
Avid
The AMIGA® VIDEO
Journal
Vol.#3 - Issue #7
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Mind Bending
Amiga-Video
Techniques
Animating Logos with DPaint & DCTV
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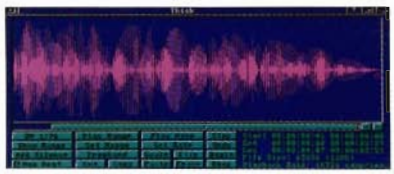
—Amiga World, 4/92, p.29



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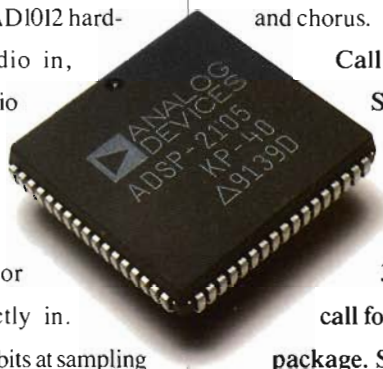

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INSIDE THIS ISSUE:

July/August 1992
Volume 3, Issue 7

About the Cover

"Incarnation," cover art copyright 1992 by Timothy Wilson (used by permission). Tim is working on a fully animated 3D film for release, hopefully, around the end of the year. Principal programs being used in the production are Imagine and ADPro, not coincidentally, the same software used to create the cover. The 1800-by-1800-pixel image was designed and generated on an Amiga 3000 with 18 mgs RAM at his studio in Crestline, CA. It was then JPEG compressed and modemed directly to the publisher at less expense than an overnight parcel. Tim also produces CGI and visual effects for film and video in the Los Angeles area.

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Micro-PACE Inc. Distributors
1-800-362-9653

AVID The Amiga-Video Journal is published 11 times/year (monthly except July/August) by AVID PUBLICATIONS, 21611 Stevens Creek Blvd., Cupertino, CA 95014. Subscription rate: 12 issues for $36. Application to mail at second class postage rates pending at Cupertino, California.

POSTMASTER: Send address changes to:
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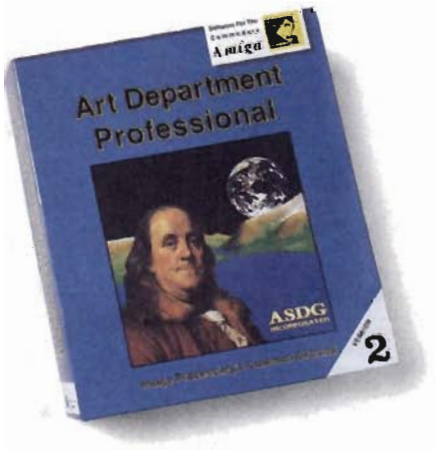

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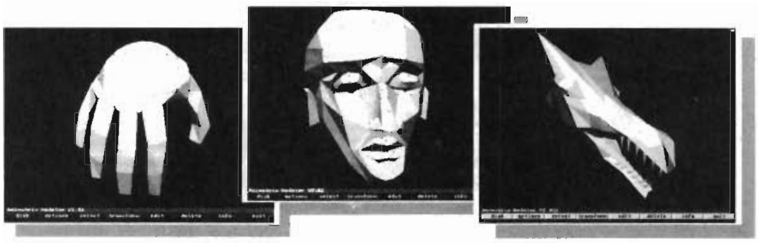

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Bars 'N' Tone

© 1992 by David Duberman

As I write this the Democratic convention is underway in New York, and the theme of the convention is "Change". Change is no stranger to these parts, either. First and foremost, there is a new member in the AVID family. A son, Conner James Plant was born to AVID publishers Laura and Jim Plant at 6:58 PM on July 2, 1992. At birth he weighed in at a substantial nine pounds ten ounces and measured 22 inches long. Hearty congratulations to Jim and Laura on the birth of their fine, healthy baby boy.

New in the magazine this month is the first installment of a new column by Harv Laser. Harv will be covering Amiga video-related public domain software and shareware for AVID on a regular basis. There's a wealth of useful free and low-cost software out there for the downloading, and Harv will point out the winners and tell you how to get them. He's well qualified, having for years been system operator of the AmigaZone section on the sadly defunct PeopleLink, which now lives on an excellent service called Portal. Harv looks at *all* the PD software for the Amiga, and has a good eye for the best.

While we're on the topic of telecommunications, I'd like to point out a great new product that's useful for all sorts of things.

Besides myself, publisher Jim Plant, artist Tom Twohy, and a number of people we know have recently purchased the new Supra FAXModem, a steal at under $400. This 9600-baud V32.bis modem comes with top-notch software that turns your Amiga into a full-fledged Fax machine that handles output from any program that can print, and sends and receives great-looking faxes. The only thing it can't do that a regular Fax machine can is send original hard copies, unless you also have a scanner. It also comes with a great terminal program, A-Talk3 that lets you transfer programs, data files, text, images, and more from millions of computers all around the world at speeds of up to 14,400 bits per second. And a cable! Any modem, and particularly this one, adds so much to your computer that I don't hesitate to recommend purchase and regular use of this product to every AVID reader. It's so fast that it's like having the whole world as your hard disk.

Finally, I apologize for the absence of my 3D Perspectives column this month, but we just couldn't squeeze it in, what with all the other great articles we have for you. I promise it'll reappear next month.

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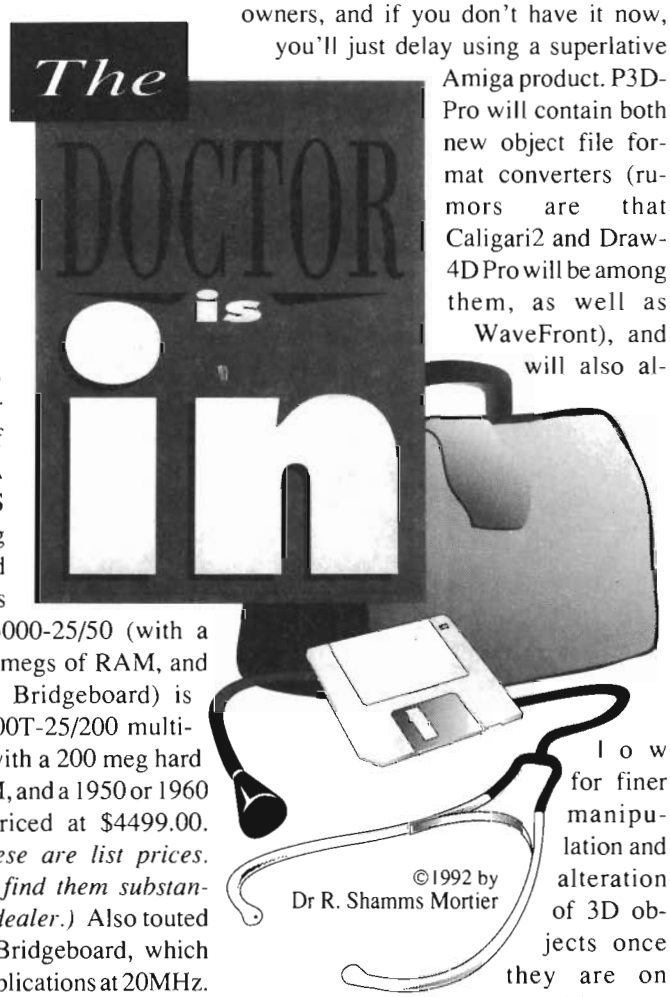

Commodore Machinations-

CBM International reduced prices on all Amiga models (why did they ever raise them!?) as of June 1st, 1992. A 2000 (with a 1084S monitor, a 100meg hard drive, 68030 and 5 megs of RAM) is now $2699.00, a 3000-25/50 (with a 50meg hard drive, 2megs of RAM, and the new A2386SX Bridgeboard) is $3399.00, and a 3000T-25/200 multimedia workstation with a 200 meg hard drive, 5megs of RAM, and a 1950 or 1960 VGA monitor is priced at $4499.00. *(Editor's Note: These are list prices. Chances are you'll find them substantially lower at your dealer.)* Also touted is the new 386SX Bridgeboard, which runs MS-DOS 5.0 applications at 20MHz. It's also nice to see that a fairly extensive ad campaign targeted at major multimedia publications is also in the works, so that the purchasing public will be aware of our favorite machine.

Pixelatorium

Kreegah! (The Apes in Burrough's Tarzan novels used to always yell this as a warning of changes in the wind). Summer passes quickly, and the winds of change are coming! Autumn is always the time that you see the most market activity in micro-computing, whether it be new products or important upgrading of previous releases. Two new products that I think should prove to be very important to Amiga videographic animators will either be released in the Fall of '92 or the late summer...Pixel 3D "Professional" (from 2.0) and Draw-4D Pro 2.0.

Pixel 3D Professional

First, don't put off buying Pixel 3D now because the upgrade is on the way. The upgrade will be free to present 2.0 owners, and if you don't have it now, you'll just delay using a superlative Amiga product. P3D-Pro will contain both new object file format converters (rumors are that Caligari2 and Draw-4D Pro will be among them, as well as WaveFront), and will also allow for finer manipulation and alteration of 3D objects once they are on screen. Pixel-3D Professional should be the finest Amiga object file translator on the market, just as much as its parent 2.0 software holds that position today. By the way, keep an eye on the excellent Pixel-3D/Toaster tutorials Dave Duberman is writing in Video Toaster User magazine. *(Editor's Note: That bribe really paid off!)*

Draw-4D Professional 2.0

Though I am sworn to secrecy regarding certain new tools and techniques that the 2.0 version of this software will contain, I can tell you this much. Any Amiga artist/animator without this package will be at a severe competitive disadvantage with their professional peers. That's a big statement, but I will stand behind it fully with my personal guarantee! Here again, don't wait for 2.0; get it now. This is doubly underlined for DCTV owners, since Draw-4D addresses DCTV in a way that almost makes it DCTV's natural animation package. I will be taking a trip out to Adspec in the Summer to get some on-site tutorials from the master Greg Gorby himself, so I'll be able to fill you in on this software very authoritatively in the coming months.

DCTV Paint

Digital Creations is very hard at work on a major upgrade to DCTV Paint, one of the best Amiga paint packages. This upgrade will take notice of all of the user feedback offered so far, but don't look for it (or so I'm told) until October or November of '92. Much more on Digital Creations soon.

EMPLANT

For those of you that insist on remaining with another platform while using your Amigas, Utilities Unlimited (1641 McCollough Blvd., Suite #25-124, Lake Havasu City, AZ 86403 / 602-680-9004) has developed a new mega-emulator. Reportedly, it's a hardware/software package called EMPLANT that can emulate "virtually any computer using your favorite Amiga". Some of the components on the hardware may never be used, but that's because the company wanted to be prepared for all foreseeable eventualities in the near future. All Macintosh computers are emulated. Two forms of cards are included, one that fits the Zorro slot (A200/2500/3000) and one that attaches to the expansion bus (A500/1000 with "pass thru"). The hardware can include high speed Mac serial ports and "AppleTalk" support, and/or a 7-unit SCSI interface.Two to three megs of memory and 68030+ is suggested. By simply changing the emulation ROMs and software, the following systems are emulated (some now and some in the future): Mac IIfx, Mac Quadra, Mega ST, IBM AT (386/486). Prices range from $229.95 to $379.95 depending upon options.

Part of the above package is the SYBIL hardware interface. This hardware, which I purchased for the University of Vermont, consists of two devices. One connects to the parallel port and the other to the Amiga video port. If you disable the parallel port unit by toggling

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the switch, you can still pass data through to your printer. The unit will read and write Mac disks (DS-DD) even from an AE high density drive. There is a full explanation of how a Mac disk is configured in the documentation. The SYBIL hardware is made to work with the Amax unit, and will also allow the user to compress data. "Calibrate MAC" calibrates the hardware for all Mac emulation software packages. MAC2AMAX allows you to convert a real Mac disk to the Amax format. There is also an Amax patch loader. "SPEEDCHECK" checks the drive heads of all mounted drives. All of this comes on SuperCardAMI software with the unit.

PageStream Users

If you use SoftLogik's PageStream desktop publishing software, then I suggest you investigate the I-Koen PageStream 2 design guide ($7.50). Besides giving you a quick reference to most of PageStream's possibilities, this is one of the best-looking printed pieces around for print fanatics. It comes on thick glossy stock, and contains a wealth of useful info in graphical as well as written form, including: percentage fills and line styles as printed to PostScript (1270 and 300 DPI at variable dots per inch) and non-PostScript (300 DPI) printers; comparisons of screen frequency bitmaps; drawing tool explanations; printouts of various character sets (the DINGBAT and SYMBOLS are particularly helpful); text and object effects; Macros; keyboard equivalents. Contact I-KOEN Design through Soft Logik Corporation, as that's where it is relocating. SoftLogik / PO Box 510589 / St. Louis, MO 63151-0589.

Flyin' with the BYRD

Keep a careful eye on Byrd's Eye Software (100 George Bush Drive, Suite #25, College Station, TX 77840-2828 409-764-0536) if you are a Toaster person. Their ToastMaster package is proving to be a hit as a Toaster addendum. Toaster effects can be created and saved, the Toaster Switcher can be controlled from the WorkBench, border selections chosen from 4096 colors, and lots more. But that's only the start. So many new options are in the process of being included in ToastMaster 2.0 (slated for fall release) that this package will definitely be a MUST HAVE for Toasties. By July 4th, a separate program that will be a module in the ToastMaster 2.0 upgrade will be released. It's a Toaster "Wipes" generator that will allow you to take regular DPaint IV two-color anims and translate them into Toaster wipes!!! That is exactly what many of the letters I get have been crying for. "Soft wipes" can be created by dithering your DPaint ANIM's edges. Whatever is on the WorkBench becomes your Toaster "Key Source", allowing you truly to paint video on video. You could even create math-type wipes with a program like The Director. There's a chance it will also contain drawing tools, so it can act as a stand-alone product, but that is still being debated. This product will be marketed as a stand-alone package ($150.00) and as a module for Toastmaster owners ($100.00).

Also coming July 4th from Byrd's Eye is a Toaster Project Editor. This will allow you to group your favorite effects in a bank on one Toaster page, using a "From-To" process to remap the banks.

So ADPro users won't feel left out, Byrd's Eye is also developing a program called ArtMaster, an addendum to ASDG's ArtDepartment Pro software. Artmaster ($150 retail, due out August 15th) is an ADPro sequencer, allowing you to batch process files using all of ADPro's options along the way. Anims can also be loaded in and previewed using a uniquely designed "Jog Shuttle" (designed using Impulse's Imagine software), including IFF previews of 24-bit files!

TSE

Also reworked is the Toaster Sequence Editor package from The Byte Factory (2317 SW 31st Street, OKC, OK 73119-2009 405-631-BYTE). What was an adequate but simple manual is now a classy hard-covered color piece, and the software itself has been upgraded. Capabilities now include the TSE (Toaster Sequence Editor) which allows you to add, delete, and manipulate Toaster Scripted Effects; TPE (a Toaster Project Editor) which lets you rearrange and/or delete Project files, edit the speeds, and add new effects to any Toaster Project file; a great FrameStore Compressor (FSC), which finally allows you to grab and compress Toaster files in non-compressed format and compress them without going to ToasterPaint first; and samples of new custom wipes. A quick reference card is also included.

ASDG

Perry K. and Company, the enterprising crew at ASDG in Madison, are continually working to market and enhance their ADPro package. The latest is a summer promotion that offers a $10.00 rebate to all North American customers who haven't yet registered their ADPro software. The offer is good from June 1st to August 31st, and a nice color poster is being sent to users to advertise the deal. Reportedly, only about a quarter to a third of all Amiga users register their purchases. That's not wise to say the least. All Amiga software is constantly being upgraded, and if you don't register, no one will know who you are so that new information can be sent your way.

Disks

I order disks in bulk from MEI Micro Center (800-634-3478), and have been doing so for a couple of years. Prices are great, and if you get defective product, it's exchanged very promptly. 3.5" DS-DD are 33 cents each per pack of 25, while DS-HD disks are 59 cents each per pack of 25. Add a few dollars for S&H and labels, and you have a good bargain.

GVP

Great Valley Products has announced the release of the A530 Turbo card for the Amiga 500 series. It features a 40Mhz 68EC030 CPU, and has the capability to add up to 8MB of 32bit wide 60ns DRAM, in 1, 2, 4, and 8MB increments. Also released is a 68040 accelerator card, the G-Force 040, an I/O extender featuring two serial ports and a bi-directional parallel port, and Phonepak VFX, a Fax/Phone-mail system for the Amiga 2000. GVP continues to push the Amiga wagon ahead.

QB 5.0!

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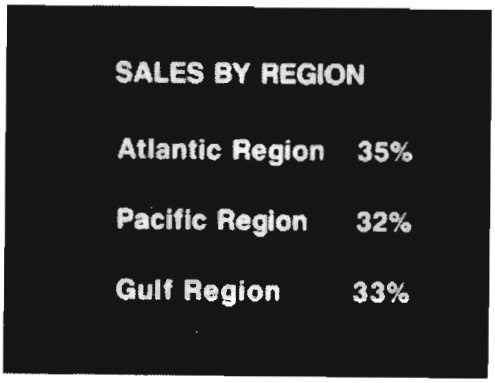

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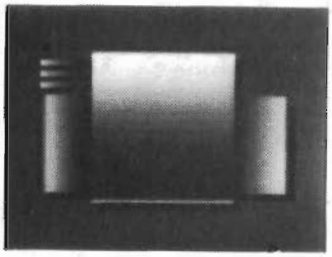
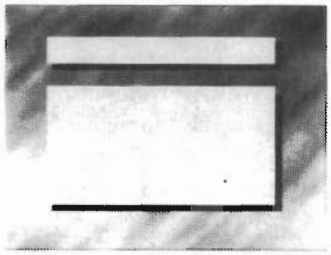
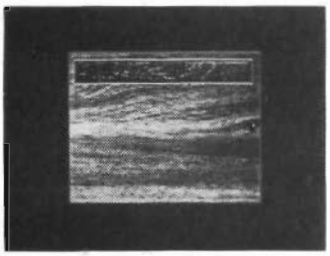
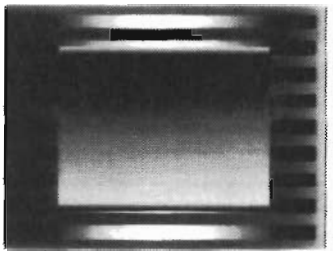






- ✔ TURN ON YOUR AMIGA
- ✔ PUT IN A DISK
- ✔ CALL UP AN IMAGE



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Quarterback 5.0 are many, and many of the many are new: supports up to four floppies for backup and restore; an optional and variable compression scheme for backups; full tape control; selected files backup;verifies data as it is written; full Macro and ARRex support; WKBNCH 2.0 compatible; a new 2.0 like interface; ...and more. By the way, better get Quarterback Tools while you're at it. It's saved my life many times over. Contact New Horizons / 206 Wild Basin Road, Suite 109 / Austin, TX 78745. (512) 328-6650.

Carina, Carina...

Amiga videomators enjoy placing true sky backgrounds behind their animations, and one of the best packages that lets you accomplish just that is Voyager from Carina (830 Williams St., San Leandro, CA 94577..510-352-7332) Software. This package has just gone through an update (now version 1.1), and several fixes and enhancements are reported:

1. As long as you have a hard disk and 1.5 megs of total RAM, you can now display HAM and Hi-Res IFFs from within the program (planetscapes, galactic clusters, etc.).
2. Speed has increased by about 2x.
3. Overscan and PAL are supported, as long as your memory is fat enough.
4. "Show Sky Only" allows direct application for video recording, with no menu bars showing.
5. Planet tracking has been enhanced.
6. Sky views have been greatly improved.
7. The Zoom Box now includes 12 choices for speed.
8. "Planet Gallery" has user selectable time steps.
9. More Sky Figures have been added.
10. Minor bugs fixed.

Video Services

Very few Amiga artists/animators have all of the equipment that is needed to go from the idea stage to finished product on tape. Usually, Amiga professionals depend to a varying degree on a nearby professional studio to dump finished work to tape. If you are not fortunate enough to be close to a studio for this purpose, and/or are somewhat strapped for funds (and who isn't!?), the Biographix Corporation may be able to answer your needs...

Biographix Corporation
1000 Dundas St. East / Suite 6
Toronto, Canada M4M 1R7
(416) 465-2056

They can accept 44 and/or 88 Meg Syquest cartridges, or send files by modem (including LightWave scene and objects) for rendering and recording. Rates and Terms as of June 1992 are as follows:

A. Pre-rendering utilizes a 50MHz Amiga 68030 and saves to hard disk at $20.00 an hour.

B. Recording (all 1st generation) from a Syquest is charged at $1.25 per frame.

C. DPaint animations on a floppy is $200.00 an hour ($50.00 minimum).

Tape stock is extra, and includes Hi-8 Metal Particle (60 minutes at $20.00), 3/4" SP (10 minutes at $25.00), Betacam SP (five minutes at $40.00), D2 (five minutes at $50.00), and one-inch (one-minute minimum, and $5.00 for each additional minute). Available formats include: Hi-8, BVU 3/4" SP, BVW Betacam SP, one-Inch, and D2. Most formats include address track time code and/or full sync channel and time code.

Show me yours and I'll show you mine...

Send me your specs, especially if you are involved in the professional end of Amiga videographic applications. As for mine, I've already confessed to you often enough that I use a studio for editing work, so I don't have to own high end recorders right now. I do have a vintage JVC portable 3/4" deck, however, and VHS and Betamax decks. Now let me bring you up to date on the rest of my stuff.

To begin with, I own just about every Amiga graphic design and art/animation package ever produced. Many were never upgraded, and a handful are packages you've never heard of. These reside in two ten drawer cabinets that I had specially constructed for floppy storage. Each drawer holds approximately three-hundred disks, and the drawers are just about filled to capacity (!). Some of the drawers contain my own art and animation work as well. Additionally, I have a small wooden box that holds about four hundred of my most used software disks at hand near the computer. I would estimate that I use about twenty packages constantly (many are also on my hard drives), and about another twenty some of the time. The rest are there "just in case". My desk is also piled with disks, and never seems to get cleared. I also own the ChromaKey device, which I plan to upgrade to the ChromaKey II. During the coming year, I hope to be able to purchase a "Floptical" drive, so that I can better consolidate my software for daily use. I also plan (economics willing) to purchase a Personal TBC-II this year, and perhaps a single frame controller (optional).

I own two Amigas in my home studio, and another two at work. At home, I have a 2000 with 9 megs of 32bit RAM, GVP 68030, two hard drives (a 90 and a 40 meg), Toaster, "Live", SuperGen Genlock, DCTV, ColorBurst, HAM-E+, 4 floppies (2 3 1/2" and 2 5 1/4"), XT Bridgeboard, other IBM cards, 1080, VGA, C128, and Green Screen Monitors, and a "Power manager" (fancy extension cord). I also have an Amiga 1000 with 5 megs of RAM, PP&G FrameGrabber, 3 3 1/2" drives, Polaroid palette with the "Liquid Light" controller, and the NewTek DigiView system.

I have two printers: a Canon PJ inkjet (seldom used anymore), and an HP-LaserJet (4 megs of memory, Resolution Enhancement, and a real PostScript cartridge). Much color digitizing is accomplished with a JX-100 color scanner. I also operate a fairly complex MIDI studio for soundtrack work (film and video) with about two dozen of the top Amiga music packages. My synths include a MIDIA Musicbox and a Yamaha TG-33. They can be controlled by my casio 1000, my KAT mallet controller, and/or my Yamaha digital sax. Just for kicks, I also play with the "PitchRider" unit and the "MindLight 7" (ever heard of them?). With all of this stuff I create animations for regional network broadcast, instructional and educational videos, music scores, and a long list of software products for my Amiga targeted company "Eyeful Tower Communications". Send me your configuration, and tell me what you do with it. Discerning minds want to know. That's all for now. ENJOY! See you in ROMulan space.

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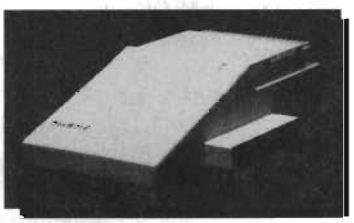

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Lighten Up

Techniques for LightWave 3D Users

© 1992 by David Hopkins

Well, here it is, almost September...and something tells me that this is going to be a pretty big season in the LightWave world. I say that because new products are bouncing out of every corner. Here's an overview of some of the more exciting items...

New Broadcast Fonts 3D

Unili Graphics has done it again. Just when you were starting to get as tired of Microbes, Brush Stroke, and Paladium as you are of LightWave's Common, *two* (count 'em) two new sets hit the market! These two sets, under the original names of "Master Pack 2" and "Master Pack 3", each contain nine incredible fonts. If you thought the first pack was good, you'll love these! Figure 1 shows a sampling of them.

It seems that Unili has come up with some sort of software that converts outline fonts to those that we in the world of 3D can use. This program actually creates a point for every six-degree turn in the object, placing lots of them where curves are tight, and fewer when they aren't. What results is an astoundingly smooth set of characters without facets! Add to this the fact that the fonts are designed to fully support the quirks of Phong shading, and you have typestyles that are truly broadcast ready!

I've been a supporter of Broadcast Fonts 3D since the first pack, but I'm even more so now. If you do a lot of animation, you need all of them. Don't even bother to finish reading this column, run out and buy them!

