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MAY 1996

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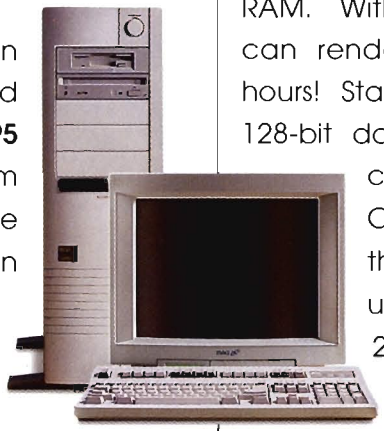

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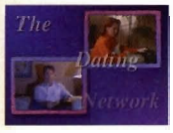

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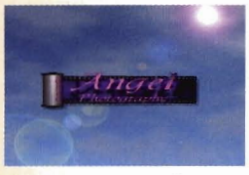

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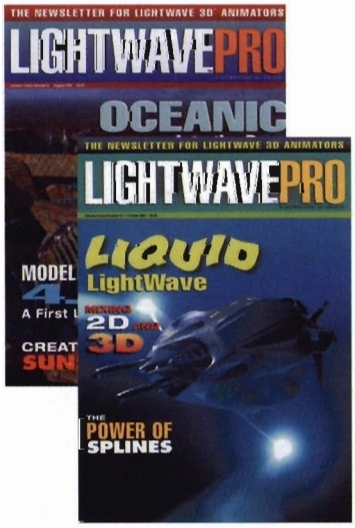

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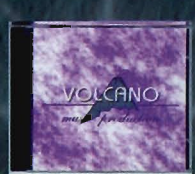

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TOASTER TALK

Knowledge Is Power

So Is Choice!

by Tom Patrick McAuliffe

I was searching through the morass that is my present filing system to stash this year's map of the NAB convention (We'll have a full report in the very near future. Do your feet still hurt?) and I realized how many "critical"(?!) documents I have. A friend was in the same boat and fax'd me over an old (1959!) ad he came across while filing. RCA was announcing an all-new concept demonstrating "Shopping by Television" both in stores and at home via the airwaves. One of the tag lines was "Providing you the viewer with more *choices*!". It really helped to remind me of how far we have and have not come. One reason I and others are so adamant that the Amiga/Toaster survive, aside from "it's the best tool for the money", is the basic fact that it continues to give people a real *choice* in computer platforms, not to mention a low-cost tool for producing quality television. One of the things that makes Toasterland cool and essential is the choice it provides as a tool and vocation. The choices we then provide in services and programming to our clients and viewers are just as important. To me these things are vital to a healthy, free telecommunications market—and society.

Evaluations

At *Video Toaster User* we also realize and appreciate that you have a choice in information providers. You may notice that at the end of some articles we have an evaluation box so you can make a *choice* about what you want to see in your magazine. Please choose to take advantage of this opportunity and let us know if the article was useful and also how we can serve you better.

I recently had the opportunity to speak with many readers, users and dealers who voiced their trials and triumphs with the technology and the market. After the digital bog of the past few years with wild and tempting promises from manufacturers, most said they're planning to keep and/or expand/enhance their Amiga/Toaster systems. I was also gratified to learn that you overwhelmingly enjoy the changes we've made and the information we provide you each month. When asked about buying into "the latest" technology, my opinion is to keep it simple—and do it now. The whole point is to get started today. Additionally, the time may rapidly approach when things like public or leased cable access, low power TV and low-cost Toaster systems aren't available. Make the choice to get started towards your digital dream.

As for the latest technology? Things are moving faster than a pickpocket's hands, and if you think you're going to purchase *any* technology that won't soon be surpassed with something that's faster, cheaper or improved, you're only kidding yourself (or your significant other). As a point of reference, users have reported working with their Toaster systems for four and five years (producing money-making, award-winning videos and animations) with no problems. All this regardless of the status of the manufacturer or an up/down/turnaround market.

In The Know

AMG Media 1996 Toaster and LightWave training tours are underway! This year's themes are "Toaster: From Pieces to Production" and "LightWave:Unlimited Animation." Offering something for every level of video or animation skill, we've gathered together a group of seasoned professionals to give students an info-packed morning, day or more of training. The tour visits over 25 cities from coast to coast and will conclude at the *Video Toaster User* Expo this November, followed by the annual "Training in Paradise" seminars held in the winter sun of Hawaii.

Toaster training will give you the power to create network-caliber graphics, titles and effects. Editing with the new digital non-linear Video Toaster Flyer will also be examined. Additionally *all* versions of the Toaster—2.0 to 4.1 will be covered. No matter what kind of system you have, you'll be able to use the information provided as soon as you get home! Attendees receive a disk jammed full of images, utilities and more. A full training manual with easy, step-by-step information is also provided.

The LightWave 3D portion of the training tour is second to none, covering both basic and advanced features. Students can learn the powerful animation tricks seen on weekly network TV shows, meet with fellow animators and check out the latest version of multi-platform LightWave. From novice to professional, you'll discover techniques you never knew before. A valuable source book and disk full of objects and information is also provided. With the release of the new software users have more choices than ever so whether you need more from your present system or are curious about the new features in 5.0. Don't miss this once a year training opportunity!

As We Go To Press...

This month we check out the exciting new ABC show *Hypernauts*, created by the LightWave professionals at Foundation Imaging. We also take a look at what's available on the Web and Net, teach you to build your own 3D cannon object just in time for the Fourth of July, and give you advice for successfully shooting weddings this summer. Thank you for choosing to continue your support of this magazine. We shall persist in working hard to earn it.

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Tom Patrick McAuliffe, also owns Reel Communications in California and can be reached at TomReel1@aol.com.

TOASTER TIMES

THE BURT WILSON COMPANY

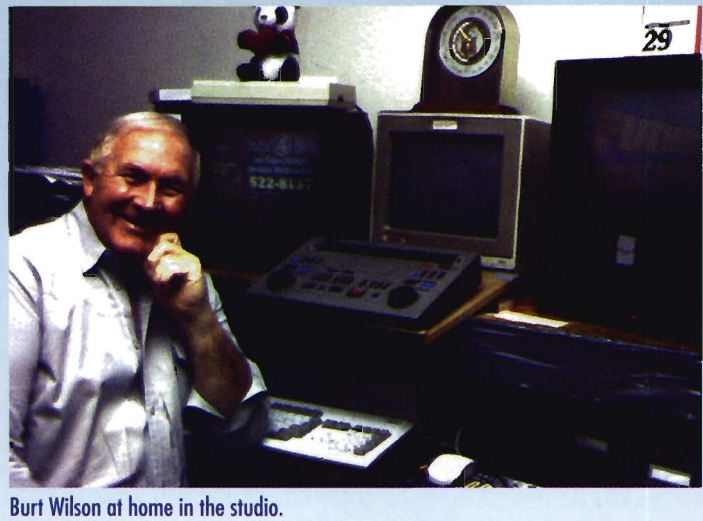
The One-Man Show That Clients Love

by Tony Gomez

Burt Wilson is a true veteran of television production. In his over 40 years in the industry, he has seen the production of television change from requiring many talented professionals to the advent of the one-man show. From these years of experience, we will can see how Wilson has evolved into his present position as the primary cable ad producer for Simi Valley's COMCAST cable TV company. He is also glad to share his insights, keys to success and his thoughts on the future of video post production.

Wilson was the first in his 1955 USC graduating class to earn a degree in television production. After college, Army service called, and Wilson went to Germany with the Armed Forces Network where he produced soldier motion pictures, similar to the Navy's "Victory at Sea" series. Wilson says his army experience was exciting because nobody told him how do things, and he got full Army cooperation!

