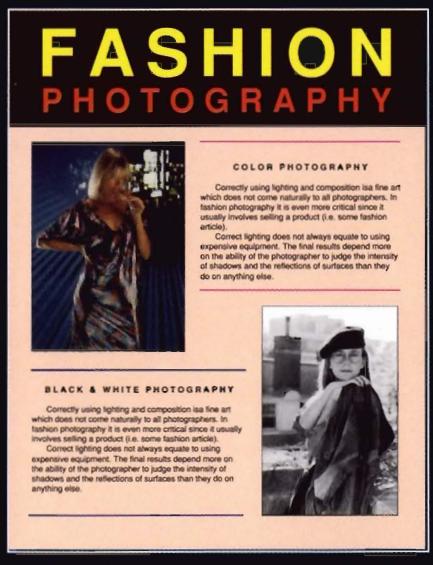


Three easy steps take you from scanning both color and black&white photographs, transparencies, or other artwork, to your final full-color page. Scanned images from Professional ScanLab can be positioned, cropped, and scaled using Gold Disk's Professional Page (desktop publishing software). ASDG's ReSEP will strip out the 12 bit separations produced by Professional Page, and strip in 24 bit color separations or 8 bit grey scale images produced by Professional ScanLab.

3.



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Two raytraces (Boing Temple and Hallway) are included on disk. Boing Temple was created by Ken Goecke using Turbo Silver. Hallway was created by Steve O'Leary using the public domain raytracing program URAY, a modified version of DWRender. Ken's article on using Turbo Silver can be found in this issue.

Business Letterhead Templates

Use these Professional Page templates to create your own letterhead or business cards! Created by author Bob Bourdeaux.

Dyna-Show v1.3

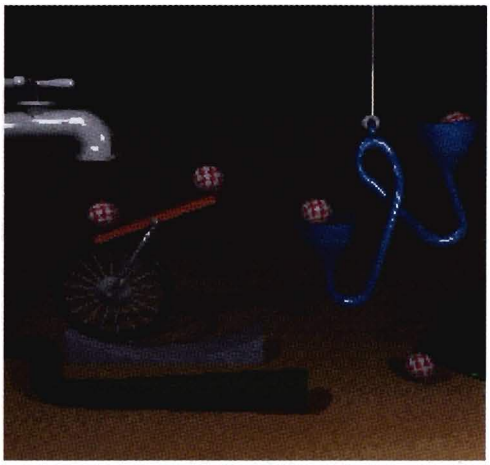
The latest version of the show utility - used to view pictures created with Newtek's Digiview 4.0 in Dynamic HAM mode.

Deluxe Paint III Reference Screens

IFF picture versions of the Deluxe Paint III help sheets in this magazine. You can pop these up on screen while using Deluxe Paint III.

Reflect and Expand

Two utilities that allow you to create some pretty interesting effects with HAM images.



"Boing Machine Animation"

Hi-C and Hi-D Utilities

Hi-C allows you to combine four 320 X 200 HAM pictures into one 640 X 400 Hi-res picture (one in each corner). Hi-D takes a 640 X 400 HAM image and converts it to a 640 X 400 Hi-res interlaced screen.

"Boing Temple"

HiShow

This is a show utility that allows you to display images created with Hi-C and Hi-D.

Boing Machine Animation

An oldie but goodie, Boing Machine was created before there were sophisticated raytracing/animation programs available such as Sculpt4D and Turbo Silver.

HAM Painting

Amiga artist Christopher Roy shows off the Amiga's HAM painting capabilities with two pictures (Nantucket Native and ReefColors).

GRAF/x Animation

This animation was created for GRAF/x magazine by Tina Chase and Steve Gillmore as part of a tutorial on animated brushes. It was created using CanDo and Deluxe Paint III.

Anim-To-IFF

Allows you to split animations into individual IFF pictures that you can load into your favorite paint program or video production program.

Scenery

Use this program to create mountain terrains and other various landscapes or backgrounds for use in your own productions.

AMIGA GRAF/X

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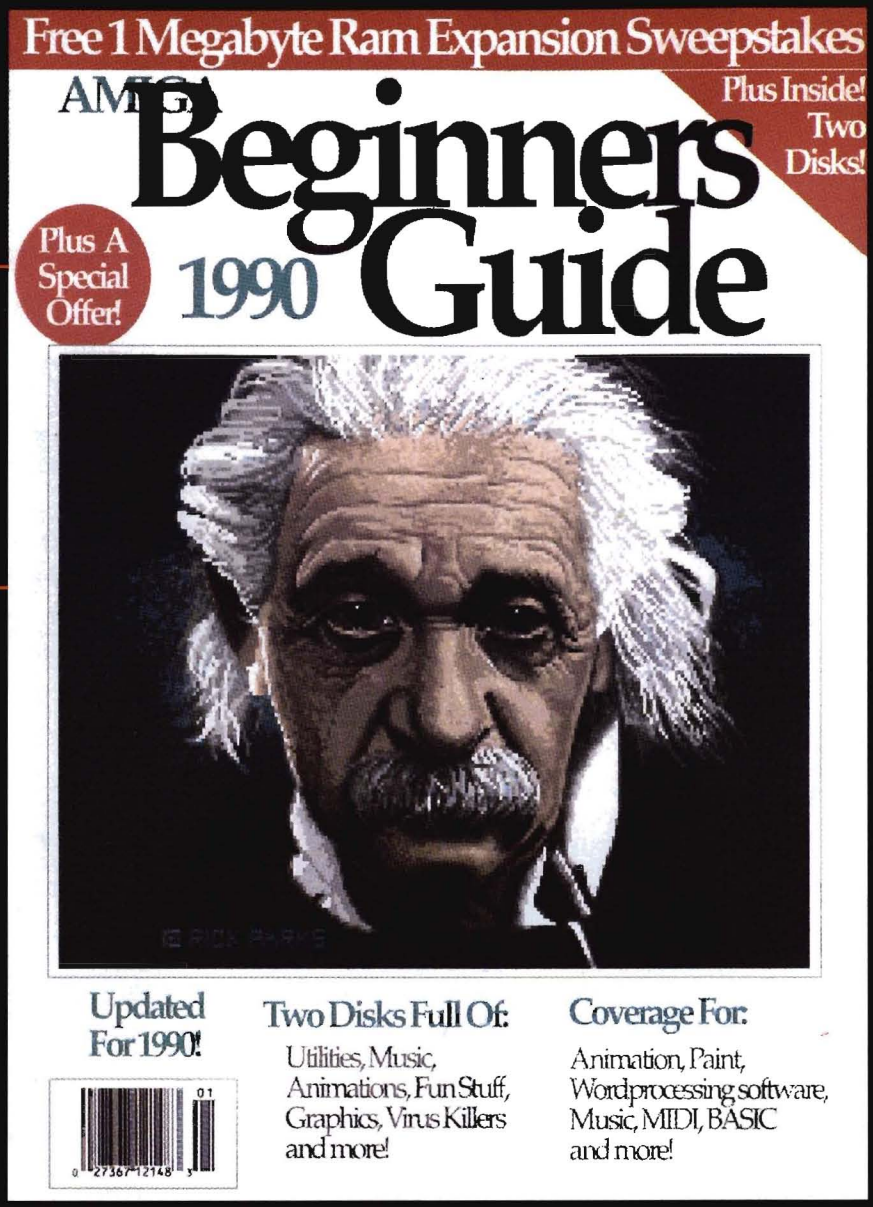

INSIDE

- AMIGA PAINTER - *rounds up what's available and clears up some of the confusion.*
- AMIGA ANIMATION - *the latest on what's available and what they do.*
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- FROM DAY ONE - *some things that you need to understand your Amiga.*
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- THE LATEST SOFTWARE - *several new music programs for the Amiga.*
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CAN a review CanDo DO IT?

by Steve King

It is rare when a program comes along that is so outstanding and unique that it deserves rave reviews; luckily for Amiga users, *CanDo* is such a program. While *CanDo* is, perhaps, one of the most creative and ingenious computer programs ever to be marketed, it is very difficult to describe. At first glance you might think it is merely the Amiga version of *Hypercard* for the Macintosh, but it is far more. In essence, it permits any user to design and implement full fledged, useful computer programs - without any knowledge of, or expertise in, computer programming!

Conceptually, *CanDo* should be thought of as a series of sequentially arranged cards, each starting out as a blank screen. A collection of these cards (which can be accessed randomly) is called a Deck. A Card contains both scripts (a series of commands which perform specific actions) and Objects which, when activated, execute still other scripts or perform specific functions. When you first begin *CanDo*, you are presented with a blank window. At the bottom of the window is a separate screen containing the Main Control Panel which slides up and down as needed. Clicking on the various gadgets and icons gives you access to the cards, their scripts and the Objects. There are eleven dedicated Objects and an Xtras button which provides you with additional Object modules. From this Panel you can create, edit and browse through your Deck.

In order to best describe *CanDo*'s features, I will create a small deck that will display an IFF picture, play a digitized sound and display a standard ASCII text file on the screen. To create this program, the first step is to create a proper visual screen using the Window Object. Clicking on its button brings up a requester with which you select the size and resolution of the window and the number of colors you want to use. If you like, you can type in the name of a picture file as a background and *CanDo* will load and display that picture when the card is displayed. By clicking on other buttons, you can customize your window with Close, Front/Back and Resizing gadgets, or create a window without boarders.

Perhaps the most useful Object is the Button Object. This function allows you to select an area on the screen which will respond to a mouse click when the pointer is on that area. In fact, the response can be conditioned on the press of the left button, a button press accompanied by a mouse movement, the release of the button, or a double-click. There are three types of Object Buttons - Area, Text and Image. The Area Button is merely a rectangular area of the screen you define with the mouse. It can be invisible or have several different

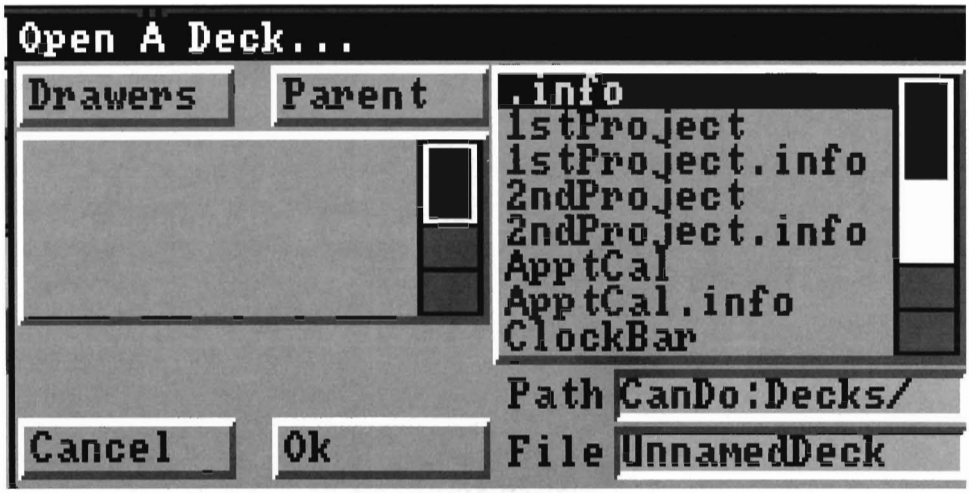
types of borders using all of the available colors. You also have the option of selecting how that area will appear when you actually activate it. The second type of button is the Text Button which lets you print words which themselves respond to mouse clicks. Finally the Image Button allows you to load and display a standard IFF brush as a "hit area" - regardless of the uniqueness of its shape.

For my example, I will create three Text Buttons. When you click on the Text Button, another window appears where you can choose the font you want to use. This can be any Amiga font located in your current fonts directory. You can select its color and easily print in multi-color outline, shadowed, embossed or ghosted formats, just by clicking on buttons. The first Text Button I will create will contain the words "Display Picture." After typing in the words, you use the mouse to move and place them on the screen. You should also give that button a name for reference in the event you want to copy it to another card, as all Objects are limited to the card for which they were created.

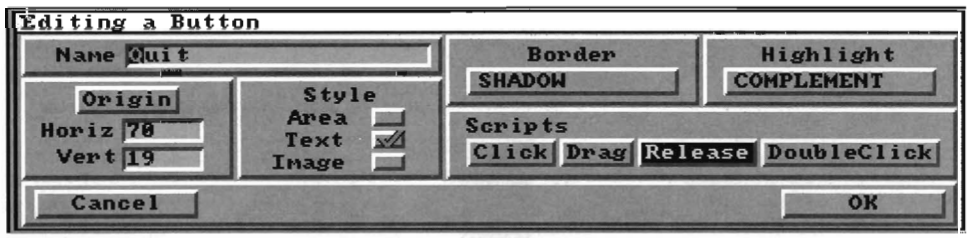
Finally, you must tell the program what to do when the user clicks the mouse on that text. You do this by creating a script, but more on that later. For the moment, assume that the script loads and displays a particular picture in a window that disappears when you click on the close gadget. Continuing with my example, I will create two more Text Buttons which will display my text and play a digitized sound.

To display text, there is a separate Text Object which reserves a user defined area on the screen. This area can be borderless or have several different kinds of outlines. It may also contain scroll gadgets which will automatically move through your text. If you wish, you may also give the user the ability to type in the text window and even modify and save existing text. Text can be displayed in any Amiga proportional font, size and screen color. The Text Object also has the capability of displaying text in list format (such as a list of files). In this mode, you can click on an individual line of text which you can then retrieve and process as you wish. In my example, clicking on the second Text Object could either display the text file on the bottom of my first Card, or move to another Card which is dedicated to displaying text.

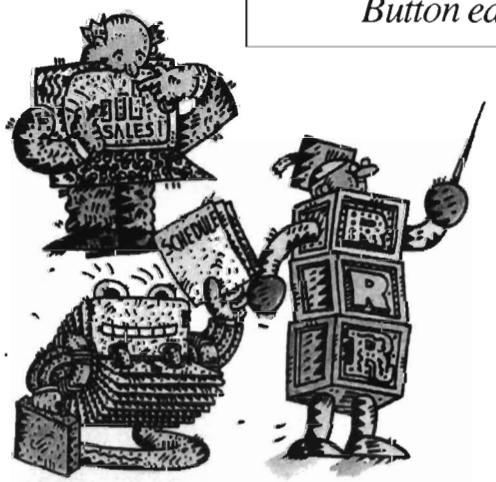
Another important Object is the Menu Object which lets you create your own pull down menus, complete with shortcut keys and submenus. Most impressive is *CanDo*'s ability to display in the menu an IFF graphic as well as stylized fonts. The Field Object is merely a rectangle where you can type letters or numbers. You have the option of displaying a default string and limiting the number of characters that can be entered. A separate script can be executed either when you click on the Field Object or after you have entered text and pressed the Return key. These scripts can then process the entry as desired. The Timer Object has two varieties - interval and alarm. The interval timer executes a script, either once or a recurring number of times, after a user defined time has elapsed. The alarm timer goes off and executes a script when a specified time occurs. This can be daily or on a specific day of the week.

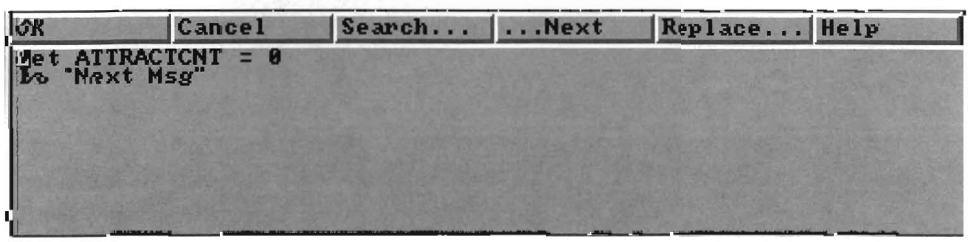


Load file requestor.



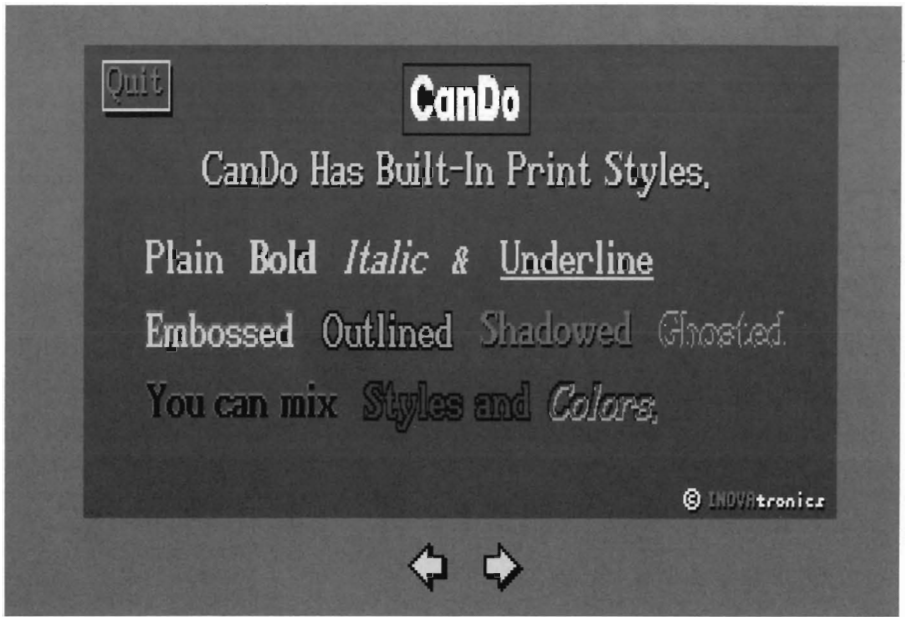
Button editing panel.





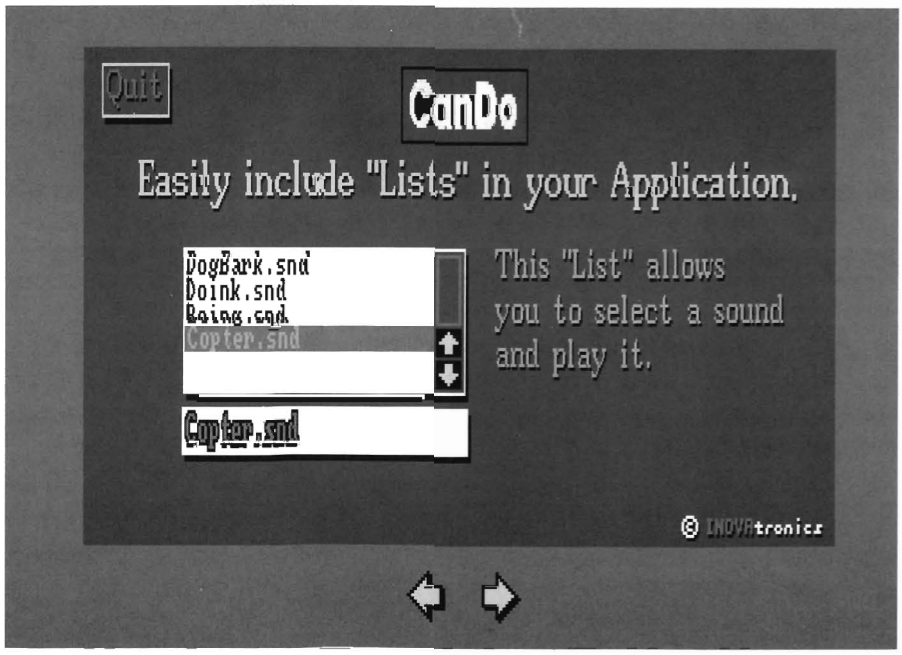
Script editing from CanDo.

CanDo



Sample built-in print styles.

CanDo's primary control panel.



A sample of how easily CanDo can handle lists.

Other Objects permit you to execute scripts on specific frames of an animation; synchronize other events to the start or finish of the playing of a sound; communicate with other programs through an ARexx port; create subroutines which any script can reference and use; and perform an action when a disk is either inserted or removed.

The last Object is the Xtras Object which is a directory of additional Objects which can be added to *CanDo* as they become available. Included is the Menu Render Object which executes a script when the right mouse button is pressed or released. Also soon to be available is an object which detects and responds to the user pressing designated keys on the keyboard.

As you may surmise, the heart of *CanDo* is the script which is executed when one of the objects is activated, or when a card is displayed. The script is composed in a special window called the Script Editor which works like most text editors. You use commands very similar to those used in BASIC, and *CanDo* has over 200 commands and functions. While typing the commands manually may be faster, *CanDo* provides those users with "programaphobia" an alternative method - a set of editor tools which translate point and click mouse movements and menu selections into a list of commands.

For example, if you want a script that displays a picture, all you have to do is click on the Picture Editor Tool and a requester appears which helps you locate and select that graphic. When you have finished, the appropriate commands are actually written into the Script Editor.

The Editor Tools can create graphics (with a small paint program) and text, write scripts to play sounds, run external programs, locate files, find other cards, execute

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AMIGA by design

Sean Mollitt, Amiga Graphic Artist and owner of Cube Graphique, makes his home in Montreal, Canada. He took the time from his busy schedule to tell how he got hooked on the Amiga and how it led to a successful graphics business.

ENTER AMIGA

My affair with the Amiga began back in September of 1985. I was living in England at the time, with the intention of completing my B.A. in fine art. My interest in computers back then was geared towards music, as there wasn't yet any color computer-system capable of creating anything more than Space-Invaders-type graphics. My attention was focused, therefore, mainly on systems offering music productivity software, such as MIDI sequencers, patch editors, and sound samplers.

One day I was reading the latest edition of *Electronics & Music Maker* when I noticed a column that announced the imminent release of a new computer called AMIGA. The report gave a glowing account of a system offering awesome sound *and* graphic power. At the time, I was contemplating buying my first computer system, but was unable to decide between the MAC's user-friendliness or the IBM-PC's huge software base. This amazing new computer seemed to offer everything I wanted.

At that time the Amiga wasn't available in the U.K., so when I returned home to Montreal in December I made a lot of phone calls (most stores hadn't even heard about Amiga yet), and eventually found a store that sold the new system. I bought one of the first A1000s, along with *DeluxePaint*, *Textcraft* and a dealer's demo copy of *Musicraft*. (In those days that was the entire Amiga software collection!)

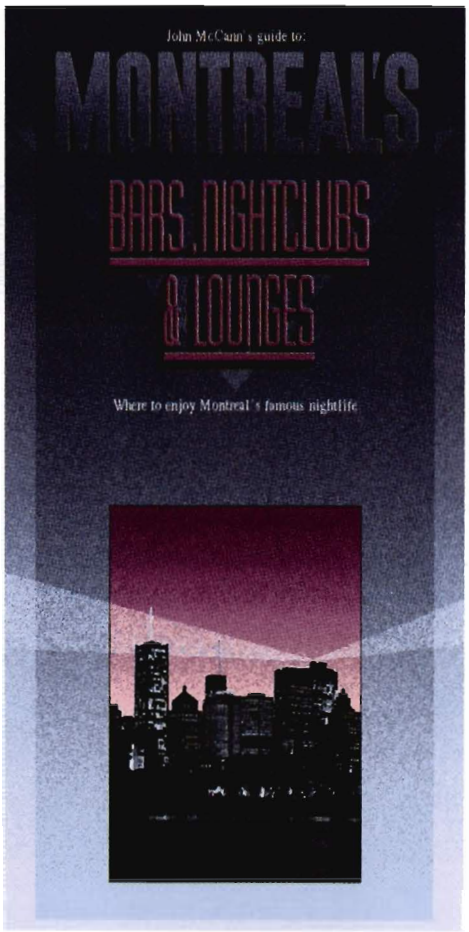
Amiga system in hand and the Christmas holidays over, I headed back to England, bought a huge transformer (so I could power the system on 220V), set it up in my studio, and said goodbye to my social life.