Animatrix Modeler

There's a fellow out in Edmond, Oklahoma, who is doing some very nice work on the 3D modeling front, under the name duBois Animation. His product, Animatrix Modeler, is one of the more "natural" approaches to modeling that I've seen yet on the Amiga platform. While there aren't a lot of bells and whistles (yet) in the package, what it has needs to be experienced to believe.

The entire program is built around a single viewscreen (shown in Figure 2) upon which you perform your modeling. If you want to change the shape of the object, simply click on a point and drag it. Any polygons connecting are changed appropriately, in pretty close to real-time. The wireframe polygons are shown with various shades of gray to give a better illusion of depth as you are working. If you want to see how the object will look solid, just click on the polygons to make them so. This is a really slick package!

There's just one catch. It doesn't support LightWave. Well, not exactly. You see, Animatrix allows you to load and save objects in its own format, Sculpt 4D, Turbo Silver/Imagine, or VideoScape .geo format. What this means is that you can save a file out in a LightWave readable format (Sculpt or VideoScape), but once you make changes to it in LightWave, you can't bring it back. I've spoken with Jon duBois, the programmer, and after I pointed this out he assured me that he'll put the proper routines in right away. He claims he hadn't done this previously because NewTek advised him that the LightWave object format was changing so quickly that it would be outdated right away. Hmmm...

If you're looking for an interesting modeling package to begin construction of objects with, check this one out. It's pretty nice!

Taming The Wave

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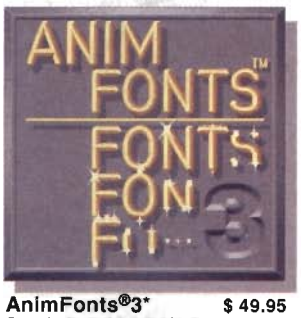

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KARA COMPUTER GRAPHICS 2554 Lincoln Boulevard, Suite 1010, Marina Del Rey, CA 90291 (310) 578-9177

the fact that I also write a LightWave column in AVID's sister publication, Video Toaster User. The name of this column is Taming the Wave, which was spun off from a pet project of mine which has been developing over the last year and a half. I'm referring to a tutorial videotape named Taming The Wave: Exploring NewTek's LightWave 3D.

The TTW tape was conceived to provide the maximum amount of information possible about LightWave in a manner that would be useful to beginners and experts alike. I wanted to have the involvement of major LightWave talent like Jim Robinson, creator of the famous "Please Don't Feed The Daisies" bee animations, and Allen Hastings, the program's creator to review the script. Finally, I wanted the tape to teach animation using animation. I'm proud to announce that my dream has become a reality. Taming The Wave is shipping September 27th of this year. The first half of the two-hour tape examines each and every LightWave option, explaining what it is for, how to use it, and ideas for when to use it. The second half leads you through a number of tutorials where you'll learn everything from how to add texture to surfaces and good lighting techniques to creating complex special effects such as rain, stormclouds, and lightning. The package includes two disks with useful objects, surfaces, and the like, including a Broadcast Font 3D from Unili Graphics which you will find nowhere else. The Taming The Wave Handbook provides truly helpful information on LightWave's functions in a quick and easy format. The entire package has a Suggested Retail Price of $99.95, and you can order it simply by calling (310) 315-1750.

With the assumption that my editor won't treat me as a social pariah for the rest of my life by my doing this, I have decided to devote the remainder of this installment to excerpts from the video. Enjoy, and, as always, send any tips, comments, or suggestions to:

Mach Universe
625 The City Drive, 4th Floor
Orange, CA 92668

Excerpts from "Taming the Wave"

Object Dissolve

There may be times when you wish to have an object fade out of, or into, your scene. The Object Dissolve options allow you to do just that. You may set the value using a constant percentage with the slider and field, or animate the process over time using an envelope. An object with a dissolve level of 0% will appear completely solid in your animation, while a level of 100% would result in a completely dissolved object. One big advantage of Dissolve is that LightWave doesn't even attempt to calculate the object when rendering if it is completely dissolved. An excellent use for this option is when your camera is no longer able to see the object, dissolve it!

There is, however, one minor problem associated with the Dissolve option. It seems that when you try to use Dissolve to fade an object in or out, you often are able to see through what are normally solid surfaces. If the object has internal polygons, you'll be able to see them while the object is fading either way. This is usually not the desired result, and is easily overcome by making sure that objects which are to fade in or out do not have internal polygons.

LightWave's Scene Layout screen takes the Dissolve setting of an object into account when drawing a preview. A dissolved object is shown in the Layout by a dotted-line box around the object, which is only visible when you are editing the scene. If you produce an animation preview in the Layout, the object will not be visible if it is fully dissolved. If, however, the object is not completely dissolved, such as when it is in the course of an animated dissolve, it will be shown as completely visible. Don't worry, the fade is intact, but the preview has no way of illustrating such a thing! If you are really unsure of the way a fade is occuring, however, you can easily render a few frames of your animation to see for yourself.

Glossiness

Glossiness works in conjunction with Specularity to define the size of a hotspot's halo. If an object has a Specularity setting of 0, Glossiness settings won't change a thing. When Glossiness is set to High, the hotspot will be very tight, with virtually no halo effect surrounding. A Low setting would result in a very loose hotspot, with a fairly large halo, while a Medium setting would be somewhere in between.

An animation in the video, a frame of which is seen in Figure 3, shows the results of the three Glossiness settings upon blocks with a Diffusion level of 50% and a Specularity level of 85%, progressing from Low, then Medium, and finally High.

Reflection Map

Specularity and Glossiness do not cause a surface to reflect the items around it in LightWave 3D. This is controlled by yet another option, Reflection Mapping. An integral part of using the reflection abilities of LightWave is the reflected Image setting which appears immediately beneath it. If no image is specified, the surface will reflect anything in the environment, whether they be other objects or backgrounds. When an image is specified, however, the surface will reflect only that image.

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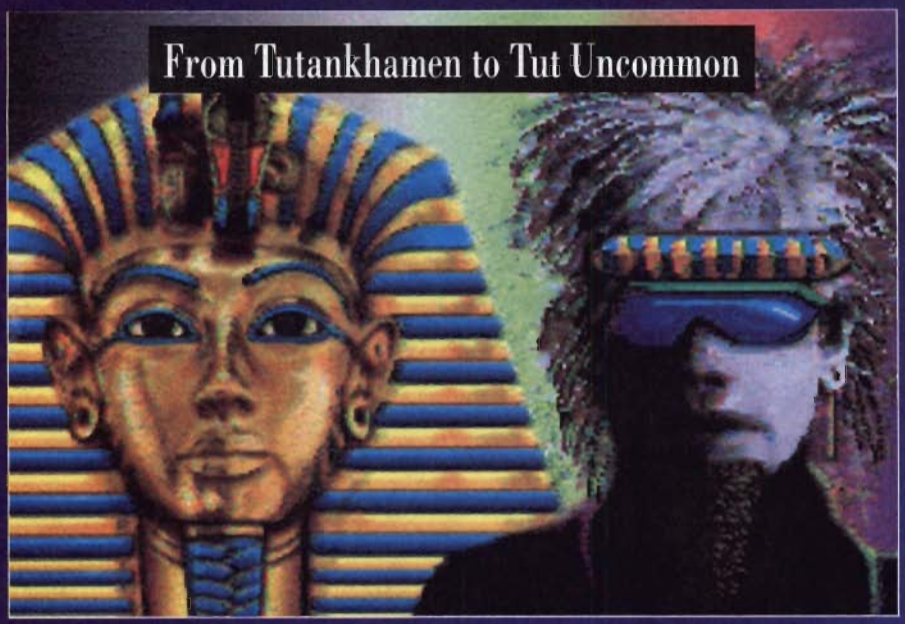

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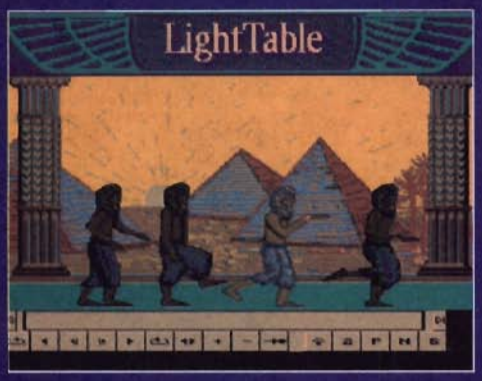

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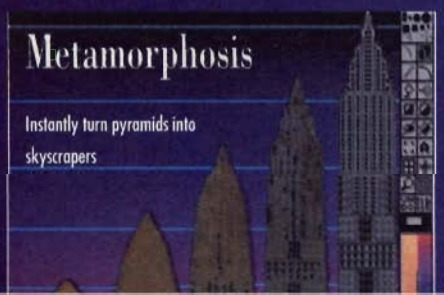

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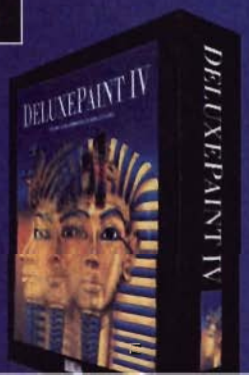

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occur when the Trace Reflections option is turned on within the Camera area of LightWave. It also takes quite a lot more rendering time.

Reflections have a couple of minor limitations. First, single points do not get reflected. What this means is that if you have a sky full of stars which are all one point polygons, you won't see them reflected in the surface of a lake, for example. Second, images placed in the background using the Backdrop options don't get reflected.

Light Falloff

The Falloff setting may be used only with Point or Spot light source types. It controls the speed at which the light dissipates as it moves away from the source. Falloff is specified as a percentage that defines the amount of light reduction per meter. If, for example, you had a Point or Spot light set to a 50% Falloff, the light one meter from the source would be half as bright as the light at the source. A 100% level would mean that the light has no effect at all on surfaces further than 1 meter from the source, while a setting of 0% would cause the light to continue infinitely in an unchanged state.

Trace Shadows

The Trace Shadows option causes LightWave to calculate accurate shadows as would be cast by light sources set as shadow casting sources. If none of the lights in the scene are capable of casting shadows, this option would be a complete waste of time. Equally, if none of the objects in the scene have their shadow options turned on, this option would also be pointless. Due to the fact that this is a Ray Tracing option, rendering times increase dramatically when it is turned on.

Note that if your scene contains a generated backdrop, such as a gradient, image, or solid color, it will receive no shadows. This includes the default "ground and sky" backdrop colors. These items do not "exist" in the 3D environment. If you need the backdrop to receive shadows, you must use an actual polygon with the desired image, if any, texture mapped upon it.

Contact Information:

Unili Graphics
Broadcast Fonts 3D
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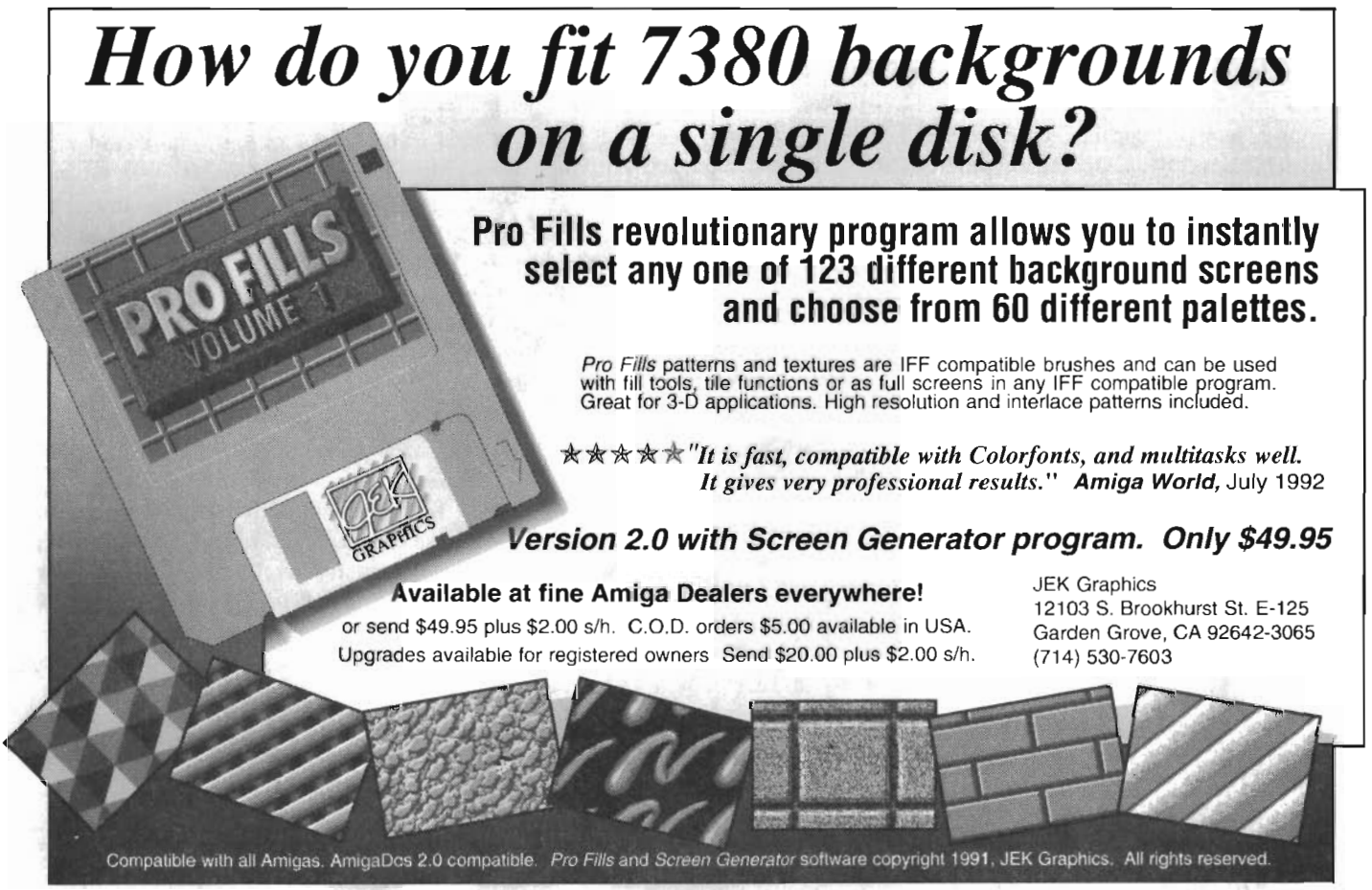

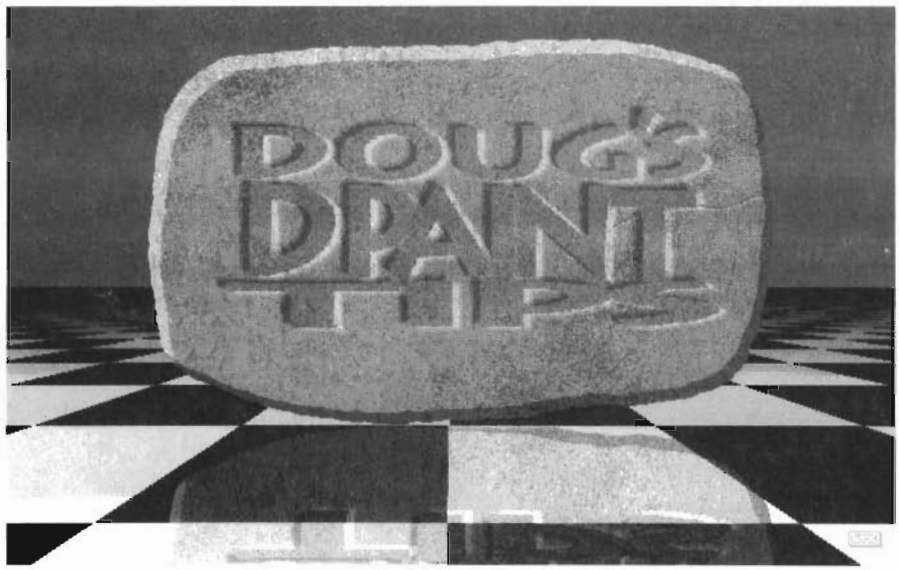

© 1992 by Doug Shannon

Hello, and welcome to another installment of Doug's Deluxe Paint IV Tips! If you've been following this column, then you know that I've been taking you step-by-step through the creation of "The Stone Reflection" (see above).

In Volume 3, Issue 5 of AVID, I showed how I created the shaded perspective checkerboard background. In Volume 3 Issue 6, I taught you how to make the slab of rock with the chiseled text on it. This issue, I'm going to combine the stone slab and the checkerboard ground together and add a reflection into it as a finishing touch. If you haven't done the last two tutorials, there's still a lot of tricks you could learn from this. If you're interested in back issues, they're available from AVID. Ready?

Part Three: The Reflection

The reflection of the stone slab on the checkerboard is the final step to do before your image is finished. It's a great technique that provides professional results, and it's simple to do.

1. Darken the stone slab

To make the reflection, we're going to make an upside-down dark version of the slab (for the black checkerboard squares), and an upside down light version for the light squares. To darken the slab (that you created in part two), you'll need it loaded in. If DeluxePaint asks you if you want to switch to a different resolution, select Yes. After it's loaded in, we need to flip it upside down, since it's going to be a reflection. To flip the image, select Flip/Vert from the Picture menu. After a brief pause, your image will be upside down. Now to make it darker. To do so, press Ctrl-r to open up the Ranger. Make sure your range runs from Black to White, with no empty slots in between, and starting in the leftmost slot. We'll be using the Shade Mode, and the Shade Mode won't work correctly unless your range is set as described above. Pick up the whole upside-down stone slab as a brush (press b), making sure to leave a copy of it on the screen, and select Shade mode. When Shade mode is on, your custom brush will turn to a solid color (the color you have selected).

Position your brush directly over the original, pixel for pixel. Click the right mouse button three times. Examine your image. Each time you click with the right mouse button, DeluxePaint makes the image a little darker. After three clicks, it's pretty dark, but the're still a lot of detail in it. Save this image. We'll use it later.

2. Lighten the stone slab

To do this, just repeat step 1, but instead of clicking the right mouse button three times, click the left mouse button three times. In Shade mode, when the left mouse button is clicked, your image gets a little lighter. After three clicks, it's pretty light. Save this image, too.

3. Make a stencil

To do this, load up your finished shaded checkerboard you completed in part one. Jump to your swap page (pressing j). Press j repeatedly to jump back and forth between your two images. You should have the upside-down lightened slab on one page, with the checkerboard on the other. Both images should look normal. If the colors look wrong on one of the images, then you'll need to remap it. To remap, jump to the image with the wrong color and select Remap from the Color menu. Jump to the screen with the perspective checkerboard. Press Shift-~ to bring up the Make Stencil requester. We're going to stencil out certain colors so that when we stamp down our lightened upside down brush on the checkerboard, only the light squares will be drawn on. Click on the swatch of black (it should be register 11), so that it's flagged. Then click on the Make button. Your stencil is now complete.

Jump to the image of the upside down lightened slab (press j), and pick up that slab as abrush. Jump back to the image of the checkerboard. The stencil will be on, and your brush will only appear in the sky and the light checkerboard squares. Position your brush on the bottom of the screen, around where you think the reflection

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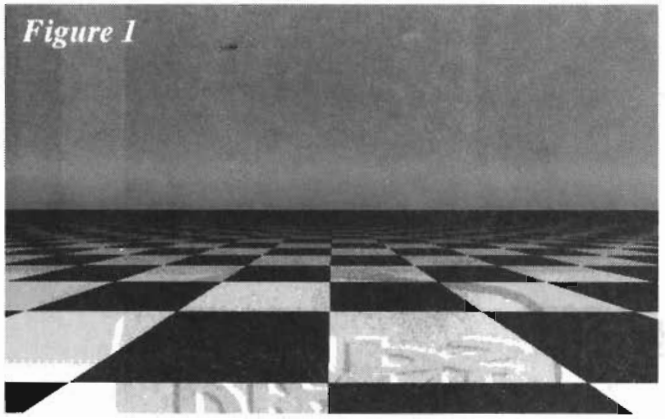
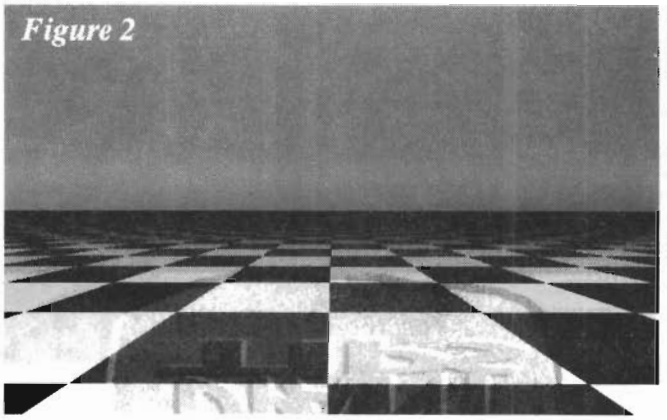




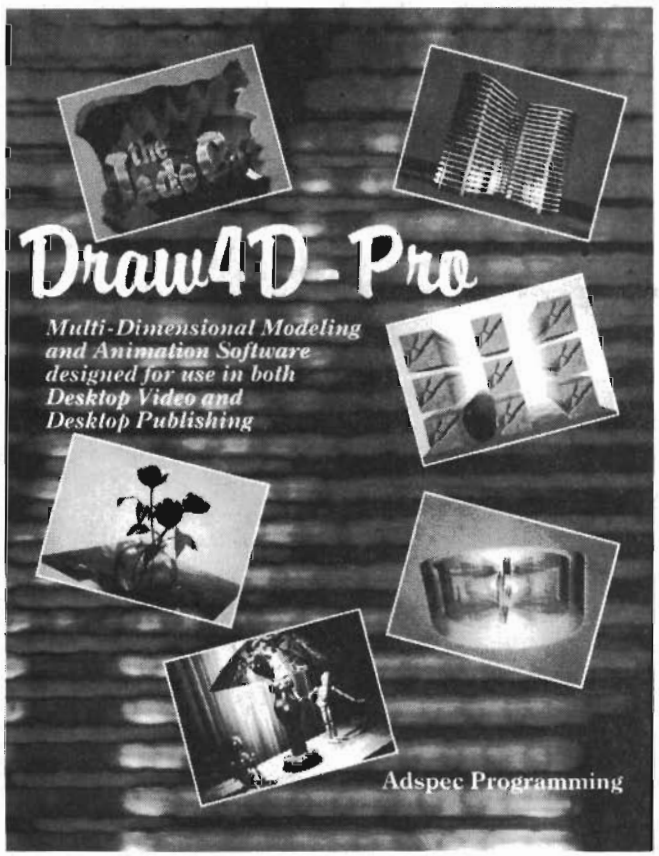
should be. Stamp it down. It should look like Figure 1.

4. Make another stencil

To do this, Press Shift-~ again, and select Inverse. Now every color but black should be flagged. Select Make. Now jump to the swap page, and load in your upside down darkened stone slab. Pick it up as a brush and jump back to the perspective checkerboard. With the new stencil, your brush will only be visible on black. Position it so that it matches up with the lightened one. Stamp it down. It should look like Figure 2. You're almost done!

5. Put the stone in the picture

On your swap page load in your original rightside up normal stone slab in and pick it up as a brush. Jump back to the checkerboard picture and press the ` key (unshifted ~) to turn off the stencil and stamp down the stone right over its reflection. Does it look finished? Well, it is! There's another way to do the reflection, using the translucency effect, but it doesn't look as good as the way I described above. There's plenty of cool effects you can get using my reflection technique, it just takes some experimenting. Well, that's all there is for now, so, until next time, happy DPainting!



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Toaster Tricks!

© 1992 by John F. Gross

This month I offer a tip for each slice of the Toaster...

Toaster Paint

Did you know that Toaster Paint (2.0) can load and save Macintosh PICT files? Many people don't however, since there is no pull down menu in Toaster Paint that allows you to do this; you need to use the Amiga's command line interface (CLI). Here's how to load and save PICT files:

In the Toaster directory on your hard drive there are two programs named ReadPict and WritePict.

To Load a PICT image into Toaster Paint:

1) Load Toaster Paint into memory by clicking once on its slice.

2) Go to the WorkBench screen from the Switcher by using the Ctl-Ctl-Alt-Alt hot key sequence.

2) Open a shell or CLI window and type "cd" (change directory) followed by the name of the directory where your Toaster is installed (e.g. "cd DH0:Toaster"). After typing this press the Return key. Do not type in the quote marks.

3) Type ReadPict then the complete name of the PICT file you want to load (e.g. "ReadPict DF0:Fish.pict"). Hit the return key.

4) You will notice disk access and then the cursor will reappear. Now the PICT file is loaded into Toaster Paint's RGB buffer. You will want to render it to the program output by loading ToasterPaint or Toaster CG.

a) In ToasterPaint, the image should appear on the canvas as soon as you enter the program.

b) In ToasterCG, you can display the contents of the RGB buffer by creating a framestore page (F1, then F4), setting the background to use the ToasterPaint canvas (Alt-F3, then F2), and then rendering the page (F9).

5) You could now save the image as a framestore or, using ToasterPaint, as an IFF RGB file.

To save a PICT image from Toaster Paint:

1) Enter Toaster Paint and load in an image.

2) Return to the Switcher from ToasterPaint then go to the WorkBench screen by using the ctl-ctl-alt-alt hot key sequence.