Following his time in the Army, Wilson became a copywriter for the biggest radio station in his hometown of Sacramento, Calif. This would prove to be his most valuable writing experience because he needed to write as many as eight radio commercials a day, and then narrate those commercials live during the "pitch" session. These radio ads convinced KCRA-TV—the biggest TV station competitor—to lure Wilson into a television production/writing position for them. KCRA-TV also had one of the first Ampex 2 inch videotape machines made, so working there was "heavenly," says Wilson.



Burt Wilson at home in the studio.

It soon became apparent to Wilson that there was more business to be made by setting up his own broadcast advertising company, so at age 26, Wilson left KCRA-TV to start his own business. He ran the whole show; writing and appearing in commercials, and producing radio and print commercials to boot!

"The mid 60s to early 70s were a great time to be in advertising," he recalls. As a creative director he produced the look and feel of commercials for CRAIG Auto Stereo, ARCO and Continental Airlines, among others.

For American International Pictures, the famous B-movie producers, Wilson designed radio and movie ad campaigns for such memorable cult films as *Frogs, Dr. Phibes, Blacula*, and *A Boy and His Dog*. Then, Wilson moved to New York City where he managed an ad agency on the 66th floor of the Empire State Building. He describes the 66th floor as the greatest place to view the Statue of Liberty and Staten Island—and to sail paper airplanes down to the ground!

As a political activist and being somewhat homesick for California, Wilson moved back to home to work on some political projects.

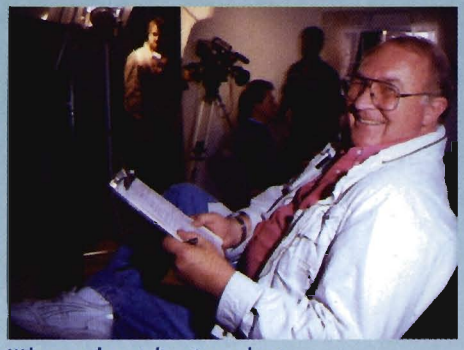
Then in 1983, he became the advertising director for Pleasant Hawaiian Holidays. He wrote the scripts for all of their national ad campaigns and videos, and oversaw their production. The company liked him so much, they put him under personal contract. This act essentially launched him into his own independent video production business, and the Burt Wilson Company was born in 1988.

As a producer/director, Wilson made videos for a wide variety of local companies, but his U-Matic cuts-only editing format did not allow for special effects. If his clients wanted to do a DVE or ADO move, Wilson had to go to an outside editing suite, where edit time ranged from $300 to $500 an hour.

In April 1991, the entire future of Wilson's production company changed when he bought NewTek's Video Toaster 1.0. With his first Toaster system, a couple of old Sony 2860 U-Matic VCRs and an RM-440 controller, he was in business for himself.

Wilson has been blessed

with the skills and talent to produce quality video inexpensively. Because he can write, produce, narrate and edit, Wilson can keep the entire production on a one-man-show budget and offer his services for less than the competition. He is also a musician, who has played for many years in



Wilson on the set directing a shoot.

Dixieland jazz bands. His keen ear for music helps in the selection of the perfect background music for his commercials.

Wilson's COMCAST's ads are broadcast on nine various networks, such as CNN, where Comcast inserts local ads. He narrates most of his ads, but the voice you hear on the ad is not always the same. His voice stylings range from country western Texas drawl, to romantic Italian intonations. Few people realize it's the same narrator!

Another major client of Wilson's is Reveal Computer Products, a major computer peripheral reseller, and one of the first to include "how-to" installation videos in its products. These "How-Tos" range anywhere from 10 to 30 minutes, but he still applies all of his retail philosophies and Toaster experience to make them interesting.

One technique he has refined to an art form in the Reveal videos is the Fake A/B Roll—through use of a freeze frame and fast dissolve technique, he can achieve a Fake A/B Roll dissolve quite effectively.

Because of his extensive production experience, coupled with his innate teaching ability, Wilson has also produced and published the very popular "Complete Guide to Toaster Post Production." The book is loaded with chapter after chapter of practical solutions to Toaster production problems.

The Future Of Video Production

While Wilson still shoots and edits on U-Matic 3/4 inch, he has his eye on the new digital camcorders recently introduced. The new digital three-chip camcorders deliver outstanding image quality for the money and are very lightweight. His ideal production scenario? Shooting and editing in a high resolution digital format while outputting to the tape format of one's choice, all for an affordable price.

Burt's Keys to Success:

1. "Produce more than the client expects."

For example, Wilson will spend time to create a more effective logo-slide, which is his term for the visual conclusion of any ad. He oftentimes uses small video frames from key points in the ad, with text to create the concluding logo-slide. It may take up to three hours to create, but the effect is worth it.

Wilson even has his own cable TV show!

2. Don't make the ad so grand that the message is lost.

"Have a good sense of the retail business, and don't approach your commercial client as a primadonna, expecting to solve all their problems, or as an experiment for your next demo reel. You have an ethical duty to do what's best for the client, *not* what's best for you. A 30-second commercial is not the place for one's video portfolio," Wilson says.

3. "Don't use unmotivated transitions."

A cut or dissolve is many times your most effective transition of all. When transitions are used, they should always be motivated, but they should never detract from the message being presented.

4. Learn your trade.

"Create your own demo reels, even if it means producing a few free commercials at first," he says.

5. "Shoot and edit your scenes professionally."

Wilson uses a professional Ikegami camera with a companion Sony U-Matic portable VCR. And he almost always lights interiors and subjects to make them sparkle. The few times he shoots with available light, he adds a camera fill-light. The key reason he acquires and edits with the 3/4 inch Umatic format is that it is tried and proven, the standard of the cable industry. A playback dub on 3/4 inch is higher in quality than a playback dub on VHS.

6."Deliver your commercial in a timely manner."

Wilson gets the jobs because he does fast, quality work. Typical time from script discussions to ad completion is less than a week. Wilson has done as many as seven 30-second commercials in a five day week, working 14 to 18 hours a day!

7. "Use ToasterPaint and AlphaPaint to clean up Framestores and make more effective visuals."

Wilson uses ToasterPaint and Alpha Paint constantly to create special visual elements that he keys over video backgrounds. He also uses these two programs to clean up Framestores for the insertion of CG text. He considers Alpha Paint an invaluable asset to his Toaster tools because of its ability to easily create slanted text. Slanted text creates the illusion of motion and excitement, and AlphaPaint has antialiasing feature, which minimizes slanted text jaggies. Wilson's long and stellar career is a great example to model your own after. Take these tips to heart and maybe someday you'll be known as a legend in your field.

VTU

Tony Gomez, a producer of video and multimedia, has written for VTU *and other national publications. He enjoys applying video technology, including the Toaster, to a wide range of corporate and individual clients. He can be reached via e-mail at TGomezVid@aol.com.*

NEW PRODUCTS

Compiled by Rosemary Picado and Julie Sheikman

Fun and Profit With FotoFUN!

Product: FotoFUN! Color Photo Printer
Description: Amiga, Mac and Windows Compatible Digital Photo System
Price: $499
FARGO Electronics, Inc.
7901 Flying Cloud Dr.
Eden Prairie, MN 55344
Phone: (800) 327-4622
Fax: (612) 941-7836

FARGO Electronics, Inc. has enhanced its digital color photo printer, the FotoFUN! It now includes a complete print film kit and FargoColor color matching software, a powerful single step color management tool from Candela® Ltd. These additions bring a complete plug-and-play digital darkroom to Mac, Windows and Amiga users. FotoFUN! is compatible with virtually all Macintosh, Windows and Amiga graphics and image editing software and it can print two 2"x3" prints or two 3"x3" prints. Maximum output size is 4"x6", the same large print format offered at a typical photo processor. With special additions of $39.95 each, FotoFUN! can also produce added profits by allowing you to offer custom color photo postcards, mugs, labels and bumper stickers to your customers. With optional accessories such as FotoMUG! and FotoLABELS!, each only $39.95, you've got what you need to start. FotoFUN! also comes with a complete print film kit, including ribbon and paper for 36 prints, also sold separately as a refill kit for $34.95.