Even back then, *DeluxePaint* blew the socks off of any other paint program around, and AmigaBasic, with a lot of work, could generate some rudimentary but entertaining animation. THIS WAS COMPUTING! I spent the next six months glued to the monitor. I learned the operating system, figured out AmigaBasic, and worked on my drawing techniques in *DeluxePaint*.

That was four years ago. Today I still have my original A1000, but I also have two A2000s complete with Bridgeboards, Macintosh emulator, removable hard drives, 68030 board, many megs of RAM, a Postscript laser printer, a host of peripherals and software, and a small but successful graphic design company with an occasional employee to justify the humongous mound of equipment.

BLINDED BY SCIENCE

Success, however, did not come overnight. Even though I'd been doing freelance graphic design work for years, my wandering habits kept me from securing a solid client base. The transition from traditional graphic techniques to computerized ones was slow, and was further hindered by my near obsession to design every job on the Amiga. This "blinded by science" attitude, and the nearly unlimited variations offered by the Amiga, made every job a learning experience and slowed my productivity to a crawl. This was the inverse of what I had expected! The valuable lesson learned here



Cover design for a Montreal bar guide created with Deluxe PhotoLab

Logo design for restaurant created with DeluxePaint and Photo Lab. The type was first done in ProDraw .

was that not every job is suited for the computer. If you can't electronically get the effect you want, do it manually. (You can always scan-in the results!)

Slowly my proficiency increased to the point where I felt as comfortable with mouse, keyboard, and monitor as I did with pencil and paper. In July 1987, after returning to Montreal and purchasing a Postscript laser printer, I went into business under the name of "Cube Graphique."

INSTANT PRODUCTION

With the release of Gold Disk's *Professional Page* came a whole new responsibility: production. I no longer had to send out for type, wait around for stats, or (once Gold Disk worked the bugs out) pay a month's wages to get color separations. Depending on the job, this could all be done within the confines of *ProPage*. This is probably one of the biggest shocks to a graphic designer using a computer for the first time; all of a sudden, what you've laid out on the screen is camera ready! No need for typographers, production technicians, strippers and proof readers; all these jobs were reduced to a couple of mouse clicks! But with all this creative power came the responsibility of assuming the positions of a crew of specialized professionals, a fact often overlooked by the new breed of desktop publishers. This was a learning experience that definitely made me gain new respect for the specialized talents of the production artist.

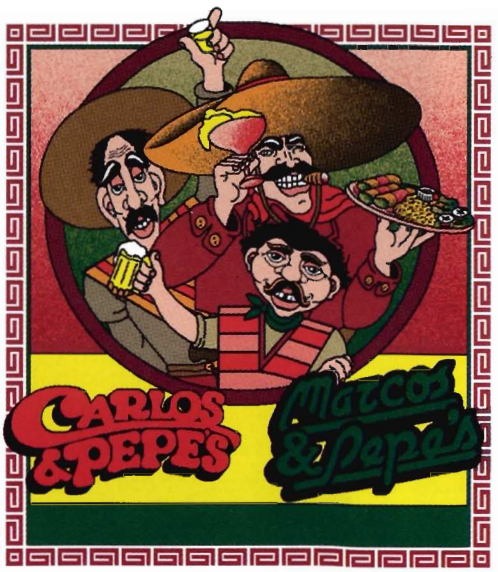
POSTSCRIPT 101

Inevitably, I was introduced to the wonderful world of Postscript and the accompanying Linotronic output bureau. Postscript, for those unfamiliar, is a page description language developed by Adobe Systems Incorporated which is used to communicate the contents of your electronic page to a high resolution output device such as a personal laser printer or, at even higher resolutions a Linotronic or Compugraphic Imagesetter. The imagesetters can output to RC paper or film, which is the only way to get a high-quality hard-copy from your Amiga to your client or printer.

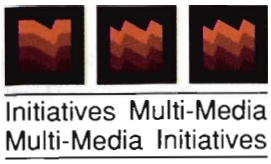
Although *ProPage* made this task as simple as possible, it was easy for the novice (me) to overlook a setting and receive back a pile of expensive, but useless, negatives.

SEPARATION BLUES

Accurate color separation was also a problem at first. Because of the limited size and resolution of images captured in programs like *Digi-View* from New-Tek, and inherent problems with the way the Postscript language handled screen angles and dot frequencies, final results proved to be less than satisfactory. Eventually these problems were addressed with more powerful hardware such as the Sharp JX-450 color scanner which, when interfaced to the Amiga via ASDG's *Professional ScanLab* software, allowed you to capture images at 300 dpi in 16 million colors (24 bit). Further improvements to *Professional Page* allowed you to enter specific percentages of "under color removal" (the amount of cyan, magenta and yellow components removed from the image to create black); this greatly improved the color brightness. They also made it possible to tailor the screen angles and dot frequencies to the specific output device. (Linotronic and Compugraphic Imagesetters have very different optimum settings that vary according to the desired resolution and line screen settings.) This ability minimized the dreaded moire patterns that plagued earlier attempts. Finally, because of *ProPage's* inability to import these 24 bit scanned images, ASDG came to the rescue with *ReSep*, a utility that allowed the insertion of these high resolution images into the Postscript code generated by *Professional Page*.



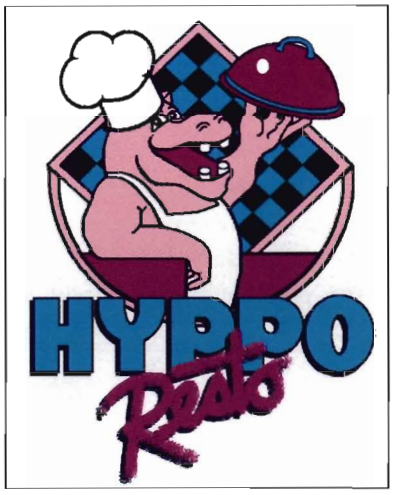
Part of a series of full color ads I designed for a Mexican restaurant. The characters were created on the Amiga.



Some examples of logos from two corporate identity plans. designed using only Professional Page.

A lot of this technical precision wasn't absolutely vital at first, as most of my early jobs didn't require anything more than simple spot color separation (something *Professional Page* handled well from the start). But the more I learned, the more fascinated and greedy I became for the latest and greatest advances in the field.

I didn't learn all this information overnight; a lot of hard lessons and trial and error were involved. Sources of information on such technical subjects were hard to come by;
I have Rick Rock and Brian Kelly at Commercial Image to thank for a good part of my knowledge. I got involved with Rick and Brian as a technical consultant at the time they were installing their first Compugraphic Imagesetter. To the best of my knowledge, it was the first time that anyone in Canada was setting up an output bureau around an Amiga. This was virgin territory and it allowed me to gain hands-on experience with the latest in imagesetting technology.



Logo for a restaurant franchise. Designed using Deluxe Paint.

GET INPUT BEFORE YOU OUTPUT

I strongly recommend that anybody visiting an output bureau for the first time have a talk with the technician. Find out what file formats they can process, what knowledge they have, if any, of the Amiga, and how best to process their Postscript files. Find out as much as you can about the specific imagesetter, the maximum roll paper width, which screen angles and dot frequencies give optimum results (they might not know this one), the name of the R.I.P (Raster Image Processor) and the revision number of the software it's using (this might help to identify the possible reasons for a file not printing). A lot of this feedback can be very important when you're prepping your files for output.

For nearly a year I wrongly assumed that my service bureau was out-putting my files at the maximum resolution of 2540 dpi, when in fact they output all files at 1270 dpi unless instructed otherwise. This isn't really a concern unless you plan to enlarge the negatives, or you have a client who likes to examine your type with a magnifying glass. It does become very important, however, when you're working with large, scanned color-separations and you have to be able to squeeze out every dot of extra resolution to make the color as accurate and as bright as possible.

All this, of course, is not vital information to a graphic designer, but understanding the processes involved and taking the necessary precautions can really help speed along production and minimize expensive mistakes in a business where delays can seriously strain the relationship between you and your client.

These technical advances and gained experience helped my business a great deal, and allowed me to take on jobs I wouldn't have attempted otherwise. I now have purchased, or have access to, nearly everything I need for a professional electronic studio.

THE ANIMATING AMIGA

An Amiga based electronic studio can have other bonuses as well. About a year ago, I designed a corporate Identity package for a new client. This company was involved in the audio-visual equipment rental business. They rented all the latest types of presentation equipment such as video, overhead and slide projector, sound systems, et cetera. To promote the full range of services offered, the technicians would leave an information slide in the projector. This method, however, seemed rather low-tech for

such a hi-tech industry. I was talking to the owner (bragging really) about the Amiga's wondrous anima-

tion capabilities when he called my bluff and asked me to produce a short clip that he could leave running on the video projectors until the client's presentation began.

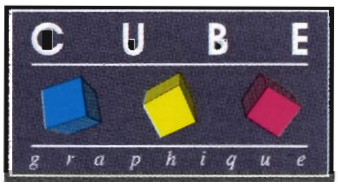
SHORT ON BYTES

The project was remarkably simple to produce, because I had already created the logo and other related graphics on the Amiga, and because the job happened to coincide with the release of *DeluxePaint III*. My first paint program was back with a vengeance, offering full animation capabilities that were incredibly simple to use. But this first animation project made two thing very apparent. Storage capacity and RAM expansion are vital to producing quality animations. About three quarters of the way through creating the animation it contained nearly 1000 frames and was eating up space on my main hard drive at an alarming rate. I had also hit the wall with RAM. The program could no longer load the entire piece, so I was forced to work on it in sections. I never saw the entire animation until I played it back on a larger system (5 megabytes compared to my 3) to do the final output to 3/4" video tape. At that point the animation contained over 1700 frames. Needless to say, I soon bought more RAM and emptied the company bank account with the purchase of a Syquest 40 meg removable drive. This allowed me to buy relatively inexpensive 40 megabyte cartridges as needed.

Logo designed on Professional Draw for a Montreal recording studio

ELECTRONIC IMAGE

At the time of this writing I have just taken on a new project in a field which has always captured my interest: telecommunications. Hoping to bridge the gap between Amiga, Macintosh and IBM PC graphic systems, I undertook the job of creating a new BBS where users of all systems can share data. This week (February 12th), after many long hours working with Skyline, "Electronic Image" went online. It's current services include shared message bases, as well as databases of clip art, fonts, and graphic utilities. There are overlapping Special Interest Groups dealing with many of the topics discussed in this article. I will also be attempting, whenever possible, to make uploaded graphic data available to every user through conversion, coercion, sub-version, EPSF (Encapsulated Postscript File format) or GIF format. As an added feature there is also an area on the board reserved for users who wish to upload their Postscript files for output to Commercial Image's Compugraphic 94000 imagesetter. The ultimate goal of this BBS is to offer the user the full range of graphic related services necessary to stay ahead of the game.



My company logo was Initially designed as a bit-map , later I re-drew it in ProPage and finally transfered it to ProDraw

Perhaps I've bitten off a little more than I can chew with this one, but I think any attempt to bring creative computer artists together is well worth the effort.

This article deals with only a single aspect of the Amiga's multi-facetted personality, but one that has played an invaluable part in the success of my company. Continuing development in hardware and software is pushing the Amiga to the leading edge of creative computing. The message is clear: the Amiga is, and will continue to be, the computer for the creative mind.

Electronic Image BBS
24 hrs - F8N1
(514) 937-9984

DigiView *NewTek* 115 W. Crane St. Topeka, KS 66603 (913) 354-1146 $199.95	*RESEP* *ASDG, Inc.* 925 Stewart St. Madison, WI 53713 (608) 273-6585 $59.95
DeluxePaint III *Electronic Arts* 1820 Gateway Drive San Mateo, CA 94404 (800) 245-4525 (415)571-7171 $149.00	*Professional Page* *Gold Disk, Inc.* P.O. Box 789 Streetsville Ontario, Canada L5M 2C2 (416) 828-0913 $395.00
Professional ScanLab *ASDG, Inc.* 925 Stewart St. Madison, WI 53713 (608) 273-6585 $995.00	*TextCraft* *Commodore* 1200 Wilson Drive West Chester, PA 19380 (215) 431-9100 $99.95

GRAFX NEWS

Animation to Video

Active Circuits, Inc.'s ImageLink conversion and previewing system is capable of rendering 16 million color, photorealistic animation directly to video tape. Designed for the professional graphics user, ImageLink can convert images between an infinite number of formats. ImageLink allows the user to input directly from popular raytracing packages and take advantage of frame buffers.

ImageLink provides support for sophisticated image processing features such as color quantization and reduction, as well as dithering. It also allows you to convert 24-bit images and support a variety of image formats including IFF, Sculpt-Animate 4D, DiviView, Targa, and Turbo Silver.

Direct output to high quality, full-color video devices is supported. ImageLink's Targa Direct module, available separately, allows you to image directly to a Targa board. This feature, coupled with the support for Sculpt-Animate 4D, provides

the ability to directly render and view raytraced, full color, three dimensional images completely within the Amiga 2000/2500 environment. Other native Amiga frame buffers are supported as well.

ImageLink requires an Amiga with 1MB or RAM additional memory. A hard disk or removable media storage is recommended. ImageLink is available directly from Active Circuits at the suggested retail price of $299.95. The Targa Direct module is available at the suggested retail price of $199.95.

Active Circuits
106 Highway 71, Suite 101
Manasquan, NJ 08736
(201) 223-5999

HAM-E (Hold And Modify Expander)

What is it?

The HAM-E adds two new video modes to any model Amiga, including the 1000 units. The most important of these modes is a 262,144 color HAM mode, with 236, 24-bit accurate color registers. The Amiga has always had a 4,096 color HAM mode with 16 color registers; this has been the basis for much of the video and art work that has been done on the Amiga until now.

There are two noticeable problems with the Amiga's standard, built-in HAM mode. The first is color contouring. This occurs when a color changes to the next closest shade, which is different enough that it can be detected by the unaided eye. A blue sky with "bands" of blue in it, rather than a smoothly changing "sweep" of blue tints is a good example of this. The other is the "sharp edge" problem. The Amiga's standard built-in HAM mode allows you to change quickly to any one of 16 colors by specifying a color register instead of one of the R,G or B reloads at any HAM pixel. This causes the pixel to change in all three of the R,G and B guns at one time, which provides a "sharp edge" for that color. The problem is that there are often far more than 16 areas of "sharp edge" color changes in a typical HAM image.

Solutions to these problems have so far been limited. For instance, using a frame buffer board like the Targa or one of the native Amiga buffers is a very expensive option and requires the image to be generated and then transported to the frame buffer board; animation and other fast-update techniques are either impossible or limited to special programs.

To address the color contouring problems, some software offers the option to "dither" pixels. This is a technique in which several pixels of differing colors are scattered around one another to cause the eye to perceive a slightly different "sum" color. While this is effective and fully compatible with all software, it loses the real resolution. If 4 pixels in a rectangular array are required to generate a dithered color, then the effective resolution is 160x100 instead of 320x200 in a standard HAM screen; hence this technique seriously curtails the upper limits of image quality.

The "fast edge" problem has been partially addressed by Dynamic Hi-Res (NewTek) and SHAM (Rhett Anderson--Sliced HAM) techniques, which change the system's color registers every line or every other line, each time providing 16 available new color

registers. These solutions are plagued by the problem that in order to accomplish the reloading of the system's color registers, a great deal of CPU and DMA bandwidth is used up, making animation and even reasonable multitasking impossible.

A Workable Solution

The HAM-E system add-on provides advantages that affect all of these issues. First, it is inexpensive. This product is currently anticipated to list price in the region of $300.00--most Amiga owners can afford this.

Installation is trivial; unplug the Amiga monitor, plug in the HAM-E, and plug the Amiga monitor into it. Color contouring is reduced to where it is virtually unnoticeable, due to the availability of an additional 258,048 colors above and beyond the Amiga's normal 4,096 in the expanded HAM mode.

"Fast edge" problems are reduced by the availability of 236 color registers in the extended HAM mode instead of the 16 Amiga has. You can genlock using one of these registers as well. The color registers are all 24 bit accurate, so you can have very high accuracy images using just color registers in critical areas of a HAM image.

In REGISTER mode, the HAM-E board provides 256, 24-bit accurate, color registers that are not HAM. That is, any register is accessible at any pixel position with no prerequisites.

Because the HAM-E utilizes the Amiga's internal chip memory for storage, it can be used with the blitter and the CPU directly on the image data; no extra load is placed upon the Amiga beyond that imposed by normal Amiga screens. This means that the DMA and CPU bandwidth are unaffected by the operation of the HAM-E.

Finally, the HAM-E is compatible with the Amiga's current screen handling; no updates to system software are required. Images formatted for the HAM-E can be shown by currently existing "show" programs such as SuperView without any modifications to the show programs, libraries, or other standard resources. This means that, with minimal effort and investment, a much higher quality image than was ever before possible is now available.

One other important item to note for video professionals is that the output of the HAM-E is 265-level accurate RGB; this is critical for quality work in the video field. Many of those expensive frame buffers provide only composite output, which means that in all video processing steps thereafter, the resolution of the image degrades significantly. If color composite or S-VHS are needed, converting to them from RGB is a snap. If you need RGB and have color composite, you're really in a tough spot; you can't get back to the original image quality.

Information for Developers and Technical Types

The HAM-E utilizes an 8-bit HAM technique. The data words are packed in a manner very similar to the Amiga's standard HAM mode, but has two control bits and six data bits, as opposed to the Amiga's normal two control bits and four data bits. The display works with the first two (most significant) bits set to zero, and the next six bits set to specify one of the 59 color registers. The values zero and 60-63 in the six bit data field are reserved, so these five color registers are not available--a very insignificant limitation. With the two control bits set to 10, 01, or 11, the six bit data replaces the data for the appropriate RGB output--just as standard HAM mode would operate. If you specify the values 60-63, you have selected another bank of 59 color registers; no visible change occurs at the pixel where the bank switches. These four banks provide a total of 236 color registers usable in extended HAM mode.

Because Amiga hardware, to date, is not designed to handle eight bitplanes of information, this eight-bit graphics data word is formed by the HAM-E, which takes two sequential pixels from the Amiga of four bits each and combines them as an eight-bit word before processing the data further. The data in the Amiga's chip memory is formatted in a four-bitplane, 640-line rate by xxx line screen (overscan is o.k., too). The Amiga's internal color registers are preset to defaults.

There is a line of "canned" data that must be placed at the top of the screen, either under the titlebar, if one is present, or directly at the top. This data line is the "trigger" that activates the new modes. It also contains the color register information in 384 se-

quential pixels. To completely change any color register, simply write a new value to six pixels in the scan line that contains the data trigger. Keep in mind that the color registers are 24 bits wide, so a reload from one provides a full 24-bit color delta. The R,G, or B component of any color register can be reloaded by writing just two pixels. The color cycling capabilities are tremendous.

If the data trigger is not in the top scan line, the screen will appear in the standard 640-pixel/line resolution until the trigger line is reached. False triggering is prevented by special circuitry in the HAM-E that monitors a number of dependable factors which can be detected from the RGB connector on any Amiga.

When the HAM-E detects the selection of the Amiga's color, zero, for a complete scan line (h-sync to h-sync), the HAM-E or register mode is disabled and the Amiga's RGB output is then passed through unmodified. This causes an automatic switch back to standard Amiga screen resolutions. Also, the mode is disabled each time v-sync occurs.

Sync detection on the HAM-E hardware is accomplished by separating the composite sync signal so that compatability with genlock devices is assured.

The end result of combining the hot data trigger and the color 0 detection is a screen that behaves just like one would expect it to behave. As far as the Amiga system software is concerned, it is a 640 by xxx screen, nothing new, and it is handled as such. When the screen is dragged, the hot trigger moves down with it, since it is just image data, and the mode only starts where the data does. When a screen is pulled up over the high resolution HAM-E screen, the presence of the color 0 at the overlapping screen's top turns off the mode. y compatible.

Existing HAM programs could handle this screen with only tiny changes. The data format and related calculations are similar; they just have two more data bits and there are four pages or banks of color registers. The hot trigger at the top of the screen can be rendered above any menu or other information; therefore, even menuing can work compatibly. At most, if the menu overlaps the data line while it is rendered, the menu is rendered into a 640 resolution screen, while it is down, and the screen returns to normal when the menu retracts. This offers the ability to provide high resolution menus in a screen that supports HAM mode. There are a lot of unique possibilities. REGISTER mode screens are so similar to "standard" Amiga screens that virtually any program can easily accommodate them.

Currently, Electronic Arts (DPaint), MicroIllusions (Photon Paint), Impulse (Turbo Silver), A-Squared (Live), ASDG (Professional ScanLab), Syndesis (format conversion products), and many more image-oriented Amiga developers are following the progress of HAM-E. Paint, ray trace, and tilting software availability should all occur just before or shortly after the release of HAM-E.

The initial run of the product is planned to be reasonably short, Black Belt Systems if you are interested in obtaining one. Although they are not actually taking orders, they will place your name on a prioritized list for a unit and contact you once the units are available.

Black Belt Systems
RR1, Box 4272
398 Johnson Road
Glasgow, MT 59230
(406) 367-5509

COMPUTERALL

Computerall, an Amiga dealer, has just released AutoScript, the first of its series of productivity software and hardware enhancements for the Amiga. Although AutoScript is designed to be a graphics translation tool for the Amiga, it supports many Apple application PostScript file formats for several reasons. First of all, products such as A-Max and Mac to Dos make it easy to convert the Mac disk format to the Amiga disk format. Secondly, a large number of graphic artists are working with PostScript drawing programs on the Mac and are animating on the Amiga. Finally, people spend many hours

wrapped up in creating detailed libraries of PostScript imagery.

AutoScript has the capability to import highly complex and point accurate PostScript drawing files, including Bezier curve information, directly into Sculpt4D or Turbo Silver. This means that you can use highly sophisticated drawing packages such as Adobe Illustrator 88, Aldus Freehand, or LetraStudio. To use these packages, however, you need to use either A-Max file transfer software and a Macintosh disk drive, Mac to Dos and a Macintosh disk drive, or a direct modem connection between an Amiga and a Macintosh. AutoScript can also be used with Amiga's own Professional Draw and ProVector PostScript files. Additionally, AutoScript allows you to write PostScript files to disk as Digi-Works 3D file information, which gives you access to the quickest possible polygon fills in the industry.

Computerall stresses that AutoScript will keep up with the evolving Amiga animation market. AutoScript is written with multi-tasking in mind and can be used on accelerated Amigas with 68010, 68020, and 68030 processors. It requires 1 meg or more of RAM. The suggested retail price is $129.95.

Computerall Services
Three North Walnut Ave.
New Hampton, IA 50659
(515) 394-3778

The Videomaker

CV Designs has recently added Volume Eight v1.0, the Videomaker, to its Video Visions line. Volume Eight consists of two disks of images, which include anniversaries, Bar Mitsvahs, weddings, honeymoons, and other ceremonial images. Volume Eight features 16-color Hi-Res and may be purchased individually for $24.95 or as part of the Wedding Set (Volumes Four and Eight), which sells for $39.95.

CV Designs
Computer Video
61 Clewley Road
Medford, MA 02152

Pictures to Music

Hologramophone Research has announced the release of Pixound, a musical screen interpreter which uses both MIDI and Amiga internal voices. By translating the red, green, and blue content of each pixel into chords, Pixound converts pictures into music. You can either listen to the music generated by your favorite already-existing graphics or create your own sounds by creating your own graphics.

Because music can actually be composed and performed with Pixound, Hologramophone has added MIDI recording for serious musicians who wish to generate melodic and harmonic sequences for use in other music programs. Designed for the novice or the professional, Pixound sells for $109.00.