3) Open a shell or CLI window and type "cd" followed by the name of the Toaster directory. (e.g. "CD DH0:Toaster"). Hit the return key.

4) Type WritePict then the complete name of the PICT file you want to create. (e.g. "WritePict DH0:VTLogo.pict")

5) Your newly created PICT file will now be stored in the location that you selected.

Further Tips

If you copy the Readpict and Writepict commands from your Toaster directory into your C: directory, you would not need to first "cd" to the Toaster directory before using the commands.

Using a directory utility such as Directory Opus (Inovatronics) that allows you to customize gadgets, you can set up a button that allows you to select a file on a floppy or hard disk and then automatically read or write it as a PICT file by just clicking on the appropriate button.

OK, you now know how to read and write those PICT files, but how do you get the PICT file from the Macintosh to your Amiga or vice versa? Since your Amiga can't read Macintosh formatted floppies, you have to have an alternate method. There are five ways that I know of for transferring files:

1) With telecommunication soft-ware, you can modem the file to or from your Amiga.

2) Using AmaxII you can emulate a Macintosh on your Amiga and convert small files from the Amiga floppy drive.

3) With Mac 2 Dos (Central Coast Software) you can read and write to Macintosh 400K and 800K floppy drives. You do need a standard Mac-compatible external drive connected to your Amiga with a special interface.

4) Progressive Peripherals' Double Talk board is a card that lets you network Amigas together using an Apple Talk like network. You can also network an Amiga to a Mac with the DoubleTalk board.

5) System 7 for the Macintosh has an Apple file exchange utility. Using this, you can write a Mac file onto an MS-DOS disk using the Mac floppy drive. Using

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Dos 2 Dos (Central Coast Software) on the Amiga, you can read MS-DOS disks using the Amiga's drive.

Chroma F/X

Chroma F/X always render into DV1. If you are rendering the effects from the Chroma F/X Slice, they will load into DV1 on the Program bus. If you are rendering them from the Switcher using the user-defined preset effects on the F bank, they will render into DV1 on the Preview bus. You can switch sources, selecting anything but DV1, and change the image that the Chroma effect is working on. Chroma effects can be brought on or off the program by using any effect that does not digitally affect the video source. As soon as a digital effect is attempted, the framebuffers have to be cleared and the chroma effect is lost.

CG

Key pages can be digitally flipped, tumbled, rolled, etc, onto or off of the program. Here's how:

1) Enter the CG and create a key page (F3). When finished, ESCape back to the Switcher.

2) Load the page from the Switcher (DV1 or DV2 will be blinking on the Overlay bus).

3) Bring the page up on program by pressing the spacebar and then press the spacebar again to take the page off of program.

4) Click on any effect to get out of CG-control mode.

5) Turn on the luminance keyer and set it to key out black by clicking on the scissors (or pressing the [key) until they are blinking black.

6) The key page you created is still in one of the buffers (unless you accidentally clicked on the freeze button). Bring this image up on the Overlay bus by clicking on the proper buffer. Make sure you have a different source selected on the Program bus.

7) Adjust the clip level until the black is keyed out and the image looks the way you want. Then turn off the keyer by clicking on the scissors or hitting the O key on the keyboard.

8) Select the buffer that contains the key page on the Preview bus and then turn on the keyer so it is set to black (there should be no source selected on the Overlay bus and a different source selected on program).

9) Choose any digital on effect (if you're not sure what that is read the Toaster Tricks column, AVID Vol #3, issue #5) and execute it.

When you execute the effect you will notice that since the keyer was turned on, the source that was in preview automatically gets keyed over the program and you see just the text coming on or off.

Switcher

Positionable effects can be set up and executed two different ways:

1) Choose a positionable effect (they're on the D bank) and using the right mouse button, start to execute the effect. When the video image is the size you wish, let go of the mouse button. You can now move the mouse anywhere on the screen you wish. When the image is where you wish, press the left mouse button. This sets the "key Frame" for the effect. When you execute the effect from here on out (until you use the right mouse button again) the effect will come on (or off if you use an "off" positionable effect) from the key frame position.

2) If you go through the above process but set the key frame by pressing the spacebar rather than the left mouse button, you will create a "stop position" in the effect. When you now execute the effect, the image will stop at the position and size you set with the spacebar. Pressing the spacebar again will continue the effect from the stop position. If you hold the shift key and press the spacebar, you will send the effect back to where it came from. This is a great way to bring in an over-the-shoulder graphic and then send it back.

Preferences

If you've ever noticed that your program or preview output appears "hot" or you sometimes notice ghost images, your termination settings may be to blame. Termination for the four live inputs can be set to on or off in the Prefs slice. Normally they should all be terminated (pushed in). The end of a video signal needs to be terminated - such as at the Toaster or at the last monitor in line. The only reason you would not terminate the video signal at the Toaster is if you were teeing off to another device. For instance, let's say you were running one camera source to two Toasters. The video signal goes to the input of the first Toaster and tees off to the second Toaster. The first Toaster needs to have its termination turned off and the second should be turned on.

LightWave

The size and number of bitplanes an image (or a brush!) has determines how much memory it takes up when loaded as an image in LightWave. A 752 x 480 24-bit image from Toaster Paint always takes up 1058K of RAM when loaded. It doesn't matter how many colors the image contains. Therefore, you can scale a 24-bit image down in a program like ADPro (ASDG) and even though the image is still 24-bit, it will take up less RAM when loaded into LightWave. The smaller you can get the image, the less RAM you will use. Another good way to scale the image down is to use Toaster Paint's Texture Map mode and shrink the image down, and then cut it out and save it as a brush. Remember to always cut it out as a rectangular brush and try to keep it in increments of 64 pixels wide for the best results in LightWave.

Modeler

If you cut a polygon, all the points in the polygon get cut also (unless they are part of other polygons). To cut the polygon but keep the points, you would have to choose the polygon, then select all the points and then choose Remove Points from the Polygon menu. It's easier if you just choose all the points in the polygon, choose Cut and then choose Paste. The points will be pasted back in without the polygon.

Watch this space next month for more Toaster tricks.

John Gross is a Video Toaster graphic artist employed by Alpha Video in Minneapolis, MN.

Tips, tricks techniques and questions can be sent to:

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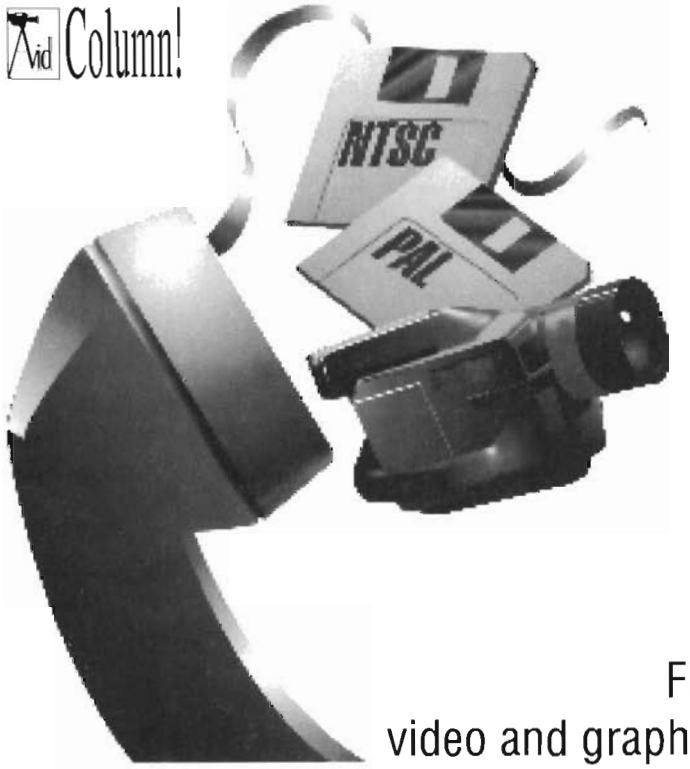

Video Graphic Goodies

FREE (or almost free) video and graphic software from the public domain

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Welcome to the first in a continuing series of articles about the vast universe of freely-distributable graphics and video-oriented Amiga software. This realm of programs and files is often mistakenly labelled "public domain" but more on that shortly.

This column will have a narrower focus than the one I used to write for the late .info Magazine. You won't be reading about games here, nor text editors or disk utilities or grocery list managers. You read AVID for news and articles about Amiga video and graphics, and that's what this column's prime focus will be.

We'll cover low-cost and free software that can help you create and manage your still pictures and animations, tools, accessories and 3D rendered objects. And from time to time we'll take a look at what some of the most talented Amiga artists and animators are up to, and where you can set source copies of the work they choose to distribute to the public.

One thing I'm *not* going to do is to presume to tell you that you should not buy commercial software. While there are literally hundreds, perhaps thousands of free or nearly free programs out there for dealing with Amiga graphics, and many are written by extremely talented developers, often your best solution *is* to plunk down some cash for one of the better commercial offerings.

Although free software is great, and many authors do care about and support their users, most of them aren't writing software for a living--they have a regular day job and limited time and resources to hand-hold you when you run into a snag. You often have to turn to other users for free-software support.

Commercial products have companies who stand behind them. The better titles have been rigorously beta-tested by expert users before the disks are duplicated. But if and when you have problems (and you almost always will), a commercial product comes with a safety net called "after sale support" which takes the form of a tech line phone number for registered owners, usually a more comprehensive printed manual, and, hopefully, the expertise of the dealer from whom you purchased it. And where freely-distributable programs usually have a somewhat limited range of features, and it might take some scouring around to find three or four programs to finish your job, one commercial package could have all the features you require, wrapped up in one nice interface. Finally, in many cases, there simply are no free programs or packages to do what you need.

Let's return to that term "public domain". The software that will be discussed in this column falls under a number of categories that are often lumped under the heading of "public domain." In its true definition, public domain means exactly that: a program or file or picture or object belongs to the public. Everything the U.S. government produces is public domain, since it's all paid for with our tax dollars.

By declaring software to be PD, its creator has explicitly given up *all* rights to it. Anyone who possesses PD software can use it, trade it, copy it, sell it, or modify it. It belongs to no one and to everyone. If *you* create software, think seriously about it before you release it as PD; you are giving up all rights to your creation, now and forever. I've seen programs with "about" windows or docs that say something like "Copyright 1992 by Joe Schmoe and released into public

Syndesis Corporation announces InterChange Plus!

Syndesis Corporation announces the Summer '92 release of InterChange Plus, the upgrade to its essential system for translating objects between 3D modeling programs.

InterChange Plus includes Converters for LightWave objects and scenes, Imagine, Turbo Silver 2.0 and 3.0 objects (including Terrain landscapes), VideoScape 1.0 and 2.0 ASCII and binary objects, Sculpt 3D and 4D scenes and scripts, PAGErender objects, Vista DEM landscapes, Atari ST CAD-3D models, structured drawing formats such as Professional Draw, Aegis Draw, and ImageMaster ISH custom shapes. Most Converters both import and export.

Now it's easy to move between Imagine and LightWave. Convert a multi-object, hierarchical Imagine object into a LightWave scene for Toasting. Turn LightWave scenes into Imagine objects for raytracing. Each LightWave object becomes a sub-object in Imagine, linked properly to its parent and children. All geometry moves easily between both programs, including lone points and edges, polygons and triangles. All surfaces and textures are translated with great accuracy, including RGB color, reflected and transmitted color, smoothing, specularity, glossiness, refraction and surface names. InterChange automatically generates accurate surface names such as "ROOF: light red" from Imagine triangle colors. LightWave surfaces become Imagine "groups," making it easy to adjust the color of similar triangles within objects.

InterChange Plus includes the InterFont Converter, a program that makes it easy to generate 3D text objects. InterFont uses outline-based fonts to make 3D objects, automatically generating precisely aligned text in the size and justification you want. Choose from one of twenty InterFonts, enter the text you want, set its height, curve smoothness, extrusion depth, and destination file format. Click a button and InterChange creates a ready-to-use 3D text object. No more auto-tracing!

It doesn't stop there. InterChange Plus also includes Tools for manipulating and adjusting 3D models, including a Scale Tool for precisely sizing objects, a GridSnap Tool for re-aligning the points of an object, and a Point Reduce Tool to remove excess points from an object. InterChange makes it easy to batch-convert dozens of files at once, too, even if they're in different formats. The new Surface Converter makes it easy to extract and alter surface attributes from one object and map them to another. The Statistics Converter translates any object to a readable text file for detailed study.

All the limits are gone. Converters no longer open windows unless you open them, without gobbling precious graphics memory. InterChange uses less memory to convert an object than it takes to render it. It uses your numeric co-processor and runs under AmigaDOS 1.3 and 2.0.

InterChange Plus is an expandable system. You can purchase Converters and Tools for other formats and everything you own works together. Syndesis also sells Converters for AutoCAD DXF, Wavefront .obj, and Digital Arts .AOB objects, with more formats to come in the future.

Can you depend on InterChange Plus? Is it a professional product? NewTek, Inc. chose Syndesis Corporation's products to be part of the Toaster 2.0 system. LightWave now loads AutoCAD DXF, Wavefront .obj, Swivel 3D and 3D Studio objects because of Syndesis conversion technology. InterChange Plus is the perfect complement to LightWave and Modeler, making it possible to import *and export* objects in other formats from clients, friends, or add-on 3D object collections.

InterChange Plus retails for $99.95. Look for it this summer at your Amiga dealer. Upgrades are available to registered owners. For more information, write Syndesis, N9353 Benson Road, Brooklyn, WI 53521, or call (608) 455-1422, or fax (608) 455-1317. VISA and Mastercard accepted. International orders welcome. Dealer and distributor inquires are welcome, too.

domain." This is meaningless. The terms "copyright" and "public domain" are completely contradictory.

Many programs and files are released by their authors as "shareware." This means that users of the software are encouraged to send in a small monetary contribution, usually between $5 and $25, to the author. This encourages him to continue to write and upgrade his work. Often a shareware author will release a "crippled" version of a program; some feature have been left out intentionally, to get you to pay the fee so you can receive a fully-enabled and registered version. It's normally okay to pass unregistered shareware on to your friends. It's not okay to distribute a registered copy, since paying the registration constitutes a sale, and thus makes it a commercial product. Note that there is no legal recourse against you if you do not register a shareware product since "shareware" is not a legally meaningful term. It's an honor system.

"Copyrighted but freely distributable" is a phrase you'll see applied often to software. An author or publisher can declare a copyright over his work and by doing so, protect his ownership of it. In this case, if the software is also labelled as freely distributable or sometimes "copyrighted freeware", you are allowed to possess it and pass it around, but you may not change it, or sell it because you don't own it: by accepting it you've been granted a license just to USE it. You'll often see demos of commercial products circulating which are labelled this way. A program demo might be missing just enough features, usually the "save" feature, to make you decide to buy the real thing.

With the legal housekeeping out of the way, where do you GET freely distributable software? There are many sources. You'll frequently see magazine ads for companies whose specialty is building collections of F/D software and selling it. These disks are usually just a few dollars each and often the publisher has taken the trouble to make nice clickable WorkBench interfaces for them.

Your local Amiga User Group is an excellent source of F/D software. Most groups have the Fred Fish Collection disks which contain an absolute wealth of software. Unfortunately, user groups tend to meet just once a month and often cannot supply their disk libraries upon demand.

Probably the best way to acquire F/D software is via modem. A modem and terminal software are, potentially, THE most useful peripheral and program you can attach to and run on a computer.

With a modem, the world is your oyster. You can literally reach out over phone lines and grab programs and files from all over the world. Modem owners get the newest F/D software first. You can dial up local privately-run Bulletin Board Systems (BBSes), usually for free, peruse their online libraries and then download files to your computer. While there are many excellent BBS's out there, most of them only have a single phone line meaning they can handle but one caller at a time. If you need something in a hurry and get a busy signal, you're out of luck.

Then there are the commercial online services. I manage an area called "The Amiga Zone" on a pay service called The Portal Online System. Being a commercial service, Portal is multi-user. Many hundreds of people can log in at the same time: no busy signals. And since Portal not only has its local direct dial modems but is reachable via the SprintNet and Tymnet packet switced networks, you can connect to it from nearly everywhere in the USA and Canada with a local phone call. Recently, Portal added a feature called "Internet Services" which allows its customers to "FTP" files from hundreds of archive sites all over the industrialized world at very high speeds. Many of these sites specialize in Amiga software.

So even if the Amiga Zone's own 1.6 GIGabyte library doesn't have what you want, you can use the Internet feature to source what you need and expand your software library till your heart's content.

For more information on The Portal Online System, give them a call at 1-408-973-9111. They'll explain to you the various ways to connect, the payment methods, and the remarkably low rates.

REND24 - A Great Shareware Graphics Tool

You've no doubt heard of the JPEG (Joint Photographic Experts Group) method of graphics file compression. JPEG code for the Amiga saw the light of day within the last year or so and has been implemented in a number of commercial products such as ASDG's Art Department Professional, and Black Belt Systems' ImageMaster. If you've been getting into 24-bit graphics rendering, you know how huge the output files can be. It's quite common for a single picture to consume a megabyte or more of disk space. JPEG's reason for being is to give you back most of your disk space by performing image compression, using extremely intelligent algorithms which result in incredible space savings.

A full overscan hi-res IFF24 image containing thousands of colors can be compressed into a JPEG file at a ratio of 20 to 1, turning a one Meg file into a 50,000 byte file, and still maintain over 99% of its visual resolution and clarity.

What JPEG gains you in disk space savings, it does at the sake of speed. On a stock 68000 Amiga, JPEG algorithms are excruciatingly slow, taking a number of minutes to compress or decompress a single file. Accelerated Amigas do much better, often reducing the time required to load or save an IFF24 in JPEG format to half a minute, and if you're lucky enough to own an '040 system, mere seconds.

Until recently, Amiga JPEG utilities came in the form of command- line programs. They had no interface at all and were invoked from a CLI/Shell prompt, often with a confusing array of "arguments" or "switches" in order to perform the task. Many users, especially Amiga novices, saw all these enticing JPEG files they could download but when they tried to use the JPEGcommand-line unpackers to turn them into IFF24 or ILBM files, they threw up their hands in frustration. Recently a new shareware program called Rend24 (latest version 1.04f) written by Thomas Krehbiel arrived on the scene. This wonderfully slick little product weighs in at about 100K, and offers an easy to use Intuition interface for loading JPEG files and viewing them directly, as well as saving them back out to disk in standard IFF-ILBM formats such as 16-color dithered high resolution, or HAM. Rend24 can also talk to both Black Belt's HAM-E device and Digital Creations'

Continued on Page 58

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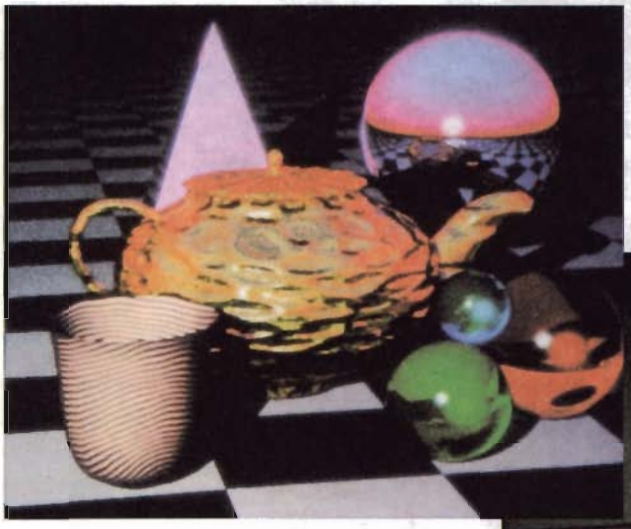

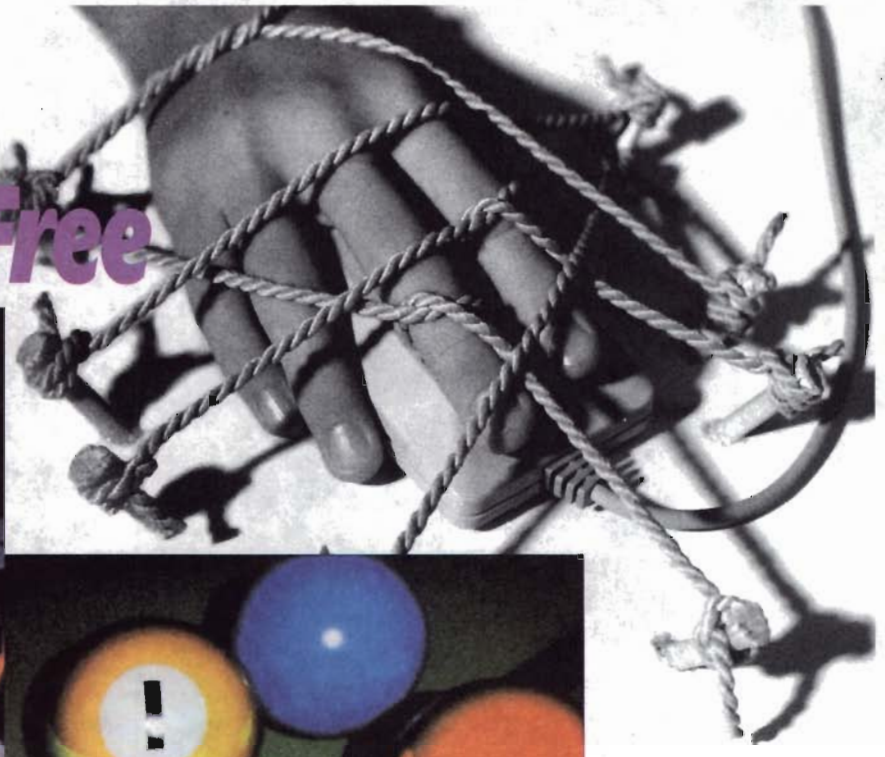

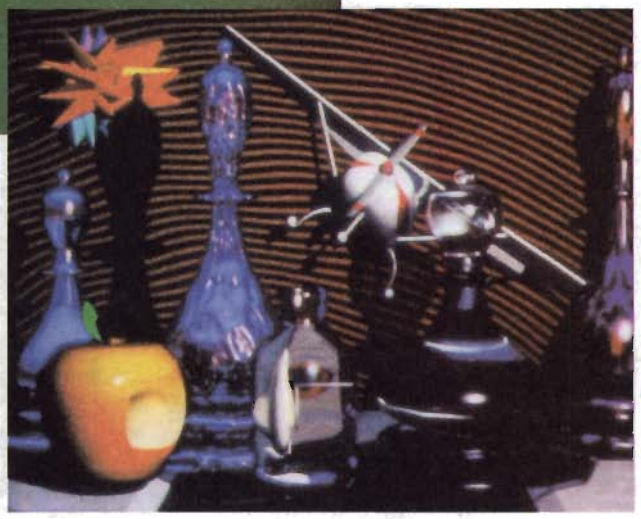

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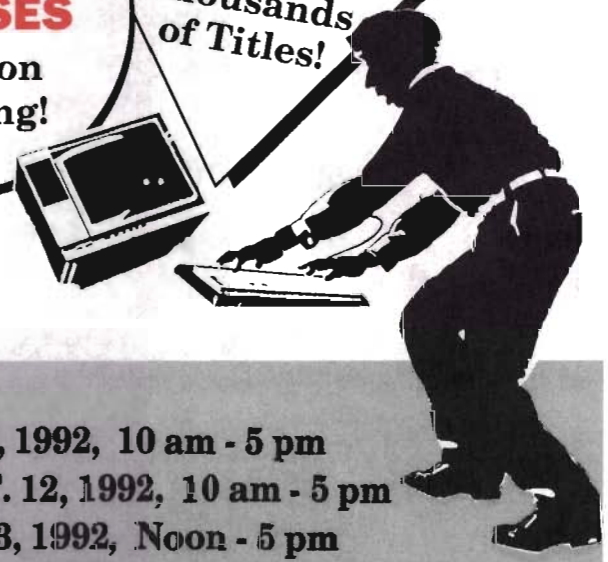

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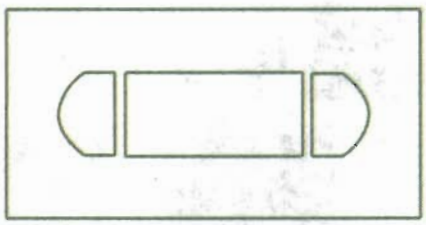

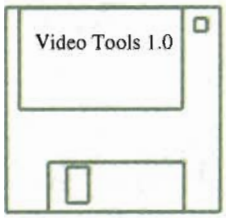

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animating TITLES

Part 1

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As a video producer in a University Media Center my responsibilities are many and varied, ranging from Director to Videographer. One of the most exciting and enjoyable of my responsibilities is as our resident Amiga artist. In this role, I recently had the opportunity to create the animated opening title for our PBS music series, "Video Cafe" (Figure 1). To create this multi-faceted animated logo, I took advantage of many of the powerful features of Deluxe Paint IV, including color ranges and cycling, color stencils, dithered fills, animation, and anim brushes. In Part 1 of this article we will explore these and other Deluxe Paint features as we go through the creation of the "Video Cafe" title. In Part 2 we will cover animation and anim brushes as we animate the title.

The design of the title features a neon look for the "Video" title, the writing of the word "Cafe" on to the screen, a bright highlight which travels across the face of the "Cafe" title, and sparkles of light which flash as the letters of the "Cafe" title write themselves on the screen.