FOR INFORMATION CIRCLE 1

New For Windows

Product: 32-Bit Alpha CG
Description: For Windows 3.1 and Windows 95,
Price: $999 InnoVision Technology
1933 Davis #238
San Leandro, CA 94577
Phone: (510) 638-0800
Fax: (510) 638-6453

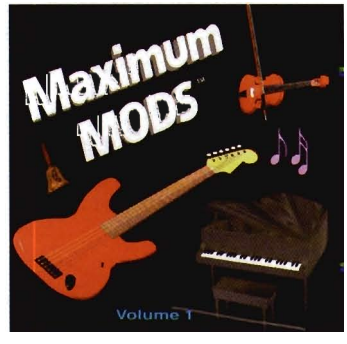
InnoVision has announced their powerful new video tilting software application for Windows 3.1 and Windows 95—Alpha CG, a 32-Bit object oriented character generator. Alpha CG offeres videographers interactive real-time font scaling with superior alpha channel utilization and antialiasing. With the object oriented approach, any text or graphics element can be easily modified at any time, now or in a later session. Alpha CG also provides color gradient fills, image texture mapping, automatic edging, kerning and variable graphics and video transparency.

FOR INFORMATION CIRCLE 2

Get Mod, Get Maximum Mods

Product: Maximum MODS
Description: Music Modular CD-ROM
Price: $34.95
Legendary Design Technologies, Inc.
P.O. Box 1147
Lewiston, NY 14092-8147
Phone: (519) 753-6120
Fax: (519) 753-5052
Web:
http://www.io.org/~legend

Maximum MODS works with both the Amiga and PC and contains over 4,200 music modules that can be played back on the personal computer. This CD contains over 241 hours of music if played continuously—that's over 10 days of music! Maximum MODS comes complete with a front end



program that allows the user to to search for names of favorite modules, or even specific lengths of time. Several module player programs are also included for the user's convenience.

FOR INFORMATION CIRCLE 3

Sports Fans, Listen Up

Product: *How to Make Money Filming Sports* Video.
Description: VHS training video.
Price: $50

Collect All 3 While this offer is Valid!

EEYOW!!!

Wipe Studio

Finally, you can make your own color wipes. Create color and matte wipes in both 3.1 and 4.1 formats quickly and easily. The EZ Converter allows you to make use of your favorite 3.1 wipes, while the optional Power Module allows for 240 colors at 752x480 res with alpha channels. The free video ensures the creation of your first wipe in minutes.

- *Create matte or color wipes*
- *Converts 3.1 to 4.1*
- *3.1, 4.0 & Flyer compatible*
- *Wipes with more colors than most NewTek wipes.*

Regular Price $199.95

Wipes with up to 240 colors

New wipe styles

Club Toaster

No matter what kind of video you produce, you'll no doubt find Club Toaster a timesaver. Each disc contains loads of color and matte wipes, moving and static backdrops, textures, objects, sound effects, brushes, pre-rendered animations, Toaster articles and more. Navigate through all of this royalty-free content from the intuitive interactive graphical interface. Don't miss another issue. Join today!

- *Saves valuable production time*
- *Of the highest quality*
- *Royalty-free monthly CD ROM*
- *Something for everyone*

Regular Price $150.00 per year

Pre-rendered animations

Moving backdrops

Matte and color wipes

Composite Studio Professional

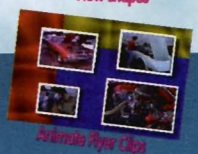
Automates your graphic needs with the second generation of the number-one-selling Toaster Paint add-on, Composite Studio Professional. You'll enjoy faster rendering, easier batch processing, and shapes. This version adds easy 2D Flyer animation along with soft edge shadows, new frames, bevel styles templates and more.

- **Easily animate Flyer Clips**
- *3.1 to 4.1 compatible*
- *New shapes such as hearts, stars and triangles*
- *New templates, frames, and patterns*

Regular Price $169.95

New bevel styles

New shapes


Animate flyer clips

Now only $129.95 each!!

Offer valid through March 1996 only

VISA MasterCard AMERICAN EXPRESS

FOR INFORMATION CIRCLE 108

DIMENSION technologies

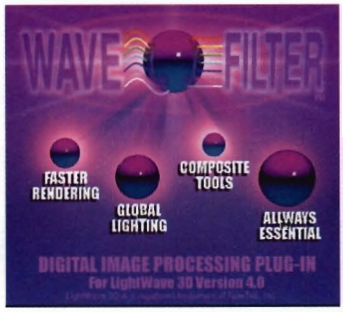
1156 West 8th Erie PA 16502

1-800-430-7530

Post Video Effect
155 East 88th St. Ste. 2G
New York, NY 10128
(212) 348-7243
Post Video Effect has created a training video that will give you the information you need to turn your hobbies of sports and video into a business. *How to Make Money Filming Sports* gives you

an overview of all of the sports markets—even the ones you never knew about, and tells you how to pick the right market for you. It also explains exactly what equipment you need, what to charge and a complete formula for marketing your product. Post Video Effect also gives tips on filming, editing and even provides $1,000 worth of custom sports graphics you can use royalty free in your videos.! *How to Make Money Filming Sports* was created entirely on the Video Toaster.

FOR INFORMATION CIRCLE 4



WaveFilter—Again

Unlimited Potential, Inc.
11608 W. 127th Terr.
Overland Park. KS 66213
(800) PLUGIN2
Product: WaveFilter 1.1
Unlimited Potential, Inc., the creator of WaveFilter, has announced the release of two new products. WaveFilter 1.1 (WF11) will be a replacement for the original program, with all of the features plus a few new additions. WF11 now automatically loads and saves its setting in a scene file, and a new "posterize" filter has been added. WaveFilter Net+ (Net+) is designed for the serious LightWave professional, offering several very advanced and powerful features. Net+ supports ScreamerNet rendering, animates settings by using null objects and has a softer blur and DOF blur. Visit Unlimited Potential's Website for more examples and information about WaveFilter at http:/ourworld.compuserve.com/homepages/mikereed or call (913) 685-2700.

FOR INFORMATION CIRCLE 5

Works Like Magic

Product: LogoWizard
Description: Scene file creation tool
Price: $299
International Software Engineering
57 M-35
Negaunee, MI 49866
Phone: (906) 475-4713
Fax: (906) 475-9576
LogoWizard is a powerful scene file creation tool available for LightWave 3D, created by International Software Engineering. This program is designed to save animators' time in designing high-quality 3D flying logo broadcast and multimedia animations. LogoWizard creates multiple bands, ellipses, fireworks, vortexes and flythroughs that use hundreds of objects over

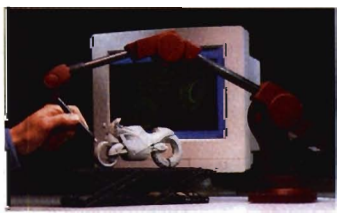
which users control size, speed and rotation. The tool has full element object importation capability, dynamic control along logo motion paths, step-by-step "Wizard" interface for simplified logo animation creation and expandable PreFab and Flight path libraries. Users can create explosions that exhibit true projectile trajectory paths, with complete control over gravity, explosion timing, force, flash and resulting shock wave. They can also time scale animations using Logo Wizard's Timing Review with full riplling capabilities. LogoWizard comes packaged with an install disk, CD-ROM, manual and video tape.

FOR INFORMATION CIRCLE 6

The Final Frontier

Product: Solar System Kit
Description: CD-ROM

Price: $129.95
Computer Data Imaging
270 Northland Blvd., Suite 105
Cincinnati, OH 45246
Phone: (800) 624-2388
(513) 771-7585
The Solar System Kit, a CD-ROM from Computer Data Imaging, is a library of actual NASA images, including the nine planets, the sun and the moon. The planet objects included are true to scale and are available in high- and low-resolution versions. The disc also contains background images,



including stars, nebulae and the Milky Way as well as a Brushed directory that has brushes of each planet for use with the ToasterCG. Each image comes in .iff, .bmp and .jpg. Due to the large size of some images, a minimum of 10 MB RAM is recommended.