Hologramophone Research
6225 S.W. 145 Street
Miami, FL 33158
(305) 252-2661

VIVA

Scheduled for release at about the same as this publication's release is VIVA (Visual Interfaced Video Authoring) by MichTron. VIVA is a software tool for creating, managing, and displaying information such as text, graphics, video, sound, color, and animation. VIVA is also capable of controlling video recorders, laser video disk players and a full range of visual media devices. VIVA is icon based and is designed for everyone from the student to the professional. The retail price is $199.95

VIVA Professional includes two additional function groups, which are record keeping databases and expert systems. VIVA Professional sells for $599.95.

MichTron
576 Telegraph
Pontiac, MI 48053
(313) 334-3553

Upgrade to RDPrep

MicroBotics has recently released an upgrade to its *RDPrep* installation software. With RDPrep, HardFrame users can create Amiga-standard "Rigid Disk

Block" areas on SCSI hard disks. The claim to fame of the new RDPrep is that it is entirely "point and shoot" mouse driven software. The program can be loaded with a click on the RDPrep icon, and if you accept the default values presented by RDPrep, you can have your hard disk up and running in a few minutes.

Three screens are presented for users who require a more elaborate setup. Screen One enables selection of the hard disk and editing of basic parameters that describe its characteristics. Screen Two presents a graphic representation of the hard disk space; it allows division of the total space into as many partitions as needed by dragging graphic partrition-divider bars with the mouse or by typing in the values. Screen Three allows the loading of optional file systems onto the disk.

RDPrep boasts a new technique for backing up disk parameters. After the disk has been set up in RDPrep, the paramaters can be saved to an ASCII file called a "mountfile". Then, if for some reason the disk becomes corrupt or if the paramaters accidentally get changed to an incorrect setting, the mountfile allows the original parameters to be restored. Mountfiles can be edited in RDPrep or with any ASCII text editor.

HardFrame users can upgrade to the new graphic RDPrep in one of the following ways:

1. Join MicroBotics user-support conference on BIX and download the software for free. Users who have modems, but who have not joined BIX, can get BIX signup cards with a special MicroBotics discount coupon by sending a stamped, self-addressed nr.10 envelope to MicroBotics with a request for a Bix Signup kit.

2. Send $7.00 in check or money order and ask for the new HardFrame Installation disk. Overseas users should send $12.00 in US funds drawn on a US bank.

MicroBotics, Inc.
811 Alpha Drive, Ste. 335
Richardson, TX 75081
(214) 437-5330

The Adventure Construction Language

From Micro Momentum, Inc., T.A.C.L. (pronounced "tackle") is The Adventure Construction Language. T.A.C.L. is a text/graphics adventure construction language which handles all of the overhead normally associated with programming an adventure from scratch. T.A.C.L is designed for the non-programmer who is only interested in creating the adventure. T.A.C.L. allows for nearly any imaginable scenario, including time and dimension travel.

T.A.C.L. supports IFF graphics, sound, different text styles, and vector graphics. The program includes PADV, the adventure player that is freely-redistributable so that it can be used with public domain adventures. It also includes VGED, a complete vector graphics editor that allows for many drawings with each adventure without taking up large amounts of disk space.

T.A.C.L handles all of the adventure overhead by including commands like SHOW, SCORE, RANDOM, LINK, MOVE, GO, NOTE, DIE, and WIN. Micro Momentum boasts that T.A.C.L. allows individuals to create commercial-quality adventure games which they will consider distributing. T.A.C.L. runs on all Amigas with 512K RAM and AmigaDos v1.2 or above. Two sample adventures created with T.A.C.L. can be found on Fred Fish Disk #300. The suggested retail price for T.A.C.L. is $99.95.

Micro Momentum, Inc.
P.O. Box 372
Washington Depot, CT 06794
(203) 567-8150

GRAF/X NEWS

Digimate 3

Mindware announces the shipment of Digimate 3, a program which allows the animaiton of images created with Newtek's DigiPaint 3 HAM paint program. With Digimate 3, the animator can open, append to, and play ANIM format animations interactively. Because these animations can be stored and played from RAM, hard drive, or floppy, the animation size is limited only by the storage capacity of the hard drive. Digimate 3 also includes a powerful ANIM processing capability, allowing the videographer to

convert entire animations with a single click of the mouse. Digimate 3, the first of the Mindware Video Solution Series to run under the T.A.S.S. system, requires 1 MB of RAM and ARexx. The selling price is #39.95.

Mindware International
110 Dunlop W Box 22158
Barrie, Ontario, Canada
L4M 5R3
(705) 737-5998

Digi-View 4.0

NewTek has released Digi-View 4.0, an upgrade to the Digi-View video digitizer. Digi-View 4.0 boasts dozens of added features, including a Dynamic HiRes mode which allows the Amiga to display simultaneously all 4096 colors of the palette on a HiRes screen . Another new feature is the Digi-Port, which allows Digi-View 4.0 and Digi-Paint 3 to share images in memory, thus forming the first integrated capture/paint solution. Images as large as 768x480 can be transferred from Digi-View 4.0 directly to Digi-Paint 3 with a simple menu command. The images can be edited and displayed again in 4096 color Dynamic HiRes or any other resolution. Other features include LBJ Noise Reduction, ARexx Support, Super-Bitmaps, RGB Printing, Improved Multitasking, and 24-bit Color Support. Digi-View 4.0 is able to use IFF for presentations. The price remains at $199.00 with the 4.0 upgrade available to Digi-View owners for $24.95 + $6.00 for shipping and handling.

NewTek
115 West Crane Street
Topeka, KS 66603
(913) 354-1146

Video Genlock

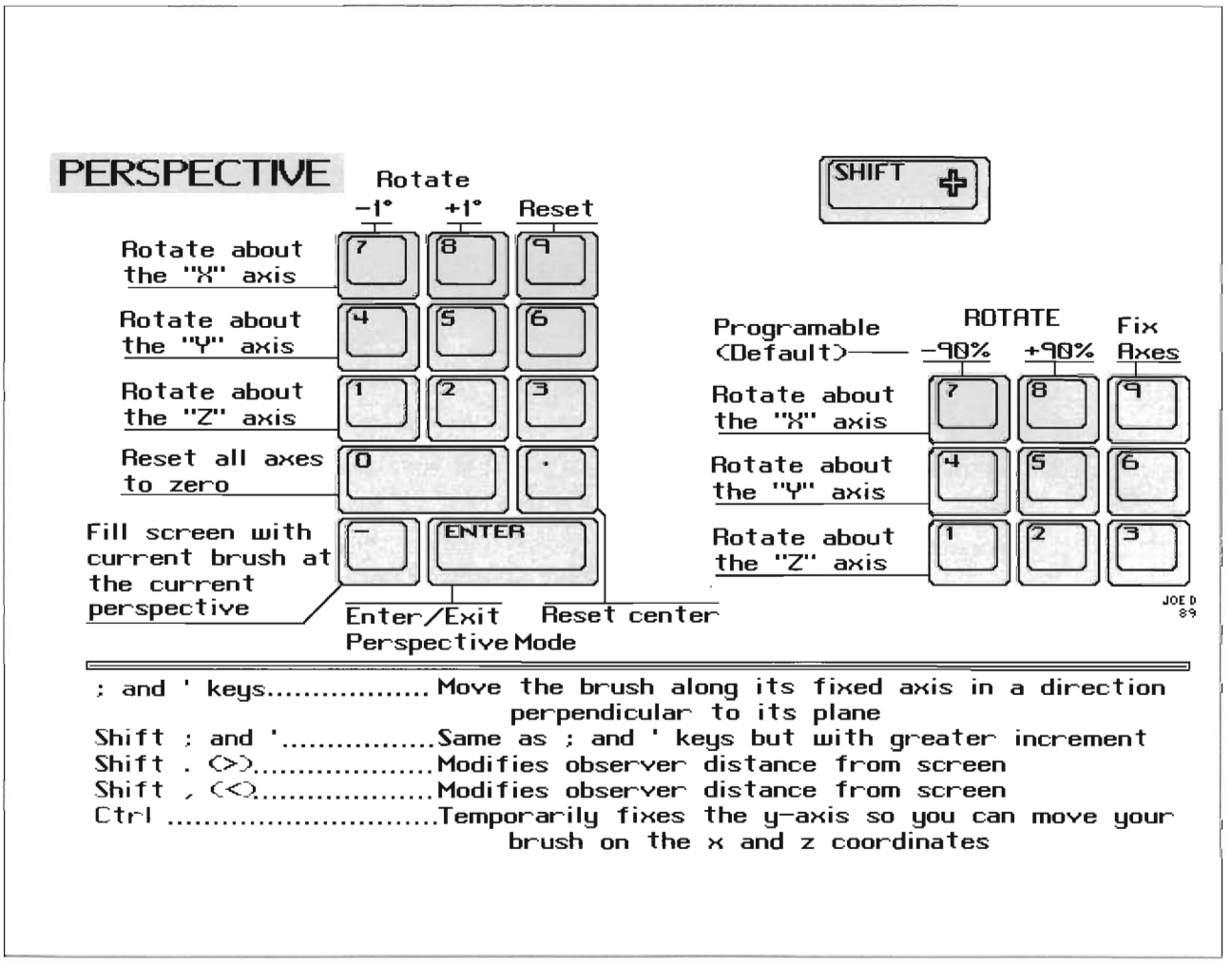
Spirit's new Interlok, a video genlock, includes advanced, reliable circuitry that locks the Amiga scan rate to NTSC or PAL broadcast synchronizing standards as well as the output video from typical low-cost VCRs. Interlok's features include looping video input, switchable 75 ohm/Hi Z, a front panel which includes program on/off, genlock on/off, LED power indicator and 0 to 100% fade overlay control slider, and a remote control option. Interlok outputs in NTSC or PAL plus filtered R.G.&B. Interlok also features Pgm out and KEY out. Interlok ships in March with a projected price of $650.00.

Spirit Technology
220 West 2950 South
Salt Lake City, UT 84115
(801) 485-6957

Deluxe Paint Reference Charts

The reference charts you see on pages 23 and 24 are designed to be used in conjunction with *Deluxe Paint II* or *Deluxe Paint III*, both by Electronic Arts.

The charts are perforated so that you may tear them out for easy reference.

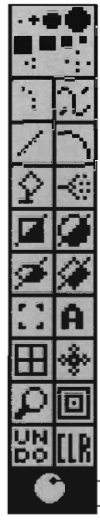


SPECIAL KEYS

?	Display About/Memory info box
Del	Cursor arrow on/off
F9	Menu Bar on/off
F10	Toolbox & Menu Bar on/off
Right Alt-Amiga	Right Mouse Button
Left Alt-Amiga	Left Mouse Button
Cursor keys	Scroll page (execpt in text mode)
Ctrl Cursor keys	Adjust screen centering
n	Centers area under Cursor
Shift	Constrain Cursor
Ctrl	Leave traces with line or shape tools
Ctrl a	Memory check
Tab	Color cycle on/off
S	Show page
~ (Tilde)	Make stencil
` (Grave)	Stencil on/off
a	Again key (repeats last menu command)
|	Co-ords on/off
Spacebar	Cancel operation in progress
Esc	Stop operation in progress
j	Spare page
J	Copy to spare

JOE D 89

TOOLBOX



			Built-in Brushes
Dotted Freehand	[s]	[d]	Continuous Freehand
Straight Line	[v]	[q]	Curve
Fill Tool	[f]		Airbrush
Unfilled/Filled Rectangle	[r/R]	[c/C]	Unfilled/Filled Circle
Unfilled/Filled Ellipse	[e/E]	[w/W]	Unfilled/Filled Polygon
Brush Selector	[b]	[t]	Text
Grid	[g]	[/]	Symmetry
Magnify	[m]	[>/<]	Zoom
Undo Last Painting Action	[u]	[K]	Clear
Color Indicator →			Current Foreground Color
			Current Background Color

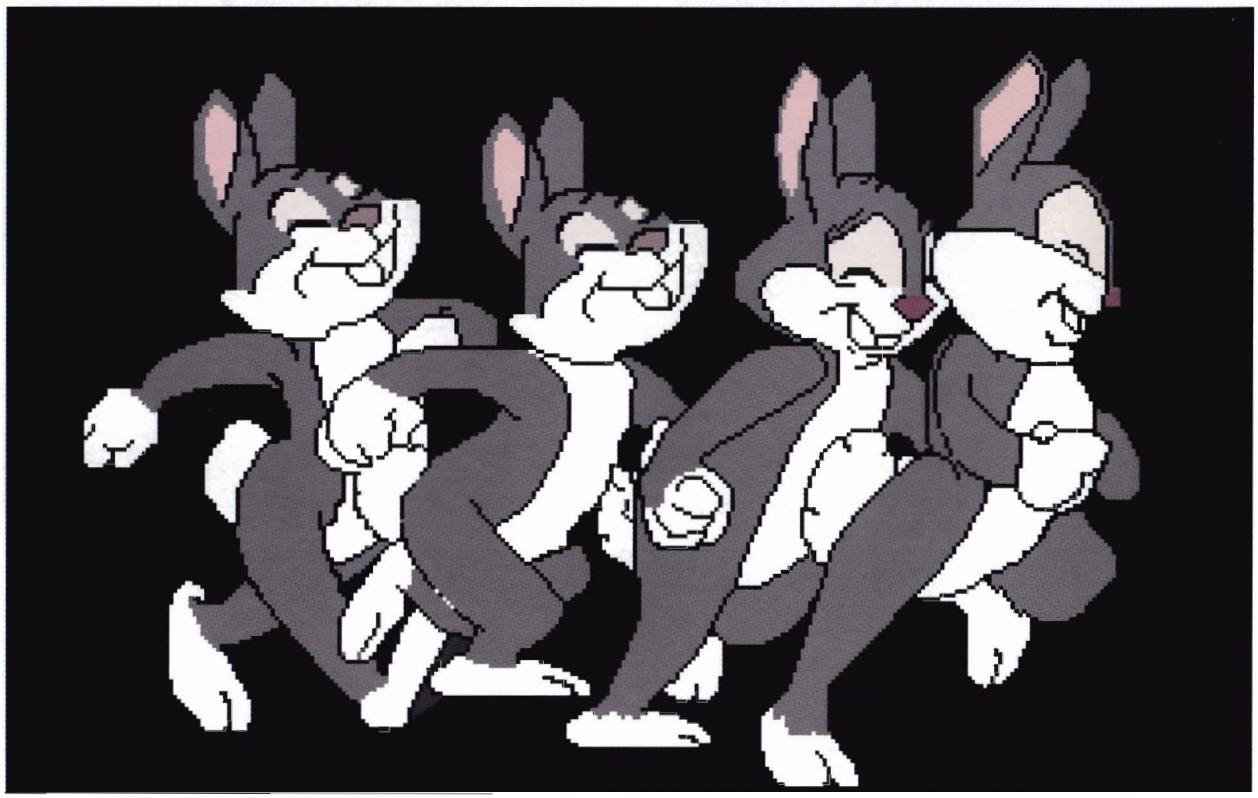
JOE D 89

[B]	Restore Last Custom Brush/Anim Brush
[G]	Grid On/Off Using Current Brush Handle As A Grid Point
[C]	Filled Circle
[D]	Filled Freehand
[E]	Filled Ellipse
[R]	Filled Rectangle
[F]	Fill Requestor

Alt-C	Filled & Outlined Circle
Alt-R	Filled & Outlined Rectangle
,	PICK Color Cursor
.	One-pixel Brush, Dotted Line
[ ]/{ }	Change Fore/Back Ground Color

EVERYTHING YOU WANTED TO KNOW, BUT WERE AFRAID TO ASK ...

by: Steve Gillmor and Tina Chase



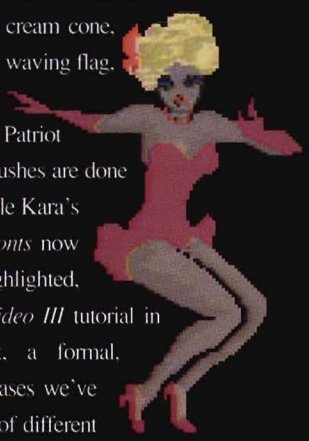

airbrush

At long last the anim format has achieved stability in the Amiga environment like that of the IFF Picture and Sound format. Most 2D and 3D programs can now save and load anim Op5 animations, and the few that don't can break up their proprietary files into individual IFF pictures that can be recombined in anim format. There are several programs on the market that facilitate conversion, such as Hash's *Animation:Editor*, Elan's *Performer*, Oxxi's *AniMagic*, and Progressive's *Animation Station*. Of course, the most widely-used program on the Amiga has got to be Electronic Arts' *Deluxe Paint*, and its latest revision, *Deluxe Paint III*, also allows sophisticated construction and editing of anim files. So, just when the dust is finally settling and we're all basking in the warm glow of interconnectability, along comes this new beast called animbrushes. Is this the last straw, another incompatible format, or a genuine revolution in Amiga animation? Well, it's early in the format's existence, but already its ease of use and variety of abilities has altered the animation landscape significantly. We'll discuss some of the techniques for creating and using animbrushes, as well as take a look at some animbrush clipart packages we've had a chance to evaluate.

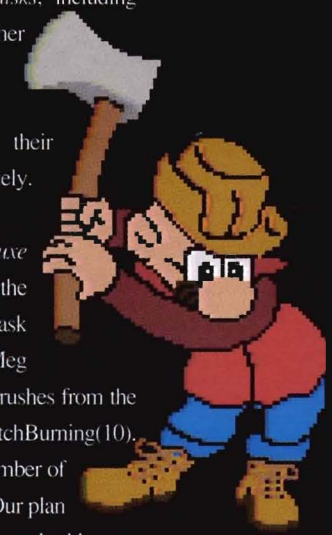
Three programs currently use animbrushes: *Deluxe Paint III*, *Deluxe Video III*, and Inovatronics' *CanDo*. Only *Deluxe Paint III* can create animbrushes and manipulate their elements on a frame-by-frame basis, although *CanDo* does supply a utility to convert full screen anims into the animbrush format. *Deluxe Paint* lets you "pickup" a section of the screen of one frame of an anim as an animbrush, then "animpaint" with the resulting animbrush on multiple anim frames. The animbrush can be manipulated using *DPIII*'s Move requestor just like a regular brush, allowing complex sizing and rotational effects. The resulting anim can be picked up again and remanipulated over and over again to layer a variety of effects onto a single animbrush object. These animbrushes can be imported into *Deluxe Video III* along with IFF pictures, brushes, sounds, and even anims. Here they can be orchestrated and timed to create full-motion videos in all Amiga resolutions and supported numbers of colors. In *Deluxe Video* you can maintain full and precise control over animbrush display, including rate of animation, starting and ending frames, forward, reverse, ping-pong, looping, color-cycling, and time placement down to fractions of a second. You can pre-load your animbrushes into memory, stamp them down on the screen at the end of their movement, and describe simple-to-complex paths with MoveTo and MovePath effects.

CanDo also supports display of animbrushes, but its use of these objects is confined to sprucing up the stand-alone 595-0954ve "decks" the program can create. *CanDo* does not support anims directly, and has limitations on the size and number of animbrushes it can display at any one time. Unlike *Deluxe Video*'s point-and-click user interface, *CanDo*'s animbrush interface is more script-based, and the control of animbrushes is rudimentary. With that in mind, we chose to provide an example in anim format on your Graf/x disk that you can examine with the included *Deluxe Paint* Play utility as we discuss the techniques used to create its effects.

There are several clip art packages currently available in animbrush format, among them a series of six disks from JLVMstudios, and KaraFonts' two disks of *AnimFonts*. Two of JLVM's *Anim-Arts* disks contain a number of animbrush objects, including a melting ice cream cone, turning barber pole, breaking egg, leaping frog, waving flag, and more. The other four disks contain Text animbrushes, in Wood, Gradient, Frozen, and Patriot varieties (see screen shot). The JLVM animbrushes are done in low-res to save memory and disk space, while Kara's *AnimFonts* are in 8-color hi-res. The *AnimFonts* now available include Bullion, a beveled, highlighted, uppercase gothic font (used in our *Deluxe Video III* tutorial in Graf/x Premier issue), and ChromeScript, a formal, sophisticated script font in upper and lower cases we've used in this article and animation. A number of different palettes are also provided on the *AnimFont disks*, including chrome, reflective gold, copper, bronze and other metallic effects. We did our animation in 320 X 200 lo-res format to conserve space, so we used the JLVM animbrushes without changing their resolution, and modified the *AnimFonts* appropriately.



We move back and forth between *Deluxe Paint III* and *Deluxe Video III* freely during the construction of the animation. In fact, we multitask both programs, possible with our setup of a 1 Meg Agnus and 5 Megs of RAM. We use two animbrushes from the JLVM Object disks: SmokingPipe(10) and MatchBurning(10). The (10) on the end of each name refers to the number of frames or individual elements of the animbrush. Our plan is to use the match animbrush to "light" the pipe, and add some additional effects. First we decide to use the pipe animbrush's palette as the master palette for the scene, since it is a bit more detailed and the match looks fine remapped to the pipe's colors. Remapping works just like with regular brushes. We load the pipe animbrush first, then choose Use Brush Palette from the Change Color item in *DPIII*'s Project menu. Then we load the match and select ReMap from



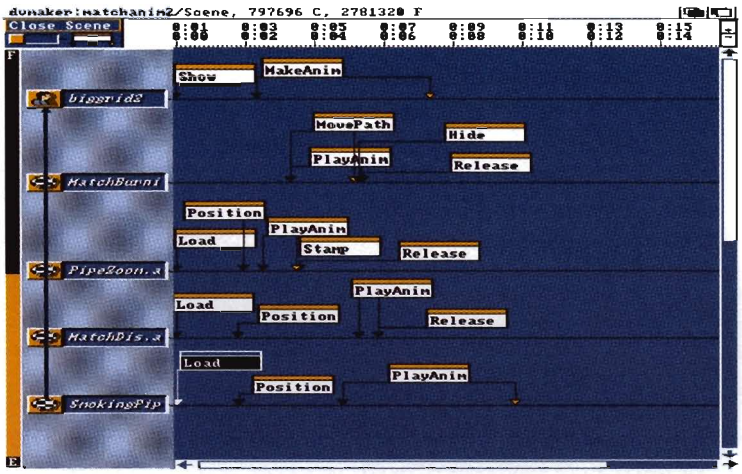
the Brush menu's Change Color item. We want the match to come in from screen left to approach the pipe, so we flip the match animbrush around its 'x' axis horizontally by pressing the "x" key. This and the vertical flipping keyboard alternatives also do work with animbrushes; it takes a few seconds for the whole animbrush to be recalculated. Once flipped and remapped, the match is saved out to disk, to be recalled later.