The first step in developing the title is to select the screen format and create the color palette. If you aren't already in the Hi-Res, Standard Overscan screen format, go to the Screen Format option in the Picture menu and select these settings, along with the 16-color option. I always use Hi-Res and Overscan for logos and titles designed for video so I can maintain the highest quality possible and be able to take my image out to the edge of the television screen.

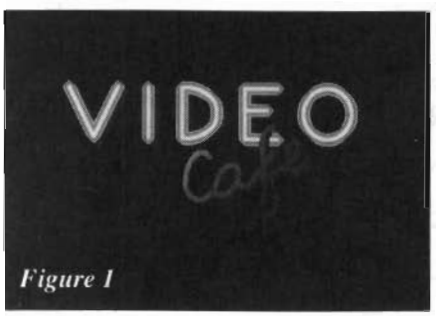

Figure 1

The first thing to be done before any drawing or animating is attempted is the creation of the color palette. This is especially critical since we will be taking advantage of many palette related features.

Bring up the palette mixer using the lower case "p". The first color, black, is designated color 0 with the far right color, dark blue, designated color 15. Using the left mouse button, click on color 1, the gray box just to the right of black. In our palette this color will be white. Move each of the RGB sliders to the far right so that the number 15 appears to the right of each slider. (Normally this setting would be too bright for video causing the color to bleed and flicker, however for this title the bleeding and flickering will work to our advantage for the neon, highlight, and sparkles.) Select the next color, number 2, and create a light yellow by setting red and green at 15 and blue at 9. Moving to the right, make color 3 a medium yellow by setting red at 15, green at 14 and blue at 4. These three colors, white, light yellow and medium yellow, will be used for the sparkles.

Now we'll use the Spread function to create the colors which we'll cycle to create the moving highlight across the face of the "Cafe" title. The overall color tone for the "Cafe" title is red, but since video tends to "warm up" red colors,

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making them look orange, I start with pink shades so that they "warm up" to red on the television screen. We also want the colors to cycle seamlessly from light to dark and back to light. Start by setting the next color in our palette, color 4, to

Figure 2

light pink: red-15, green-9, and blue-13. Now go to color 8, (just right of the third hash mark in Deluxe Paint 4.1) which is currently orange. Make this color dark pink: red-15, green-1, blue-11. Click on SPREAD and then click on the light pink color. You now have a spread of color from light to dark pink. To finish this range of color, copy the second pink color, number 5, to color 11. Click on SPREAD and then click on the dark pink color. You now have a range of pinks from light to dark and back to light. (We'll do more with this spread later.)

To the right of the pink range, at color 12, we'll create a dark gray for use as a drop shadow behind our titles. Set each of the RGB sliders to 4 to create dark gray. The final three colors will be used to create the neon look of the "Video" title. Color 13 will be bright yellow: red-15, green-15, blue-0; color 14 will be

Figure 3

medium green: red-9, green-13, blue-0; and color 15 will be dark green: red-6, green-10, blue-0. Once you have finished making your palette in the Palette Mixer, click on OK. Use the following RGB color chart as a reference when you create your palette.

color	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
name	Blk	Wht	Yel1	M	Yel2	Pink1	Pk2	Pk3
R	0	15	15	15	15	15	15	15
G	0	15	15	14	9	7	5	3
B	0	15	9	4	13	12	12	11
color	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
name	Pk4	Pk5	Grey	Yel3	Grn1	Grn2	Grn3	Grn4
R	15	15	15	15	4	15	9	6
G	1	3	5	7	4	15	13	10
B	11	11	12	12	4	0	0	0

The final preparation step is to establish a color range. We'll use this range to color cycle our pinks to create the traveling highlight across the "Cafe" title. Bring up the Range Requester by selecting Ctrl and lower case "r". We'll use Range 1 for our pinks. First clear any colors already in the range. If you have Deluxe Paint 4.1, left click on the first light pink color, then hold down the Alt key and left click on the far right pink color. Move your color bead to the first notch in the range bar and stamp it down. All of our pink colors will now appear in the range in the

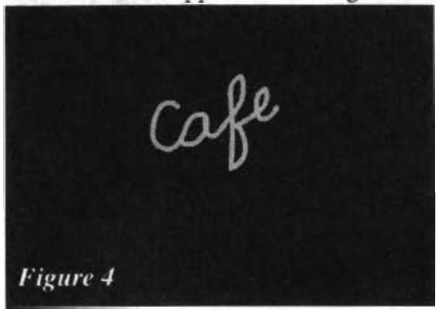

Figure 4

order they appear in our palette. If you're using Deluxe Paint 4.0, you'll have to select and stamp each color down one at a time. Be sure to arrange the colors in the same order that we created them in the palette mixer and make sure there are no spaces between colors. Before you close the Range Requester, set the Rate slider to 46 and position the Dither slider at about one third from the left.

The first step in drawing the title is to create the look of neon for the word "Video". This effect can be created by using the Brush Outline command which is activated by pressing the lower case "o". Select the bright yellow palette color (13) with the left mouse button and use an Amiga font or make your own to create the "Video" title (Figure 2). This will be the inner part of the neon lettering. Start with a brush or font size somewhat smaller than the size you want for the finished title. (A simple and thin font

works the best when using the outline function to build up a brush. Also, be sure to leave extra room between the letters.) Grab the "Video" title as a brush and select the medium green color (palette color 14). Outline your brush with the medium green color by pressing the lower case "o" three times (Figure 3), then select dark green (color 15) and again press "o" three times. Finish the neon look by selecting medium green (color 14) and pressing "o" three more times. Save the neon "Video" title as a brush, then clear the screen if necessary.

The next step is to create the hand-written "Cafe" title. Select the largest circular brush and enlarge it by pressing "=" key once. Using the continuous freehand drawing tool and color white (palette color 1), draw the word "Cafe". When you are happy with the look of the "Cafe" title, save it as a brush and stamp

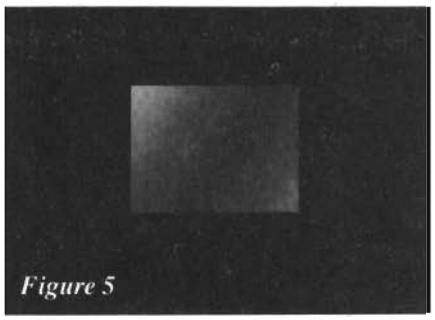

Figure 5

it on the page (Figure 4).

Now we'll create the highlight that travels across the "Cafe" title using the color cycling range we set up earlier. Go to the Spare page. Click on the fill tool with the right mouse button to bring up the Fill Requester. Using range 1, which contains our pink range of colors, select the Line dither mode, click on the box next to Random so the check mark appears, indicating that random dithering is turned on. Then set the amount of dithering to about one third and click on Okay. Select the filled rectangle tool and draw a rectangle that is slightly larger than your "Cafe" title. A line will appear which is connected to your cursor. This allows you to select where the highlight will be in your fill. Move your cursor diagonally three quarters of the way to the upper left corner of your box and click the left mouse button. Deluxe Paint will now draw a box with a smooth fill diagonally across the box from light to dark to light (Figure 5). Press the TAB key to turn on color cycling and the colors should travel from top left to bottom right across your box. Remember to set the range 1 cycle rate to about 46.

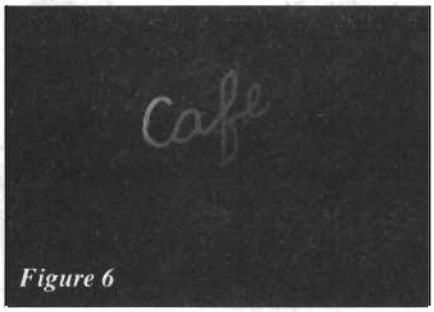

Figure 6

Grab your cycling box as a brush and go back to the page containing the "Cafe" title. Go to the Effect menu and select Stencil and Make. Click on black (color 0) then click on Make. Stencil is a very powerful function that "locks out" portions of the screen based on the colors—by locking black, in this case, we prevent drawing over any areas of the screen that contain black. Move your brush over the "Cafe" title and notice that it's only visible where it covers the title. Position it so that it completely replaces the white color of your "Cafe" title and stamp it down. The "Cafe" title now has a highlight which travels diagonally across it (Figure 6). Turn the stencil off by pressing the Tilde (~) key, grab the "Cafe" title and save it as a brush.

Since the title will be keyed over video, a drop shadow will help separate the title from the video. You should still

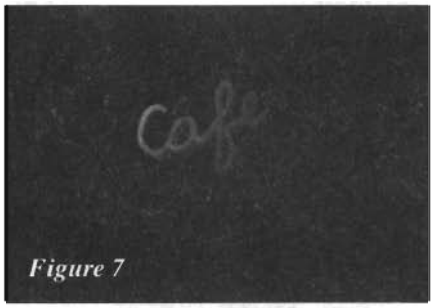

Figure 7

have the "Cafe" brush attached to your cursor. Turn this brush in to a dark gray shadow by selecting the dark gray palette color (12) and then pressing F2 to activate the Color mode. Your "Cafe" brush should now be dark gray. Go back to Effect/Stencil/Make and clear the stencil colors. Now select all of the colors in the pink range and click on MAKE. Move your dark gray brush under the cycling "Cafe" title and position it so that it appears as a drop shadow on the lower right edges of your title (Figure 7). Turn off Stencil mode, then save this new "Cafe" title with the drop shadow as a brush. Load your neon "Video" brush, stamp it down and repeat the drop shadow process.

You are now ready to combine the neon "Video" and cycling "Cafe" brushes in to the final layout of your title. A nice touch is to position the "Cafe" brush so that the "f" hangs on the bottom edge of the "E" in "Video".

Clear your page and load the "Video" brush. Determine where the "Video" title will appear on you screen and stamp it in place. Go to the spare page, load the "Cafe" brush and stamp it down. Go back

Figure 8

to the "Video" page and grab a brush of the bottom of the "E" where the "f" of "Cafe" will hang (Figure 8). Now go back to the spare page, go into stencil mode, click on Clear, then remake the stencil with the pink colors. Position the bottom of the "E" behind the "f" and stamp it down (Figure 8). Use the magnify tool to zoom in on the "f" and draw in the part of the "E" on which the "f" hangs (Figure 8). Grab this as a brush, swap pages and carefully place your brush over the existing "Video" title so that the bottom of the "E"s match. Save this final title as a picture.

Next month we'll tackle animation and anim brushes when we make the "Cafe" title write itself onto the screen and add sparkling highlights to the letters.

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Fresno, CA 93720

Taming the WILD Animation File

© 1992 by Patrik Beck

Video people are, by necessity, visually oriented people. It is no wonder that the idea of writing a script file is less then appealing to them. In fact the whole concept of entering the CLI or Shell and typing in text comes perilously close to the scary monster known as programming! Programmers, as we all know, are a subspecies of hyper-cerebral social misfits whose complete nutritional demands are met by caffeine and pizza, not to mention an abhorrence to sunlight, bathing, and the opposite sex.

Enter The Director 2.0

A program that attempts to de-mystify the process of programming and manipulating Amiga graphics is called The Director from the Right Answers Group, now in version 2.0. The painful entry into the world of programming is eased by the numerous examples given in the manual and tutorial disk. This is the current release of the famous original Director that spawned some of the most amazing demos in Amiga land. The Director program is one way to get your computer to do all those things you knew it was capable of but didn't know how to tell it to do.

The Director certainly appears intimidating at first glance, but the truth is that it is probably the easiest and most useful computer language ever written specifically for controlling graphics. Don't let the term "computer language" scare you off either. Even if you have never before opened a CLI window, the Director will take you by the hand and let you immediately do useful work.

The Plot

Let's set up a scenario: You get a call Friday evening from a frantic videographer. He needs to complete an instructional piece on a drilling machine for a client who will pick it up on Monday morning. The problem is that he still has some footage to shoot and must do it over the weekend and he can't add the graphics until he gets back Monday morning, just a few hours before the client arrives. Worse yet, because he hasn't shot the footage yet he doesn't know the exact length that the graphics have to run. He needs three pages of text screens that lead into an animation of machinery coming together. When the machinery stops moving a single frame with color cycling turned on is to give the impression of a rotating drill bit. Several pages of credits are then to be shown over the drill bit.

The Director, with its interactive capabilities and complete control of graphics makes this request possible. When working with The Director it is not necessary to understand every command and function (there are many!), but once you start working with it you start asking yourself "how can I get that to happen?" You then look it up and have learned one more aspect of the Director. Absorbing the commands a piece at a time becomes more of an adventure then a challenge.

Let us break down our project into individual tasks:

- Four text screens to be page flipped
- An animation that shows pieces of machinery coming together
- A screen of the completed machine that begins to color cycle on command
- A screen of credits

A somewhat complicated task but well within the abilities of the Amiga. With the power of the Director we can complete the job using a script file to trigger events in real time and have all the graphics complete in a single animation file.

Stacking the Deck

The section of the animation that has the part of the drilling machine coming together is the most complicated of the

graphics so that will be created first. Using Deluxe Paint IV and the Move requester we simply fly the parts in from off screen. We design the final screen with color cycling in mind to simulate the rotating of the drill bit. Remember that the color cycling will only be active during this frame. We duplicate several frames of both the first frame and the last frame of the animation and add different text to each frame. Finally we insert a blank frame in the beginning of the animation. Be sure you make note of the exact number of frames of your animation as it will become important later. We will call ours 50 frames and label the file 'Drill.Anim.'

The Scary Part, Writing the Script

To save yourself some typing you can load one of the example scripts supplied with the Director program. You need only to change the name of the animation file to load and then save it under a new name. The script we will be starting with should look similar to this:

```
Load "Drill.Anim"
Copy
LoadAnim 1, "Drill.Anim"
/Top
Anim 1, done
IF done=1 THEN skipanim 1
display
goto top
```

Here is what each of the those commands mean:

Load: loads the first frame of the animation into the display buffer currently being shown. Assumes the Anim is in the current directory

Copy: Copies the displayed buffer into the unseen buffer.

Loadanim 1: Moves the complete animation file into the same buffer as the 1st frame.

/Top: This is the place the loop returns to.

Anim 1, done: Advance the animation one frame. The variable 'done' will only equal 1 if the animation has reached the last frame.

IF done=1 THEN skipanim 1: when the last frame is reached and 'done' equals 1, the skipanim command will skip over the last frame of animation. This is necessary because there is a redundant frame in looping animations.

Display: Takes the unseen buffer updated by the ANIM1, done command and replaces it with the one currently being displayed.

Goto Top: Returns you to /Top to continue to the next frame of the animation.

You could have the script load the animation, play it once, then quit, but it is more convenient to have it loop back to the beginning. This saves time reloading the animation files when doing test runs in the edit suite.

As the script is now, it simply plays through the animation completely in a non-stop loop. We need to make a few changes. To address specific frames within the anim file we need to tag them somehow. We do this by counting the number of times we go through the loop. The counting is done by adding a variable (we will use the word frame as a variable) whose value increases by one every time a the loop progresses to another frame. This sounds complicated but is as simple as adding two lines to our script, one before and one after the loop occurs.

This is what we will change;

```
frame=0
```

(sets the initial value for the variable 'frame')

```
/Top
frame=frame+1
```

(this increases the value of the 'frame' by one)

This is how we get the animation to start and stop at specific points. The IF-THEN statement we used previously can now be used to stop the animation by keying it to specific values of 'frame'.

```
IF frame=48 THEN Getkey
```

The getkey command will wait for a keystroke on frame 48 before allowing the animation to continue. We can use this to manually page flip through the first four frames of our animation that include text.

```
IF frame=1 THEN getkey
IF frame=2 THEN getkey
IF frame=3 THEN getkey
IF frame=4 THEN getkey
```

A simpler way is to use the less-than sign (<).

```
IF frame<5 THEN getkey
```


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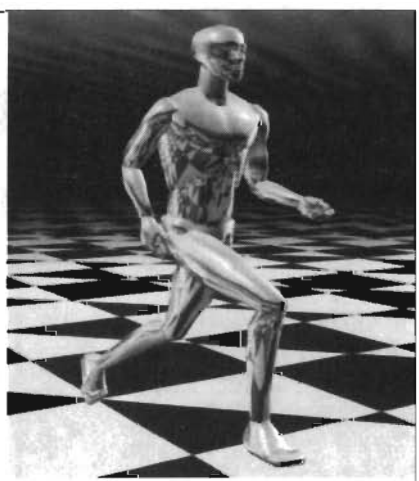

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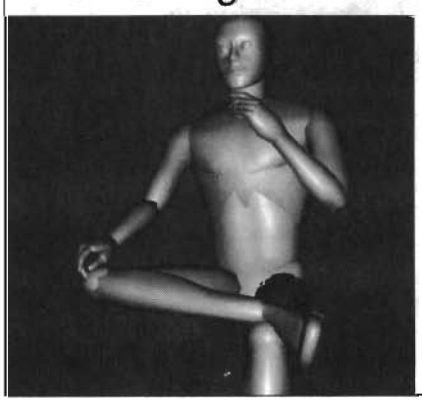

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This will cause the animation to wait for a keystroke every time the frame count is less then four. By turning it around and using it as a greater-then sign (>) we can use it to stop and wait for the text that appears at the end of the animation.

```
IF frame>46 THEN getkey
```

This will cause the animation to wait for a keystroke every time the frame count is greater then 46

Our new script looks like this:

```
Load "Drill.Anim"
Copy
LoadAnim 1, "Drill.Anim"
frame=0
/Top
frame=frame+1
IF frame<5 THEN Getkey
IF frame>46 THEN Getkey
Anim 1, done
IF done=1 THEN skipanim
1:frame=0
display
goto top
```

Notice the additional line frame=0. This resets the frame count to zero when the last frame of the animation is reached so that it will continue to count the frames correctly during subsequent playing of the animation.

We still want to turn on the color

cycling on frame 46. We want the animation to stop at that frame, wait for a keystroke, and start cycling. We can use the same frame count method with the IF-THEN command.

```
IFframe=46THENgetkey:
Cycle1:Getkey:Cycle0
```

The animation waits at frame 46 for a keystroke. When a key is hit the Cycle 1 command turns color cycling on. The script then waits for another keystroke before it gets to the 'Cycle 0' command that turns the cycling back off. Note that we added a number of commands after the IF-THEN condition that are separated by colons. We can continue to add commands until the end of the line and they would all fall under the IF-THEN condition stated at the beginning.

Lets look at our completed script:

```
Load "Drill.Anim"
Copy
LoadAnim 1, "Drill.Anim"
frame=0
/Top
frame=frame+1
IF frame<4 THEN Getkey
IF frame>47 THEN Getkey
IF    frame=46    THEN
Getkey:Cycle
1:Getkey:Cycle 0
Anim 1, done
IF done=1 THEN skipanim
1:frame=0
display
goto top
```

It might be necessary to fine tune the script by adjusting some of the frame count numbers of the IF-THEN statements. I know I always seem to miscount somewhere. Now that we have our script tested and saved let's see how it works in the editing suite.

The Test

You show up at the editing suite bright and early Monday morning with your animation, script file, and a copy of The Director and its manual (just in case). You only have a few hours to add the graphics and complete the production. The footage is cued up and the animation is loaded. A couple of practice runs show that you can make the anim stop and wait at all the proper places. You are ready to start recording.

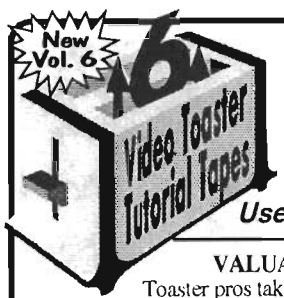
The first frame of your animation is blank so that nothing shows on the screen. At the proper point on the tape you press a key to bring up the first page of text. Three more hits brings you to the animation that plays until the frame that waits for the signal to start color cycling. Because the animation is waiting for keystrokes to continue, you are able to synchronize what is happening on tape precisely with the animation and graphics.

After a few false starts (you always have false starts in editing) you have the graphics laid down perfectly over the video. The product is complete and delivered on time.

Going Further

This is just a taste of how you can use The Director. There are many changes you could make to this basic script. If you wanted the animation to run without the keystroke commands, you could replace each Getkey command with a Pause command to have it wait a specified length of time before continuing. Or use the Ifkey command to turn the color cycling on when a key is pressed at any point in the animation.

Once you start working with The Director you will find yourself understanding more and more of the functions. Programming will become a bit less of a mystery. It may not be as immediately accessible as some of the more popular presentation programs, but for pure graphic power and control, nothing beats The Director.



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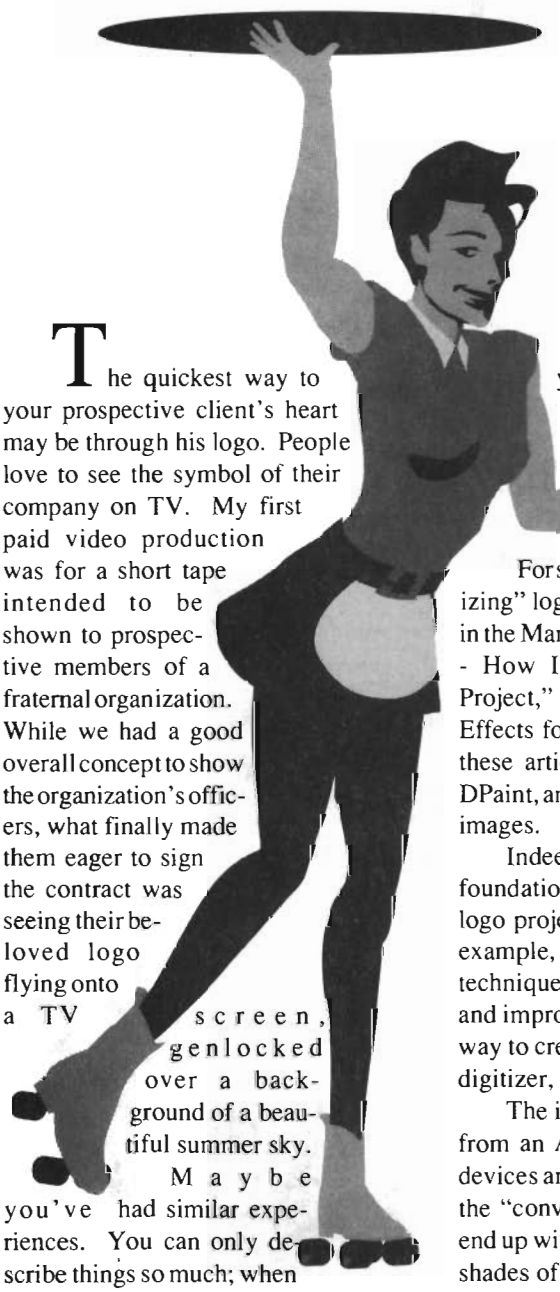

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The quickest way to your prospective client's heart may be through his logo. People love to see the symbol of their company on TV. My first paid video production was for a short tape intended to be shown to prospective members of a fraternal organization. While we had a good overall concept to show the organization's officers, what finally made them eager to sign the contract was seeing their beloved logo flying onto a TV screen, genlocked over a background of a beautiful summer sky.

Maybe you've had similar experiences. You can only describe things so much; when you need something to show your prospective client, an animated logo is usually the easiest, most effective deal clencher.

For some excellent advice on "videoizing" logos, take a look at three articles in the March issue of AVID ("Going Solo - How I Did It," "Logo Animation Project," and "Cartooning Up - Unique Effects for Logo Animation"). In all of these articles, the authors make use of DPaint, and two of them involve digitized images.

Indeed, digitizing and DPaint are the foundations of many an effective video logo project. Using AVID's logo as an example, I'd like to share with you some techniques I use to speed up the process and improve the results, and also about a way to create "digitized" logos without a digitizer, and even to animate them.

The image in Figure 1 was digitized from an AVID cover. Many digitizing devices are available. I used DCTV, then the "convert" feature of its software to end up with a 16 "color" (actually sixteen shades of gray) IFF file. In spite of your best efforts at lighting the hardcopy and tweaking the software during the digitizing process, you'll probably have to use eight or more shades of gray to get a good "black and white" picture, and your resulting image will most likely include a lot of dithering "noise," the byproduct of the software's efforts to reproduce the various shades it "sees" in the image.

Once your file is loaded into DPaint, your first step will probably then be to "de-dither" the edges of the logo to create a clean image. The simplest way to do this is to select color 0 as your background color and draw or trace around the edge of the image holding down the right mouse button (see Figure 2). This has the effect of erasing. Continue until you've completely outlined the image with color 0. To be as precise as possible, it may help to use magnify and the "N" key to move the "magnifying glass" around the screen.