FOR INFORMATION CIRCLE 7

3D System

Product: MicroScribe
Description: 3D digitizing system

Price: starts at $2495
Immersion Corporation
2158 Paragon Drive
San Jose, CA 95131
Phone: (408) 467-1900
Fax: 467-1901
Immersion Corporation has announced the release of its new 3DL version of the MicroScribe three-dimensional digitizing system. The system's unit ofers a 66-inch spherical workspace

FOR INFORMATION CIRCLE 8

Blockbuster Editing

Product: *Cut To The Chase* Video
Description: Tutorial on Hollywood-style editing.
Price: 42.95 plus tax and shipping.
Final Cut Productions
22323-6 Sherman Way
Suite 172
West Hills, CA 91303
Phone: (800) 320-1828
Fax: (818) 999-5637

Cut To The Chase is a new video that gives desk top video editors a chance to try their hand at editing a live action Hollywood-style chase sequence. Created by *Miami Vice* and *Babylon*

5 director, Mario DiLeo and writer/producer Bruce Kane, *Cut To The Chase* is the first consumer oriented video to contain al the takes and angles needed to assemble and exciting action sequence on home video editing equipment. The video stars actress Erin Allison as a woman on the run and also includes two fight scenes, three alternate endings and a struggle on the edge of a ravine. Learn by doing slow motion, timing spoken dialogue and editing original music for scoring. The video also includes a shooting script and a shot log.

FOR INFORMATION CIRCLE 9

Handy Backgrounds

Product: Video Collage
Description: 62 24bit backgrounds on CD-ROM
Price: $59.95
Matrix Productions
1111 Dover St. N.E.
Cedar Rapids, IA 52402
1-800-962-1873
Video Collage (VC) is comprised of 62 artistically designed royalty free backgrounds for video and multi-media production. VC comes on CD-Rom mastered in standard ISO9660 format and is cross platform compatible with Amiga, IBM, and Mac. Each of the 60 backgrounds on the VC CD-Rom comes in IFF, Framestore, Targa, Tiff, and Jpeg formats categorized in their own respective directories. All formats are in if full 24 bit, 752x480 high resolution. A full color printed contact sheet and graphic thumbnail screens are provided for quick reference in each of the mentioned formats.Video toaster owners can load the VC framestores directly from CD, no installation required.

FOR INFORMATION CIRLCE 10

VTU

3D Models by the Hundreds!
(at just pennies each)
Save time on your 3D projects!
All **Replica Technology** 3D models are:
Textured, Scaled, Animatable, Very Affordable

Interior Design Collection
500 furniture, furnishings, construction objects, 4 complete homes.

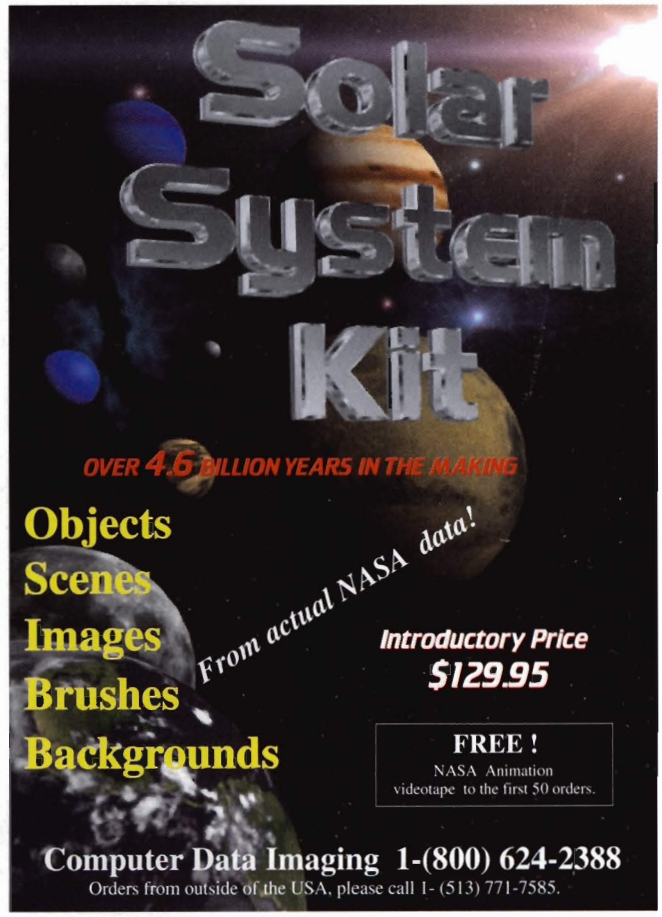
The Wright Collection
Over 100 furnishings and pieces styled after the designs of Frank Lloyd Wright.

Camelot Collection
300 objects of things medieval. Complete 12th century European castle, furnishings, weapons & structures.

Each collection includes scenes, browser images & preview anims.

Replica Technology
800-714-8184
E-mail: Replica@localnet.com **Fax:** 716-337-0642
All major credit cards accepted.

FOR INFORMATION CIRCLE 139

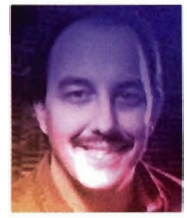


FOR INFORMATION CIRCLE 199

THE FLYER SUITE

ARexx Unleashes the Flyer's Power

New Add-Ons!



by Frank Kelly

Locked inside the Flyer are some powerful features that can be accessed through the use of ARexx, a script-based programming language that is used extensively throughout many Video Toaster Flyer operations. ARexx was designed to allow end users to automate repetitive tasks without having to create "compiled" machine-based code. In a sense, it's easier to relate to ARexx if you think of it as a macro or batch generator, but with *far* more power. You will find many sample ARexx scripts located in the ARexx drawer of your Flyer 4.1 software. Using the scripts usually requires only double-clicking on their icons or, in some cases, placing them into the Tools folder or copying them into an edit sequence. While ARexx is a relatively simple program language to use, there are many of us who would rather not have to learn it to get at some of the more sophisticated capabilities of the Flyer NL editing system.

"ARexx scripts easily perform very specialized or repetitive tasks...interaction with other software can be streamlined or completely automated."

This problem has brought about the release of a number of ARexx-based utilities that, for lack of a better term, I refer to as Flyer "Front Ends." The term Front End is used to describe an alternate user interface that can be used to access features (both basic and advanced) in ways that offer advantages over users' present software (in this case, the Toaster Flyer). ARexx scripts easily perform very specialized or repetitive tasks—processes that might require several button clicks or interaction with other software can be streamlined or completely automated with programs such as Flite Gear, Radar, Control Tower, Co-Pilot, and Navigator. As their names may imply, some of their functions are identical or very similar. However, each of these packages offer specific advantages for certain users, and in most cases, they compliment as opposed to compete with each other. At the time of this writing, developers of these utilities were adding capabilities to take advantage of some of the features newly available as of the 4.1 Flyer release. Though *Video Toaster User* will give a more in-depth look at each of them in future issues, the following descriptions give you a brief overview.

Radar time line interface allows "time" positioning of *any* Flyer event!

The main Radar interface allows easy access to other tools as seen above.