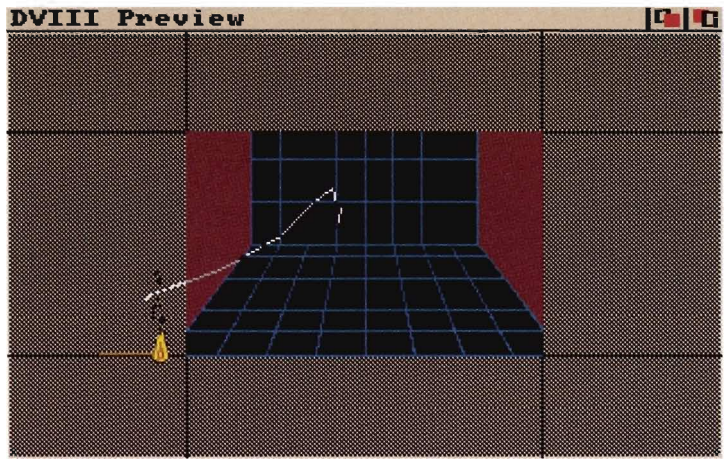
Next the pipe animbrush is reloaded and its first frame stamped down on the blank work screen. We plan to have the pipe zoom out and slightly down to full size without its smoking effect, so we paint out the smoke from the first frame, retouching it where the smoke has obscured parts of the rear rim. Picking the single frame up as a regular brush, we then set the number of frames from the Anim menu to 20, press Shift-2 to go to the last anim frame, and stamp the pipe down at the center bottom of the screen where we want it to end up. We then immediately click Undo, and enter *Deluxe Paint*'s Move Requestor by pressing Shift-M. There we set the Distance parameters to the following amounts: -300 X, -200 Y, and -1000 Z. Then we click on the ComeTo Move direction icon, make sure the Count is set to 20 (same as the number of frames), and after Previewing the wireframe representation of the move, click on Draw. The brush starts out small in the upper right and zooms up full to the previously stamped spot.

At this point the brush seems to move a bit too abruptly, and too much time is being spent on the early part of the move when the brush is small, not enough on the end where some jerkiness is evident. So we clear all the frames, add 10 frames for a total of 30, restamp the brush at the last frame, press the "u" key to Undo it, and return to the Move Requestor. Here we change the Count to 30, leave the Distance settings alone, and add an Ease-In amount of 10 frames. This has the effect of assigning more frames to the end of the move, creating the illusion of a slowing down of the brush as it nears its goal. In a sense, the trajectory now more realistically suggests the weight of the object as it "lands" on its mark.

Animbrushes are defined by picking them up via the Pick Up subitem of the Animbrush item on the anim menu. Even easier is to click on the brush icon as though to pick up a regular brush, then hold down the Left-Amiga key and normally pick up the area of the screen you've chosen. The program automatically cycles through the frames of the anim, resulting in an animbrush that can be as big as the whole screen if you have the chip RAM to support it. We want to pick up the 30 frames of the pipe's move, making sure to include all of the image from each frame. To do this, first turn on Coordinates from the Preferences menu, or press Shift-Backslash (the key just to the left of the backspace key). This is not strictly necessary at this stage, but it's easy to check quickly as we define the boundaries of the pick-up area.

We also use keyboard shortcuts to jockey back and forth between the first and last frames of our anim by alternating between keys 1 and 2, as well as Shift-1 to return to the first frame, or Shift-2 to go to the last. This next step requires a little finger gymnastics, but as you get used to it, it will soon become second nature. We move to the last frame of the pipe animbrush, click on the brush icon to change the pointer into cross-hairs, then hold down the Left-Amiga key before clicking and dragging out the beginnings of a rectangle around the pipe. Now we can release the Left-Amiga key, since it has already done its job of defining this action as an animbrush "pick up." Still holding down the left mouse button, extend the rectangle around the pipe and lengthen it toward the top of the screen, while going to the first frame of the animation by pressing Shift-1. Widen the rectangle until it encompasses both the large pipe of the last frame and the small pipe at the upper right in frame 1. You can toggle back and forth using the shifted commands, or just press the 1 key when you're on the first frame to automatically go "backwards" to the last frame. Play around with this sequence until you're comfortable with it; if you accidentally let up on the left mouse button, start again. When you're sure you've got both extremes of the anim's range within the rectangle's boundaries, release the left mouse button and watch the program move through grabbing each frame.





We save this animbrush as PipeZoom.animbr, or you can follow JLVM's naming convention by calling it PipeZoom(30). Now we start up *Deluxe Video III* and do a little animbrush "layout." As mentioned before, we multitask the two programs, so that we can quickly pop back to *DPaint* to make adjustments and refinements. First we'll use *DVIII*'s MovePath effect to create the illusion of an invisible hand guiding the match into frame and over to light the pipe. Since we don't have a background for our scene yet, we create a backdrop track, then add an animbrush track. The animbrush will use the backdrop's viewport for now, to be replaced later by an IFF picture file. To get an idea of positioning, first we'll Load the PipeZoom animbrush, adding a Position effect, and a PlayAnim effect. We set the animbrush settings to play through the animbrush once, then add a Stamp effect, followed by a Release effect to free up some memory. Now we Load the Match animbrush on its own track, pull down a MovePath effect, and go to the Trace window in the resulting requestor. Pressing the "a" key includes all Parts attached to the backdrop in the Trace screen, so we can see where the pipe is. Pressing the "h" key zooms us out so that we can begin defining the path the match will take from off the screen at the bottom left. The whole purpose of using MovePath is to simulate natural movement, so we trace out the match's journey with easy, brush-like strokes that take the match up and over to the mouth of the pipe, then dipping down to light it, and finally pulling up a bit to admire the resulting smoke effects. The Trace is recorded and easily edited. Of course easiest of all is to just click back off screen and do it again until you're happy with the "feel" of the path and timing.

Once you've viewed the composite results by Playing the Scene from the Project menu, it's time to add the original SmokingPipe animbrush at the point where the flame has "lit" the pipe. Adding a new animbrush track, we Load the object at the beginning of the sequence, and add a Position effect with the Show At Start box deselected. We want it to not appear until the

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Painting in HAM

How is HAM Different from Standard Paint Modes?

by Christopher Roy

Amiga artists have an array of paint packages to choose from, but there are really only two catagories from which to choose: HAM (4096 colors on screen paint-able) and Standard (up to 64 colors in halfbright mode). In "Painting in Halfbright" (GRAf/x 1.1), I gave some examples of how you can utilize a standard graphics package, such as *Deluxe Paint III*, to render impressive images with lots of depth. Anyone who has worked in HAM packages knows that its most impressive feature is its dithering capabilities; more colors mean finer, more realistic blends. Add to this the ability to place a highlight wherever you want it, and you are able to create very smoothly shaded shapes, including spheres, cubes, cones, and just about anything else you can think of. The type of illustration I'm planning to create often dictates what package (HAM or standard) I'll choose. Creating a truly clean and properly rendered picture in a standard paint program takes some forethought and time. More detail of course, means more time, but more detail doesn't necessarily mean more color.

In the example, Nantucket Native, a total of 16

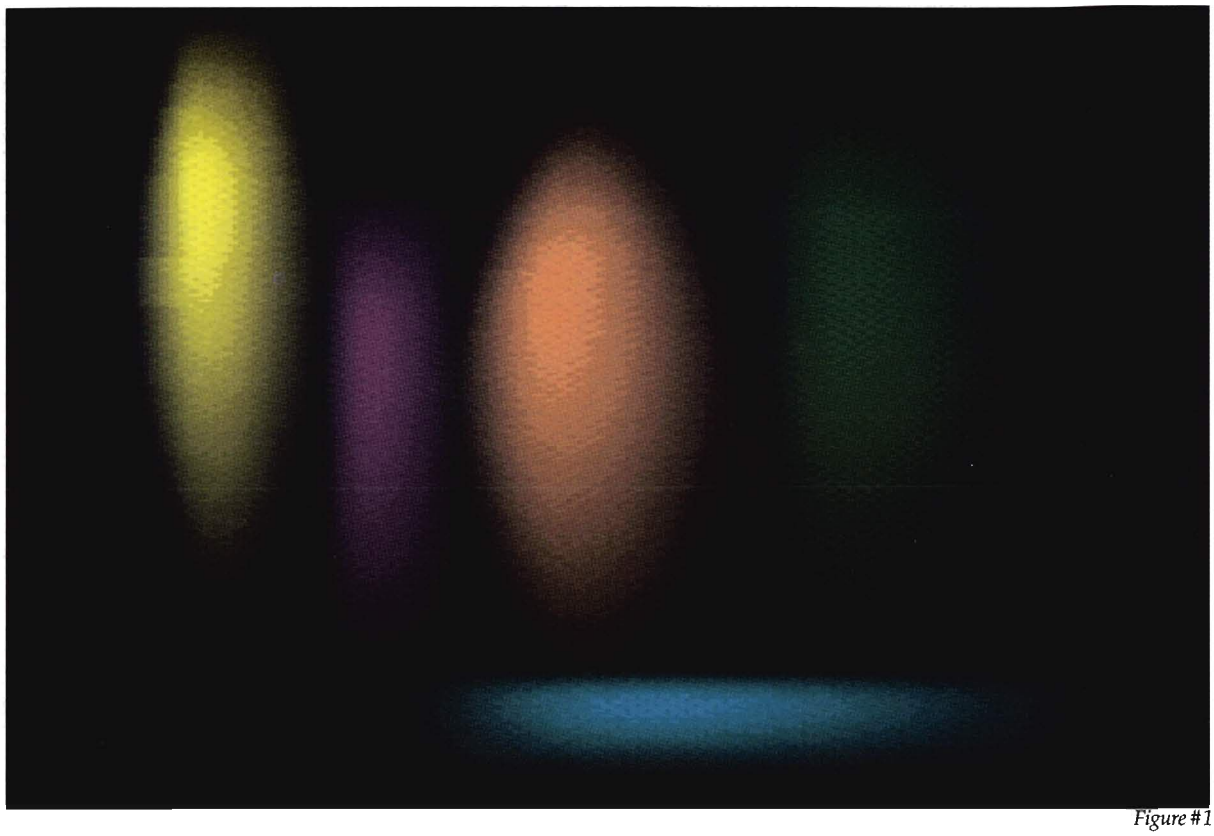

Figure #1

colors were used, which were actually 16 shades of one color--grey. Using one color and spreading it, I was able to fully utilize the smoothing and blending features of *Deluxe Paint III*. The illustration was compiled in layers, starting with the least amount of detail (the general areas of highlight and shadow on the face) and building more and more layers, while increasing the level of detail.

A small cross section of these layers is shown in the three samples--native_sample1, native_sample2, and Nantucket Native. The initial highlight and shadow areas are created using "Smooth" between those transitions; the middle layer by adding more detail, and still smoothing the edges together; and the final picture by adding finishing details. This method of creation yields a final image that almost takes on a digitized look. The only drawback is that to achieve this look, it's best to use only one or two well blended colors. If you add more colors, then the blended ranges become smaller and less controlled by smoothing and blending. Another consideration is that the visual may take quite a bit of time to complete if you're trying to achieve a lot of detail.

A HAM paint package, on the other hand, is capable of rendering realistic images in far less time and in many more colors. I'll go through the steps I took to creating Reef Colors, a HAM image compiled for this article, using *Digi Paint III*, to show just how easy it is to achieve a realistic look quickly and easily.

Figure 1 shows the randomly placed shapes that will make the body of the first fish. The blended shapes were achieved using the normal mode with the transparency setting set to "on" and the highlight marker directly on top of the mark on the sphere icon, slightly up and to the left. Also the dithering was set to the checkered icon. Using the ellipse drawing tool, I simply pulled out the shapes, placed them next to each other, and used various colors from the default palette (see figure 1).

This image was then cut out as a brush; the white lines show placement for the cut, but are not to be included in the brush. Once the brush was cut out, I went to the brush menu, went to SWAP, then to COPY THIS BRUSH. The brush was then stored to be used in the program's TXmap mode (texture mapping). I stayed in normal mode while I got rid of the brush image on the screen by selecting the freehand tool and one of the built in brushes (the single pixel brush).

I cleared my initial colors image and changed the color of the background to the blue I wanted to appear in the final picture by selecting that color before going to the picture menu and clearing the screen. I turned on the fill mode and traced-out the outline of the fish, which created a fish silhouette against the blue background as shown in figure 2. This silhouette gave me a shape into which to map the colored shapes-brush into. I changed from normal to TXmap mode, and used freehand-fill to trace-out inside the fish silhouette.

Figure 3 shows white outlines that indicate the

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Your Professional Image

by Robert Bourdeaux

So you need some stationary, do you? You say you're tired of writing notes on the backs of old grocery bags and passing out Post-it notes for business cards? You say that's why you got Professional Page in the first place, but you just haven't gotten around to it yet? Well, now's the time.

Here are five letterhead/envelope/business card combinations in Professional Page format prepared for your inspiration and/or appropriation. I've used a different typeface in each set, but there's nothing sacred about any of the layout and typeface combinations. I've made some attempt to present a variety of approaches, but of course these layouts by no means exhaust all the possibilities for arranging the ingredients you need in your stationary. Feel free to try other faces in your own design exercise. Just remember to use the text tool to activate anytext box you want to modify. If you haul off and clear the type from a box with the mop tool, you'll lose the existing specifications for the box (typeface, size, style, justification,et cetera). If you do your clearing in the text mode you can try a new face without losing the other characteristics of the type in that box.

Here are the basic elements you'll have to work with to prepare your stationary:

The letterhead: Logo, Company name, Address, Phone number(s)

Business card: Logo, Company name, Address, Phone number(s), Person's name, Title

Envelope: Logo, Company name, Address

I've created a for-instance logo using the Times Roman typeface included in Professional Draw. Most of the layouts accompanying this article include the logo as well as the company name spelled out. Some logos are the company name. (The word logo, as a prefix, means more or less just that–word–at least in Greek. The term more commonly used some years ago was logotype, meaning the trade name of a company or publication as it appeared in its characteristic type face.) One of the included sets of templates handles the company name in this way.

If you have a logo, to include it as a scale-able element, you will need to digitize it with a scanner or camera digitizer,convert the resulting bit-mapped IFF file into a structured-graphic, and import it into ProPage as a ProDraw clip or encapsulated PostScript file. You can accomplish the second step in one of two ways, each of which has some advantages and disadvantages. The first option is to import the bitmap intoProfessional Draw and trace it using ProDraw's drawing tools. You'll be able to match and refine any subtle curves in your logo using the ProDraw Bezier tool. This will also allow you to define your logo with the fewest possible control points. Score one for economical file size. This exercise, however, will takea little time.

The second option calls for the use of two other programs,DigiWorks 3D from Access Technologies and InterFont from Syndesis. Although this may seem a longer way around than simply tracing your logo in ProDraw, you may find it saves you sometime. Until ProDraw includes an automatic tracing function,DigiWorks is probably the best way to get a relatively quick conversion from bitmap to vector-drawn image. Since DigiWorks is intended to be a bridge into 3D programs, it saves images in either Sculpt-Animate or Turbo Silver file format. In turn, either of these can be translated into a ProDraw clip usingInterFont. The downside of this approach is that the InterFontclip is made of many straight line segments and doesn't understand ProDraw's Bezier tool. You can see that the file is going to be fatter and curves may be not so

subtle. If your logo is made of nothing but straight lines anyway, this approach will probably save you some time.

Design:

You may like one of the designs here enough to simply move your own text into the layout and get it printed. If that's the case,you can ignore all the rest of this discussion, but if you would like to play with the design, make it more your own, the following comments may be helpful.

As I said before, the templates included with this article by no means exhaust all the layout possibilities, so you're welcome to take them further. Go ahead and experiment. Make a group out of the elements in the upper right corner and move them to the bottom of the page. Change flush left alignment to flush right. See how it looks. It may work, and then again it may not. Runsome proofs on a laser printer, or even a dot matrix printer. Stick them up on the wall and look at them again tomorrow.

Just keep a couple of things in mind:

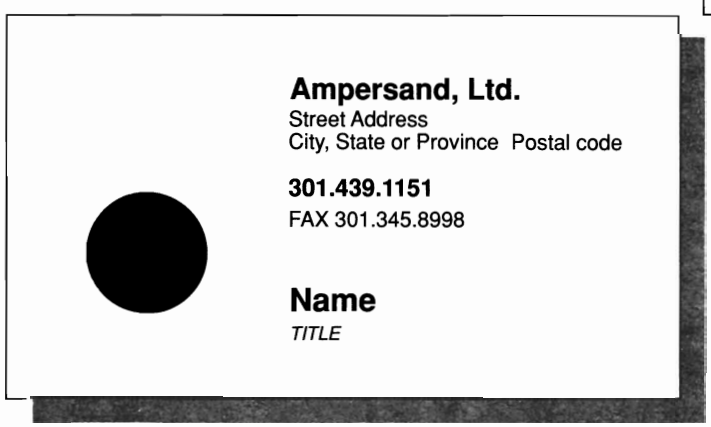
Keep it clean–or at least make it look as if all the stuff inyour design should be there together.

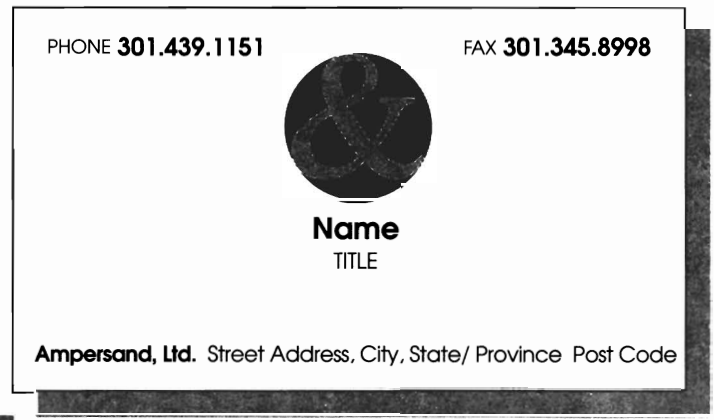
Don't mix typefaces. You may use the bold and/or italic version of a single face in a layout for varied emphasis (some ofthe provided layouts do), but as a general principle, keep it assimple as possible. One other exception: the typeface that appears in a logo doesn't necessarily need to match the rest ofthe text. The size of the logo will ordinarily be much greater and a different face could enhance the logo's distinctiveness.

Match the different elements. Try to layout the envelope andcard so they look like they belong with the letterhead.

Make some thumbnail sketches. Use pencil and paper and doodle.You don't have to use your Amiga for everything, and you shouldn't. No matter how much I enjoy playing with DeluxePaint, it's really rather cumbersome for generating these initial design studies. Draw little rectangles (just a couple of inches high) to represent your letterhead, envelope, and business card. Even though they're small, make them in the right proportions. This will keep you honest. Fiddle around with the arrangement oftype lines or blocks. Just scribble in horizontal lines to represent lines of type. These don't have to be pretty. This exercise will get your juices going and begin to give you a framework for further refinement. After you do a handful ofthese little sketches, you'll begin to judge which approach seem to appeal to you, and which ones don't seem to work. Then you can fire up ProPage and try arranging some real lines oftype. Of course, if you're having a good time making these doll-sized pieces of stationery, you can make a template sheet of little rectangles of the proper proportions, make some copies on an office copier, and continue your pencil studies there. Whileyou're at the copier, make a transparency of a typical typed letter (without company name, etc.) to lay over the proofs ofyour letterhead designs to see how the margins, type style, etcetera look with your layouts. After all, that's how people are going to be seeing your letterhead–with a letter on it. This last exercise can help you to establish the format for typing your letters (and other typed documents) as well as contributing to the refinement of your letterhead design.

Copy–top designers do it, why shouldn't you? Study some design magazines such as How, Step-by Step, CA, U&LC, to name afew. Use our templates. Just remember, there's stealing andthen there's stealing. Make it work for you and your particular situation. Adapt. (There's a nice way to put it.) Studying, savoring, digesting the inspired works of others tends to opensome of your own doors of perception, raises your sights, helps you uncover and tap your own wellsprings of imagination. You begin to see possibilities for layouts and design devices that may not have been initially apparent to you.





Choosing a typeface:

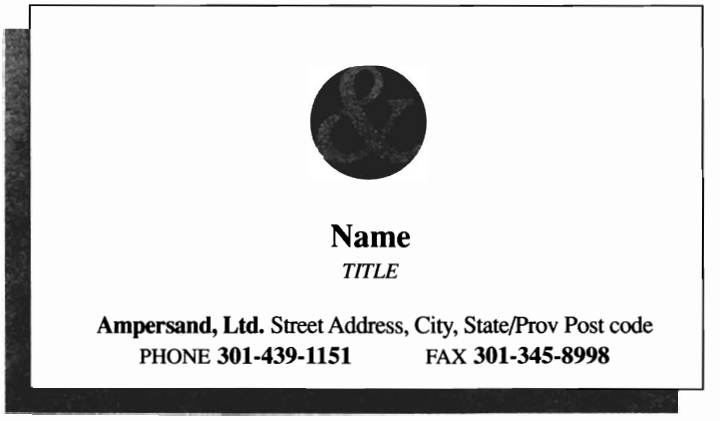
The templates provided here have been created in Gold Disk'sProfessional Page, so the typefaces available to you are going tobe those in ProPage. I have cooked up five letterhead/envelope/card combinations, using a different face oneach one. For your own purposes, try to define what's appropriate for your business. What's unique

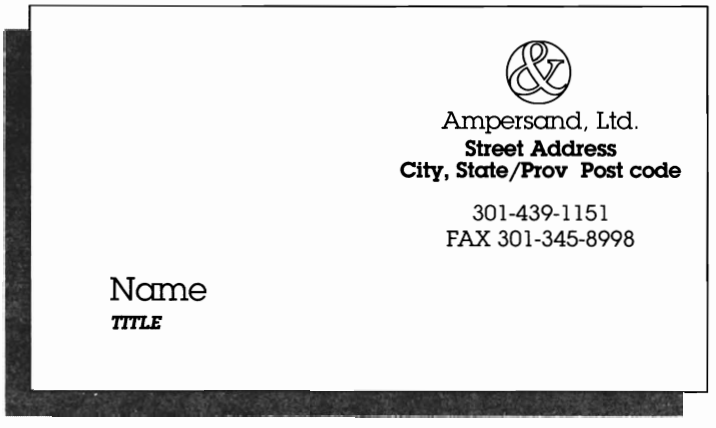
about your enterprise? You're anticipating other people's reactions now. As you consider your type selection, try to look at yourself from the outside and examine how you would react to what you see.

The two broad classifications of type are serif (Times,Palatino) and sans serif (Helvetica, Avant Garde). Among serif typefaces, some (Lubalin) have squared serifs. Although the assignment of evocative characteristics to typefaces is somethinglike dream analysis–each person's symbolism is more or less unique in general sans serif and square serif faces seem appropriate to modern, perhaps mechanical or technical, messages, while serif faces fit comfortably with a more traditional expression. Please take the preceding with a large grain of salt, however. In the end, the choices you make are largely a matter of comparisons. How does your effort compare with other designs? Where does it fit? How well does it stand out from the crowd (if you want it to)? And how well will it stand up as time goes by?

Output:

You can proof your pages on a laser printer of course, but your final output is likely to be going to a service bureau





with aPostScript language pagesetter, such as a Linotronic 100 or 300.

I regularly send postscript files by modem to a local printer who has a Linotronic 100. His L100, with a resolution of 1270 lines per inch, can produce perfectly satisfactory camera-readyprints of line art (no screens or halftones) at a cost of $8.00for an 8 1/2 x 11 print.

If my art includes tone blocks (and I'm going to get a paper print rather than a film negative), I specify that the screen count be no finer than 100 lines per inch. Camera-ready means that this print will have to be shot again, and screens finer than this will make life difficult for the camera operator whowill make the negatives and/or the printing plates from my art. If I'm planning to have a film negative made, rather than acamera-ready print, I will usually specify a 133-line screen; I have found it safer to have it run on a Linotronic 300 at a different service bureau. The cost here is $12.00 per 8 1/2 x 11inch sheet (paper or film) processed at 1270 lines per inch. Part of the reason for this has nothing to do with the finer resolution capabilities of the L300, which can generate an image at either 1270 or 2540 lines per inch. Even for a full color piece, if the color is in flat blocks–simple combinations of different screens of the process colors–the 1270 line resolution is perfectly acceptable. The reason I choose the second service bureau is that the owner has a photographic background and pays attention to the chemistry and processing time in his film processor to insure that a screen that Ispecified to be a particular percentage ends up that way on the negative used to make the printing plate. This is particularly critical when you're designing something to be printed in full color. Slight variations in dot size on the several process color plates can have profound (and disastrous) effects on the final printed piece. This is not an uncommon problem. ThePostScript service bureau is still a relatively new enterprise, and not all proprietors have worked the bugs out.