When you've completely isolated your image with the boundary of color 0, select Fill. Then, holding down the "I" key (Note: on early versions of DPaint III you may have to use the Alt key instead of the "I" key), position the cursor over the

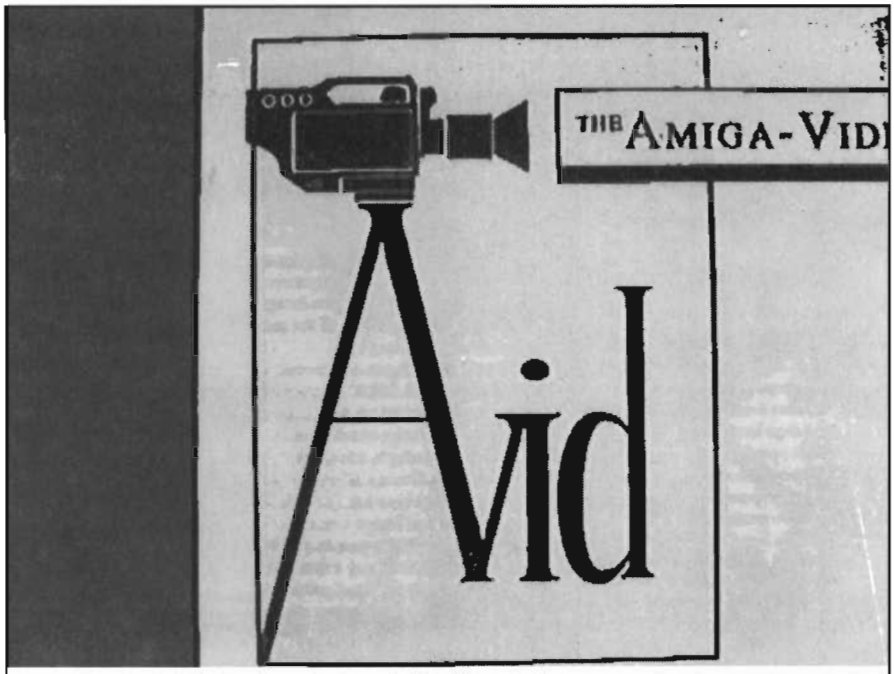

Figure 1

area to be erased and click with the right mouse button. This erases the whole unwanted area, right up to the color 0 boundary you drew.

Using Stencil

Tracing around an image, although sometimes unavoidable, can be tedious and time consuming. A faster way uses Stencil. Notice that in Figure 3, the colors we want to keep are the darkest, while those we want to get rid of are the lighter ones. So we could use stencil to protect the darker colors and un-protect the lighter ones.

Select Make Stencil and click on the unwanted colors in the image (here again, magnify may be helpful). As you do so, you'll see those colors selected on the Make Stencil requester. After you've selected all the colors you want to get rid of, click on the "Invert" then "Make" buttons in the Stencil Requester. This results in the colors you selected being the only ones unprotected. So when you erase, either by drawing with color 0, or by lifting off brushes using the right mouse key, only the unwanted colors will be removed. It's no longer necessary to be so careful tracing around the logo; its colors are protected by stencil.

Un-Filling

A third de-dithering method also works well when your logo is surrounded by the sort of "randomized-blotches" effect (see Figure 3) created when the digitizing software interprets what we see as a white, blank area as multi-colored (in spite of your best attempts to light the picture evenly).

If you try filling such an area with the right mouse button (i.e. color 0), you'll only remove one color. The other unwanted colors wil remain as isolated pixels and groups of pixels, each having to be erased individually. Unless, that is, you fill again, using not color 0, but the next unwanted color in the palette as the fill color.

To do that, press the comma key, then click on the next unwanted color to select it as the foreground color. Then fill with it. Now click the right mouse button again to fill with the background color. Repeating this procedure several times will remove all the pixels of the unwanted colors, leaving a clean-edged image.

Genlock-and-Draw (Instead of Digitize-and-De-Dither)

If you're still with me, you've probably learned more than you ever wanted to know about de-dithering. So don't get mad if I tell you that it all may have been unnecessary because there might be a better way than digitizing to get the logo from paper hardcopy to digital DPaint image.

Actually, you'll still need digitizing often, because this method is only useful for relatively simple drawings. But for those kinds of images, it quickly yields super clean images, with a neat added side benefit I'll save for last.

The technique involves another device found in the toolkit of all Amiga videographers: the genlock. To set up,

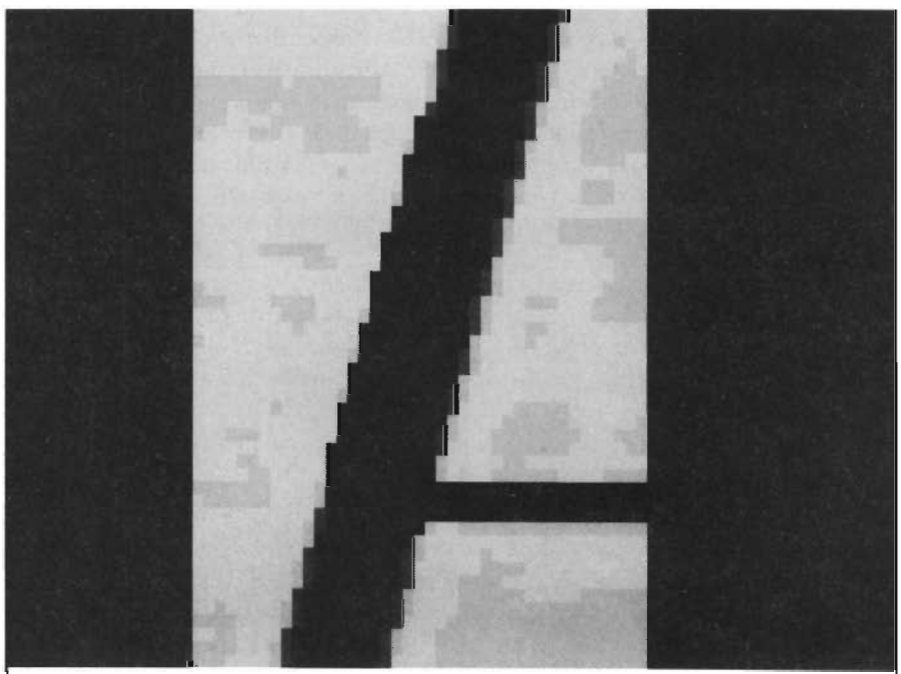

Figure 2

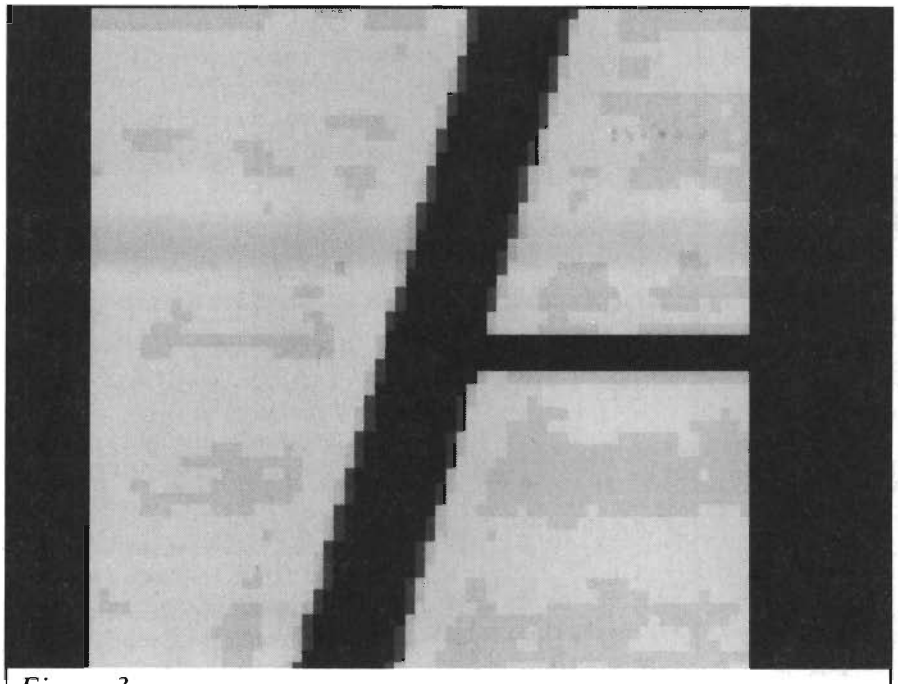

Figure 3

start by pointing a video camera at the hardcopy of the logo and sending the signal from the camera into your genlock. Then run DPaint and configure it all so that the DPaint screen is genlocked over the video image of the logo. The trick is simple: working from the NTSC monitor (i.e. TV screen) hooked to the genlock's video-out rather than from the Amiga monitor, simply trace the logo.

While tracing with the freehand drawing tools alone yields good results, also using the straight-line ("V" key) and curve ("Q" key) tools not only makes the job easier and faster, but results in an image that probably looks cleaner and better than digitizing would have produced, even with all that fussing with de-dithering. And you can start right away using only two colors in your image, making everything go faster and require less memory (for instance, even with a 512K Amiga, you should be able to pick up an entire screen as a brush if you're only using two colors).

Animating It

But the icing on the cake is that, with almost no added effort, your traced logo can become a neat animated logo. Here's how: Before you begin to draw, open the Animation Requester in DPaint and set the number of frames to "2." Move to the second frame of the animation you just set up and draw/trace one line. Now, before continuing to draw, go to the animation menu, select Add Frames and add one frame. Then draw another line and add another frame.

Continue this process, letting the frames of your animation accumulate as you draw and add, draw and add. You can speed up it up by pressing the "A" key (for "again") to get the Add Frames requester rather than moving the mouse to the menu bar every time. When the resulting animation is played, it will look as though the logo is being sketched in real time by an invisible pen held by an unseen artist. If your logo is to be in color, use fill as you go along for a different sort effect. In fact, there are many other creative possibilities for using DPaint's many powerful tools to do this kind of "accumulative" animation - use your imagination!

As a final touch, save your animation and change the screen format from Hi-Res two colors, to Hi-Res eight colors, and set the palette up as a range of shades of gray. Use those shades to re-anti-alias any jaggy edges in the final frame of your animation, and you'll have a clean, broadcast-quality animated logo ready to impress your prospective client.

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Single Frame Animation (on the cheap)

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If you want the colors and resolution you get from your display enhancer (DCTV, Toaster, Firecracker, etc.) to work in a real-time animation (30 fps) on the Amiga, your choices are few. You can opt to spend less and de-emphasize production values, using a device such as DCTV or HAM-E and limiting your color, resolution, and movement enough to achieve near full-speed animation. You might be able to go a middle route, spooling frames from a high-speed (and high-cost) fast SCSI-II hard drive into your frame buffer, at the probable cost of speed and smoothness (and ultimately limited by the inherent speed of Chip RAM). Or you can spend a small fortune ($5,000 at the very least, if you're lucky enough to find used equipment), purchase a single-frame controller and a single-frame capable VTR, and pray that you manage to make enough money from your investment to keep you off the streets.

There is one other way. There is, in fact, a way to make animations at the full color and resolution of any display enhancer that will move as smoothly as any 30 frame-per-second animation you have ever seen. In case you haven't guessed, my method is simply single framing by hand. You may have wondered whether this was possible; you may have assumed that it was not, like I did at first (particularly because of the dearth of information on the subject), or you may have wondered whether it could possibly be practical.

Manual single-framing is quite affordable, and, in fact, you may already own the equipment you need, especially if you have been doing any video work with your Amiga. There is a catch, though. You will need to spend some time perfecting the technique, and once you do, you will need to spend approximately one minute per frame sitting in front of your computer. That translates to about two-and-a-half hours per five seconds of video, not counting creation, set-up, or rendering time. (Rendering time, of course, is time you do not have to spend in front of your computer, or during which you can be doing something else with it, which is why you bought an Amiga in the first place, isn't it?) Single frame recording with expensive dedicated equipment can take from about 15 to 30 seconds per frame on average, so your production time will not be completely out of line with the pros.

That said, if you can afford to spend some time but not a heap of money, read on. The equipment you will need, in addition to your Amiga, your display enhancer, and whatever software you are using to create your animation, is a prosumer level VTR. By this I mean simply a VTR that offers 1) a jog-shuttle wheel (or some kind of single-frame advance, but the former is vastly preferable), 2) a video insert mode, and 3) a flying erase head. S-VHS capability is a real plus also, as it will give you significantly improved recording quality. The deck I use is the Sony SLV-R5UC, which has all of the above features at a street price just above $800. You might want instead to use the popular Panasonic AG-1960, which offers similar features at a slightly higher price. If you shop around, you may be able to find something very affordable ($500-$800) among the high-end consumer decks. Whatever deck you choose, make sure you think about any other things you will want to use it for. If you are planning to use it for editing, for example, you should make sure that it offers at least some kind of control port, preferably control-L.

For an example of my manual single-frame recording technique, I am rendering a short (30 frame) animation in Imagine 2.0 of two cars racing down a road. I recommend starting out with a comparably simple (though not necessarily as unimaginative) idea for

your first single-frame project, so that you can develop your technique without becoming overly frustrated.

If I rendered from Imagine using standard Amiga display modes, there would not be enough color and resolution to make out the subtle detail and shading that the program is capable of producing. I do like to begin, however, with a standard Imagine animation in order to preview my work. In order to get an idea of what the motion in your final animation will look like, try to preview it at a speed as close to 30 frames-per-second as possible. In Imagine's Stage Editor, by selecting Make from the Animation menu and then Play Loop, you can use the Animation Controller window and a stopwatch to get the speed reasonably close to 30 fps. On my 68040-based 2000, I have found that setting the speed four notches below the fastest and turning off all processor caches except the data cache roughly reproduces this speed in the quarter-screen view. If you are agile with the buttons on your stopwatch, you can determine the amount of time it takes to cycle through your animation by watching the numbers in the upper left. Divide the number of frames by the number of seconds to determine the speed. Once you determine a way to get a speed of about 30 fps on your Amiga set-up, it should remain relatively consistent from session to session, assuming the same processor configuration and approximately the same multitasking load.

After you have proofed and are satisfied with your animation, it is time to convert it to 24-bit frames. If you have already created a rendering subproject in a standard Amiga mode, press the New gadget in the Project Editor to start a new one. In the Parameters requester, set the file format to ILBM-24 bit, and the rendering method to either Scanline or Trace, depending largely on your patience. In this example, I set the picture size to 752 by 480, since I will be using the Toaster for my 24-bit display enhancer. If you are rendering for DCTV or the Firecracker, you may of course simply select the appropriate output from the Presets requester.

Render your stills, paint your frames, create your animation in whatever way you choose. Make sure to make your frames available in a way that you can access them one at a time from your display enhancer's software. In this case, since output will be from the Toaster, I am leaving the still frames generated by Imagine alone, and not producing a "movie" or animation from them. Imagine names stills in the format pic.0001, pic.0002 . . ., which is fine for picking up the frames as a Lightwave animated background.

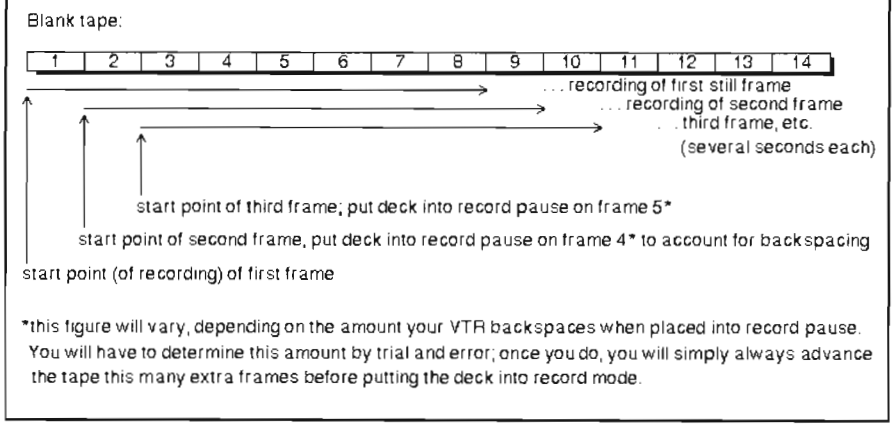
If you are not using the Toaster, make sure that you will be able to view one frame at a time on your display enhancer (with an adjustable delay before the next frame is displayed), and that you will not have to go to any extra effort to call up each successive frame. Ideally, the entire frame display process should be automated, either by your software or by a program such as ARexx, so that you can concentrate on the VTR. If your display enhancer's software supports a single-frame recording mode, as does Lightwave, this should suit the purpose perfectly.

Using Toaster 2.0 as a frame buffer, select the 3D slice and enter the number of frames in your animation into the Last Frame requestor. Now go directly to the Images submenu. Press the "Load Sequence" gadget and the "Load IFF Sequence Prefix" file requester will appear. Navigate through your directories and find the one containing your frames, then enter the prefix name pic. 0 if you are rendering from Imagine) into the File field. Click the OK gadget and you will notice that the Current Image field now indicates the prefix name of your animation, followed by "(sequence)".

To tell Lightwave to use your animation as a backdrop, go to the Backdrop control panel. At the Background Image box at the top of the screen, click either one of the arrows and the animation name will appear. Go to the Camera control panel and select Medium Resolution Overscan (High Resolution won't gain you anything).

Finally, go to the Record control panel, change the Record Delay to 60 (seconds) and the First Frame De lay to 30. Press the Record gadget. These steps ensure that each image is displayed for a minute, giving you what should be sufficient time to set-up your VTR for the subsequent frame. The First Frame Delay gives you an extra half-minute at the beginning to get ready.

Figure 1: Laying down the frames



*this figure will vary, depending on the amount your VTR backspaces when placed into record pause. You will have to determine this amount by trial and error; once you do, you will simply always advance the tape this many extra frames before putting the deck into record mode.

Now your're all set at the Amiga end. At the video end, you need, of course, to connect your VTR to the Toaster's Program output. You must also connect a composite monitor to the output of your VTR so you can see what you're doing. Use a high-quality tape, and if you intend to record in S-VHS, you must use an S-VHS tape. Return to the Switcher for a moment and select an input on the program bus that you have nothing connected to. The screen on your monitor should go black, as the Toaster is outputting a good quality black burst. Starting at the beginning of your tape, hit the Record button on your VTR and record a few minutes of this black screen. You should record at least a minute more than the expected length of your animation, just to be on the safe side.

Striping your tape with black is necessary because you will be using the video insert recording mode, which requires previously recorded video to work with. The

advantage of insert editing is that the VTR can use the control track that is already on the tape, making it possible for the machine to start recording on a dime, rather than backspacing a randomly varying amount. Although it may work in theory, I have not been able to get this single-framing method to work reliably without using video insert mode.

The principle of what we are doing is this: if we lay down enough video each time we record a frame, we will always have an uninterrupted control track to work with. If we record (video insert) a frame for several seconds, rewind and then play through the tape (a frame at a time, with the jog-shuttle dial) to find the second recorded instance of this animation frame, then start recording the next animation frame at this point, the frames will overlap in such a way that it will not matter that each frame is recorded not just once but hundreds of times (Figure 1). The viewer will only see the first occurence of each animation frame, as the subsequent frames will erase the previous ones recorded "underneath." The result is real single frame animation.

A complication of the above is that most VTRs (or mine, at least) will not begin recording at precisely the point that you hit the record button. On my deck, if I single-step through to a particular frame and hit the video insert button, the deck goes into record pause mode, but in the process rewinds the tape by exactly two frames as it does so. When I finally release the pause button to start recording, I am recording *over* two frames of video *before* the one where I hit pause, thereby failing to create an animation. The solution to this problem is extremely simple. When I find the frame that I want my next frame to begin recording at, I advance the tape by exactly *two additional frames* before hitting the video insert button. This way, the next frame I record begins recording at precisely the point desired.

By trial and error, you must determine the backspace amount of your own deck before attempting to single frame record. The easiest way to do this is just to follow the process outlined below for a few frames on a "scrap" section of tape. If you find that each frame of the animation keeps getting replaced completely by the next, increase (one at a time) the amount of frames you move the tape for ward before hitting the record button. If you find that you are recording two or more frames of each animation frame, decrease the amount of "extra" frames you step forward before recording. If you have a great deck, it may not backspace at all, and you may be able to start recording on a dime; if you have one like mine, two extra frames will do the trick. Whatever the case, your deck must backspace by a *consistent* amount. Any of the decks fitting my description should be capable of this (in video insert mode, that is).

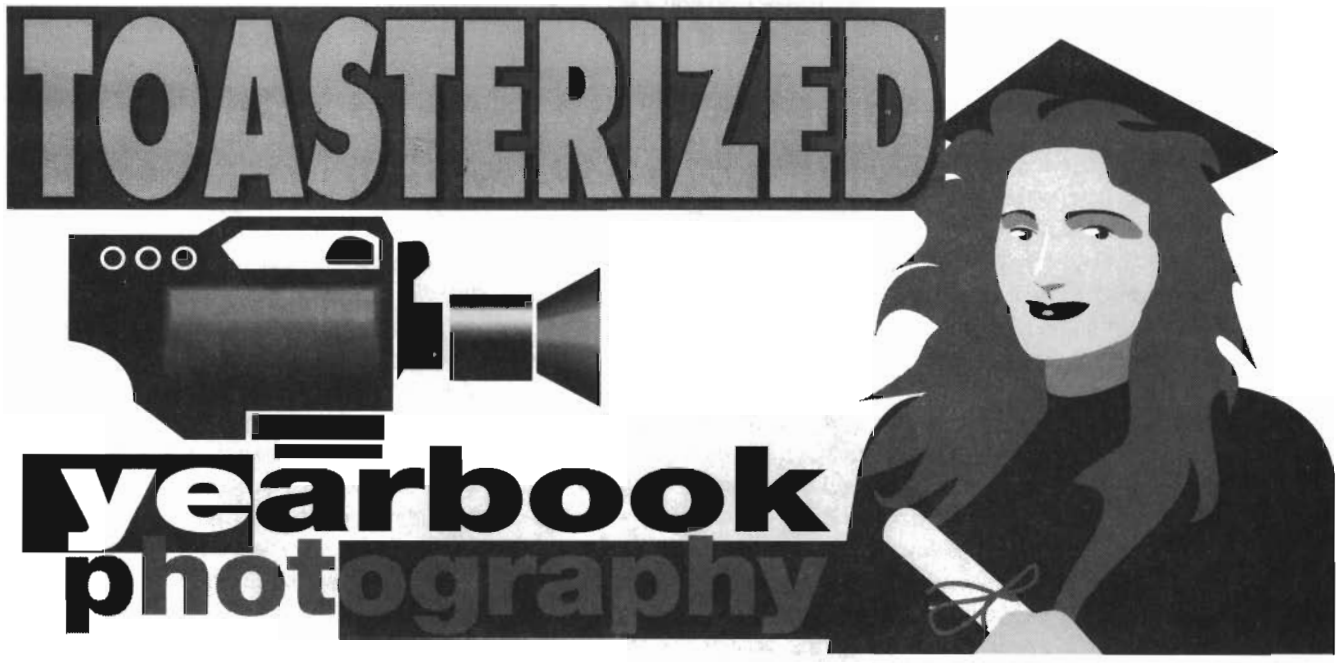
Getting down to business: rewind your black-striped tape, zero the tape counter, play five seconds of the black signal, and stop the tape. This will let you use the five second mark on your tape counter as a clear starting point, and will (more importantly) prevent the video insert mode from stopping unexpectedly when it reaches the zero point, as it does on many decks. Put your deck into video insert pause mode, and with your single frames set-up to spool one at a time as described above, tell the Amiga to start playing them. When the first frame is displayed, release the pause button, and record for approximately 10 seconds.

Put a mark on your paper to indicate that you have recorded one frame. (Try to avoid getting into a situation where you are writing directly on your computer!) Rewind the tape to just before the point where you began recording, and play it frame by frame until the first frame of your animation is displayed. Once you stop at that frame, advance another frame or two (depending on your machine) to work around your recorder's backspace amount. Put the deck back into video insert pause mode, wait for the next frame to be displayed by the frame buffer (hopefully you are working fast enough that it has not been displayed yet!), release the pause button, and record again for about ten seconds. The second animation frame records over the recording of the first animation frame, except for the one frame that we did not record over. Continue in this manner, and you will end up with a true single frame recording!

The most difficult part of the job is invariably finding the last frame you recorded on the videotape, without going too far past its first occurrence. Marking off the frames you have recorded on a sheet of paper as you go is part of the trick. Another trick, once you start getting further along, is to memorize the appearance of certain "key" frames. For example, I make a mental (and often written) note of the frame at which the edge of one object touches another, or a particular part intersects the edge of the screen. I try to find such a "key" about every five or ten frames. This way, I don't have to count off every individual frame as I look for the last one I recorded, but can just seek out the last "key" frame I laid down and count from there.

Your very first attempt will probably not be entirely successful, but don't give up! You can adjust the speed at which frames play back to make your job a little easier, and then, when your skill improves, you can speed it up to the point where you are spending less time recording. One trick to avoiding dropouts and "rainbows" while you are recording is to avoid rewinding the tape just before you record; try to keep stepping through frames in a forward direction and hit the frame you want to stop at with out going past it. If you are willing to settle for animation that is slightly less smooth, you can halve the time you spend recording a fixed number of seconds by double framing. Simply record each (or, if you prefer, every other) frame of your animation twice by advancing one extra frame, after accounting for backspace and before going into video insert mode. This will result in 15 fps movement, which is smooth enough for many applications (particularly if you use motion blurring) and requires a great deal less work.

That should be enough to get you started! You can, of course, alter this technique to suit your own equipment and software preferences. It is trivial, for example, to change this technique to one where you render animations created in LighWave to your hard drive as frame stores, and then play them back with the "Play Frames" requestor in the Record menu. If enough Amiga users are producing 24-bit, 30 fps animations, and doing it cheaply, it could cause quite a stir in the video community! It may even help drive down the price of automatic single frame devices, by creating more of a demand for them. Until then, let's do it the Amiga way: better, easier, and affordable by real human beings!