Radar

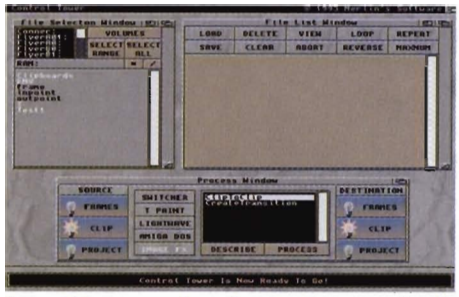
Radar is the much anticipated "time line" package that was originally designed to be part of the Flite Gear suite of programs from Atomic Brand Software. It is now available as a stand-alone product. Flite Gear offers a wide range of features that cater to the needs of intensive pre-and post-production environments, where logging elements from several different sources before actual production begins is essential. Radar, on the other hand, is designed for the fine tuning of any existing Flyer project, regardless of whether it was prelogged by Flite Gear or not. The decision to release Radar as an independent product was based on feedback from users whose production needs were not as complex as those who might require the more extensive features of Flite Gear. Although Radar can be run independently, it can also be easily integrated into the Flite Gear suite of programs. (For a more complete description of Flite Gear, see page 58 of the August '95 issue of *VTU*.)

Just as an airplane's radar system allows a pilot to see beyond the clouds and navigate around obstacles, the Radar software for the Flyer allows the user to "see" a visual representation of the various elements that make up your edit project (video a, video b, transitions, audio and graphics) displayed as multiple tracks on a horizontal time line. By "seeing" the elements simultaneously laid out in their progressive order, you can observe exactly where elements overlap and by how much. There are some distinct advantages to this approach that become most obvious when you need to precisely match elements, such as audio and video. A typical example would be an editing technique referred to as Back Timing, where you require an audio element to conclude (not just fade out) coinciding with a video edit at a precise point. Using the existing Flyer interface to accomplish this task requires

"Radar gives you the ability to remotely control the Flyer's playback of your clips and lets you view and set their current in-and out-points within a sequence."

at the very least some trial and error guesswork in setting approximate in- and out-points, or to be more precise, you would need to figure some complex time code calculations. Radar makes this task easier and more accurate on the first try without guesswork. Once your original edit sequence is preloaded into the time line display, it's simply a matter of placing a pointer at the appropriate spot along the time line, selecting the clip you want to align it to, and with the press of a key, the clip moves to its new position.

This technique can also be used for placing keyed titles (CG) within a given clip. Radar gives you the ability to remotely control the Flyer's playback of your clips and lets you view and set their current in- and out-points within a sequence. To replay the adjusted edit sequence, use Radar to reset the original project and return to the Flyer interface. Insert-style edits



Control Tower provides a familiar "requester" style interface with quick access to editing and imaging tools.

can also be accomplished along with a few options that relate specifically to integration with Flite Gear. In general, the features of Radar are best suited for those wishing to save time when fine-tuning an existing project, instead of building a new one from scratch. Those projects requiring extensive logging and building of new edit sequences will find these features and many more with Flite Gear. Radar is designed to integrate well into this package, but as stated earlier, it's a functional stand-alone product for those wanting a *time line* interface for adjusting their existing Flyer video sequences.

Control Tower

Merlin Software's Control Tower offers a more familiar file requester-style interface to access Flyer clips and other files. It also provides ARexx control of many existing Flyer processing functions, including slow motion, reverse and fast play. In addition to the standard record/play functions, there are a series of macros designed to work with LightWave, ToasterPaint, Flyer Clips and Flyer Stills. Flyer owners who also own ImageFX from Nova Development will be interested in the large number of specialized macros for processing still images and image sequences taken from Flyer clips. A broad range of image-processing effects can be applied to a series of images and various parameters for the image processing can be set to user specifications. Any number of different effects can be applied in sequence to the images without having to save subsequent files until the final processing step has been applied. When using several processes on a given sequence, this can save a great deal of time.

Control Tower works great with ImageFX and transcends the boundaries of either a paint package or image processor by offering the ability to work with images designed for blue screen (Chroma key style) compositing as well as a wide variety of unique effects. People who have admired some of the rendered effects options available in programs for the Mac and PC from software such as Adobe Premier will find ImageFX, along with Control Tower's macros, to be a powerful combination. Those who don't have ImageFX can use TPaint's ARexx macros executed via Control Tower to easily "batch" any number of TPaint's processes together in similar fashion.

Some of Control Tower's thoughtful features available in pull-down menus include a time code calculator and an A/B-roll time macro. Users are able to change the palette of the Control Tower interface and load backdrop images.

Navigator

Navigator 1.0, from Token Video Productions, does not provide its own control screen as the other programs I have mentioned. Instead, it utilizes the

Navigator provides invaluable tools based on ARexx.

existing requesters that are part of the Flyer's ARexx subroutines. Navigator's collection of ARexx scripts are accessed by double clicking them once they are copied into the drawer of your choice on the system drive of your Flyer. They provide much friendlier and easier access to many powerful features. If Navigator's colorful icons look very much like those now

used by the Flyer's own Arexx scripts (as of version 4.1), there's a good reason. Token designed the icons that are provided in the 4.1 Flyer release! These new picture icons replaced the document-style icons that were used previously and provide a more intuitive, visual description of what functions these scripts perform.

When Navigator's ARexx scripts are executed, they allow you to easily execute various functions, including recording overlay effects, CG keys or transitions *while* incoming video is being captured as a Flyer clip. The resulting clips are easily incorporated into transitions that combine multiple effects. They also do not require the preloading time ordinarily needed for real-time overlay effects to be properly executed within a Flyer sequence.

With other Navigator ARexx scripts, many settings in your existing Flyer project can be globally modified such as volume control, duration and fade times. Navigator's control of audio clips includes the ability to automatically set the duration of an audio element (such as background music) to fade up or down precisely in time with your video elements. Batch operations, such as grabbing frames from incoming video and saving them as Flyer Stills, are easily executed with a couple of mouse clicks. If you're saving a series of Flyer clips or stills, Navigator provides a quick, easy method for creating a project containing all the clips or stills captured along with the user's preset default effects and transition times in place. A video showing the functions of each script is provided with the package so you can see them in action before executing them. (For a more complete look at Navigator's functions see Chris Fenwick's review on page 56.)

Co-Pilot

Co-Pilot was written by Mike Holten, a gentleman from down under. He was nicknamed "Oz" by the folks at NewTek as they marveled at his work with ARexx and the Flyer. With the release of 4.1, you will find a folder called Oz within the ARexx folder that contains some samples of his work. These freebies are quite a bonus! By themselves the samples would be worth paying for, but when they're combined with the Co-Pilot utilities, they really show their almost magical powers.

Co-Pilot Audio provides features not available elsewhere. Mixing various audio sources is fast and sophisticated. Flyer 4.1 comes complete with some samples of this powerful software created by OZ.

Co-Pilot Video allows precise control of your video sources while making many tasks happen with just the push of a button, instead of several different steps.

The tricks performed with audio in the Oz folder are enhanced exponentially (a really big amount, kinda like counting in dog years) with the Co-Pilot audio package. One feature that I especially like is the ability to duck the audio level of a music bed under a voiceover track, then have it smoothly swell back up to normal level after the narration track ends. This effect is accomplished by first classifying your various audio clips by type. Co-Pilot provides a simple user interface for this procedure and makes short work of creating new and improved icons for each type of clip, whether it's music, narration or sound effect. Once this procedure is finished, another button from Co-Pilot's menu executes an ARexx script that searches your sequence for occurrences where these various elements coincide and intelligently adjusts the levels accordingly. When this script is executed, there many behind-the-scenes actions such as duplication of several versions of the same clip with different audio levels and in-and out-points. The end result is an elegant solution to what has been viewed as a major obstacle (not being able to duck music under voice) when using the Flyer for many types of post-production.

The same type of approach is used in the execution of tasks for the video module as well. For example, there are occasions where it is desirable to return to a specific edit point after a cutaway, appearing to pause the action at the exact moment where you left off to go to the next edit. Or, in other instances, you might want the opposite to occur; allowing the precise time of your cutaway to have elapsed before returning to the action in the previous scene. Co-Pilot has a button for this function, which creates either a virtual "roll" or virtual "pause". Here again, the procedure would normally involve duplication of clips and some fancy calculations before arriving at the appropriate in-and out-points, but with Co-Pilot's push-button approach, the task is quick and easy.