The templates:

All of the designs here are saved as one color, black only layouts. You can experiment with color in Professional Pageaccording to your own corporate identity requirements. Let me point out that it's not necessary to have more than one final print or negative made even with a multi-color design, as long as there is to be no overlap of different ink colors on the final printed piece. You can provide a single piece of camera-ready art (or negative) to

ON DISK

This Issue

A.X. Magazine Issue 3.1

Here are instructions for some of the items you will find on this issue's Companion Disk.

ATI- Anim to IFF Converter

This will disassemble Anim's back into their component IFF files. It does not seem to work very well on HAM animations, though. You will need to experiment with it to discover what Anim formats it will and will not handle. It runs from Workbench and has its own file requester.

Hi-C

Creates a 640x400 Hires-HAM like picture from 4 LoRes Ham Pics.

Hi-D

Creates a 640x400 Hires-HAM like picture from a single 640x400 Ham Pic (as can be made with EA's Deluxe PhotoLab).

HiShow

Display's the output of Hi-C or Hi-D

This set of three programs provides an Amiga User the capability to create hires hamlike pictures without the need of special equipment. It accomplishing this feat by allowing 15 color palette changes per scanline in a hires interlaced screen. By properly remapping the colors taken from the input ham pictures scanline by scanline, the appearance of the final picture can contain 4096 different colors.

Note that this process is very limited to vertical color changes. So in order to get a good looking picture, your input pictures should have colors which match closely along a horizontal scanline (for Hi-C, try to match palettes with the pictures which are side by side).

These programs currently disables multitasking while viewing the pictures,
but restores the system after exiting.

To exit, just press the left mouse button.
Steve O'Leary
Baltimore, Maryland
BBS (301) 235-8846

Letterhead & Business Cards Templates

These templates are designed to be loaded with Professional Page by Gold Disk. While using Professional Page, load them so that you can modify them to create your own business cards or letterhead. Once loaded you will notice hash marks (crop marks) on all four corners of each item. These are necessary so that your local printing press knows exactly how to position your letterhead and business cards on the printing press. So make sure you stay within the crop marks when you are modifying these items.

Pictures, Animations and More...

There are lots of pictures and several animations. But these are all very easy to use. We have provided ICONS for all these items, so from Workbench, simply double click the icons to display these items.

DeluxePaint Reference Charts

These reference charts are also provided on paper in this issue. They can be removed at the perforations. But if you would like to install these reference charts on disk, you can copy them onto your Deluxe Paint work disk and use them from there.

Hahn-Wallace Publishing Group goes to great lengths to insure that all the items on disk, are easily accessible and easy to use. If you would like further assistance, contact technical support at: **New Age Computers** (301)220-1296.

Ask for GRAF/x Technical Support.

The GRAF/x Companion Disk

DISK INSTRUCTIONS

1. Boot your Amiga from your favorite Workbench disk.
2. Insert a Graf/x disk into any drive and the disk icon will appear.
3. Double click on the Graf/x disk icon to reveal the program icons.
4. From here, just point and click to run animations, view pictures, and run utilities.

* On disk are also tutorial examples that go along with articles in this magazine. Although they do have icons, they are not self running animations or programs.

THE DISK PORTION OF GRAF/X

Why did we opt to include disks with GRAF/x Magazine? One of the Amiga's strongest points is its graphics. To tell you about it on paper is one thing, but to truly feel the impact, and understand the Amiga's power, we had to show you on disk. So we included some of the hottest graphic images, animations, utilities and other items to not only show you, but to let you participate in the Amiga's power.

BAD DISK?

So you think you have a bad disk. Don't worry. Simply send your original disk back to us, and we will promptly replace it.

WHAT DOES A BAD DISK LOOK LIKE?

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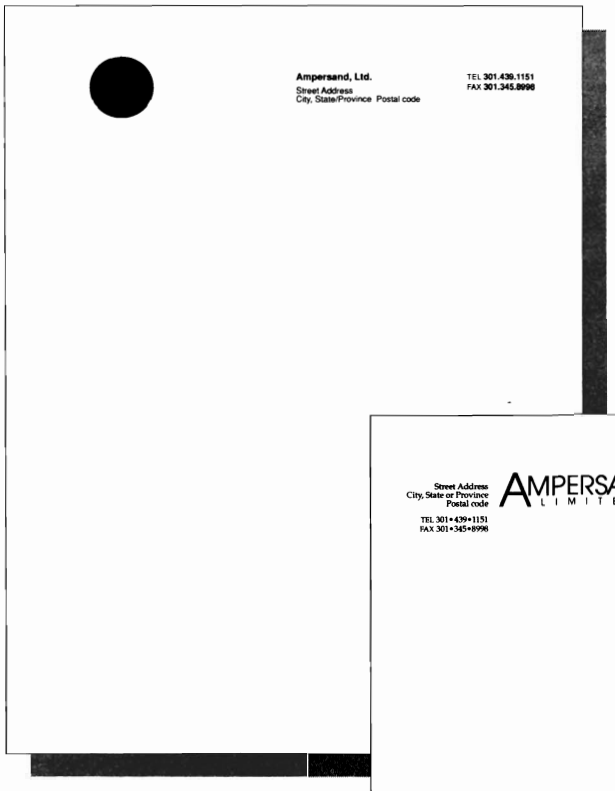
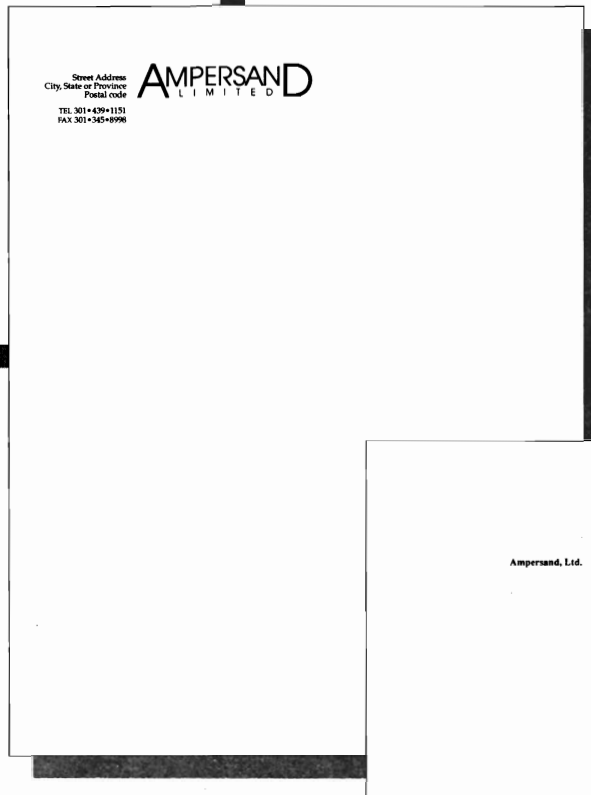


Letterhead 2

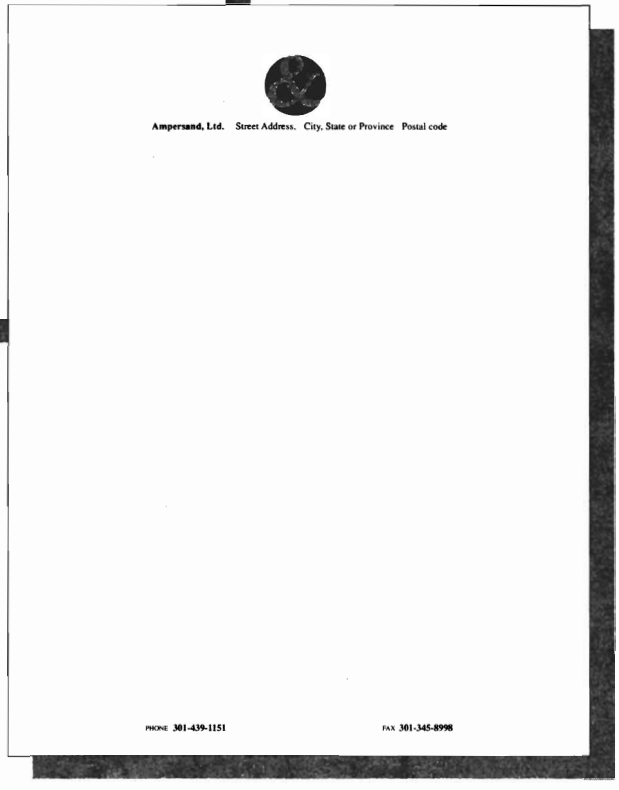
In this layout using Helvetica the logo provides a reference for establishing the left typing margin, which could be centered on the logo's vertical axis or just inside the left edge of the logo. The typing margin could line up exactly with the edge of a straight-sided logo. Note the treatment of the phone numbers. If you like this style, be sure to add some space to the tracking just after the periods to achieve even spacing.



Letterhead 3

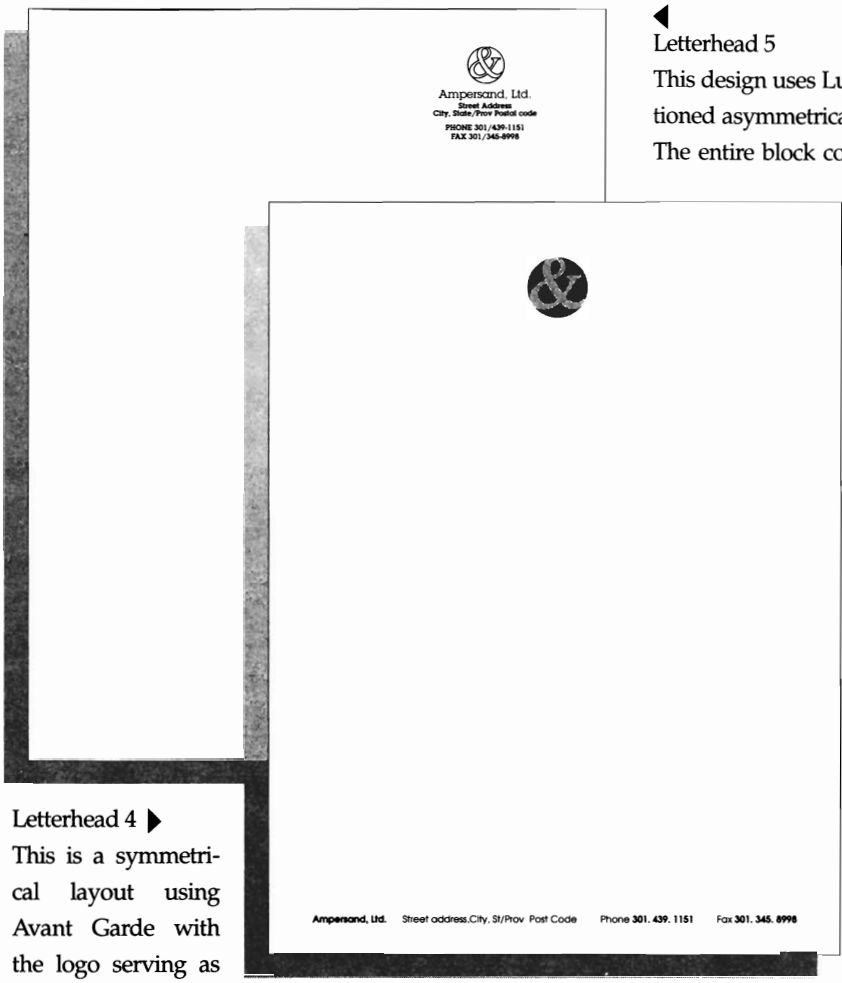
This layout done with Palatino also provides a reference forthe left typing margin, which could be lined up with the right margin of the address text or the left edge of the logo. Notice that the logo in this case is the company name itself, so thatit's not repeated in small type with the address information.

your printer, along with a tracing paper overlay or colored proof showing where the different colored inks should go. The printer will mask the negative or art asnecessary when making the plates that will go on the press. If you intend to have overlapping elements of different colors, or elements that require screen combinations to achieve the color you want (20% black with 50% Pantone #172 red, for example), you will have to generate more than one print. You will also have to pay attention to screen angles and mechanical colors and other things beyond the scope of this article. Although ProPage can automatically generate separation negatives when you're working with the process colors (cyan, magenta, yellow and black), screen combinations for things like two-color, non-process inkjobs, things like your letterhead, require a little more work on your part.



Letterhead 1

This is a traditional, symmetrical layout using Times Roman. The phone numbers at the bottom could be relocated at the top,either as part of the single address line (in which case the type size would have to be reduced) or centered below the existing address line.



Letterhead 4 ▶
This is a symmetrical layout using Avant Garde with the logo serving as the only design element at the top of the page and with all the text at the bottom.

◀ Letterhead 5
This design uses Lubalin in a symmetrical grouping positioned asymmetrically at the top right corner of the page. The entire block could also be centered at the top of the page or remain where it is, re-justified to flush left or right.

DeluxePaint III
Electronic Arts
1820 Gateway Drive
San Mateo, CA 94404
(800) 245©4525
(415) 571©7171
$149.00

DigiWorks 3D
Access Technologies
P.O. Box 202197
Austin, TX 78720
(512) 343©9564
$129.95

InterFont
SYNDESIS
N9353 Benson Road
Brooklyn, WI 53521
(608) 455©1422
$119.95

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Streetsville Ontario,
Canada L5m 2C2
(416) 828©0913
$199.95

Professional Page
Gold Disk, Inc.
P.O. Box 789
Streetsville Ontario,
Canada L5M 2C2
(416) 828©0913
$395.00

Sculpt©Animate 4D Jr.
Byte by Byte
Aboretum Plaza II 9442
Capitol of Texas Hwy. N. Suite 150
Austin, TX 78759
(512) 343©4357
$150.00

Turbo Silver
Impulse, Inc.
6870 Shingle Creek Parkway #112
Minneapolis, MN 55430
(612) 566©0221
$199.00

V i d T E C H

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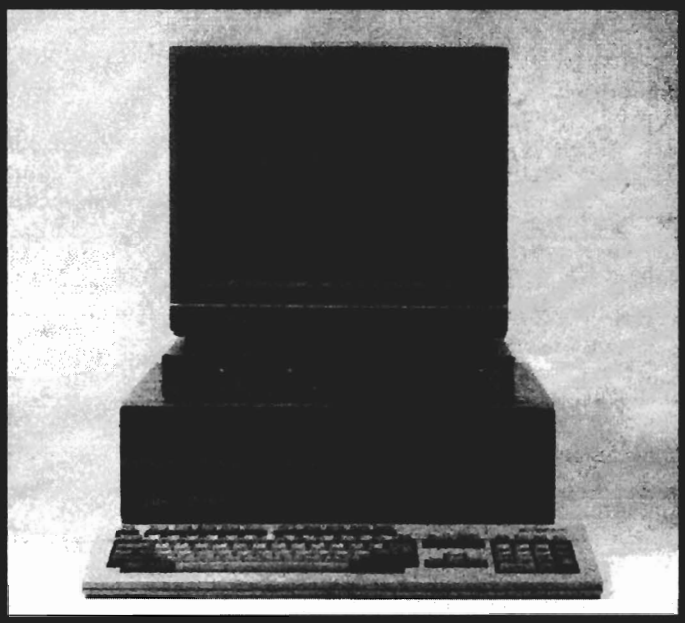

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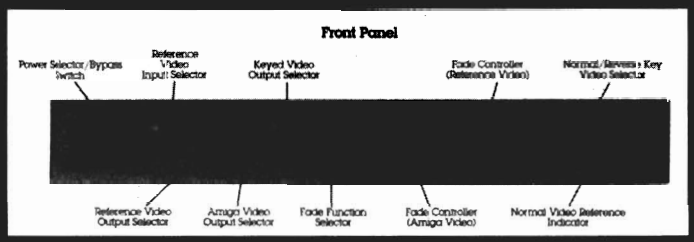

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All entries must be in by May 1, 1990. Drawings will be held in the corporate office of Hahn-Wallace Publishing Group, and all decisions are final. Winner must specify configuration for Amiga 500/1000/2000/2500. Mutilated or illegible entries will be disqualified, and sponsor is not responsible for lost entries. Any prizes not accepted will be reawarded. Offer open to all U.S. residents except employees and their immediate families of Hahn-Wallace Publishing Group. Taxes on prizes are winner's responsibility.
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V i d T E C H

SCANLOCK SWEEPSTAKES expires 5/2/90

continue from page 32

general areas that were traced around for the texture mapping, first in the larger, main part of the body, and then the in the tail section. When the tracing was done, I filled the area traced-out with the brush currently stored (the colors-brush copied earlier). I set the amount of warping to take place to allow the brush to take on a slightly rounded affect; this nicely matched the fish's body.

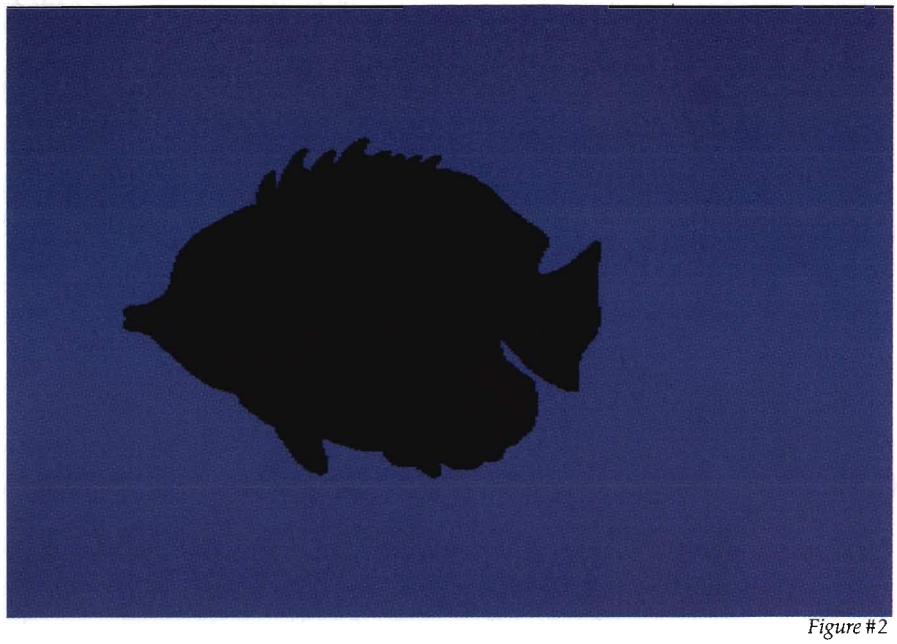
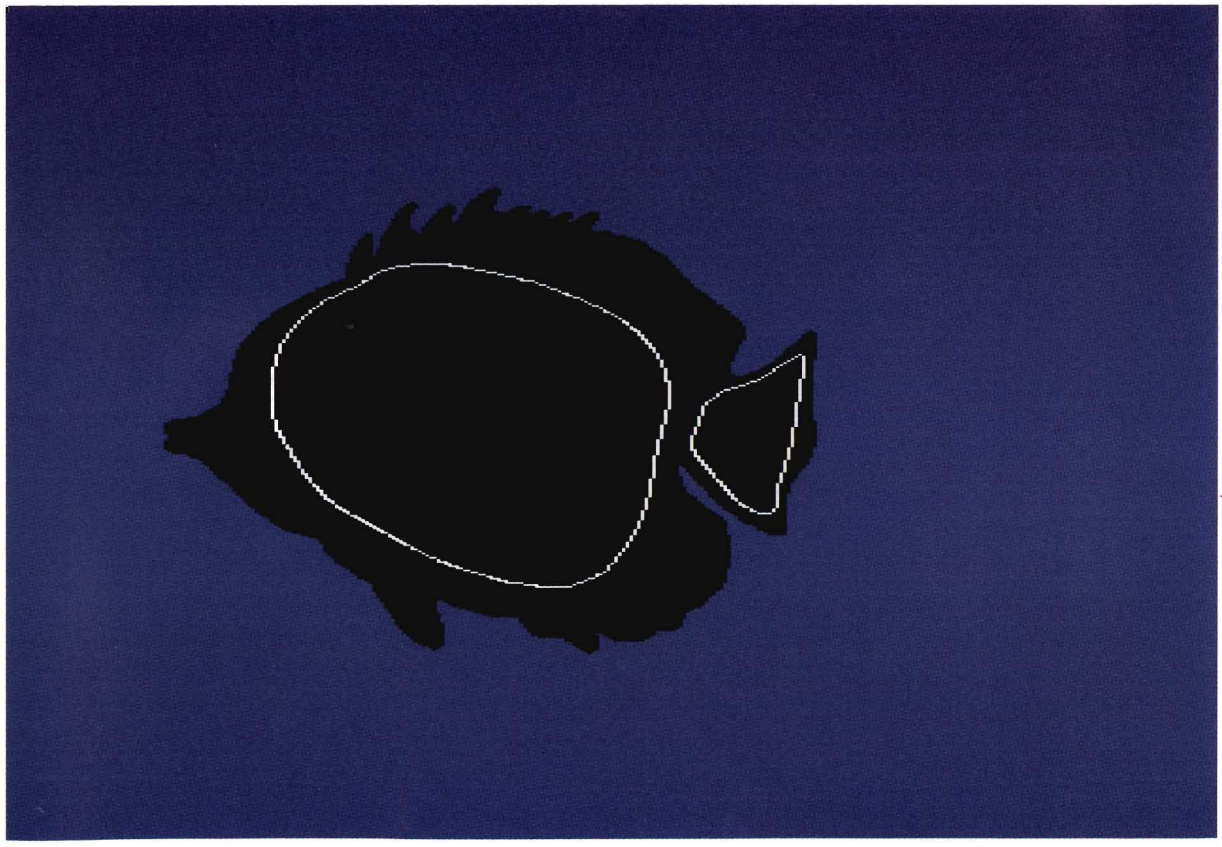


Figure #2

Because the type of dithering would affect the final texture, a checkerboard, not random, dithering, was used to give the mapped brush a rougher, scalier texture (see figure 4). Notice how the highlights originally created on the random-colors-brush are maintained on the final mapping, creating.a good sense of dimension and shape.