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With the addition of another hard drive, my new Toaster 2.0 software is finally is up and running. Along with DPaint IV, Pixel 3D 2.0, and the latest version of Art Department Professional, things are looking good. At this point I feel comfortable in proposing a year's moratorium on computer technology. Digital obsolescence has to be right up there with death and taxes. I need a few megs of time just to learn the programs I already have!

By way of introduction, my longest lasting career was as a professional photographer. Decades of dedication were transformed by an Amiga 1000 with 256K of RAM. It has been a few years now, and I've been uploading, upgrading, reinstalling, reassigning, rereading, rethinking, re-financing and most dangerous of all, re-subscribing.

I live at the northern tip of Michigan's lower peninsula among lots of lakes, streams, trees, small communities, a tourist-oriented economy and low to lower video budgets. About a year ago I was possessed by Toaster 1.0. Mine was one of the first shipped and installed in this neck of the woods. Through our local Amiga dealer, I showed off the system to potential users, one being a photographer, Larry Brumfield of Brumfield Photography in Conway, Michigan. He specializes in portraiture (seniors, babies, families, pets, aliens, anything that moves). We checked each other out and have been working together ever since.

Project 1. Senior Portrait Video Presentation...

Because senior portraiture is a large and profitable chunk of his business, Larry works with several schools in the area. Annual presentation to each new graduating class consisted of hauling easels and framed enlargements of many posing options: indoor/outdoor, formal, casual, close-up, long-shot: the spectrum of his talents, over hill and dale.

Objective: Create a video presentation using a projector and a pull down screen that is used to illustrate the variety and quality of his work. Larry's selection represented students from each school with poses of individuals in same situations with slight variations in pose and expression: different locations, high-key, low-key, sassy, studious, colorful or not. The final selection consisted of about 100 shots. Larry then furnished me with color negatives along with a 4 X 5 color proof of each.

Remember we're talking low budget. I used a Hi-8 camcorder plugged into the Toaster (no TBC), the Toaster connected to a Sony Color Corrector, in turn connected to a Sony VHS recorder with flying erase heads (I know, there are higher resolution formats). In the end the results were very acceptable. With the camera on a tripod and a color head from a photo enlarger placed horizontally on a counter top, I was ready to go to work. I used the color head to illuminate the negatives from behind, and used the filters in the color head to adjust the color balance and density of the images on the monitor. With the lens on macro focus I could move in tight enough to crop and fill the screen with most poses. Some cameras have a reverse or neg/pos setting. In this case I used the reverse func-

tion on my color corrector to convert the video from a negative to a positive image.

The most difficult part of the entire production was deciding on the image sequence. First I spread out the proofs and selected several which covered the gamut. Next I grabbed and saved a frame of each and started experimenting with laying them to tape, trying different Toaster transitions and getting a feel for pace or timing. The close-ups and head and shoulder shots looked great. The full-length poses however, reduced the image size and tended to lose crispness and vibrance. Those photographed with high-key and low contrast lighting suffered the most. All the portraits looked good as photo prints, but some just didn't translate well to video. It quickly became obvious that a still image held on video for five seconds became a boring still. Three seconds on the better shots was pushing it with some, and even one second was almost too long.

Going back to the proofs, I first selected one of the best shots to use for the introduction; one with enough background to allow a crop which would work with text overlay. Next, I grouped variations of the same person to use the more subtle transitions between poses. Then came groups of lesser candidates for quick takes or cuts directly from camera without grabbing and saving frames. The remaining shots were then dispersed between the groups varying the count with plans to use more dramatic transitions at these junctures. Don't overdo the effects; repetition is the enemy.

One hundred proofs end-to-end became a little overwhelming. I divided the project into three sections, making it more manageable. Starting with the first section, I went through grabbing and saving frames in an order that, in the final edit, allowed me to record transitions between the camera input and the two frame buffers.

Cropping to fill the screen looked best, but some of the full length poses didn't leave enough background to fill the screen horizontally. The first fix I tried was to center the image and use a partial wipe from the color corrector, bringing a background matte in from both sides of the screen, blanking out the area on either side of the photo. Toaster wipes can be used to the same end by partially wiping Toaster backgrounds horizontally on to the screen. Three or four of these cuts in succession got old real fast, seemed to degrade the quality of the video image and took on an unprofessional look.

A more visually pleasing solution was to grab the images off screen center

in varying degrees dictated by the pose. Loading the frames into Toaster Paint, I used rectangular, gradated range fills to crop to the edges of the image. Using a vertical hotspot, gradating a black or dark grey from the edge of the photo to medium or light grey at the edge of the screen gives an illusion of depth as if the photo were floating above the background. Alternating hotspots and muted color ranges that complemented the photo backgrounds helped break up the monotony.

A few of the images with plain colorful backgrounds lent themselves to further enhancement. Using the ToasterPaint pick color function, I set up color ranges that matched the background and sparingly painted gradated squares, rectangles, and spheres, floating in the border and over the edge of the photo background. A few other photos I grabbed smaller than full screen, usually off-set from center, and I used ToasterPaint to draw a frame-like border around the image and fill outside the frame with range fills. All this grabbing, painting and saving can become a little tedious and time consuming, but can make the difference between a professional or amateur looking production.

Now comes the easy part, laying everything to tape. Fade up from black on the first frame and hold, using Toaster CG to fade in and out lines of introductory text:

Brumfield Photography
Senior Portrait Specialist
The Class of "92"

Then a simple dissolve into the second frame and I'm on a roll. A couple more dissolves, a couple of images in and out with horizontal slats, a few quick cuts or takes, and then the whammy, one of the more colorful shots: small tiles zooming up to full screen and back out to another good shot. Enough excitement for a few seconds, back to a few dissolves, in this fashion, weave your effects in and out. Because of the short viewing time for each image I used the slow speed on transitions to lengthen the presentation. Working with live video, effects can be easily overdone. Working with stills, the effects give a sense of motion and seem more acceptable. Pausing my recorder and setting up the next frames, the recording went smoothly. Putting everything on tape went much faster than I expected. Viewing the work in progress every few takes helped avoid having to backtrack too far to redo a spot where the pacing didn't feel right.

Part one, being a learning process took a couple days to complete. Parts two and three each went together in a comfortable workday. Last frame, hold, scroll CG credits over, fade to black. Seven minutes running time seemed to work out just right. Long enough to get the message across and with the help of the Toaster effects, not so long as to start audience fidgeting.

Audio

What kind of music for high school students? What else? "ROCK AND ROLL!" My good fortune, along with having the Toaster to work with, is a long standing friendship with a dyed-in-the-hair rock musician, Richard Schultz, who played bass with Question Mark and the Mysterians. Without having seen the tape, and only a brief description of content

and duration, Rich came up with two pieces. "The Class of 92" was a mellow rap (if there is such a thing) extolling the virtues of making it all the way, sticking it out to graduation. On the second tune, my man got down with "Rock and Roll at The High School Dance". The next step was a simple audio dub from cassette. The visuals, combined with the sound track, elevated the presentation to another plateau. Richard and I must march to the same drummer. Throughout my Amiga years, his music has backed up my animations and video projects. Each time the music seemed to automatically sync with visual changes as though it were completely intentional.

Epilogue..

A darkened high school auditorium, screen and projector set up on stage. Volume cranked up on stereo speakers. A full house, student body, faculty, janitors, kitchen help, and a nervous client. Oohs and ahhs, toe-tapping, finger-snapping, hand-clapping, cheers for a familiar face. A success to say the least.

Project 2—Video Class Album

I began by coordinating with the Senior Class representatives of a small community school (30 to 40 graduates), bearing in mind that many of these teens had lived here all their lives and had been together since kindergarten. For the project, each student brought in a selection of snapshots, spanning a period from when they were toddlers to present. Pictured were outings, slumber parties, school events, dances, groups, private moments, less than desirable moments, you name it. Many of these were of the drugstore print variety, over/under exposed, off color, out of focus, out of frame, flash in the face compositions. Some were decent, some were not. Based on their budget the class made a final selection of 100 pictures which represented the whole class.

Once I recovered from the shock of seeing the material I had to work with, it wasn't too bad. The class saved me some hair-pulling by numbering the photos in the order of appearance. Following the same procedure developed for the Senior Portrait Video, using a few longer stretches of quick takes right from the camera, I was able to complete the project in a couple lightweight work days.

For the introduction I grabbed a frame using the school's emblem, CG text over. Depending on the budget, this might be a good chance to show off your stuff. Converting the emblem to a 3D object using Pixel 3D, with LightWave to show you the way, give in to those creative urges. Much to my surprise, with some cropping and video tweaking, most of the photos actually looked much better on tape. Like the Senior Video, running time was about seven minutes. The same music fit perfectly. This might be a good time to think about creating art for your end credits. Keep it generic—chances are you will have a chance to use it again.

Upon viewing the end product, I was pleased with the assembly, but still had a difficult time removing myself from the esthetics. The school presentation followed the same scenario as before, this time with even more response. The house rocked, the bleachers rattled, a standing ovation, pats on the back and students drying their eyes as the lights came up.

I had overlooked something very important. These kids weren't art critics. It was about them, their lives flashing by, and with the help of my music man, they loved it. Their response was so overwhelming that I got a little choked up about having been involved.

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Vid Review!

"Beam me up Scotty..."

The Merlin Transporter

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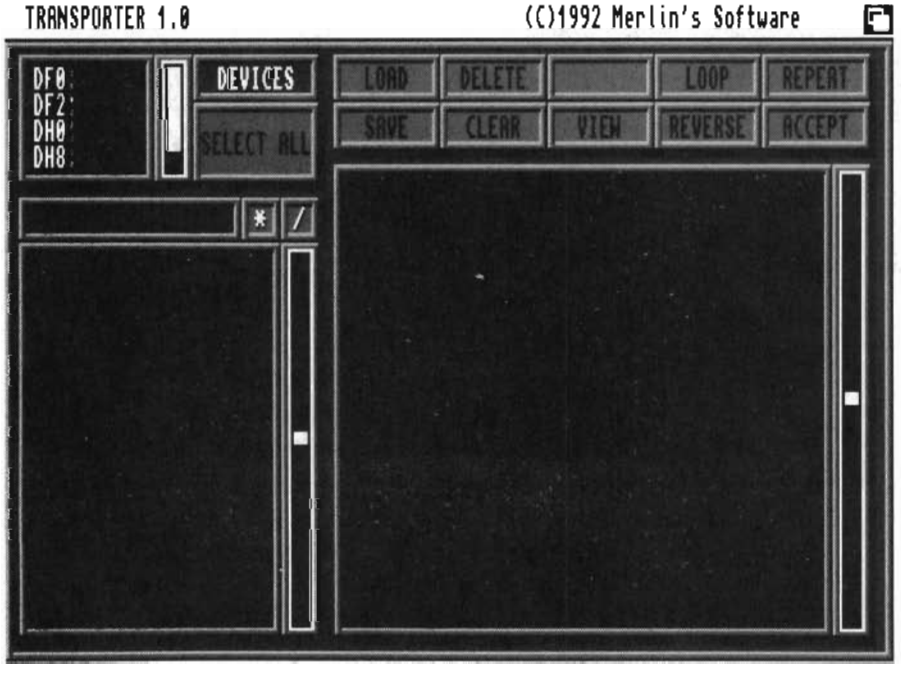
It's not often that a software package looks like the Star-Trek transporter assembly, or that the developers of the software show themselves in a graphic with Spock-like ears, but then again, this is no ordinary piece of software either. Transport controller software is designed to address single frame controllers, those neat devices that allow you to dump animations a frame at a time to a recording VCR. Up until now, the Amiga's main transport controller software has been that of the same name by MicroIllusions. The MicroIllusions software is nice enough (it works), but it has been priced very expensively (almost $500.00) and it is rather bland in design, with no real Amiga graphic interface. The Merlin product is priced at $250.00, it does sport a nice graphic interface (see Fig. 1), and it does more then the MicroIllusions product.

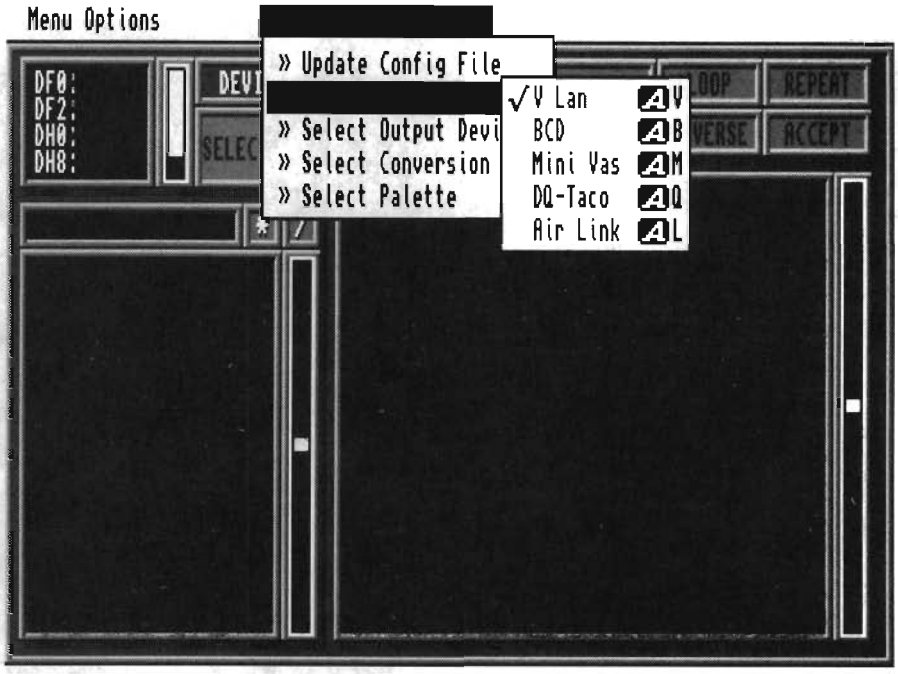


Transporter provides a link to almost all of the popular SFCs (see Fig. 2). There is one exception which should be modified soon. Although the first version of the software addressed the Personal SFC, this version no longer does so. Hopefully, it will be remedied in the next upgrade. Transporter also addresses all of the popular Amiga display devices and frame buffers (see Fig. 3), and as a late release, the GVP 24 bit board was also added. Like MindWare's PageFlipper, Transporter allows you to generate a script of single frames so that animations complete with loops and turnbacks can be generated on the spot. There is even a onboard module that allows you to "strip" an animation, that is, to break it up into single frames so it can be scripted. Transporter can also display time-code (if your SFC allows for it) and can help in simple insert editing.

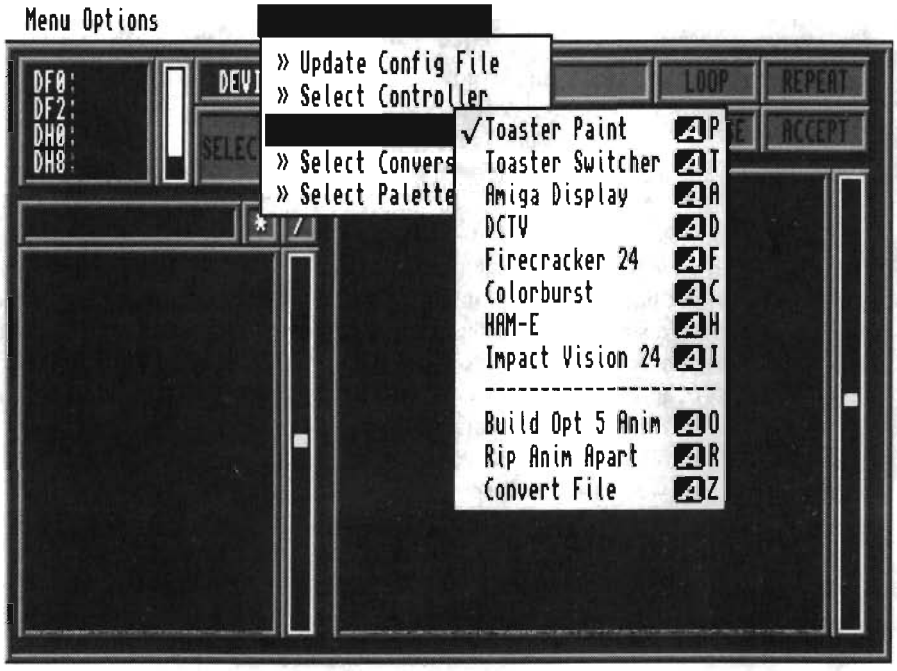
Transporter comes with several ARexx scripts, and is fully ARexx compatible, meaning that addressing ASDG's ADPro for batch conversions is easily accomplished. A helpful example in this area is Transporter's ability to translate 24bit IFFs on the fly and convert them to DCTV format for single-frame recording. It is suggested that you also have a

time-code generator to "stripe" (place a control track on) a tape. I use a local studio and stripe a batch of tapes at a time.

The first thing to do is to select the images to be used by interfacing with the requester on the Transporter script screen. By selecting appropriate commands after images have been loaded, animations can be constructed with loops and ping-pongs, in addition to inserting frames in any order. There is a nice little logo fly-rotate animation included as a tutorial reference. Conversions can take place as the images are addressed. The interface can even be colorized five different ways to suit your visual comfortability. This software is obviously great for Toaster users, because LightWave is one of the output choices. For those wishing to transfer LightWave images to the DCTV unit, the FireCracker, or other output devices, can make this call in the configuration.



The Transport Screen (Fig. 4) is where you actually begin the process. The right half of the screen has basic editing controls. There is even a built-in "communicator" that allows you to issue direct commands to your controller. Three sub-commands make your Transporter video life more variable: "Frame Grab" (for Toaster owners and GVP IV24 owners only), "Slide Show", and "Time Lapse". With the Frame-Grab function, you can grab frames from tape in real time for rotoscoping and manipulation in your script. The Slide-Show function can send standard Amiga graphics (also including DCTV and HAM-E) and ANIM5 animations directly to tape. Time-Lapse is what it says, giving you the capability to record VCR or camera images in a time lapse manner (i.e., aim your camera out the window at the sky and get some of those neat Spielberg sky movements). Simple insert editing can be accomplished with the aid of the "Set-In", "Set-Out", and "Set-Dur(ation)" controls.



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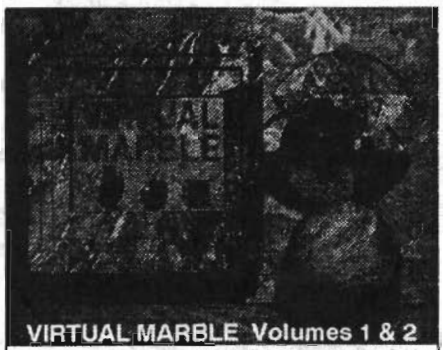

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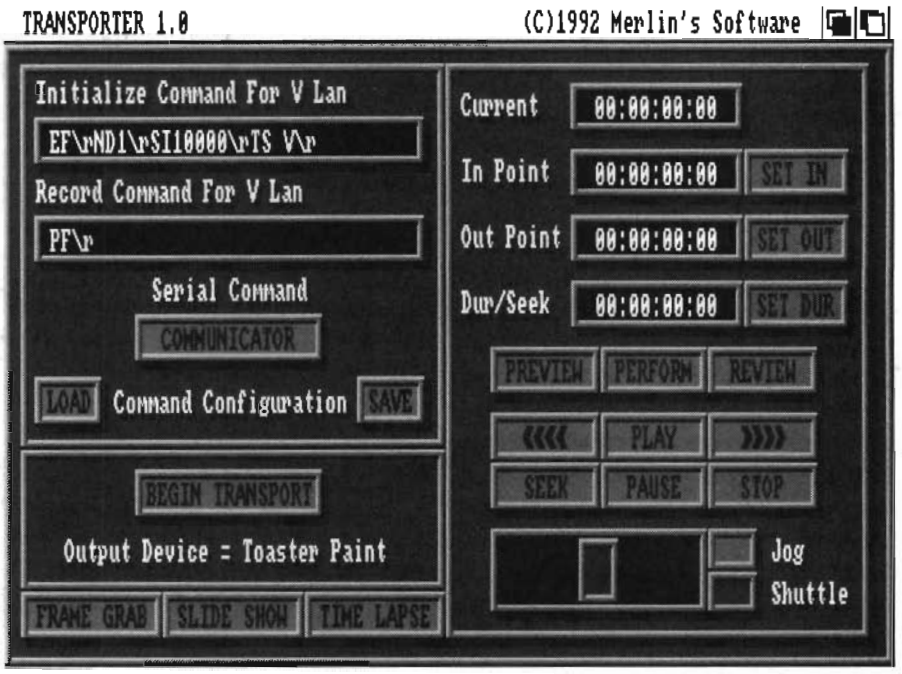

SFC as afterward. That's because the conversion program alone is invaluable to Amiga animators. Using ED, or another Amiga text editor, you must first update your Config file so that the program knows where to send the altered images for storage. Then it's merely a matter of selecting a "conversion type"...RGBtoDCTV, IFFtoDCTV, etc. Later, these sequentially numbered images can be turned into an ANIM5 file (by the way, during this process they can be edited further, creating a reverse ANIM, internal loops, or ping-pongs). In this way, a 24-bit animation can be displayed on your Amiga before you actually commit the real 24-bit stuff to tape.

But that's only part of it. If you have enough memory to run ADPro or ImageMaster at the same time Transporter is running, you can also batch process images and have them manipulated by any of the dozens of manipulations offered by these and other programs. All sorts of animation effects can be processed from Transporter and your image processing software. The results can be saved in a viewable format, or sent to a VCR for posterity.

A clear and detailed tutorial is included for Toaster users wanting to use Transporters Frame Grab capabilities. Also included is a Framestore-to-RGB conversion script (!), and a couple of nice ADPro utilities (you need ADPro running of course). These make batch rotoscoping from Toaster frame grabs a breeze, and many a Toaster owner would pay handsomely for this option alone.

As long as you have a professional VCR (or the "Air-Link" unit attached to a consumer VCR), you can also use Transporter to send IFF images and ANIM5s directly to tape with the "Slide Show" option. All of the scripting magic applies, including loops and reverses, time delays and ping-pongs.

Conclusion

Transporter is one of those accessories that may become a "must-have" for the Amiga videographer in the near future. Certainly, its quality, price, and options are in the right perspective. By addressing the hardware options that it does, and by promising to upgrade as the technology and Amiga obsessions and fads call for, Transporter should find its way to many Amiga video user's disk libraries, and should find a comfortable niche in the millennial marketplace.

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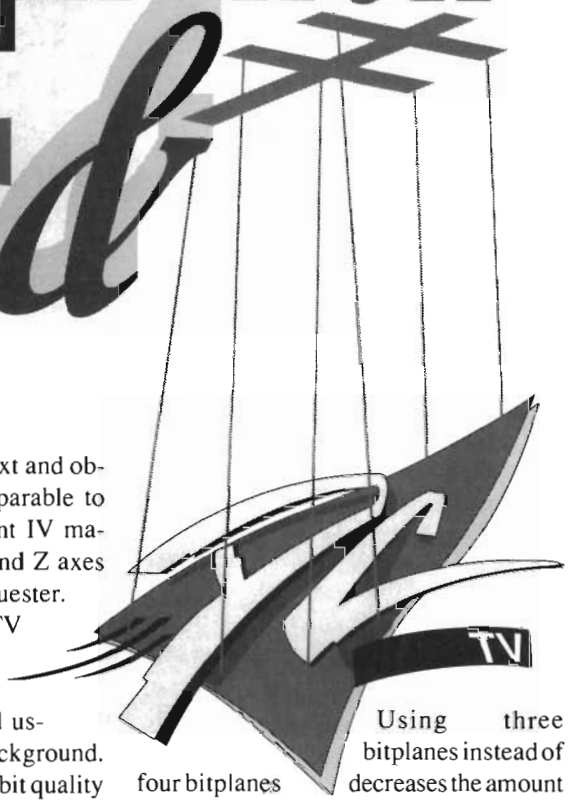
Cost: $149.95

Video Animation using DPaint



© 1992 by Matt Drabick

For a recent video project on a custom software package written by a local computer programming company, the client wanted an original logo animation to be used at the end of the tape. The client even had some simple animations of his own that he had done using his IBM PC. While his efforts were commendable, I knew that I could do a better job using DPaint IV and my trusty Amiga.

When I went back to my studio after our initial meeting I realized that I wanted to do something a little bit classier than just animating some yellow text over a blue background. By chance I had been spending some time with my DCTV, mainly learning how to use the paint program's stencil tools as well as compiling DCTV frames created by Scenery Animator 2.0 and then compressing those frames into animations using DPaint or PageFlipper. As I currently don't own the necessary equipment to perform single-frame recording (either a frame-accurate VCR with an animation controller or an optical disc recorder), the next best alternative was to create an animation using my DCTV.

While I am a big fan of DCTV, I have been surprised by the lack of a simple animation function to move text and objects around the screen, comparable to the way DPaint III and DPaint IV manipulate brushes in the X,Y and Z axes using the animation move requester. After experimenting with DCTV Paint and its stencil tools, I knew there had to be a way to combine an animation created using DPaint with a DCTV background. The results would be a near 24-bit quality background with smoothly drawn color gradients and layered objects (the name of the client's company is Objix) and an animated logo in the foreground.