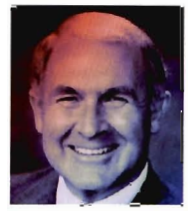
A number of other useful features, including a time line display, abound in both Co-Pilot Audio and Co-Pilot Video. New ones are being added at the time of this writing. See the slick ad sheet that came with your 4.1 upgrade for a complete description. Happy Flying!

Frank Kelly owns Spot Ad Productions in San Jose, Calif. and can be reached on-line at 76527.723@compuserv.com

TOASTER POST

A Peek at Toaster 4.1

The Latest Amiga Toaster Upgrade



by Burt Wilson

As I am writing this in early February for a column that will appear in May about a product which, hopefully, will be out in April, I get confused: Am I going back to the future—or forward into the past?! So, if what I write here has already been surpassed by events, please understand and have sympathy for this lowly communicator (sniff, sniff).

Nevertheless, I want to give you a preview of the Video Toaster stand-alone 4.1 upgrade. The question many of you who are doing *linear* post-production will have, and probably some have already answered by now, is: Is it worth laying out the extra money for? (Somewhere around $500, although the final price, as I write this, has not yet been determined.)

"...your first reaction may be,'What luck, they've given me a Flyer by mistake!' No such luck. What you have essentially is Flyer software without the Flyer."

I'm working and writing at somewhat of a disadvantage because all I have to work with is Flyer software loaded into a Toaster 4000, minus the Flyer. I am not yet working with a release version of the Toaster stand alone 4.1 upgrade, so take that into consideration as you read this. However, one thing is undeniably clear: The Toaster 4.1 upgrade definitely is Flyer-based technology, and that has a lot of pluses and some minuses. If you are a Flyer wannabe, Toaster 4.1 is guaranteed to put you in digital heaven!

The Amiga Toaster stand-alone 4.1 upgrade—which I will henceforth refer to only as Toaster 4.1—will force you to think in a somewhat non-linear pattern while still doing linear post-production. Some of you will take to this instantly. Others will, feeling the weight of information overload, simply shine it on and stick with what they have. No biggie, but you will be missing a few really cool things.

First of all, you will have to have a CD-ROM in order to install Toaster 4.1., and you'll need to have lots of hard drive space. (See Bob Anderson's sidebar on page 30.) Let me say right at the start to those of you who have not yet tried to install 4.1, *puleeeze* back up your old Toaster software before you install it. If possible, put your old Toaster software on a different drive. Then you will have the best of both worlds.

I say this because right now when you install 4.1 over your old Toaster software, it will lift your ToasterFonts files out and install them in 4.1 as PSFonts. When you go to use your old software, you will call up a font from the CG and you will get a warning message: "Not a recognized font." Then, after much wailing and gnashing of teeth, you will discover what I've just outlined. If you own a Toaster 4000, as I do, you'll sit there for hours loading all 45 disks of Toaster 4000 plus the 3.1 and 3.5 upgrades. It's a great way to shoot a whole afternoon or evening!

When you finally get 4.1 installed and up and running, be sure to Autohue first. There's really nothing to it—just click Autohue and let the Toaster do all the work. I run a tape of sharp color bars through the Toaster during this procedure as my color reference.

Framestores, images and effects are easily accessed by opening the "folders" at the bottom of the interface. Simply click on the croutons and drag them into place in your project storyboard above then go to the switcher for more editing.

When the new Toaster Switcher screen comes up and you take a look at it, your first reaction may be, "What luck, they've given me a Flyer by mistake!" No such luck. What you have essentially is Flyer software without the Flyer. I suppose one could make the case that NewTek has ingeniously made the Toaster-only 4.1 upgrade look and work like a Flyer in hopes that it will influence all of us linear post people into moving over and buying the NewTek non-linear Flyer. It's not hard to prophesy that anyone who gets the new 4.1 upgrade and later buys a Flyer will have a leg up on the learning curve.

So what's new? For one thing—and you probably are aware of this—everything you do in 4.1 will be project-oriented (i.e., you will work with a project window into which you drag your Framestores, effects and

ToasterPaint 4.1's tool functions have been rearranged and are handier to use. Note the solid button which is the old Fill tool.

ToasterCG croutons). I like this because it organizes my work and makes editing easier. However, you do lose the instant ability to try out effects effortlessly. With 4.1, you have to switch between a few screens, but that's not a big deal.

The nice thing is, you can use the Flyer's Sequencer to play a slide show of Framestores or create a Framestore commercial, so it all goes together automatically. All you have to do is place your Framestores into the project window, open the Controls panel and enter the length of time you want each Framestore to be on. Drag your effects into the window and place them in the order you want them. Then, just hit the Play button in the middle of the screen and watch 4.1 do a neat series of tricks, like magic!

Do you need to super a lower-third text block over one Framestore? Do you need to load and super a CG page with transparency? No problem. Load a CG page into your project and it's right there on the screen at your fingertips.

As I played with my prerelease Flyer version, I found that there was a great deal of picture degradation when I created a Framestore in ToasterPaint, moved it into the background of the Toaster CG for text additions and then imported it into the Framestore drawer, finally loading it onto the Project screen. I called NewTek about this, and Bob Anderson, their Desktop Production Manager, patiently explained to me that you will now be able to save a Framestore composited in TPaint and CG in the CG! And there it was, a Save button in the CG with a subdirectory called CG Frames. I tried it and lo and behold—no picture degradation!

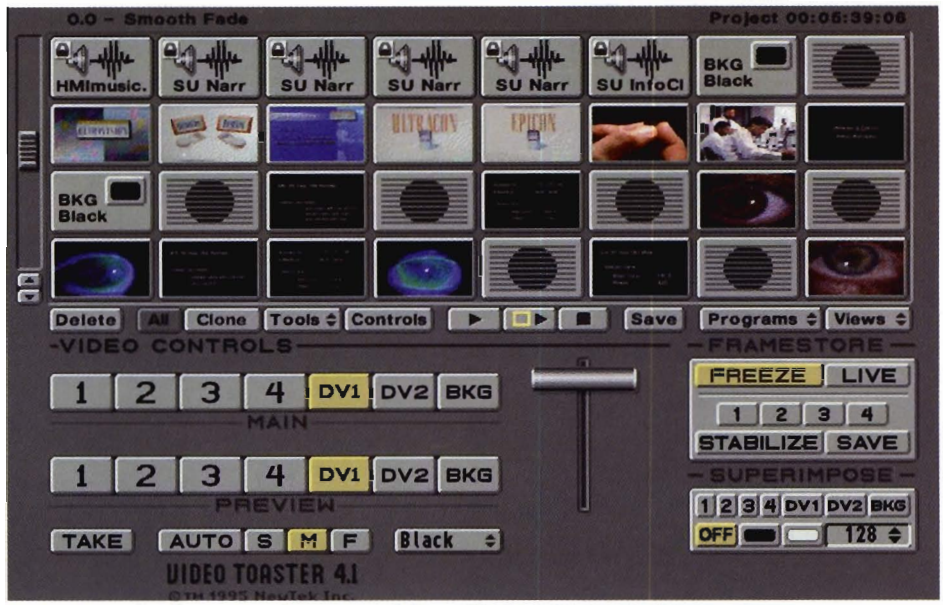
New features dramatically improve the use of the Sequencer for linear video production. Now you can open by fading into a clip of live video and then fade to the Sequencer, letting it do its framestore and effects work automatically while you sit there with your arms folded, watching it all happen according to your pre-set timing! The key to doing this is another ARexx script called "Wait for GPI," which will trigger the playing of your Sequencer project exactly when you want it to. Very neat.