Figure 5 shows the finished fish with eye detail and some highlighted details that create a little shine on the darker areas of the body. Figures 6 and 7 are images created to add to the background for completion of the picture. To create a sandy bottom that gives the illusion of fading into the background, I used the same background color as the main fish picture; I returned to normal mode, set the transparency controls to give create a solid concentration of color in the center, and the highest degree of fade at the edges. I grabbed a large, circular, built-in brush from the tools bar and freehanded a wavy length of line. I then rendered and duplicated the line to create the screen shown in Figure 6. Then I used the screen as a brush, copied the line image, and TXmapped it below the fish in the main screen. I was

Figure #3



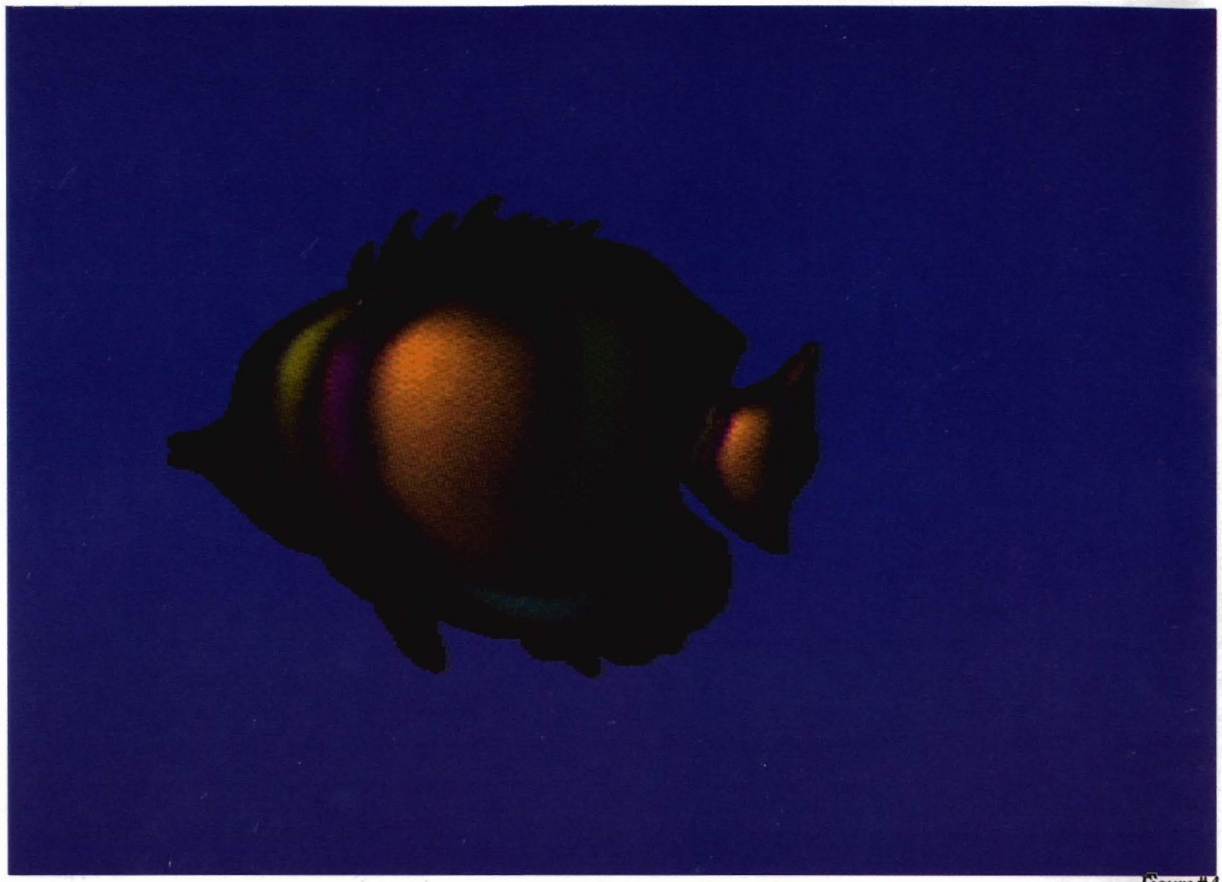


Figure #4

careful to set the highlight control on horizontal bar and to place the highlight at the bottom of the transparency window. When the image was re-rendered it faded out at the back, creating the illusion of depth.

Adding the divers was a last minute idea to fill in the background. I purposely left out details on the divers to help create the illusion of depth. I drew the silhouette of the diver once, which enabled me to grab it as a brush, copy it, and then TXmap it to where I wanted it in the final picture. Since I had what looked like an established light source on the fish's body, a light blue gradient was added at the top left portion of the screen to give the impression of filtering sunlight.

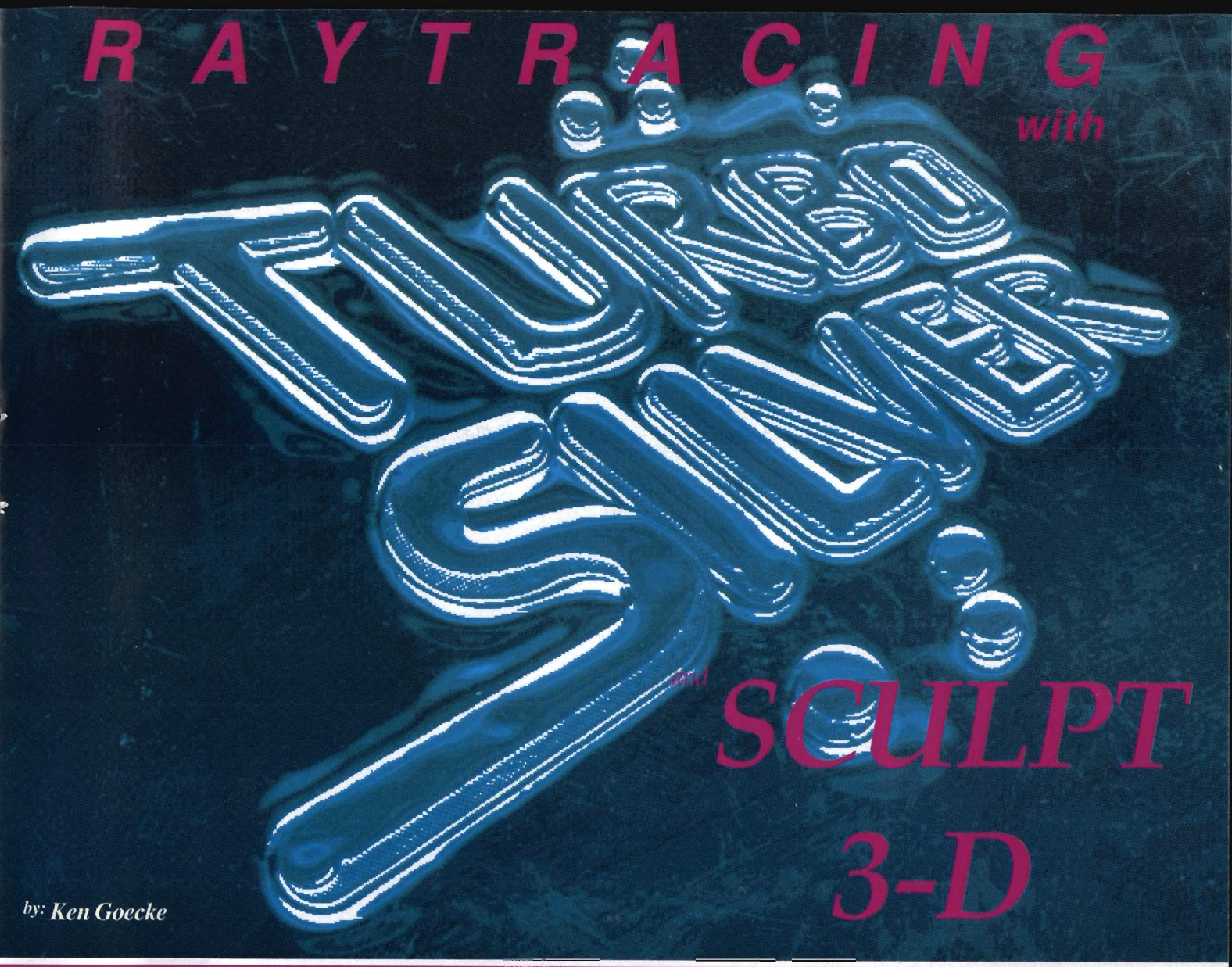
The last step was to create more fish. I created the second, smaller fish the same way as the larger one, but with a different colored brush; then I took it as a brush and used the transparency controls and TXmap mode set for no warping. Not only could I resize and duplicate the fish anywhere on the screen, but I was able to tone down the overall brightness by using varying amounts of transparency control. The smaller the fish, the farther away it appeared, the less intense the fish's colors were.

Amiga Music shows another effect of *Digi-Paint III* and Ham that couldn't be done in a standard format paint program: a rubthrough effect that creates a pseudo airbrush quality when executed properly. This example also shows how well *Deluxe Paint III* and *Digi Paint III* can

continue page 60

Figure #5

RAYTRACING with AMIGA and SCULPT 3-D



by: Ken Goecke

The SCENE: "Why Raytracing?"

The scene:The local Amiga user's group gathered around a monitor viewing the latest IFF's.

"Wow!!! Look at that!! Hey Paul, did you see this one?"

"Unbelievable," says Paul. "How do these people do graphics like this? I'd give anything to do work like that!"

"But Paul, you have hundreds of dollars worth of paint programs. What do you do with them?"

"Well, I love Amiga graphics, but I just don't know how to draw well."

Ray Tracing

Not many people would be that honest, but think about it. *DeluxePaint* has the highest market penetration of any program written for the Amiga. So why aren't we swamped with images? Most people are not illustrators, and this has caused many to wonder why they spent so much money on a program when they can't use it effectively on their Amiga.

These people aren't using the wrong machine; they are using the wrong program. For all you Amiga owners who have all those nice paint programs and are fascinated with graphics, but have never in your life been able to draw, ray tracing may be just what you're looking for.

I have had a lot of experience with a camera, and basically, that was all I needed to know in order to do some very nice work with a ray tracing package. In this article I will discuss *Sculpt 3D* and *Turbo Silver*. I do not feel that a rundown of their pros and cons is necessary. Choosing between them is a matter of preference and money. *Turbo Silver* excells when it comes to features. However, *Sculpt* offers some unique features that you may find interesting. It is important to know what you want to do in Amiga graphics before you make an investment.

A computer should be an advantage, allowing us to accomplish what we normally could not--drawing or seeing what we normally would not. The ray tracing world is exactly that: a world of your own creation. Duplicating real life scenes, although challenging, is not exciting to me. For me, that is the job of a camera and a digitizer. Although I am predisposed to the photographic image; although the duplication of such images via a digitizer is useful for desktop publishing, I do not think it should be categorized as creative. Everything that appears on a computer monitor is graphics, but not all computer graphics are art.

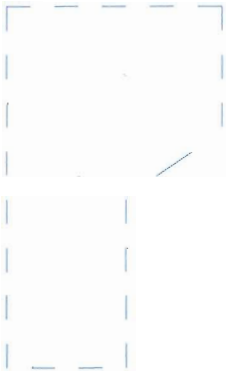
I recently got hooked on ray tracing because I lacked the talent to draw and was getting bored in the darkroom. Ray tracing provides you not only the opportunity to do abstract and representational art with the full control of an accomplished painter, but also the opportunity for surprise. I like to start with an object and just go from there: a continual process of "If I try this, what will it look like?"

As a final little aside, let me say that ray tracing is the best way to get the full use out of your Amiga. I normally work with *Silver* or *Sculpt* for about an hour

Amiga Rays

a night. I set up two or three cells of the same scene with different attributes, positions, et cetera, and let them trace during the night. In the morning, it takes only a few minutes to save the material and make some changes. I trace these and go to work. This way, I have the Amiga for use during my spare time, but also keeps it working while I'm away. My Amiga is usually on for days at a time.

On disk in this issue are the files Boing-Temple.pic and Cell 1. Cell 1 is a cell for *Turbo Silver 3.0*. To begin, here is a the simple set of points and segments:

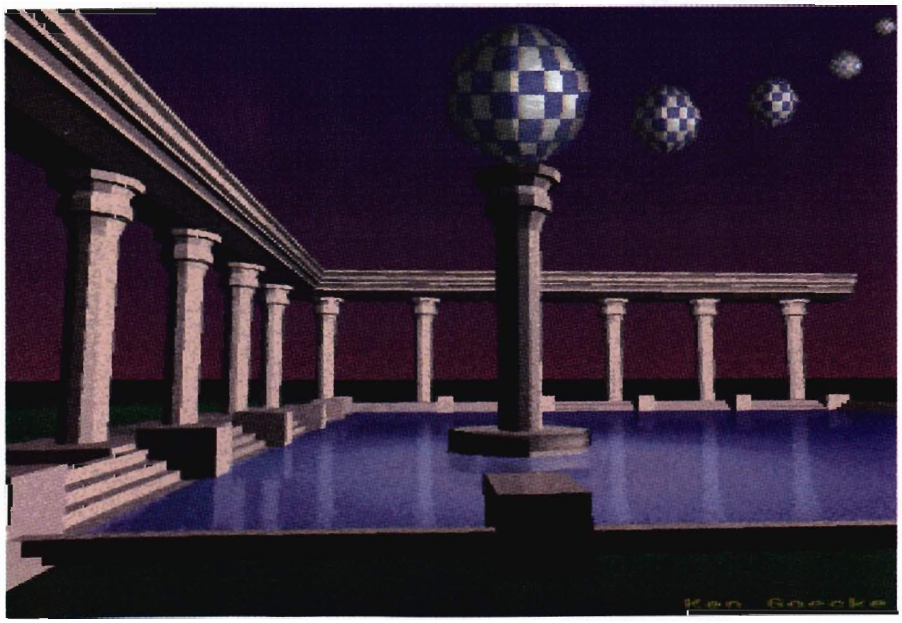


These points were connected with segments and swept 360 degrees using 12 divisions. The number of divisions determines the number of flutes in the column. Be sure when rendering an object of this nature not to use smoothing, but facets. This retains the crispness needed in architectural renderings. It is helpful to have "coordinate" turned on when using the program.

A new Axis always appears at the point x,y,z (0,0,0). Leave it there and then measure off trying to keep to round numbers. Do not worry about the size of the object at this point. Just concentrate on design. *Silver* will scale the object very accurately. I usually start with a large object and reduce it with a scaling of .04 for all dimensions in the Transformations Requester. Always use a new or empty cell for developing objects and save it as an object. This way you can quickly test the general shape in a solid model rendering and then import it to the main cell you are designing.

Baud Title

Now that you have a column completed, begin work on the ground. Lining them up on a checkered ground has many disadvantages. We rarely see a real life checkered floor with tiles larger than one foot square. After tracing the image, you have a nice line of columns, but against the checkered ground the whole perspective is lost. A column with a two foot wide base does not work so try a plain ground. Try green, and add a little roughness to it in the Attributes Requester to break it up a little. Do a test run using Solid Model to see how it looks. Uuuugghhh!!!! The closer things are to the camera, the more distorted they get. WHY????

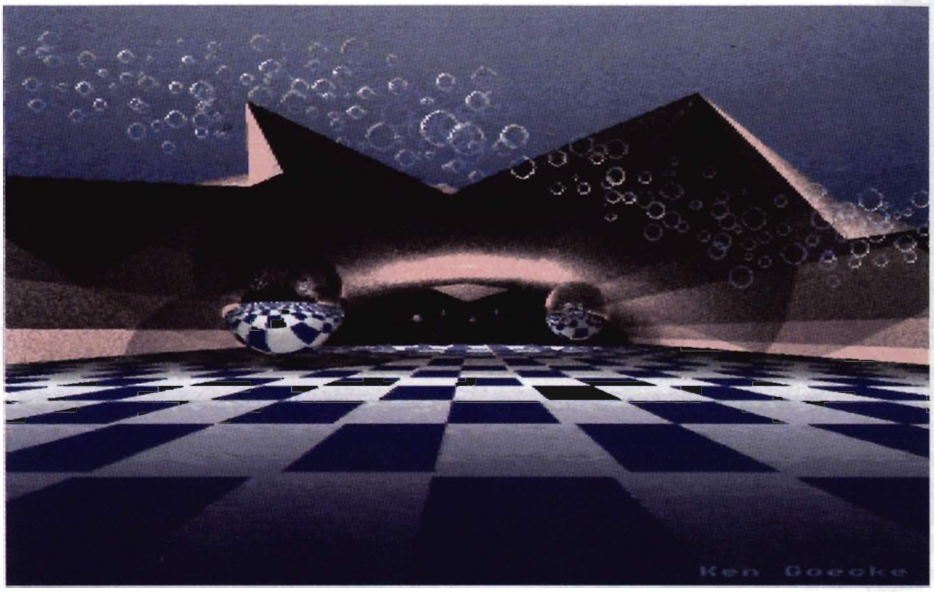


Boing Temple

The analogy of using a camera holds very well here. Bringing straight lines close to a camera causes distortion. The cure is to move the

and set the camera lens to manual, at say about 200 to 250. This will cause a much flatter look with very little distortion, although some of the depth will be lost, due to the more distant objects being pulled visually forward.

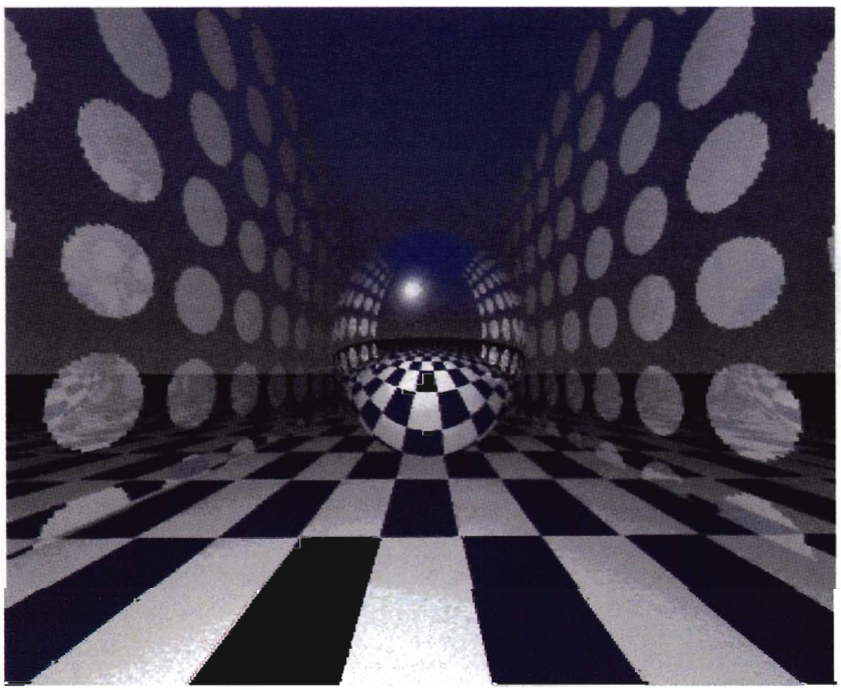
So now what? The idea of temple ruins comes to mind. Let's try it. Make a small square base using four points, extrude it, and then group it to the column. Using the Cut and Paste feature, place copies of the column in a line from front to back and then left to right.



Bubbles

Now we'll add the pond water. This is very simple. Take a Surface and place it just above ground. Set the refraction to Water and give it just a slight Reflection (about 80-80-80.) Now add some Roughness (about seven.) This gives us nice looking reflections in a pool of water. But now what to do with the edge of this surface to make it look more like a pool? Hide the edge with steps. The middle of the steps are set right on top of the Surface edge and even with the Ground. This gives the appearance of the steps being in the water. Try increasing the Filter as an experiment. This will let you look through the water, as long as you have set up something to see through it.

Next, there needs to be light. I have found that if you want shadows, it is best to use one light, setting the Attributes to Shaded and the other(s) to Bright. Shadows are not a necessity in ray tracing, although they are one of its little miracles. I have found, for the work I do, shadows are not generally needed. When they are desired, the most dramatic effects come from a highly angular or rear light source, using some other Lamp as a fill. In this image, none of the lights are set to Shaded, therefore rendering no shadows. The shadowing effect is the normal result of an angular light. Another light is set above the center column to give some shading to the pool, and a final one to the rear of the scene to



Ray Tracing

give a little interest to the horizon.

If you render this cell you will find that the Boing-Ball is not present. Instead, at the top of the center column are three spheres within each other, with the outer image set to Glass. Notice how this is done. Set the refraction to Custom and enter a number (around 1.05) which will create a very nice glass look that selecting Glass would not have given. I received this information from a friend in a user group who got this from the Impulse people. Use their phone number, as they are very supportive.

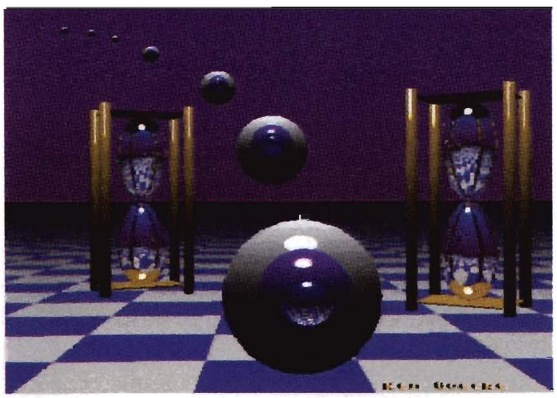
The Boing-Ball is a product of *DigiPaint*. This is the reason that it is not in quite the same perspective as the rest of the rendering. Making a Boing-ball in *Silver* is much too tedious a procedure, considering the results one can get from *Digi-Paint*.

You will also see that the base of the center column is not complete. This object was derived from an extruded disk, which did not fill in properly. It will be easier to finish this with *PhotonPaint* than to make a complete object.

Never work harder than you have to. There are so many options available on paint programs that at times it is not worth the effort to set up another ray trace to do the same thing. Also, many things just cannot be done. Use all the tools that the Amiga has available to you.

The shading in the green foreground needs some work. It appears to me to be much too bright. In fact, in almost all of my renderings, I shade out the foreground using *DigiPaint*. *Digi* is very versatile in this, and allows for some very precise effects.

Darkening the foreground centers the attention of the eye on the horizon as the main horizontal line in the image. If the bottom of the image is very light, (which happens when setting the light source to Sun) then the bottom of the scene



Left: Nietzsche ◀

Right: Ghostball ▶

competes with the horizon for attention, lessening the 3D effect. If your main object(s) are in the foreground toward the bottom of the screen, then reverse the effect.

I hope that this information has been of some help. Remember that Help Line phone number that you got with your software. The people are very helpful and if they do not know the answer, they will find it. G

DeluxePaint III
Electronic Arts
1820 Gateway Drive
San Mateo, CA 94404
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(415) 571-7171
$149.00

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NewTek
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Topeka, KS 66603
(913) 354-1146

$99.95

Turbo Silver
Impulse, Inc.
6870 Shingle Creek Parkway
#112
Minneapolis, MN 55430
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Sculpt 3DXL
Byte by Byte
Aboretum Plaza II 9442
Capitol of Texas Hwy N. Suite 150
Austin, TX 78759
(512) 343-4357
$99.95

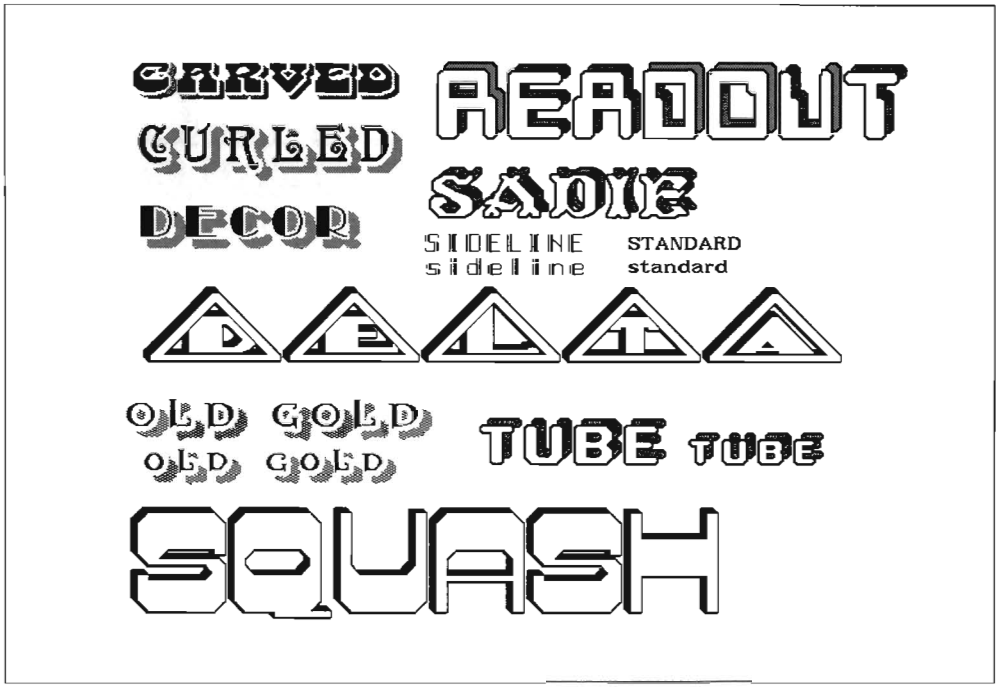
FONTS, Fonts Everywhere Which One Do I Pick?