For the background I first laid down a blue to yellow color ramp using the gradient requester found with DCTV Paint and then added some semi-transparent spheres and ellipses. The screen resolution that I used was maximum overscan, 736 by 482 pixels. I also used four bitplanes for the color depth instead of three bitplanes. In hindsight I probably could have gotten away with just using three bitplanes instead. With four bitplanes more colors are present. This is important when trying to achieve photorealism. It's not so important when trying to achieve just a pretty background. Using three bitplanes instead of four bitplanes decreases the amount of information your Amiga has to process, resulting in faster and smoother animation playback. Once the DCTV background was finished I saved the image to my hard drive for later use.

To produce the animated title, DPaint IV was used to create both the title itself as well as the animation. The screen resolution was set at 736 by 482 pixels, to match the DCTV background. The color depth was 16 colors to match the four bitplanes used for the DCTV background. Note that three bitplanes is eight colors, and four bitplanes is 16 colors.

When animating titles with DPaint I have found that using thirty frames for the actual movement of the title (the period that the title is actually moving across the screen before landing somewhere in

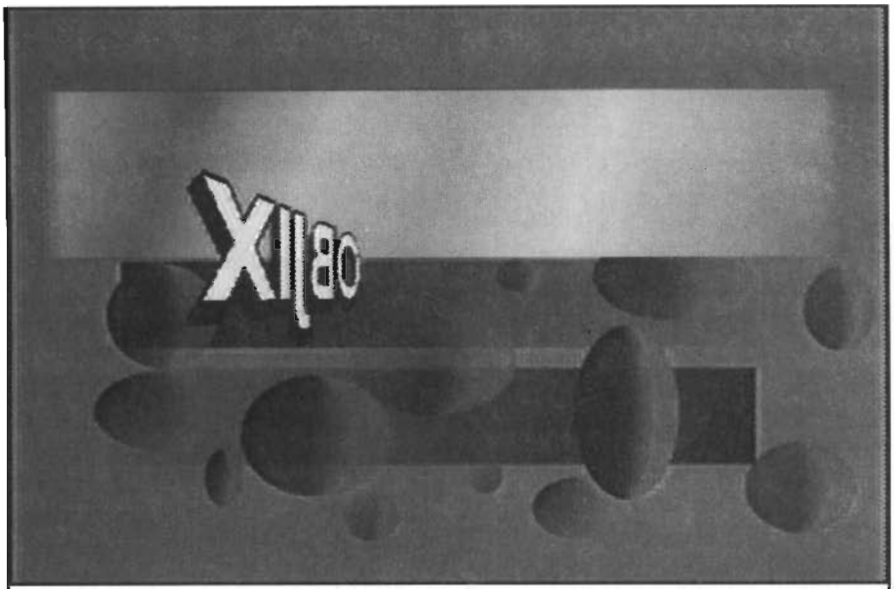


Figure 1

the middle of the screen) works very well. thirty frames equals exactly one second of video, and results in a fast but very smooth animation. Limiting the animation to thirty frames will also cut down on the amount of work required to stamp each frame of the animated title over the background. Another consideration is the number of colors that the title will have, again to reduce the amount of work required to stamp each frame over the background. I recommend using only two colors, perhaps white for the character faces and black for the outline and shadow. It really doesn't matter which two colors you use right now. I'll explain why later. To create the title click on the font tool in DPaint's toolbox and choose a font and font size appropriate for the title. Depending on how many letters there are in each word and the final screen placement of the title, using a font size of at least 40 to 50 lines for high resolution screens generally works well. Type the title in the middle of your DPaint screen using white as the foreground color. Once it has been typed, activate the brush tool and use the right mouse button to cleanly lift the title off the screen as a brush. Next select black for the foreground color and type "o" (be sure to use lower case and not upper case) two or three times on the keyboard to add a black outline around the title. Activate the straight line tool, hold down the left mouse button and slightly drag the brush up and to the left to add a drop shadow to the title. Pick up the title using the right mouse button again. You should now have a white-lettered title with a black outline and drop shadow.

Using the mouse, in the Animation menu activate "frames" and "set #" and type in thirty frames. Press three on the keyboard and type in thirty to advance to the last frame of the animation. Activate the Coordinates function and stamp the title onto the screen using the coordinates to properly position the title. Before actually stamping the title down, it's a good idea to first check the final position of the title with the DCTV background. You'll find that the horizontal coordinates match up nicely but that the vertical coordinates are reversed and will require doing a little math to find the vertical DPaint equivalent of the vertical DCTV Paint coordinates.

Next open the Move requester using the Animation menu or simply press Shift m on the keyboard. Click on the "come to" button (the arrow with the dot at the pointed end) underneath the "Direction: Move" controls. This will tell DPaint to stop the animation on frame thirty with the title landing in the middle of the screen where you just stamped it down. Next type in the distances for the brush to move in the X,Y and Z axes and the amount of rotation, if any, around the same axes. I like to move my titles in both the X and Y axes at the same time while spinning a full 360 degrees around the Y axis. After you have previewed the title as a wireframe to your satisfaction click on the draw command and wait for the animation to be rendered.

Once the animation has been rendered, the next step is to save the animation, preferably to a hard drive. First activate the stencil function by using the menu controls or press Shift and "tilde" on the keyboard. Once the stencil requester has been opened click on the white color register and then click the make command. This will save the animation frames as individual stencils to be

Figure 2

used with DCTV Paint. Use the Save command found with the picture menu instead of the Animation menu. Type in 1 to thirty at the bottom of the requester where it says Frames and also type a file name. It's a good idea to use a file name that includes the initial "w" (for white) to indicate which stencil you are saving. When you click on the save command, DPaint will automatically save each animation frame as a seperate stencil and also add a number (w001, w002, w003) to the file name. Repeat the same process to save the stencil used for the outline and drop shadow. Be sure to clear the stencil first and then click on the color register used for the outline and shadow. Save the animation again using the Picture menu, setting the frame count from 1 to thirty and using the initial "b" (for black) as part of the file name.

You should now have two separate animations saved as individual stencil files that conform to the exact shape of the title animation created with DPaint. The "w" stencil files carry the information to recreate the letters of the animation and the "b" stencil files carry the information to recreate the accompanying black outline and drop shadow. Return to DCTV Paint and load the DCTV background image previously created. You may want to use the RGB filter to screen out any potential NTSC color artifacts such as moire or edge crawl.

Next load the first white stencil (w001). You will see (if the stencil isn't off-screen) a solid colored outline of the stencil on your video monitor. Activate the stencil command at the bottom of the screen and then click on the inv (invert) function. The screen will be filled with the same color as the stencil but now there will be a hole where the stencil was. That hole conforms to the shape of the white letter from the first frame of your DPaint animation. We can now fill that hole with any color from the DCTV Paint palette. Before explaining the next step, it's now appropriate to explain why we limited the animation to two colors. Because each frame of the animation has to be individually painted onto the DCTV background as a stencil, once for the white stencil and once for the black stencil, and the animation runs for thirty frames, using more than two colors involves performing a lot of repetitious work by hand. There isn't any other reason why the title couldn't have more colors. If you're up to it, then by all means use more than two colors for your title. Of course, you can reduce the amount of work in half by using just one color, but I highly recommend using a black outline and a drop shadow with your titles, especially if the final product is going to be duplicated onto VHS videotape for distribution purposes.

Once the stencil (w001) has been loaded and inverted, choose white or any other color that you like from the palette. By default the airbrush tool should be activated. You may want to increase the size of the airbrush by using the plus key on the numeric keypad.

Hold the left mouse button down and fill the hole with the color you have selected. Don't release the left mouse button until the hole is completely filled. Now save the image, making sure to save the image as a display file and not a raw or 24-bit file. Once the image has been saved, click on the Undo button (you are using DCTV Paint 1.1, aren't you?) and the white letters will be removed from the screen. By immediately clicking on the Undo button after saving the image you eliminate the need to reload the DCTV background each time the next stencil is loaded. Load the next stencil (w002), click on invert and fill the hole with the same color. Then save the image and click on undo again. Repeat the process until you reach the last stencil (w030), remembering to change the file name every time you save the next image. Using the same file name and an increasing sequence of numbers (Objix1, Objix2) for each frame is a good idea. Once you have created the 30 background images with the lettering added and saved them as DCTV display files, the next step is to add the black outline and drop shadow. Load the first background file (Objix1) and then the first black stencil (b001).

Click on invert, fill the hole in the stencil with black, and then resave the file. Because the files have already been created, you will have to load and resave each image. Repeat the process until the final stencil has been filled in.

The next step is to condense the 30 DCTV frames into an animation. I initially wanted to use PageFlipper but found that while it works very well with DCTV frames created using Scenery Animator 2.0, it doesn't work very well with DCTV frames created using DCTV Paint. You can use a utility such as MakeANIM and a text editor to write a script and then render the animation, but I prefer to use DPaint instead. Under the picture menu activate the load requester and type in three0 for the number of frames to be loaded. Using the left mouse button highlight all thirty DCTV frames and then click on the load command. DPaint will automatically create an animation from the files you have highlighted. The animation can now be played back using DPaint by pressing the number four on your keyboard. Press the space bar to stop the animation. Once the animation has been rendered don't forget to save it to a floppy disk or your hard drive.

While this technique requires a fair amount of work, the results are well worth the effort. By combining the power of DPaint's animation move requester with a DCTV background plus the ability to play back brush animations in real-time using DCTV, smooth title animations are possible. Of course, for those videographers with two Amigas, a DCTV and a genlock, there is a simpler way to do the same thing. Connect your DCTV to one of your Amigas and your genlock to your second Amiga. Display the 24-bit image using your DCTV and take the composite video output from the DCTV to the input of your genlock. Run DPaint on your second Amiga and record the combined output from your genlock.

Either way, I hope that this technique proves useful in your endeavors to produce high-quality real-time animations using your Amiga without the need to perform single-frame recording. By the way, the client was very happy with the logo animation that I created for the videotape.

Matt Drabick
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Raleigh, NC 27609
(919) 781-0158

OXXI's Presentation Master

© 1992 by Lion Kuntz

When the Amiga emerged in 1985, integrated do-all packages were the rage, and products like GEOS still have their loyal fans. After seven years, the Amiga public I talk to, the ones who chat on BBS and on-line services, and magazine reviewers of all sorts of products have produced a consensus. The prevailing opinion is that modules which perform very well acquired from a variety of companies are usually preferable to any ambitious do-many-things program. Presentation Master from Oxxi is a multifunction program that may fit your needs better than a conglomeration of products.

Presentation Master incorporates the following functions: display and output presentations; object-oriented paint system; sophisticated color management and text handling; data graphing and charting; supplied clip art as well as image importation; and ready-to-go templates, which can ease presentation setup.

In terms of size, Presentation Master is an intimidating package. It contains a hefty manual with about 400 pages, and thirteen diskettes. Fully installed it wants 12.2 megabytes of hard drive, much of it is optional structured clip art and fonts.

Presentation Master does many things. Some of them it does very well. Some things it does probably do not even need doing and maybe were a waste of programming talent. Let's look at some of the things Presentation Master does. It is a slide oriented program. It makes slides. As a presentation program it puts on a slideshow (with optional Anims). Since CBM began packaging AmigaVision with every computer and most people already have some paint program, like DeluxePaint, a company has to throw in a mix of things to convince you to buy their slide-making presentation program.

As a slideshow it uses a slide rack metaphor. Picture a slide carousel with any slide being chosen to be the lead slide. Imagine that any slide in the carousel can be the lead slide of its own carousel of slides. Picture yourself examining icon-sized pictures of your slides, ordering and reordering your slideshow by moving icons in the slide rack. Similar in concept to HyperCard or AmigaVision is the use of "hot spots" (either visible with some associated graphic, or invisible region) that, when clicked on, branch your slideshow to the "children" slides in the sub-carousel or rack of slides. Anims can take the place of any slide(s).

Each slide can be composed in "layers". The computer holds these layers as separate so they can be revised and edited endlessly. You can keep notes in layers which can be printed out for lecture notes, with subsets of information printed for handouts. At any time you can generate

out the visual information of a single slide to IFF image or Postscript. You can also output an entire computer slideshow presentation, including Anims, and distribute them with a standalone player module. (The output slideshow will no longer be editable, although the original will still exist for further editing.)

Presentation Master is betting that you want *real* slides without jaggies, on film in 24-bit color output from Postscript. They figure there is a real need out there to enter data into a spreadsheet and turn it into a variety of charts and graphs. They guess that you want to copy off handouts to accompany your speech and presentation.

People that I know do not let price get in the way of equipping their business, and cheerfully spend thousands on a Toaster or timebase correctors, if that is what their business needs. If they need a structured drawing program then they get one. This integrated package includes a structured drawing (paint) program. It is not as full featured as Professional Draw from Gold Disk, especially with all the new features promised in PDraw 3.0. Since Presentation Master is designed to produce slides, the structured drawing part is more important to a user who is outputting Postscript film slides. As soon as you convert the structured drawing to IFF image, or screen output to video, you have no higher or better quality than DPaint.

One feature that Presentation Master includes to tempt you is PolyFonts, or the polygon structured fonts invented for VideoTitler. In many ways Presentation Master is the big brother, or overgrown sequel to VideoTitler. The same programmer, Gary Bonham, produced both, and incidently invented the Anim format used by most modern Amiga Animations in his first effort.

PolyFonts are fast to render and very mallable. They can be warped, twisted, stretched, bent, and even curved into a spiral (see example, Figure1). CompuGraphic outline fonts can also be used, and the ones from Gold Disk are just as fast to render as the PolyFonts. However, the fonts produced by using a Gold Disk utility called FontManager Version 1.0, derived from Postscript Type-1 fonts, took excruciatingly long times to render. For one ornamental font it took eighteen minutes for the program to draw four words to the screen with these home-made fonts. I find it strange that a product that provides templates for uniformity of slides for the blue-suited corporate market added the option to warp text into a spiral. Since text in a spiral is very hard to read, it is an option one would not use very many times in a lifetime.

Another temptation offered by Presentation Master is a library of over 100 pieces of structured clip art in EPS (Encapsulated Postscript) format. All art in Adobe Illustrator format can be imported. Eight companies who sell clip art have provided an assortment from their catalogs ready to use in the object-oriented paint functions of the program.

Although the program accepts EPS and uses EPS, it does not output EPS. In other words, all Postscript output is a page to be printed as a page on a Postscript printer or film slidemaker. After carefully layering structured clip art and text in a spiral, you cannot export this slide jaggie-free to another program for illustrating a spot in your company magazine. The output details controls apparently do not permit exact sizing of the output so you can use old-fashioned cut and paste techniques. There are a variety of Postscript output templates that are rigid and inflexible.

One of the silliest wastes of programmer effort was the diskette label templates. There are three forms you can pick and have your slide duplicated in columns and rows of copies for disk labels. There are three columns by four rows, three by five, and three by seven. Only the three by five is not distorted, and maintains the screen aspect ratio. The other two choices distort the image to fit. Since I print about 1,500 labels per month I was interested in this feature, but I could not capture the image as EPS to import into my desktop publishing program. None of the templates are arranged to use standard nationally available "Avery" die-cut laser diskette label sheets which I prefer. None of the templates match the industry standards for three by three or two by three laser adhesive papers sold.

The same rigidity is exhibited in the various templates for outputting storyboards. Without EPS you cannot bring the images into your desktop publishing software for any custom size or arrangements. I don't think this program should be judged as if people do not own any other software. It should be considered in how well it fits into an existing creative studio already containing an assortment of computer tools.

PolyFonts on screen are pixel graphics, and so are scalable EPS clip art objects. They may exhibit fewer jaggies, but they still have them. Only Postscript output gives the truly smooth edges to curves and text. If you mainly want video output instead of Postscript pages and slides, than this program does not offer much that is not also available from many other graphics composition programs.

It does include a healthy supply of fonts and clip art, which separately sell for the price of this package, and considered as a structured art program it is one of the lowest priced. Compared to Elan Performer the presentation part of sequenced or random-access to pictures and Anims, this program does not make the grade.

In Conclusion

This software is created for the corporate audio/visual department. That is evident from the package, manual, and advertising campaign. It is my hunch that the average AVID reader is not a cog in a corporate conglomerate. Any review for this audience is necessarily tailored for them. What might be strengths in a product designed for one market might be clumsy stumbling-blocks against use by another market.

If you identify with one of the following scenarios this product will certainly be a useful, relatively low-cost solution to everyday challenges you deal with frequently. Let's say that you are involved with a graphic arts, audio-visual department in a vigorous corporation which has many executives frequently out making presentations to groups of people. These presentations might be sales presentations illustrating the advan-

tages of your product, or your presentations might be to upper management of the stats of company growth and strategies. Maybe you have to make environmental reports to concerned citizens groups to get political approval of some project, or the presentations are to conventions and professional conferences of peers. In these examples there might be support staff organizing data for charts, and low-level artists making slides, overhead transparencies and illustrations, with some purchase of art services from outside agencies.

For more typical AVID readers with a small computer art and/or video studio this product might let you add a few services that you can sell to some of your regular clients. The chances are that you will not want or use many of the features of this package, and the question becomes "Is there enough that I want to justify the price and the learning curve?"

It would cost $500 to $800 more than this program costs to duplicate all of the features of this program with separate modules from various companies. However you might already own most of those separate modules such as Director, Elan Performer, AmigaVision, DeluxePaint, PDraw, Professional Page, PageStream, SpectraColor, etc., and those other modules or programs might include their own clip art, fonts and many unique features. In the corporate world that consumes a ton of film slides this product is a good value. In the small business of video and computer graphics studios doing IFF or video output, this integrated program may be less than the sum of its parts.

Presentation Master $299.95
Oxxi, Inc.
PO Box 90309
Long Beach, CA 90809-0309
(310) 427-1227

Amiga Graphic Goodies

Continued from Page 28

DCTV, via their "libraries" and thus render directly to either of those extended color hardware devices.

Having seen and tried ALL the freely-distributable Amiga JPEG implementations, I can tell you that Rend24 is by FAR the easiest to use. If you've been dealing with the command-line programs, toss them out and get this program. It's small and it's very slick.

Besides loading JPEGs, Rend24 also loads the cross-platform GIF format.

Loading JPEGs or GIFs and viewing/saving them as IFF are but a couple of Rend24's many features. It's also a batch processor.

Feed it a list of input files (use wildcards if you like) and it can load and process each one and save them out singly or as an OpCode-5 Amiga animation. Floyd-Steinberg dithering is available, and Rend24 can also scale and rotate images, create animations with locked color palettes, and perform NTSC limiting.

One truly slick feature is Rend24's ability to wait for source pictures to be rendered and appear on your drives. This will let you use LightWave 3D, or Vista Pro, or Imagine, for example, to produce 24-bit frames and sequence them into a standard-format Amiga animations simultaneously. You can even tell Rend24 to delete the 24-bit source files after it grabs and converts each one.

Rend24 was originally a CLI program with no interface, and it will still work that way. In fact, some of its features are ONLY available when run as a command, though most users will not need them.

The program does have a few limitations: although it loads JPEGs and GIFs, it cannot save in those formats. Further, it doesn't load the SHAM, and Dynamic HAM or Dynamic HiRes file formats. Rend is also not really designed to deal with images larger than 768x480 and when loading in small images, the conversion to Amiga IFF sometimes goes haywire producing undesirable results, so Rend is really best used with full screen-size images.

The documentation supplied with Rend24 is written in a lucid, non-technical style and is complete enough to explain all of the program's features and get you going with it quickly.

This is a terrific little program and is a good example of a quality product released as shareware whose author deserves to be encouraged and supported with your dollars.

On The Portal System you'll find REND104F.LZH in our Graphics Utilities library in the Amiga Zone.

Portal: harv
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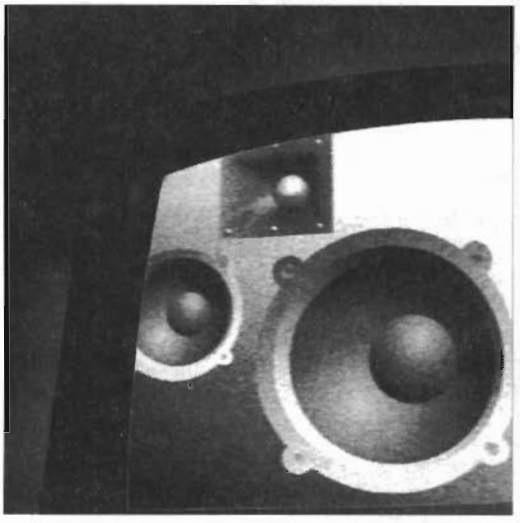

SunRize Industries' AD1012

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In previous issues, I've attempted to emphasize the potential impact of professional quality audio in any video project. At the same time, we've examined some of the best software and hardware tools available for the Amiga, designed to enhance and facilitate the production of audio for video. And, if you've been with us for the last couple of issues, you should, by now, have a fairly good understanding of the theory and practice of digital sound sampling. (However, if Amiga sound sampling is a somewhat foreign concept to you, you might want to check your back issues of AVID for some background on the subject.) In this month's Sound-for-Video installment, we'll take a look at SunRize Industries' AD1012, the first high fidelity sound board, and hard disk recording system for the Amiga. Simultaneously, we'll also have an integrated preview of SyncPro, Blue Ribbon SoundWorks' SMPTE/MIDI Time Code synchronization interface. (Next month, we'll fully explore the use of this powerful new SMPTE time code reader/generator for the Amiga.) Additionally, we'll examine in detail some real-world applications for this type of high quality recording and synchronization system in the video environment.

AD1012 & the 12-Bit Difference

We've been discussing the use of the internal voice circuitry found in all Amiga models in the past issues of AVID. These native sounds are produced using eight-bit digital words, and their playback speed (and, therefore their sound fidelity) is limited by the Amiga's processor speed. The new AD1012 uses 12-bit words in combination with a variable high frequency recording and playback rate to produce sound of a much higher quality than those usually possible with the Amiga. (By way of comparison, 8-bit digital words range in value from -127 to +127, while 12-bit words represent values ranging from -2048 to +2048.) The AD1012 can sample at rates up to 100,000 cycles per second (also called kilohertz, or khz), though anything over 44.1 khz, the rate used by CD players, will not really produce an audible difference, as the human ear can only perceive frequencies up to approximately 20 khz. (The relationship between the sampling rate and the resulting sound's frequency range is called the Nyquist theorem. It states that a sound's highest frequency cannot exceed twice the sampling rate. In other words, a sampling rate of 44.1 khz will yield a top sound fidelity of approximately 22,000 cycles per second.) And of course, since the AD1012 records samples directly to hard disk, the maximum sample length is determined by the amount of free disk space available, and the sampling rate chosen. If, for example, you use a sampling rate of 44.1 kilohertz per second, then it requires 5.1 megabytes of disk space per minute of audio. So, it would take just over 76 meg of disk space to record 15 minutes of sound at that rate. However, if a sampling rate of 20 khz were used, then the same minute of audio would only occupy 2.3 meg, and 15 minutes would require approximately 34.5 meg of disk space. So, obviously, some consideration needs to be made for the fidelity of the final waveform, and the amount of disk space available on your hard disk partition.

The AD1012 also features a DSP2105 digital audio processing chip, allowing the creation of real-time special effects such as echo, flange, and delay. The card also has a built-in SMPTE generator for its own internal timing control, and it reads SMPTE Linear Time Code from any external source, to facilitate easy, frame accurate synchronization of audio and video.

Studio 16

SunRize Industries is also the maker of Perfect Sound 3 and Audition 4, so the company has years of experience in the design and manufacture of sampling hardware and sound editing software. Their expertise in writing sound software for the Amiga environment is evident in Studio 16, the sampling, editing, and playback software used to control the AD1012. The program handles the recording of samples, and graphic sound editing and playback functions for both their 12- and (soon to be released) 16-bit sound cards. The Studio 16 program is actually comprised of a set of interactive applications and utility modules. Each of these modules handles a particular set of functions and operations: monitoring or recording sound samples; graphically editing samples; and assembling cue lists which can be triggered from (frame-accurate) SMPTE time code.

Program Structure

In many ways, the program uses the analogy of a four channel tape recorder. Samples can be recorded separately, edited and aligned, and up to four sounds can be played back simultaneously. Individual sound samples can be recorded from either the Recorder or the Transport module. However, in the Transport window, up to three samples can be played back while recording a sound sample on the fourth track. This new track can either be recorded from the audio input (a new sound,) or by bouncing, or mixing down

the other existing tracks to the last "virtual" track. Since you're dealing entirely with digital data, and not analog audio signals, no tape noise is added, and the signal-to-noise ratio remains consistently high. This ping-pong mixing technique can be used repeatedly to mix tracks of audio, thereby opening up tracks to be recorded again and again.

Upon booting the program, you're first given some information about the program and its authors, Anthony Wood and Todd Majeski. Then you're presented with the Instance window, which contains a list of all of the modules which are currently loaded and active in the program. Modules can be added or deleted in the Instances list as they are needed. To initiate a module, its name is selected in the Instance list, and the appropriate window opens for editing or manipulation. Most of these module windows can be resized and moved on screen to suit your needs (or tastes.)

The Master Preferences window contains path assignments for the storage of sound and work files—the directory to which sound samples are to be recorded. Buffer sizes can be adjusted to best suit your own Amiga system's hard drive and processor speed. An interlace screen can be selected, allowing more information to be viewed on screen, though one-pixel lines can cause flicker without the use of anti-flicker hardware. The color palette can be chosen from a number of preset palettes, or customized to your own personal liking. The SMPTE rate (frames per second) is also selected in the Master Preferences window.