Another new addition is being able to work on a full screen in ToasterPaint. You will, however, still have a magnifying glass for close-up work. But all the functions have been rearranged, and while you will find it takes getting used to, it's better organized than before. One timesaver is you don't have to save a screen cutout as a Swap brush before texture-mapping it in a different place on the screen—or on the Swap screen. Cut out your area, click the Mode panel and bring up TxMap—you're ready to go.

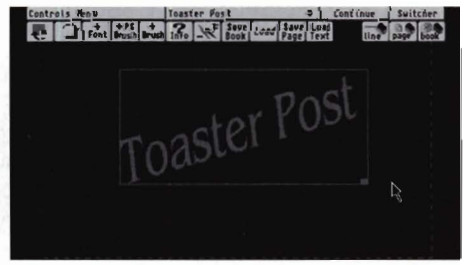
Other TPaint changes include sliding RGB buttons and a color circle, both of which make it easier to find the exact color you want. Transparency and Warping have also been improved, and you now have a scale of numbers from 00 to 100 with which to manipulate your Transparency and Warping settings—much more precise.

The big changes in the ToasterCG for 4.1 are in the Rotate and Shear areas. No, I don't recommend you throw away your third party paint and CG program, but I will bet that you'll probably be using them less and less

Toaster Post continued on page 29



Toaster 4.1 users will appreciate the easy use of the modified Switcher screen. The main difference is that you put and use *all* your images and effects in the project screen above resulting in better orgainization.



ToasterCG 4.1 offers Shearing of text (above) in varing degrees. With the bounding box you can also manipulate height, width and the oposition of the title.

Rotaing text is fast and easy. Insert your text and once the box appears rotate it to almost any angle

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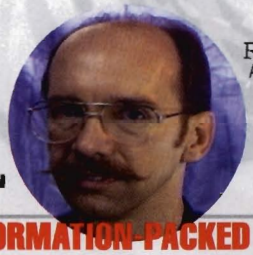
DON PENCE:
Don is the president of Litigation Tactical Group based in Jacksonville, FL. He has lectured to trial attorney groups across the nation and has been teaching the use of LightWave to animators interested in the forensic market. Don has been using the Toaster, LightWave and the Flyer since their inception and previously used Videoscape and the Amiga for creating animations in the production industry. His background in physics and math, as well as years of scenery design and construction, brings all of these talents together for a very broad base of experience with NewTek's Video Toaster.

STAN SHUMLICK:
Stan is the Flyer_Sig Director of the Los Angeles Video Toaster User's Group and co-owner of 2 Tall Video Productions in Glendale, CA. His clients span the gamut of the broadcast and corporate worlds. Currently, he is involved with the Digital Video Disk technical staff for Warren Bros. Advanced Media Operations ("WAMO"), and he is producing yet another pilot for a TV series.



RICK BERTAUT:
As the President/General Manager at Q. V. Productions, Rick oversees special projects for corporate communications clients in the Silicon Valley. Specializing in industrial training, presentation, and marketing video, he is an expert using Newtek's Flyer/Lightwave system to provide fast production turn-around time.

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monday

TOASTER GRAPHICS ESSENTIALS

Learn how you can harness all of the Video Toaster's powerful graphics tools to create network-caliber titles and graphics quickly and easily!

9:30am–12:30pm

- **ToasterPaint**—Unleash the Artist Within! Use the Alpha Channel and Transparency to create composit graphics just like the pros. Make the most of your Drawing, Paint, and Imaging Tools to produce award-winning images. Make CNN-style logos and graphics using sophisticated Image Enhancement and Manipulation.
- **ToasterCG**—Making Titles that Talk! Produce broadcast-quality Title Effects. Master Image Mapping for a one-of-a-kind look. Create Clean Keys and Transparent Text just like the pros. Make your titles and graphics stand out using Shadows and Gradients.
- **The Video Toaster**—Must-Know 2.0, 3.1 and 4.0 Techniques! Make the most of the Toaster Switcher and creatively utilize its Effects. Streamline your workflow by using ARexx and Utilities. Bring your work up to the next level by using ChromaFX and Color Processing. And, be introduced to LightWave 3D, your popular state of the art animation software.

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DIGITAL NON-LINEAR EDITING SYSTEM

2:00pm–5:00pm

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tuesday

LIGHTWAVE ESSENTIALS

9:30am–12:30pm

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- **Lighting** and Camera panels
- Sophisticated **Surfaces**
- **Key Framing** and Motion Graphs
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NETWORK SPECIAL FX

2:00pm–5:00pm

Operate like the T.V. pro's and create sizzling effects in LightWave! Multi-format imagery, smooth-flowing object movement and realistic effects can be yours once you learn the secrets of:

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Wednesday

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CYBERSPACE

Ding, Dong, GIF is Dead

New Text and Picture Formats on the Internet

by Geoffrey Williams

If you explore the Internet looking for pictures, the two most common image formats currently are GIF and JPEG. The JPEG standard will be with us for a while, and is still the best choice for photographic type images where you need a lot of compression. GIF is officially dead as a format with any future and it's unlikely that any new programs will be developed that will support GIF files.

The History of GIF and PNG

It all started in late 1994 when UniSys and CompuServe announced that royalties would be required on the formerly freely used GIF file format. Besides creating a logistical nightmare in figuring out how to deal with royalty payments for something that had been previously free to use, it was also rather amusing in that the GIF format was not that great to begin with. It was supposed to be a lossless compression scheme, unlike JPEG, but when you consider that the maximum color depth is 256 colors, losing millions of colors might be considered a significant loss.

"...PNG's compression method has been thoroughly researched and ...Implementations of PNG will always be royalty-free."

The whole debacle became quite silly, as several companies claimed a patent on the LZW compression algorithm, an integral part of the GIF file format. Because Unisys required developers, publishers, and vendors to pay royalties on any software that either creates or displays GIF files, the development community realized they needed to work together to create a new and even better standard that could also display 24-bit images.

While the loss of GIF as a free standard came as a shock, it turned out to be a great thing because it encouraged and hastened the development of a new and significantly better standard called PNG. A coalition of experienced, independent graphics developers from the Internet and CompuServe formed a working group and proceeded to design the new format. This way, no *one* company could come along later and claim the rights to it.

This new format was officially announced on May 1, 1995, in an open letter signed by 65 software developers encouraging the community to adopt this new standard. PNG is a major advance over the GIF format. I personally will not miss the GIF standard, which I never liked very much and thought was dated five years ago. PNG retains GIF's strength as a simple and portable graphics format, but unlike GIF it allows support for true color and Alpha channel storage. Its extendible structure leaves room for future requirements. PNG's feature set allows conversion of all GIF files, and on average, the files are smaller than GIF files. PNG also offers a new, more visually appealing method for progressive display, much better than the scanline interlacing used by GIF. PNG is designed to support full file integrity checking as well as simple, quick detection of common transmission errors. Most importantly, PNG's compression method has been thoroughly researched and judged free of patent problems. Implementations of PNG will always be royalty-free.

PNG, pronounced "ping", stands for Portable Network Graphic. In June 1995, CompuServe announced that PNG would become its official graphics standard. CompuServe made GIF the standard of choice through its large subscriber base and global presence. It appears that the service will also be able to use its strength to make PNG a new standard with the support of the development community. True, most Internet graphics are still GIF, but in time that will change.

I have been looking for PNG converters and displayers for the Amiga, but I have not found as many as I would have thought. There is a CLI-based utility by Alexander Lehmann that will convert PNG files to and from PBM (Portable Bit Map) and PGM (Portable Grey Map) formats, a sort of universal file format supported on most platforms. The "Cyberspace" column in March 1995's *Video Toaster User* discusses this format and conversion utilities for it. Lehmann is also responsible for GIF2PNG, which can convert a GIF file into a PNG file.

Most significantly, though, there is a PNG datatype. PNG_DT was developed and released by Cloanto, the publishers of Personal Paint and the complete Kara Font Collection on a CD-ROM (including all 79 ColorFonts, five AnimFonts, StarFields and Plaquegrounds from one of the best font designers in computerdom). Cloanto's Michael Console Battilana was also one of the 65 signers of the PNG announcement letter.