AlohaFontsV.1-AlohaFonts

This package, which retails for $19.95, contains 20 black and white fonts, ranging in size from 8 to 32 points. Primarily for desktop publishing, the package can be used with any applications software and comes with a detailed map of all available fonts.

AlohaFonts V.2 - AlohaFonts

This package also retails for $19.95. It contains 43 fonts in sizes from 16 to 84 points and is in black and white. *AlohaFonts* is adaptable to applications software and is used primarily for video titling and desktop publishing.

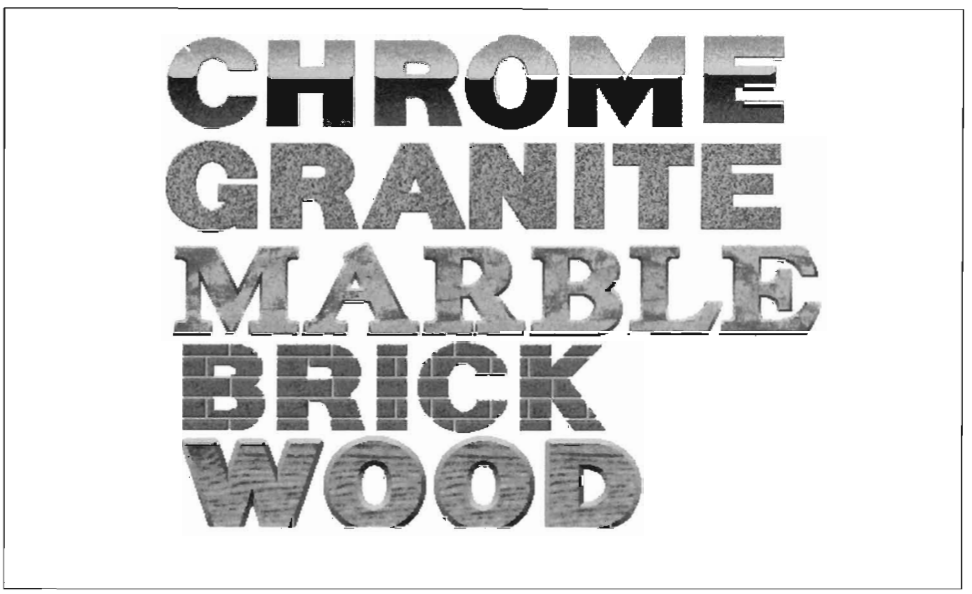


AlohaFonts V.3 - AlohaFonts

AlohaFont's newest black and white package comes with 41 fonts sized from 16 to 99 points, and retails for $19.95. Attracted by *V.3*'s large range of font sizes, desktop publishers and video titlers find this software very useful.

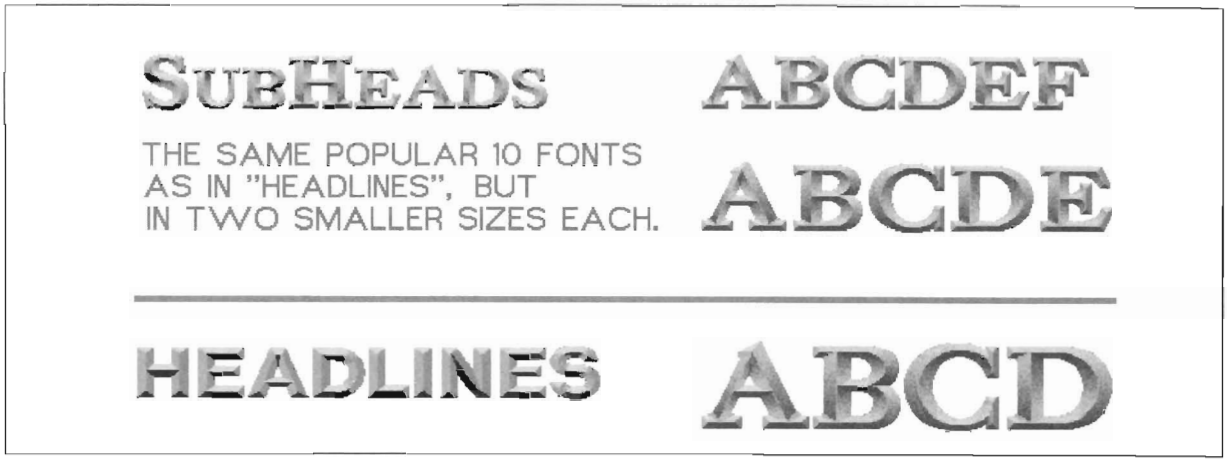
Headlines 2 - Kara Computer

Headlines 2, retailing for $69.95, boasts four new font styles ranging in size from 68 to 160 points. Primarily used for titling, the color package runs with many application programs and contains samples of available styles.



Kara Fonts Headlines - Kara Computer

This color fonts package retails for $79.95 and contains 10 fonts in two sizes each (84 and 104 points). If you're interested in video titling, this package, which runs with application programs, may be for you.



Subheads - Kara Computer

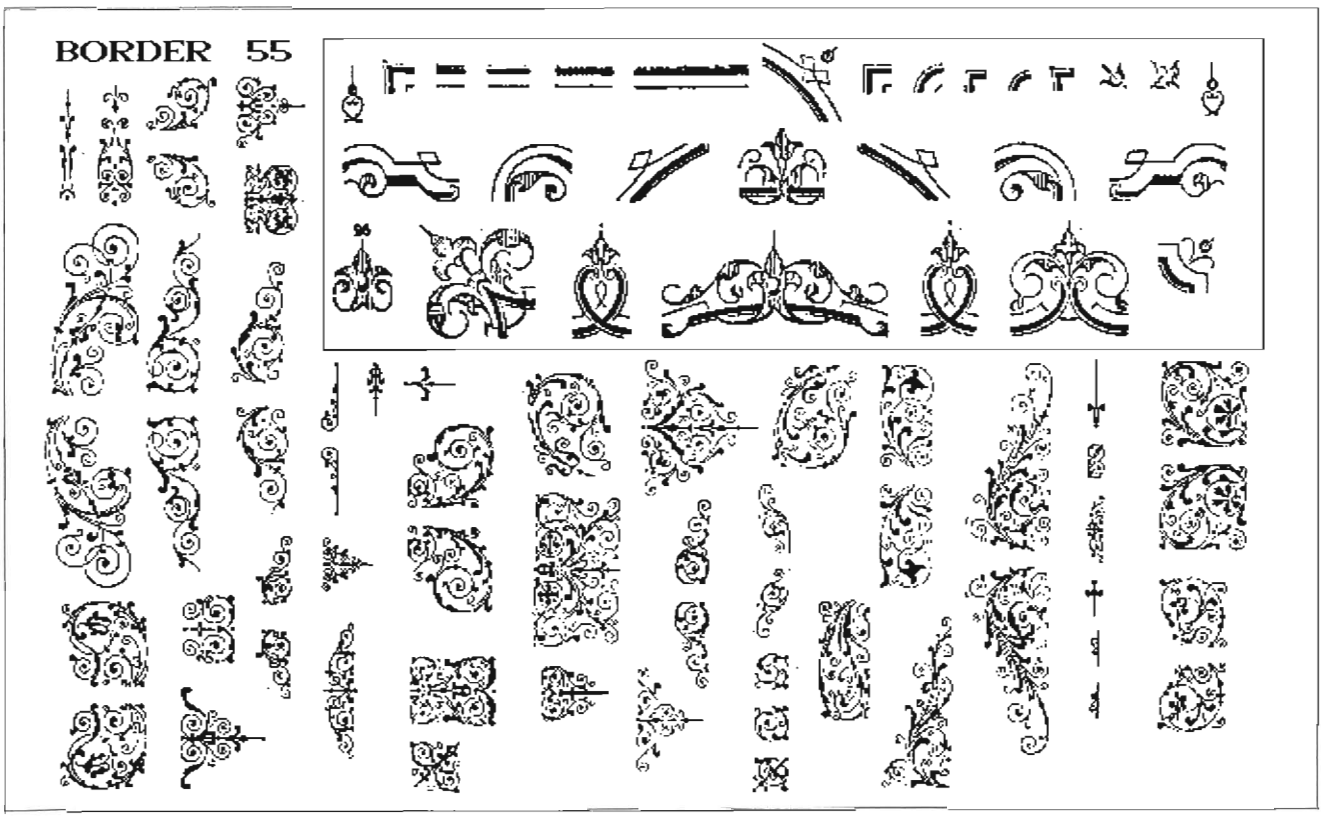
Subheads contains 10 fonts sized from 55 to 72 points, and retails for $69.95. The program is in color and runs with other application programs. Primarily used for video titling, the package contains a large array of font samples in the enclosed manual.

Media Line Font Disk Free Spirit

Free Spirit gives you this color program with 9 fonts, ranging from 20 to 40 points, for a retail price of $34.95. The disk can be used with any program, but most users find it works well for titling. A variety of samples come with the package, including some examples on the disk's IFF screens.

Masterpiece Fonts - ARock

This Amiga specific package contains 110 black and white fonts in sizes from 90 to 120 points, with an extra bonus of 10 color fonts thrown in. *Masterpiece* will run with any program containing an Amiga Workbench and retails for $199.00. Because of the large font size, it is used primarily for video titling with limited functions for desktop publishing. Samples of the fonts are shown in the manual included with the package.



Professional Font Library - Classic Concept

The *Library,* retailing for $74.95, comes with approximately 200 fonts in 61 typefaces and ranging in size from 7 to 88 lines. With monochrome and multi-color capabilities, the versitile software runs with many application programs. Retailing for $74.95, video titling, word processing, and desktop publishing seem to be its most popular uses. Along with the disks, Classic Concepts also provides a 100 page manual with over 20 pages of work samples.

ProFonts I - New Horizons

This package, optimized for print, comes with 10 type faces in 8 to 36 point fonts. Depending on the program you choose to run it with, *ProFonts I* has both black and white and color capabilities. With a retail price of $29.95, the package, used exclusively for print outs, concentrates primarily on body copy rather than headlines and titling.

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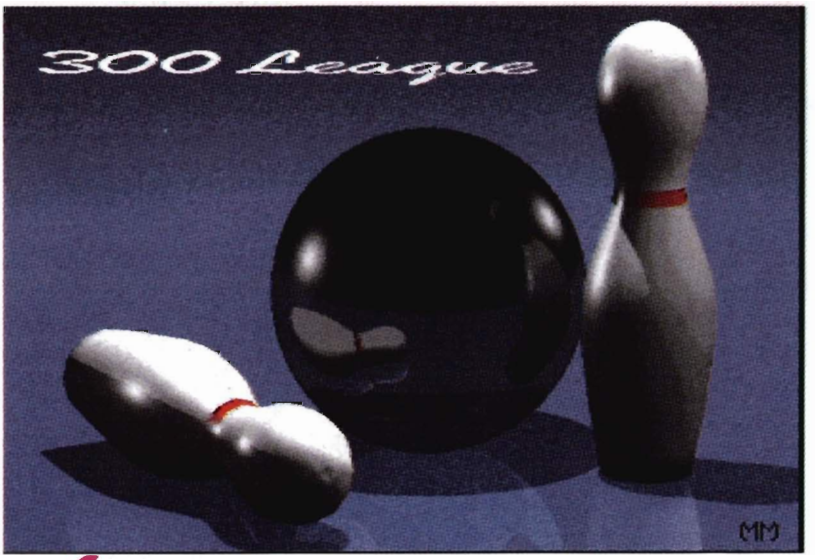


300 League was designed completely by using TURBO SILVER 3.0 with the exception of the lettering which was added with Photon Paint 2.0. Mike designed this picture for a friends bowling video.

GRAPHIC PORTFOLIO

By: Mike Malloy

Mike Malloy is a 25 year old Amiga Artist. Mike has been an Amiga artist for two year. His equipment includes an A500 with three megs, Supra 20 meg-HD.

Karman Ghia was hand drawn using Deluxe Paint III. Mike took about two days to design this piece , being that he was trying to achieve photo like apperance.

Ice Star was hand drawn using Digi-Paint3. This was Mike's first attemtp with this program. Mike used Deluxe Paint III to create the red ribbon.

CALENDAR of EVENTS

MARCH

5-9 **Seybold Seminars '90** - Professional Publishing Conference - Seminars: New Technologies, PDLs and Fonts Revisited, ColorPublishing. Plus New Products Showcase, Mariott-Copley Boston, (213) 457-5850.

15-16 **Effective CAD Management**, Computer-Aided Design Report, Grand Hotel, San Diego, CA, (619) 488-0533.

16-18 **AmiEXPO East Coast**, Sheraton Washington Hotel, Washington, D.C., (800) 32 AMIGA

18-21 **Print Production '90** - Annual Conference and Exhibition, Hyatt Regency,Chicago, IL, (703) 841-8160 or (913) 642-6611

19-22 **NCGA '90** - National Computer Graphics Association, Convention Center, Anaheim, CA (703) 698-9600.

29-30 **Effective CAD Management**, Computer-Aided Design Report, Sheraton Crystal City, Arlington, VA, (619) 488-0533.

29-31 **Graphics Communications 3**, TypeX, Art-X, and PrintingExpo. Philadelphia Convention Center, Philadelphia, PA (603) 893-4010

APRIL

2-4 **Technology Forum**, Distributed Network Computing and Object-Oriented Environments: Pillars for the 1990's, Patricia Seybold's Office Computing, Mariott, Cambridge, MA, (800) 826-2424.

23-26 **AM/FM International** (Automated Mapping and Facilities Management), Convention Center, Baltimore, MD, (303) 779-8320

27-28 **World of Amiga**, Sponsored by World of Commodore, New York, (416) 595-5906.

MAY

8-10 **DGC/FCC West '90** - Second Annual Defense and Government Computer Graphics Conference and Exhibition in conjunction with the Federal Computer Conference. Anaheim Convention Center, Anaheim, CA. Sponsored by World Computer Graphics Association, Inc. (202) 775-9556.

9-12 **AMIGA 90**, AmiEXPO goes international. Basel, Switzerland, Convention Center, (800) 32 AMIGA.

22-24 **The Executive Uniform Symposium**, The Applications Development Environment of the 1990's: Can UNIX set the innovation agenda?, Patricia Seybold's Office Computing Group, Biltmore Resort Hotel, Santa Barbara, CA (800) 826-2424 or (617) 742-5200.

JUNE

4-6 **The New Designer** - Computer Graphics for Design/Spring '90, computer graphics conference and exhibition for design professionals. Grand Hyatt, New York. Sponsored by Jeffe Corporation, (914) 741-2850.

29-July 1 **AmiEXPO**, Chicago, IL Hyatt Regency, (800) 32 AMIGA.

JULY - No events scheduled

AUGUST - No events scheduled.

SEPTEMBER

AmiEXPO, London, England. Data and location TBA.

15-16 **World of Commodore and Amiga** Valley Forge, PA, (416) 595-5906.

16-19 **Spectrum '90** - Graphics Communications Association, Phoenix, AZ, (703) 841-8160.

17-19 **DGC/FCC East '90** - Ninth Annual Defense and Government Computer Graphics Conference and Exhibition, in conjunction with the Federal Computer Conference. Washington Convention Center, Washington, D.C. Sponsored by World Computer Graphics Association, Inc. (202) 775-9556.

25-29 **InterCAD '90** - Third Annual International Computer Graphics Conference and Exhibition. Vienna Fair Site, Vienna, Austria. Sponsored by World Computer Graphics Association, Inc. (202) 775-9556.

OCTOBER

1-4 **IberCAD '90** - Second Annual International Computer Graphics Conference and Exhibition. Palacia de Congresos, Barcelona, Spain. Sponsored by World Computer Graphics Association, Inc. (202) 775-9556.

3-5 **Seybold Computer Publishing Conference**, Convention Center, San Jose, CA (213) 457-5850.

5-7 **AmiEXPO**, Disneyland Hotel, Anaheim, CA (800) 32 AMIGA.

5-7 **World of Commodore and Amiga** Rosemont, IL (416) 595-5906.

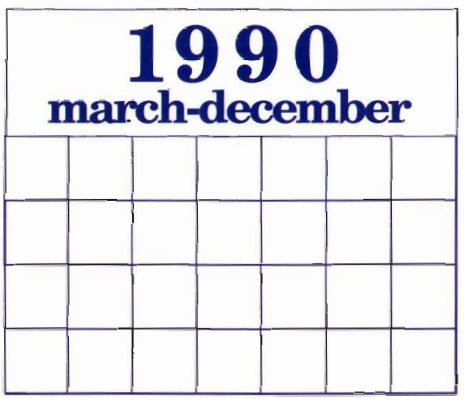
NOVEMBER

7-9 **MATRiiX 12** - Graphics Communications Association. Location TBA, (703) 841-8160

8-11 **AMIGA '90**, AmiEXPO International, Convention Center, Cologne, West Germany (800) 32 AMIGA

30-Dec 2 **World of Commodore and Amiga** Toronto, Canada, (416) 595-5906.

DECEMBER - **No events scheduled.**



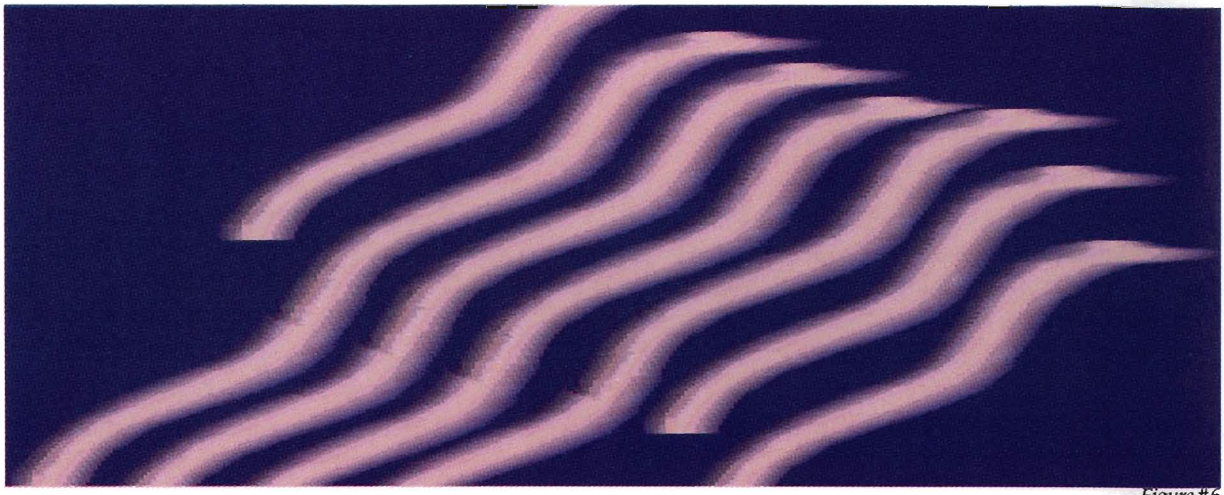


Figure #6

halfway up the screen was rendered quickly without any major cleaning up or aliasing done. It was saved and then reloaded into *Digi Paint III* in order to take advantage of the second program's very good dithering capabilities and rubthrough effect. I had not used the rubthrough effect before, so I was a little leery that the effect I visualized would not come out on screen the way I wanted it to. With the main screen up I cut a brush out of a section of the synthesizer's side of the keyboard that would closely match the Amiga's keyboard side. I selected the spare screen and I then positioned it by toggling the two screens back and forth until the synthesizer key brush lined up in the proper place under the Amiga keys side. Once in position I stamped it down in the spare screen thus activating the rubthrough mode. At this point I simply selected random dithering to create a smoother look and set transparency to vertical bar. On the main screen I drew out a box from top to bottom that covered the general brush area in the spare screen, and watched the program do its magic. Other effects, like the circuit lines, were done the same way: drawing in the spare screen than using rubthrough on the main screen. Remember, if what you have done doesn't look quite right to you–undo, reconfigure the dithering or transparency controls and repeat. This is an outstanding feature.

Both standard and HAM formats have their special features that make each worth having and using. The combination of effects between the two seem to be almost endless. Hopefully, these samples will give you some ideas of how some of these special modes can be utilized and help you decide which package is right for your next work of art. G

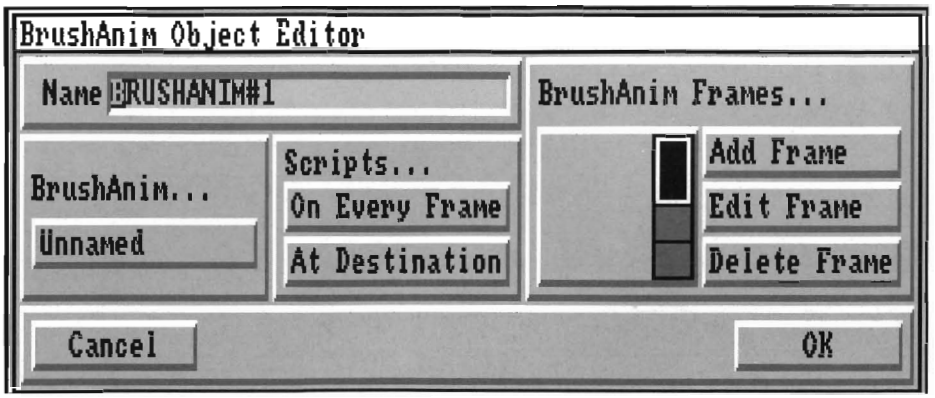
DeluxePaint III
Electronic Arts
1820 Gateway Drive
San Mateo, CA 94404
(800) 245-4525
(415) 571-7171
$149.00

DigiPaint 3
NewTek
115 W. Crane St.
Topeka, KS 66603
(913) 354-1146
$99.95

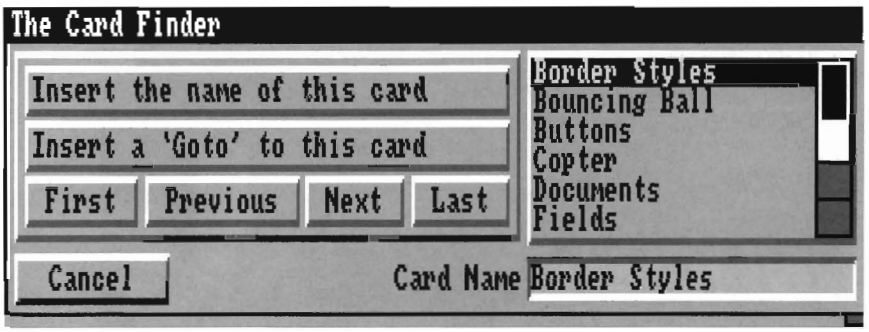
Figure #7

continued from page 12

with Field Objects. Every command is explained in an on-line Scripting Help Requester which you can activate by clicking on the Help Button on the screen, pressing the Help key on the keyboard, or double clicking on the command word in your script. If you make a mistake, an error requestor appears advising you in detail of your mistake. While the Script Editor has search and replace and save text functions, it lacks cut and paste features. Additionally, the graphics and text created only appear together when the deck is run and not while



Animated brush panel



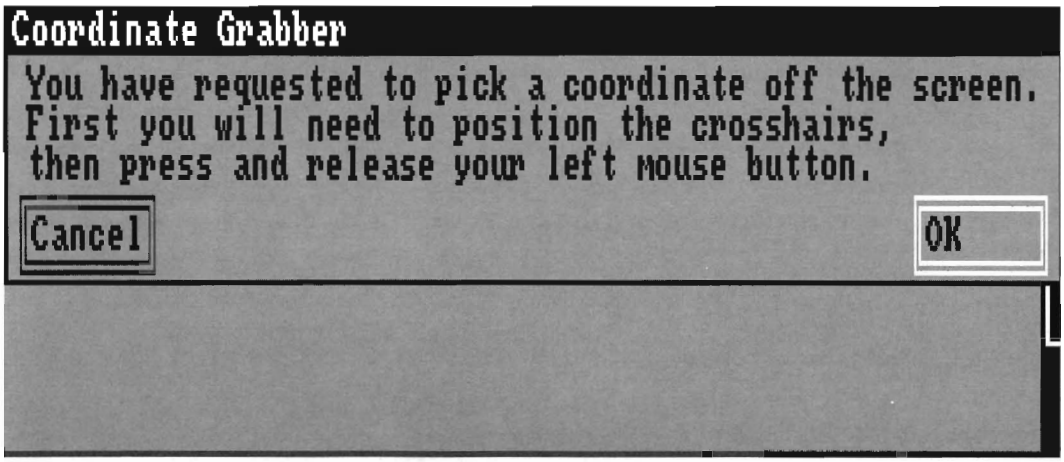
Moving around with the Card Finder.