The Open List window holds a list of the names of the samples available in the current directory. This list is updated every time a new sample is taken, and it is saved as the default list when you exit the program, so it's there the next time you boot the program. Selected samples can be played from the Open List. Samples can be loaded into the Open List from any directory; they can also be erased or renamed.

It is through the Open List module that you can reach the powerful sample editing features of Studio 16. The Editor module presents a graphic display of the currently selected sample. An excellent zoom function is also available for close inspection of the soundwave. A range of a wave can be marked by simply dragging the mouse, and this range can be edited in either of two different modes, each with a slightly different set of tools. Edits can be either Non-Destructive, leaving the original sample data on disk intact, or Destructive, making permanent changes to the data on disk. In the Non-Destructive mode, a highlighted range can be cut, copied, pasted, erased, or kept, discarding the remainder of the waveform which is not marked. In the Destructive edit mode, a range can be copied and pasted, and a function called Compress makes all edits permanent by removing any excess data that is not actually used in the final waveform. In either editing mode, silence can be added to a wave, and a marked range can be flipped or edited freehand. Both modes also allow volumes to be ramped by setting starting and ending percentages, causing smooth fades up or down in levels to be created.

It is in the Cue List module that the samples in the Open List (and, therefore the current directory) can be sequenced, and synchronized to video. The timing reference for the playback of the specified samples can be either the internal SMPTE generator, or it can be synchronized with video through the use of an external SMPTE time code reader/generator. To use SMPTE time code, a SMPTE generator is first used to produce an audio reference tone, which is recorded (or striped) onto one of the audio channels on your master video tape. Usually, this reference tone is recorded on the entire length of the master tape. The SMPTE stripe contains the exact information, in hours, minutes, seconds, and frames, of every frame on the videotape. (Any specific location on the tape can be accessed for synchronization by using a SMPTE Offset to lock to an exact time address.) After this SMPTE stripe has been recorded, the audio output from the tape is then fed to the SMPTE input on the AD1012. Studio 16 is then able to track, with frame accuracy, the precise location of the video. Cue points for music, dialogue, and sound effects can then be noted by watching the video while monitoring the SMPTE time code numbers.

After all of the required sounds and music are compiled and edited, a Cue List is then constructed which lists all of the samples, their relative volume levels, and the exact SMPTE time that they are to be triggered. The samples are played back directly from your hard disk, so extremely large (long) samples can be played. Up to four samples can be accessed at one time, depending on your Amiga's speed. Then, the SMPTE stripe on the videotape can be used to control automated playback of all of the specified samples from your hard disk, creating a seamless, perfectly synchronized audio track. In practice, this function performed flawlessly. In fact, the entire time I used the AD1012 I experienced no software malfunctions or crashes whatsoever!

The SMPTE Monitor window displays the current SMPTE time (in the current frame rate,) whether it's being generated internally, or coming from an external source. This window can be expanded in size to a very large readout. SMPTE time is displayed in standard Hours:Minutes:Seconds:Frames (HH:MM:SS:FF) format. By routing the video source through my SuperGen genlock and making Color 0 (the program's background color) transparent, I could produce a SMPTE window-burn, which is a graphic display of the actual SMPTE time on the videotape. This is an indispensable aid in precise synchronization of audio cues and hit points for a custom music score.

Another well-designed feature of Studio 16 is its simulated audio meters. The Meters module provides up to four on-screen meters, which can be used selectively to monitor audio levels at the card's input, output, or on any of the four virtual audio tracks. Additionally, a second Meters module can be loaded into the Instance window; these meters can also be opened to monitor all six audio levels simultaneously. These meters can be configured in any combination of up to three different display modes. Simulated analog VU meters, give you a reading of levels as they vary. The Meters window can display digital peak meters, giving you an accurate picture of the levels' peak voltage, or, as a graph which shows a small representation of the soundwave.

Either of two different mixer windows can be used to control the audio levels of the input, output, or any of the four tracks. The Mixer window also displays the status of each of the tracks, and a graphic display of the active waveform is shown. The Tiny Mixer module displays six sliders used to control any of the six volume levels in a very small (resizable to miniature) window. (The more windows which are used on-screen simultaneously, the greater the demands on the

Amiga's processor. Depending on the configuration of your Amiga system and its processor speed, it may be advantageous to reduce the number and/or size of the active modules for the for the greatest sound production capacity.)

Real-Time Effects

High fidelity real-time effects are produced with the AD1012's Digital Signal Processing chip. If you do not possess a dedicated audio processor, the AD1012 can be used to produce echoes, delays, or flange effects. Delay times are variable from .02 milliseconds to just over one second, depending on the variable sample rate. (The higher the sampling rate, the better the fidelity of the sound produced by the AD1012. But the trade-off for the higher sampling rate is a shorter available delay time.) A digital filter is also provided which can be automatically set to eliminate any unnecessary high frequencies which add aliasing noise to the sample. Delay times below about 20 milliseconds create phase cancellation at certain frequencies. By adding modulation to the delay time, a sweeping (or flange) effect can be produced. Feedback and delay levels, and modulation speed and intensity are also variable.

On the down side, the card is not stereo, so if that's a requirement in your audio tracks, you'll have to wait for SunRize Industries' 16-bit STEREO card which is set for release in late 1992. However, if you're using a video editing system with only two audio tracks (that is, with no provision for a separate time code track, such as a Sony Type 5 5850/5800 3/4" system,) then this does not present a real problem, as one audio track will be used for SMPTE time code, while the other contains the audio track. If you purchase the AD1012 card now, you'll reportedly be able to upgrade to the 16-bit card as soon as it is released, and receive full credit for the purchase price of the AD1012 in trade for the more expensive 16-bit board.

Unfortunately, the program does not yet allow effects to be added in the editing process, though this, and Channel Assignable effects are planned for a future release. Also, the current release (version 1.02) handles 24, 25, and 30 frame per second SMPTE timing, but does not support drop-frame time code. (Drop-frame is, of course, the most common rate for NTSC color video!) Drop-frame will be added in a later release, but for the time being, if a client is to provide a video or audio tape with a pre-recorded SMPTE stripe, be sure to specify one of the other frame rates.

Breakthrough

In spite of a few drawbacks, the AD1012 and Studio 16 represent a real breakthrough in the field of professional quality sound production for the Amiga. Fortunately most of the current problems present with the system can be updated with future software updates. The AD1012 can play and save samples in a wide variety of different file formats, including the Amiga's native IFF-8SVX 8-bit, AIFF 8- and 16-bit (common in Macintosh audio applications,) RAW, and CDTV RAW. So, if you have a large collection of IFF-8SVX samples they can be directly accessed from the AD1012 by assigning them to the current working directory. Even though the AD1012 card is a 12-bit recorder/player, the Studio 16 software uses 16-bit words internally in all its sampling, editing and storage. Therefore, all of the samples produced with the AD1012 will be completely compatible with SunRize Industries' 16-bit sound card when it becomes available. With it's SMPTE compatibility it's an extremely valuable tool in the production of many types of sound for video. And, with the ability to record and playback from hard disk, the length of samples is limited only by the sample rate and hard disk capacity. This makes the AD1012/Studio 16 combination ideal for the editing and production of music, narration and sound effects for video.

The AD1012 card and Studio 16 can be totally integrated and controlled from within Bars and Pipes Professional or SuperJam! This can be accomplished through the use of a set of Tools and Accessories for B&P Pro which are included on the Studio 16 program disk. Samples can be triggered from within the Bars and Pipes or SuperJam! environment, allowing 8- or 12-bit samples to be played directly from your hard drive. Studio 16 (version 1.02) does not yet support the playback of virtual tracks from within Bars and Pipes Professional, though that feature with be included in a later version. This will allow digitally recorded audio tracks from *any* source (whether music, spoken word or sound effects) to play from your hard disk in perfect synchronization with a MIDI sequence. In other words, you'd be able to sample voices, guitar, narration or special effects tracks to your hard drive for frame-accurate synchronized playback in conjunction with a MIDI song. The entire audio track could then be recorded to videotape without the need for an expensive, time code controlled multi-track tape system.

Throughout my review and testing of the AD1012, I used SyncPro, the new SMPTE/MIDI Time Code generator/reader from Blue Ribbon SoundWorks. Next month we'll take a detailed look at SyncPro, with special attention paid to the video production applications for this high quality, low cost device. This interface which reads and writes all formats of SMPTE code (including drop-frame) as well as MIDI Smart Song Pointer Sync, was specifically designed to be controlled from within Bars and Pipes Professional, or SuperJam!, however, it works just as well as a stand-alone SMPTE Reader/Writer. And, used in conjunction with other ARexx-compatible software and hardware, it can be used to synchronize a vast array of Amiga applications.

I'll be glad to provide working demo versions of Bars and Pipes, Bars and Pipes Professional, Synthia Professional, and M for the Amiga, if you'll send me (up to) four blank 3.5 inch disks, and the appropriate postage.

AD1012, Studio 16, Perfect Sound 3 and Audition 4 are from SunRize Industries, 2939 S. Winchester Blvd., Suite 204, Campbell, CA, 95008, (408) 374-4962.

SyncPro, SuperJam! and Bars and Pipes Professional are distributed by The Blue Ribbon Soundworks, Ltd., 1293 Briardale Lane NE, Atlanta, GA 30306, (404) 377-1514.

Jaxon Crow has recently released his first tutorial videotape on producing Sound for Video projects entitled Amiga Music for Video, Volume One.

For questions or consultation Jaxon can be reached at:

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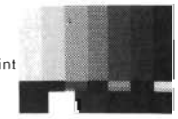

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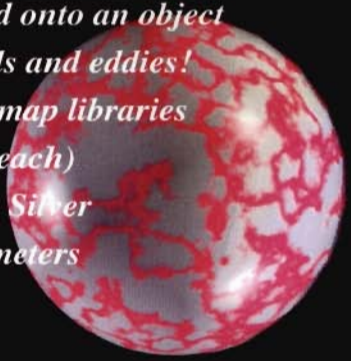

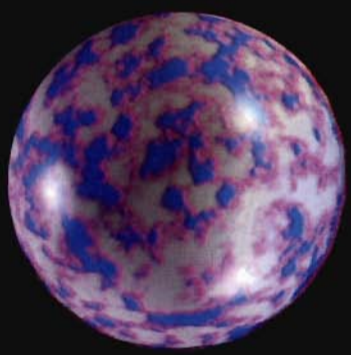

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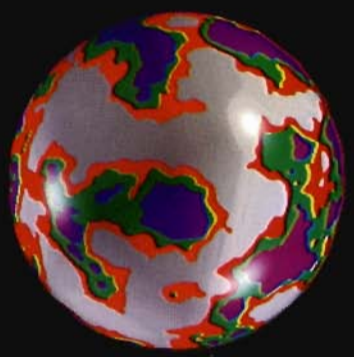

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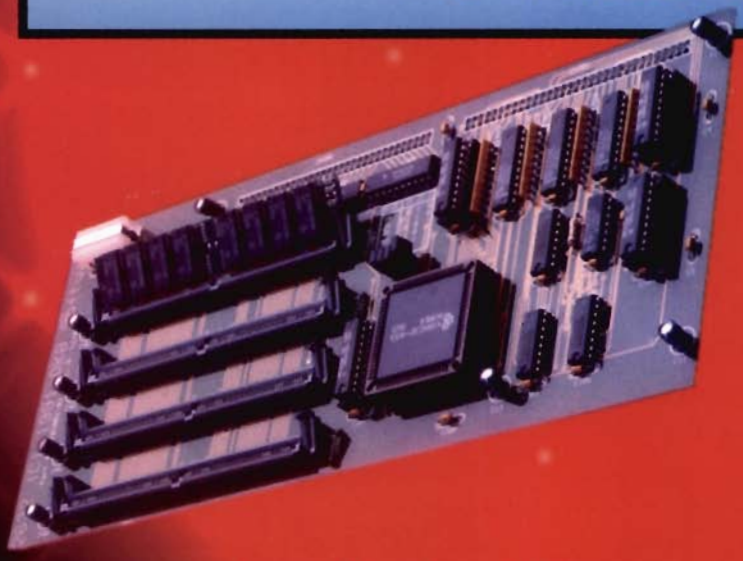

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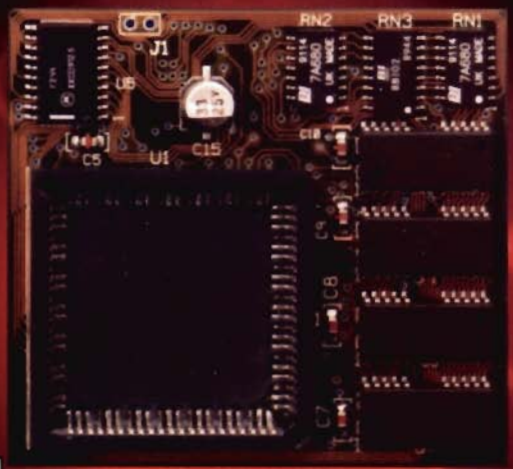

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Avid LETTER An AVID Subscriber Supplement

Sunday July 26, 1992
9:58 PM
Silicon Gulch

Welcome back to another issue of the AVID LETTER, the subscriber-only supplement to AVID, the Amiga-Video Journal. While summer is traditionally a slow season for the general computing community, it is anything but that for the Amiga/video magazine business. Every summer I swear I'm going to find the time to take a short break, but the pace never slows down enough make it happen. The summer of '92 is no exception.

Actually, I did take some time off in the early part of July to stay home and help take care of our first new addition to the family. Laura and I are now the proud parents of Conner J. Plant. He was born at 6:58 PM on July 2; coming into the world at 9 pounds 10 ounces and 22 inches long. Right now he's not significantly contributing much to the AVID effort, but we hope to have him online in the near future.

Unfortunately, Conner isn't the only reason I've been losing sleep lately. No, there's something else that has been troubling me for quite some time and it has really reached a boiling point in the last month or so. I'm referring to my concern for the future of the Amiga platform and the serious hits it has been taking in my neck of the woods.

It started off a few months ago when longtime Amiga columnist, Matthew Leeds, submitted his "Last Amiga Column" for MicroTimes, a primarily California-circulated computer publication. Matt cited his growing frustration with Commodore's inability to successfully market the Amiga, as well as their failure to significantly improve its capabilities over the last six years. His difficulties in obtaining timely and accurate Amiga product information from Commodore added greatly to his frustration.

Although I easily identified with Matt's plight, and agreed with most of his analysis of the sad situation, I was still saddened to see his abandonment of the platform. Why? Well two reasons: one, his regular Amiga column was one of the few reasons I picked up MicroTimes and, two, it felt like another nail in the Amiga's coffin.

A few weeks later, to make matters much worse, I opened up the Computing section of the San Jose Mercury News and was greeted by a full-page article with a headline that read "Commodore Lets Amiga Die Slow Death". My heart sank. The author, Phillip Robinson, covered much of the same ground that the MicroTimes column had covered, even referencing Matt's article at one point. The article pointedly blamed Commodore for massive neglect of its Amiga marketing and technological responsibilities and accused the company of killing the platform. Robinson concluded his article by suggesting that the only people who should consider buying an Amiga are those individuals planning to install a NewTek Video Toaster.

Again, while I could not disagree with many of the author's points, I was depressed to see this kind of article being written about my beloved Amiga. Even worse, I knew that many technology editors at newspapers around the country looked to the Mercury News, Silicon Valley's preeminent newspaper, as a respected source of timely information. My worst fears were realized when I began hearing reports that the article was being reprinted in other major metropolitan papers (so far I've heard that the piece has appeared in the Washington Post and the Boston Globe).

So, how much of this can we believe? Is Commodore really guilty of criminal neglect? Is the Amiga really on its last legs? Is the Video Toaster the only really good reason to buy an Amiga? Let's pull out our old analytical magnifying glass and take a closer look at the situation.

Is Commodore responsible for the sorry position and condition in which we find the Amiga? Well, of course they are! The parent company is ultimately responsible for both the successes and failures of its offspring. When Laura and I brought Conner into the world we assumed a responsibility to do everything we are capable of to help him reach his ultimate potential. Naturally, there are no guarantees. Our guidance and support, while absolutely critical and essential, does not ensure that he will become everything we want him to become. His future will be shaped by many outside influences besides our own, including the powerful force of his own free will. However, these uncertainties and outside pressures DO NOT relieve us of our obligation to do everything we are humanly capable of doing. I know that I am forcing the analogy to compare the parent/child relationship with the company/product relationship. While it is certainly true that parents cannot be held completely responsible for how their offspring turn out, computer companies can!

To be fair, however, that the Amiga has been the victim of forces outside Commodore's control. Jack Tramiel's rape of the C-64 dealer network, for instance, is still haunting the Amiga dealer channel. Those of you who had 64s may remember how Tramiel pulled the rug out from under 64 dealers by dumping the 64 into mass market at list prices below dealer cost. There were many computer dealers who were severely burned by this maneuver and vowed never to carry any Commodore product again. (This action was technically not outside Commodore's control, but a distinction must be made between Tramiel- and post-Tramiel Commodore.)

Yes, it's true that the Amiga started life with several strikes against it. The original Amiga company, while certainly innovative, was clearly not financed well enough to adequately support the tremendous marketing, manufacturing and continued research and development that a computer like the Amiga requires. While money is nowhere near as critical as love when raising children, with computers it is absolutely essential. This lack of adequate early funding was certainly detrimental to the development of the Amiga. In retrospect, it can be argued that this early retardation sealed the Amiga's fate (whatever that may eventually be).

While Apple and IBM were racing ahead with new systems, new technological developments and new marketing campaigns, the Amiga's progress was put on hold while the adoption process took place. By the time Commodore figured out what they had brought into the family, precious time had been lost. Time that was being used by Commodore's competitors to solidify standards that effectively cut the Amiga off from the computing mainstream.

While many would argue that Commodore took far too long to assimilate and understand the potential of the Amiga (some say they still don't understand it), if it wasn't for them the Amiga might never have gone beyond the model 1000 stage and you wouldn't be reading this letter. So did Commodore rescue the Amiga only to retard its growth and cause its eventual demise? The answers are: "yes" Commodore rescued the Amiga, "yes" they have retarded its growth, and "no" they have not killed it off (yet).

There's no question that Commodore management has failed the Amiga in many ways. Technologically, the Amiga was a wonder right from the start and even though it has been caught and even surpassed in many areas it still offers important features not yet available on other platforms (multitasking and NTSC compatibility to name a couple). But Commodore has never been able to create any kind of real demand for the Amiga. Its anemic dealer channel is testimony to that sad fact. I can't tell you the exact number of Amiga dealers in this country, but I'd be willing to bet that there are less than 500 Amiga dealers in the entire U.S. that do any significant business with the Amiga. And I'll bet again that you won't find more than a handful of these dealers who are satisfied with the support they get from Commodore. I spent three years in the dealer channel, so I have a firsthand view of the workings of that arrangement. Here are a few of the all-to-common occurrences that I experienced during my retail tenure:

1. Very slow implementation of programs and promotions. It was not unusual to get notification from Commodore of an upcoming promotion with a promise of "details to follow" and then receive those critical details at the last minute, or worse, when the promotion was half-finished.

2. Lack of availability of critical products. Commodore is notorious for putting a promotion together without any thought of how the manufacturing division is going to meet the production needs of the promotion. A case in point is the current Amiga 2000 HDA/100 promotion. The program officially began in June and, as of one week ago, none of the dealers I talked to had received any of the units they had ordered. This situation is aggravated even further because, in an effort to support Commodore's promotion, many 3rd party developers (DKB Software, Impulse, Virtual Reality Labs, AVID Publications and several others) had put together promotional offers to augment the program. Our offer might expire before Commodore starts shipping product. Unfortunately, this is not an isolated incident.

3. Another nasty Commodore habit is their tendency to start promising programs and then prematurely pull the plug on them. Their aborted attempts to penetrate the education market is a good example of this type of behavior. Much of the blame for this action lies with another Commodore failing, which is the inability to keep top leadership in place for any significant amount of time. Programs which are started by one executive are quickly cancelled by his replacement. This kind of maneuvering is very hard on dealers who expend precious resources to support these programs and then a year or so later see their investments invalidated.

I can go on for hours with Commodore horror stories, but what's the point? The bottom line is: Commodore has never been able to successfully market the Amiga in a way that creates enough demand to support a strong dealer channel. To make matters worse they've poorly supported the existing dealer base. We do a dealer mailing every few months and each time a frightening number of pieces come back marked "undeliverable".

Marketing and distribution are not the only areas where Commodore has been deficient. They have failed to forge any significant alliances with any important 3rd party companies. They have also failed to fill gaps in the product line and they've failed to hold their early technological lead. Even the new machines due out later this year are simply too little, too late. In short, they have failed in their parental obligation to do everything possible to ensure the success of their offspring.

Before I go on, let me make it clear where this blame really rests. It is NOT with the U.S. division of Commodore. While they must shoulder there share of the blame for many operational miscues, the West Chester office is clearly not in control of its own destiny. Their strategic strings are pulled by Commodore International, or more specifically, Irving Gould and Mehdi Ali. These two individuals with their visionless, accountant-like business mentality have steadily managed the Amiga into the ground, while paying themselves quite well in the process.

So, is the Amiga on its deathbed? The short answer is "not yet". It is still alive despite what seems like Commodore's best efforts to destroy it. Its heartbeat is more a testimony to the tenacity and evangelism of its 3rd party developers and end users then anything else. In the next issue of the AVID LETTER we'll look further into the Amiga's future, especially as it applies to video and graphics. We'll also explore the question we asked at the beginning of the AVID LETTER: Is the Video Toaster the only good reason to buy an Amiga? See you next month.

Sincerely-Jim Plant/Publisher

P.S. Speaking of the Video Toaster, dealers who are interested in offering Toaster training and end users who are interested in attending Toaster workshops and seminars, should be aware that Lee Stranahan, founder and publisher of Bread Box (now Video Toaster User), has left NewTek to form a company that specializes in Toaster Training. He is currently working with Amiga dealers and authorized Toaster Workstation dealers around the country and has already scheduled a number of seminars around the country. If you would like to organize or attend a Lee Stranahan Video Toaster seminar, contact Kathy at (913) 271-6039. Highly recommended!

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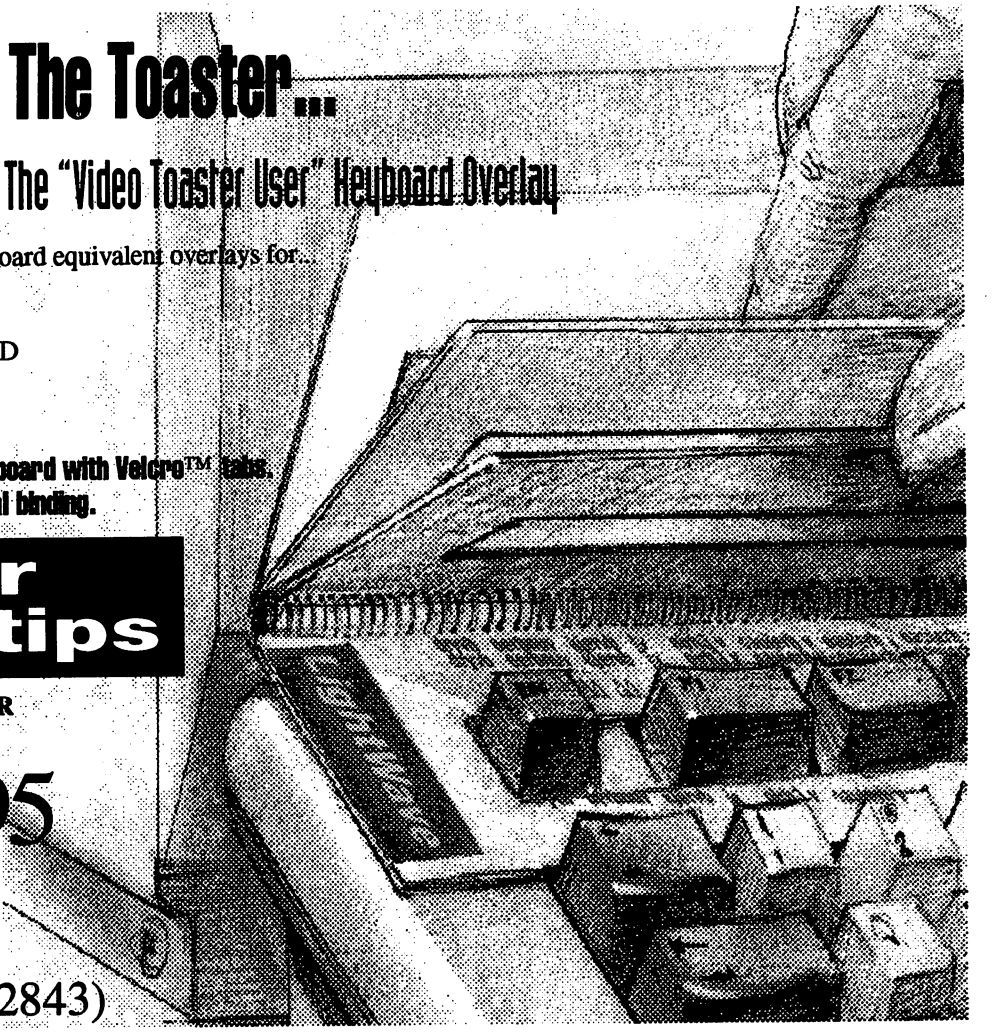

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