CanDo provides extensive document handling routines sufficient to enable you to write your own word processing program. *DPaint III* animated brushes can be displayed and moved, and digitized sounds can be played at user selected volumes and on specific channels. You can read to and write from sequential disk files and create icons (.info files) for your programs using standard IFF brushes.

While printing is not authoring, which makes relational placement somewhat difficult.

While it is beyond the scope of this review to discuss all of the commands, I will try to point out those that are either unique or unusually powerful. *CanDo* provides commands to automatically load and display IFF pictures and brushes, as well as to actually save the window of any card in standard IFF ILBM format. You can also print text in different styles and colors using any Amiga font, and

Dealing with ARexx.



CanDo easily handles item placements

directly supported, writing to a file name PRT: will send the output to your printer through Preferences. There are also commands for ARexx communications, memory management as well as a pop up file requester.

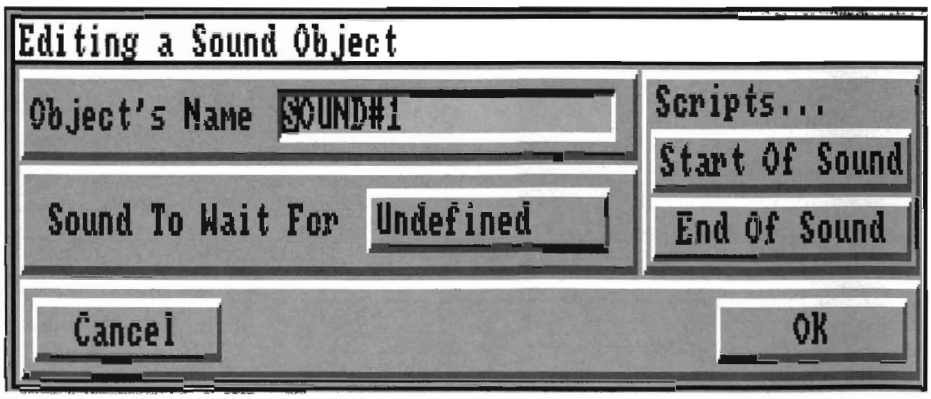
Using the DOS command, you can run other programs or execute CLI commands. For example, while *CanDo* doesn't directly support the Amiga's built in synthesized voice, using the command "DOS say filename" will cause the text file named "filename" to be spoken using the CLI program "Say". Of course there are also many of the standard math, string and logic commands found in most languages. Finally, external serial port devices (such as laser disk players and modems) can be controlled using the Serial Port Manager, a small utility furnished with the program.

When you have completed your program, you can save it to disk in Deck form. This is a relatively small file which can be used by other *CanDo* owners, and which does not contain any externally referenced files such as graphics or sounds. This file can also be run using the public domain program DeckBrowser which obviates the need for either the user to own *CanDo* or for you to pay a licensing fee to distribute your Deck.

You also have the option of running another supplied program, *TheBinder*, which combines your Deck with *CanDo*'s required runtime routines to create an executable, stand alone program. This method, however, adds almost 100k bytes to your Deck and even a small, simple program will become large.

The 170 page manual is slick, spiral bound, professionally written, and contains a multitude of screen shots which make it easy to jump right in and get started. However, it lacks sufficient tutorials and "how to" examples which are necessities in a program of this nature and magnitude.

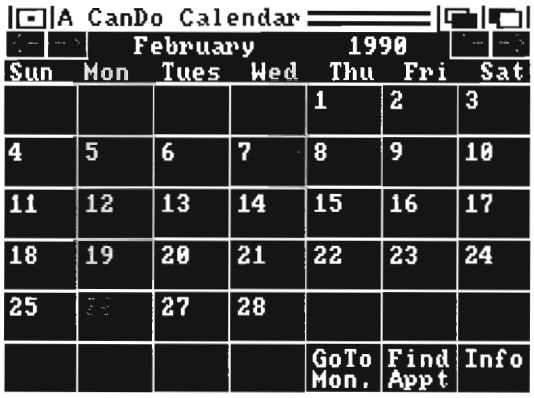
CanDo comes on two non-copy protected disks



Full support for digitized sounds

which can easily be installed on a hard disk drive. These disks contain several example Decks as well as utilities to convert full screen animations to anim-brushes and to print the contents of each card (including scripts and object definitions) to your printer.

I have found INOVAtronics' customer support to be excellent and accessible, and the staff both courteous and knowledgeable. INOVAtronics also supports a BBS which is free (other than telephone charges) where they will post for downloading additional Objects, routines, utilities and notices when they become available. *Cando*'s ".info" file can also be modified to configure many of the program's operating features to your needs.



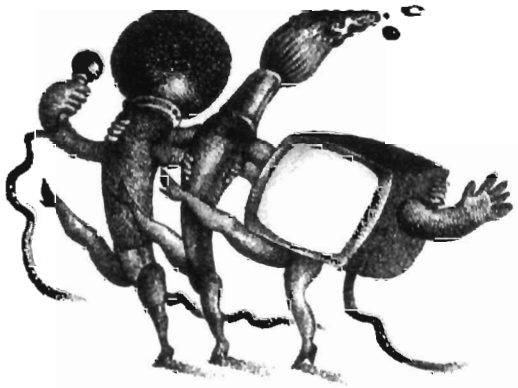
A calendar appointment minder done with CanDo.

While there is no doubting the sheer power of *CanDo*, it does lack some important features. For example, it doesn't support floating point math (decimal arithmetic) or variable arrays or multiple windows. Nor does it have the ability to move objects such as sprites or bobs, or offer the fancy video transition effects found on most popular desktop video packages. INOVAtronics is aware of these short comings and appears to be taking steps to eliminate them by the end of 1990.

One annoying feature is the amount of time it takes to move from one requestor window to another while authoring. This problem virtually disappears if you have lots of ram, a hard drive and an accelerator board. Additionally, certain runtime operations such as text and graphic drawing and document display are somewhat slow, but this is more a hardware than software problem. Finally, if your Deck hangs up somewhere during execution, there is no easy way to break out to the Main Control Panel and most likely you will have to terminate the program and start anew, so save your deck often.

These shortcomings are slight, however, when compared to what *CanDo* can presently offer the Amiga user. With *CanDo*, those with dreams of creating useful computer applications can now fulfil their aspirations. Professional programmers can quickly and easily create user friendly, front end interfaces with more complex programs written in C and assembly language. *CanDo* is one of those programs whose capability is limited only by the creativity and inventiveness of the user. Moreover, *CanDo* is fun to use and the feedback is immediate. The more you use *CanDo*, the more you will discover what it really can do.

CanDo	**DPaint III**
INOVAtronics, Inc.	Electronic Arts
8499 Greenville Ave.	1820 Gateway Drive
Suite 209B	San Mateo, CA 94404
Dallas, TX 75231	(800) 245-4525
(214) 340-4991	(415) 571-7171
$149.95	$99.95



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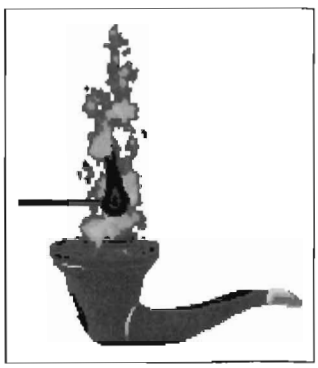
animbrush

▶ *continued from page 29*

PlayAnim effect occurs at the appropriate moment. It's a little difficult to determine precisely where to place the pipe over the stamped image of the last frame of the PipeZoom, but a few Play Scenes and pixel placement adjustments in the Position requestor will soon create the proper effect where the smoke-filled pipe pops up over the old stamped image. The Smoking Pipe animbrush should be set to Continuous, with a duration of at least ten seconds. We won't need that much time in the end, but it's more convenient to just let it run and trim it later.

At this point in the animation, we need to do something with the burning match. We could just fly it back off the screen, but instead we'll have it "burn up" and disappear. To accomplish this, let's return to *Deluxe Paint III*, load the original MatchBurning(10) animbrush and turn on Coordinates. Then we measure the distance from the tip of the wooden stick of the match to where the flame begins. This being 48 pixels, and the animbrush having a 10-frame duration, we'll subtract 10 pixels per frame, except for 8 for the last one. We want the match to burn out to the left as the wood is consumed, so we set the number of anim frames to 10, then stamp down and Undo the first frame of the match on the first frame of the Anim. Next we press the 7 key to return to the first frame of the animbrush, and enter the Move Requestor (Shift-M). We set the X Distance to -48, making sure the Count is 10, and click Draw. The match animbrush is now stamped moving from right to left on the screen.

Now go to the Scratch screen by pressing the 'j' key and create a black brush that's ten pixels wide and at least four tall, and clicking on the Zoom icon, center the zoom box over the end of the wood on the match on frame 1. Position the black brush so that it is right up next to the left edge of the wooden stick, click to stamp it down, then press "u" to Undo it and go to the Move Requestor. Change the X Distance back to 0, and click Draw. Next click on the Zoom icon to go back to normal view and cycle slowly through the anim frames with the 2 key. You'll notice the match stick is erased at the same relative location on each frame; all you need to do now is cleanup the excess stick to the left that is still evident on several of the later frames.



The shrinking part of this effect is obtained by using the Trim option, available from the Edge item on the Brush menu, or by pressing Shift-O (capital letter O). This command does not work with animbrushes, so we need to

take the original match animbrush and stamp down each of its frames on the Scratch screen, pick each up as a brush, then press the "O" key to Trim some of its edge away. Then, we add 8 more frames to the Anim, clear the range of frames 11-18 to black, then stamp down each trimmed flame at the right spot by toggling back one frame by pressing 1 to position it, then pressing 2 to return to the new frame and stamp. It is possible to do this sequence of trimmed brushes using the same single brush, but it looks better to use each successive frame of the original match animbrush.

Finally, we pick up the full 18 frame animbrush and return to *Deluxe Video*. Here we choose the point in time at which we want the disappearing act to begin, and Position and PlayAnim the new animbrush superimposed over the end position of the MovePathed MatchBurning(10) animbrush. We also Hide and Release that object, so that as the flame moves left as the match is consumed, it does not reveal the other match. Now we're ready to import a background image, a grid construction created with Perspective in *DPaint*. We add a Picture track, give it a Show effect to display the image, and attach all our existing animbrushes to it by clicking on the attach box of each object and dragging it over the Picture attach box. Next we attach a MakeAnim effect to the Picture track, and set it to Start near the first frame of the PipeZoom and End just after the match disappears. Now when the Scene is Played, *Deluxe Video III* records the sequence in anim format.

Going back to *Deluxe Paint*, we load the anim. Then we edit it down so that it starts just before the first action and ends as soon after the match disappears as possible. When we first assembled this anim it weighed in at about 340K, so we need to trim the fat away. This is accomplished by picking up the entire anim as an animbrush, entering Perspective mode by pressing the Enter key, and then pressing and holding down the single-quote (') key to shrink the scene. Then we Clear all the frames of the anim, stamp down frame 1 of the animbrush and Undo it, and enter the Move Requestor. We make sure the Count reflects the number of frames in the Anim (now 110) and click Draw.

Finally, we add a Kara *AnimFont* series of letters that spell out the word "animbrush" in animated script. The *AnimFont* packages come with detailed instructions on how to use the animbrushes with both *DPaint III* and *DVideo III*, but briefly here how it goes. We remap the palette of each letter's animbrush to our master scene, then use the Move Requestor and Perspective to resize and add each element of the animated letters into a 143 frame anim. The completed word is picked up and fitted in just above our scaled-down master scene. The animated "animbrush" uses 143 frames, yet the master anim is 110 frames, so we enter the settings requestor in the Animbrush submenu and set the Duration to 110. When we animpaint the longer animbrush into the master scene, it condenses the animated word's timing to fit.

Animbrushes give a great deal of control over moving 2-dimensional imagery, both to the novice and expert animator. By repeated layering of motion and depth perspective effects, you can simulate complex 3-dimensional scenes in a fraction of the

time and effort. This doesn't mean that you can't make use of 3D anims as well. With the consolidation of the anim format in recent times, it's now possible to create a 3D object, render it into an anim, cut it out as an animbrush, and incorporate it into your project. Similarly, you can use HAM paint programs like *Photon Paint 2* and *Digi-Paint 3* to add sophisticated shadow and image-wrapping effects, then use *PixMate, Butcher,* or the Colors module of *Deluxe PhotoLab* to convert into 64 or 32 colors, where they can be made into animbrushes. You can also export animbrushes into programs that use other animation compression techniques like *MovieSetter* and *FantaVision* by breaking them up into IFF picture or brush files.

It is unlikely that there will be more programs supporting the animbrush format in the near future, but that's not so important given the power available to Amiga video producers with the three programs that do support it. The techniques we've used in this article and animation were selected in order to suggest the potential of combining simple movements and subtle timing modifications to create an overall impression greater than the sum of its parts.

•*Editor's Note:* Very Vivid has just announced that *Interactor* will support animated brushes.

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Topeka, KS 66603
(913)354-1146
$99.95

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Electronic Arts
1820 Gateway Dr.
San Mateo, CA 94404
(800)245-4525
$149.00

Deluxe Video
Electronic Arts
$129.95

Deluxe PhotoLab
Electronic Arts
$149.95

FantaVision
Broderbund Software, Inc.
17 Paul Dr.
San Rafael, CA 94903
(800)527-6263

MovieSetter
Gold Disk, Inc.
P.O. Box 789
Streetsville, Ontario
Canada L5M 2C2
(416)828-0913
$99.95

Anim-Arts
JLVM Studios
Animation Editor
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2800 E. Evergreen Blvd.
Vancouver, WA 98661
(206)693-7443
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San Francisco, CA 94131
(415)621-8673

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Progressive Peripherals & Software
464 Kalamath St.
Denver, CO 80204
(303)825-4144

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Kara Computer Graphics
6365 Green Valley Circle #317
Culver City, CA 90230
(213)670-0493

CanDo
Inovatronics, Inc.
8499 Greenville Ave., Ste. 209B
Dallas, TX 75231
(214)340-4991
$149.95

continued from page 54

ProFonts II - New Horizons

The second package from New Horizons contains over 40 type faces, ranging in size from 8 to 52 points. *Profonts II*, which retails for $29.95, can be used with a color or black and white program If you're trying to find a program for producing newsletters or composing ads, New Horizons may have the package for you.

Super Font Sampler 2 - Classic Concept

This multi-color package retails for $34.95 and contains 30 fonts. Because of the smaller font sizes (7 to 24 lines), most users find the package helpful in word processing. A detailed manual with samples and information on the applications of the package is included in the package.

Video and Headline Fonts- Classic Concepts

Classic Concepts sells this monochrome fonts package for $44.95. Thirty fonts in sizes from 24 to 88 lines make this versatile software useful, particularly for video titling. Retailing for $44.95, the package includes a well documented manual containing detailed information and font sample.

Font Package Overview

Title	Price	Color or Bl&W	Number of Fonts
AlohaFonts V.1	$19.95	B&W	20
AlohaFonts V.2	$19.95	B&W	43
AlohaFonts V.3	$19.95	B&W	41
Kara Fonts Headlines	$79.95	color	10
Headlines 2 (Kara)	$69.95	color	4
Subheads (Kara)	$69.95	color	10
Media Line Font Disk (Free Spirit)	$34.95	color	9
Masterpiece Fonts (ARock)	$199.00	B&W or color	110 b&w, 10 color
ProFonts I (New Horizons)	$29.95	B&W or color	10
ProFonts II (New Horizons)	$29.95	B&W or color	40
Professional Font Library (Classic Concepts)	$74.95	B&W or color	200
Super Font Sampler 2 (Classic Concepts)	$34.95	color	30
Video and Headline Fonts (Classic Concepts)	$44.95	B&W	30

Point Sizes	*Applications Designed ForUses of the PackageExtras*
8-32 points	All Primarily for desktop publishing
16-84 points	All Primarily for desktop publishing and video titling
16-99 points	All Primarily for desktop publishing and video titling
84 & 104	All applications programs that support Color FontsVideo titling, etc.
68-160 points	Any applications software that supports Color FontsTitling, etc. Contains samples
55-72 points	Any applications software that supports Color FontsPrimarily video titlingManual contains samples
20-40 points	AllTitling, etc.Samples; IFF examples on disk
90-120 points	Any program containing an Amiga WorkbenchDesktop publishing, video titling, etc. Manual includes samples
8-36 points	All applications programs that support Color FontsFor hard copy with desktop publishing; print, body copy, etc.
8-52 points	All applications programs that support Color FontsFor hard copy with desktop publishing; print, body copy, etc.
7-88 points	ManyDesktop publishing, video titling,etc.Manual contains samples
7-24 points	Requires applications software that supports Color FontsDesktop publishing, etc. Manual includes samples
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Disks Inside

ANIMATION

Amiga Animation • A Limited Edition

Animation Program Included so you can try your hand at animation!

Covered This Issue

- *Deluxe Paint III*
- *Videoscape-3D*
- *Turbo Silver*
- *Framegrabber*
- *Fantavision*
- *Sculpt/Elan*
- *Zoetrope*
- *Interfonts and more.*

About This Special Issue
What you get, and how to get more information about the products mentioned.

Taking a Good Look at Amiga Animation
by Jay Gross
Overview of Amiga Animation Software, Hardware, techniques and expectations for the future. News about new developments and new products and improvements to come.

MakeAnim Program
Get in on the act, and make your own animations, even if you don't have one of the commercial animation programs, yet. Here is MakeAnim, a freely distributable program for putting your own ANIM format files together from pictures. Complete and working, on the disk, along with a how-to file to tell you how to use it.

Product Review: Zoëtrope
by Mike Hubbartt
Here's a look at one of the newer Amiga animation products on the market, Zoëtrope. It has serious limitations for serious video enthusiasts, but if you just want to make things move for the fun of it, it fills the bill.

ZoeAx2.RIF Animation
This neat animation gives you some idea about what you can do with Zoetrope in the way of moving titles around on the Amiga screen. Animation by Mike Hubbartt.

Frogmovie Animation
First thing you notice about this neat tree frog is his eyes. Then his lunch flies into the picture and kerpop! Yummy.

DeluxePaint III: The Next Generation
by Mike Hubbartt
Electronic Arts' new upgrade to DeluxePaint adds animation to the world of Amiga paint programs. DeluxePaint III makes it easy by keeping track of the frames for you.

Example Animation: DeluxePaint III
by Mike Hubbartt
This is an example of what you can do quickly and easily with DeluxePaint III and a little poring through the manual to see how it works

AX Animation
The car on the cover of Ami Exchange Magazine Issue 2.2 springs to life, and a few other rather startling things occur, as well. This animation was created with DeluxePaint III from digitized images (and a little tinkering here and there) by Shamms Mortier.

Product Review: Fantavision
by Brian Roberts
Brian explains a little about what was involved in creating the NCR Fantavision animations.

Marilyn - Fantavision Style
A colorized Marilyn Monroe animation done with Fantavisian.

Objects
This is a whole subdirectory of objects for your animating and raytracing pleasure. The first batch goes with the Videoscape tutorial. Next is an object for raytracing in Sculpt-3D. It is: HangGlider.scene

3D Font
Some of the most difficult to make objects in raytracing packoges are alphabet characters. They're complicated and time-consuming. Here for your raytracing pleasure is a set of capitals in a 3-D font named AX.Bold. It's in Turbo Silver 3.0 format.

Turbo Silver: Animation Made Simple
by Clyde R. Wallace
A walk-through tutorial on how to do an animation with Turbo Silver 3.0 (and the new "SV" updote) from Impulse, Inc. What to watch out for, and how to get the most out of the time you invest.

Spacial FlyBy: A Turbo Silver Animation
by Clyde R. Wallace
The animation, *Spacial FlyBy* depicts a planetary system in 3-D space, through which the viewer (that's you!) moves, taking in the sights as you go. This is the tutorial's demonstration onimation.

Marilyn
By Clyde R. Wallace
This is an explaination of how the Marilyn animation was created. This was not just your average frame grabbed animation. Several consideration were kept in mind when creating the animation. For instance, the animation was designed to have many frames that would create a long running animation in a short amount of memory.

Marilyn The Animation
By Clyde R. Wallace
This is the accompanying animation from the *Marilyn* article. Clearly, Norma Jean and the Amiga belong together.

Where to Get More Information
This is a list of company names, addresses, and telephone numbers for the products mentioned in this issue.

Selling Your Animations
by Jay Gross
After you get all the hardware and all the software you need, and after you gain all the experience and skills you need to do animation on the Amiga, what then? You don't have to sell your animations, of course, but if you want to, here are some suggestions for marketing your work, your services, or your animated features.

Get Set for MovieSetter
by Chris Bailey
Gold Disk's animation entry on the Amiga scene is MovieSetter, one of the so-called sprite-based animation products. Here's an article on the program, including a discussion of how the demostration animation was produced.

MovieSetter Animation: AX Movie
by Chris Bailey
This MovieSetter animation shows off the smoothness of MovieSetter's animations. In only about 60 kilobytes of disk space, and within the memory constraints of a standard, 512-K Amiga, it produces an animation lasting a full 42 seconds. The program supports sampled sounds, too, but they couldn't fit into a 512-K Amiga on top of this slick onimation, so the sounds have been omitted from this demonstration.

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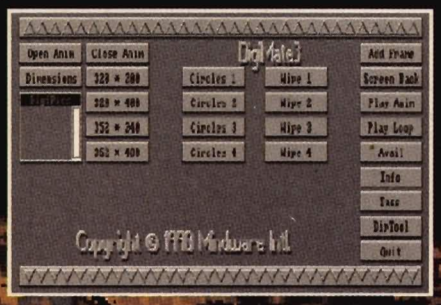
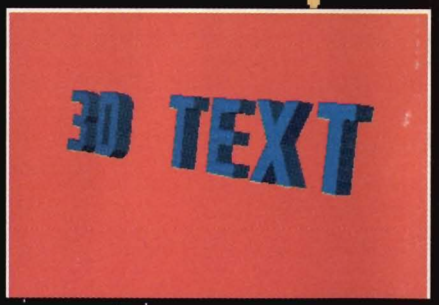


Digimate Interface

Single frame from smooth scrolling text display



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