The PNG DataType supports all types of PNG-encoded images. Grayscale images are converted to palette-based images. It supports 24-bit DataType tag extensions, and can pass true color data to supporting applications (e.g., Cybergraphics software). In a palette-based environment, true color (up to 48-bit) images are dithered using the fast Floyd-Steinberg method. The DataType also reads the Author, Copyright and Comment fields.

Besides the DataType, the included guide incorporates much information about the development of PNG, the PNG specification, a bibliography of additional resources about LZW and PNG, and an ARexx script for Personal Paint to convert GIF files to PNG.

While we are on the subject of DataTypes, Gunther Nikl has a BMP DataType called BMP_DTv40.3 that is better than the older versions floating around. While it does not do 24 bit or compressed BMPs, it does handle up to 8 bits, supports OS/2 as well as Windows versions and is much less prone to crashing. BMP files sometimes have the DIB extension but can still be displayed by this DataType. It will also handle the OS/2 Warp BMP files, as long as they are not compressed. Compressed files often have the extension RLE (for Run Length Encoding).

Another DataType from Burt Wynants called TIFF_DT40.1 supports the popular TIFF format. TIFF stands for Tagged Image File Format and is popular on Sun, Mac and PC computers. It supports multiple image TIFF files, color depths of 1, 2, 3, 4, 5, 6, 7, 8, 24 and 32 bit, and images including line art, gray, palette images, 24-bit color RGB and, 32-bit color CMYK. It also uses Floyd-Steinberg dithering.

Finally, there is a DataType by Michael Litowski called FontDT which allows you to view fonts. You can have it display the font using any text strings you want. It can display bitmapped fonts, Colorfonts, and Compugraphic fonts. It does have one major limitation in that it will only display fonts in the assigned font directory. You can get around this by using the CLI to reassign fonts, but it is a bit of a hassle to *have* to do this.

Text

The primary form of text on the Internet is ASCII, a standard that supports the basic upper- and lowercase letters and symbols, but lacks many formatting basics such as underlining and bold type. It is not a very sophisticated standard, which is why we now have RTF, the Rich Text Format supported by most major word processors on the PC and the Mac. It currently does not have much support on the Internet.

For formatting and adding Hypertext capabilities on the Internet, the leader is still HTML, which stands for HyperText Markup language. The HyperText Markup Language is a simple ASCII-based format used to create HyperText documents that are portable from one platform to another. It supports a much larger character set. It has been in use on the World Wide Web (WWW) since 1990, and is a substandard of SGML (Standard Generalized Markup Language). One of the interesting features is the ability to encode a graphic into the HTML document and then display it as part of the document.

There is an official document put out by the HTML Working Group that goes into detail about the language. Jerome Louvel converted that document into AmigaGuide format and made it available as HTML20.Guide. It includes sections covering basic terminology, HTML as an Application of SGML, HTML as an Internet Media Type, Document Structure, Hyperlinks, Forms, HTML Public Text, Security Considerations, and the HTML Coded Character Set. If you really want to know about HTML, this document will be of great help.

There *are* Amiga-based HTML utilities. AmigaGuide is conceptually similar to HTML in terms of HyperText, though it lacks the formatting capabilities, so it is not that difficult to convert an AmigaGuide document into an HTML document. To make this job easy, Christian Scholz wrote Guide2HTML. It converts the @NEXT, @PREV and @TOC commands into arrows and includes a set of GIF arrow images. The doc files are in both AmigaGuide and HTML.

"HTML-Heaven also includes an AmigaGuide called HTML-Intro...an excellent primer on creating HTML documents."

If you want to create HTML documents from scratch, you will definitely want a copy of Paul Kolenbrander's HTML-Heaven. HTML-Heaven is a suite of three programs intended to interface with any editor supporting ARexx commands. Supported editors include the AmigaDOS supplied ED, CygnusEd Pro version 3.5 or later, EdWord Pro, FRexxEd, GoldEd and SAS-C's Stream Editor.

HTML-Heaven consists of three programs. HTML-Genie opens a horizontal window containing six listview gadgets of the commonly used HTML commands. Selecting the command you want will insert that command into your document. HTML-Helper opens a horizontal window containing seven rows of four buttons. This lets you point and click on the most commonly used HTML commands. This program is intended as a replacement for HTML-Genie for those users who dislike the listview interface in that program. The ToolKit opens a vertical window containing two listview gadgets; the top one containing commands also present in HTML-Genie, while the bottom one allows registered users to enter their own custom commands.

HTML-Heaven also includes an AmigaGuide document called HTML-Intro that is an excellent primer on creating HTML documents. It's worth downloading the entire package just to get this 5,000 word document, which is filled with useful information and practical advice.

Speaking of AmigaGuide, there is a great little utility included if you happen to be fond of downloading the LightWave Mailing List files. These are regularly archived and available for anonymous ftp on Aminet in the gfx/3d directory. These are huge and not-that-easy-to-read ASCII files covering numerous topics as they are discussed in the LightWave Mailing List. Andreas Maschke wrote LWML2Guide to convert those long files into AmigaGuide documents with a Contents page. This makes the LightWave Mailing List archives much easier to use and of much more benefit, as you can quickly locate the information you need just by clicking on a topic button.

Most recent PD program documents are in AmigaGuide format. If you have many of them, things can really get cluttered, and it can be difficult to find what you need. Kenneth Fribert's MasterGuide will recursively search through directories to find all of your .guide files, and will then make a master index of them in AmigaGuide format. You can then find a document file for a program by bringing up this AmigaGuide file and clicking on the entry, which will automatically load the selected file.

Another interesting way to catalog any files using AmigaGuide is through James Allen's GuideCompiler. GuideCompiler will look in a specific directory and make an AmigaGuide document of all of the files in that directory. You can then display those files by running the guide and clicking on the file name. It defaults to using MultiView, but you can set a variable so it will use any viewer to display anything with a display program.

If you do not have the time or resources to hunt these programs down, I have put them all on a disk that you can have by sending $5 to Geoffrey Williams, May Disk Offer, P.O. Box 10095, Glendale, CA 91209.

VTU

TAMING THE WAVE

Learning the Hard Way

When in Doubt, Spell it Out

by David Hopkins

Hey there, and welcome back to "Taming The Wave," the column that helps you become a more successful animator. This month, we're going to start with a dose of business reality and a scenario that is not uncommon. Follow along and try to make sure it doesn't happen to you.

Let's say you've been working as senior animator on a feature film (or any other project). The producer's equipment had very limited horsepower, but you have an Amiga and a Raptor to bring to the party. Knowing that the project needs to be finished as soon as possible, you arrange for an additional Raptor+ and eleven R4400 MIPS rendering engines, all at no cost to the producer. Now you've got some serious rendering power, but it's still going to push the deadline. The producer finally purchases four R4600 MIPS rendering engines to add to your stockpile.

"...be smart! You're in this as a business, not as a hobby. The job you have is not the only one around."

And so you continue. Soon, the project starts pushing up against a standing yearly animation job you have with a major commercial client. Working night and day you finished up the shots that were remaining on your list. The next day you leave the state for a month on your big commercial account, but not before being told that you would get your last check for the final week *after* you do a logo for the production company itself—for free. You declined. Flash forward a few months. The project debuted at the big trade show and did very well. So, here you are surfing the Web and you find the company's Web page sporting the crew list. What do you find? The senior animator (you) has been demoted to the credit "Additional Animation By.."

Believe it or not, this could very easily happen to you. LightWave allows us all to produce high quality graphics, the kind that low-budget producers crave. The unfortunate downside of this is that most LightWave animators are not familiar enough with the industry to know when they're being taken advantage of. So how can you as an animator prevent this sort of situation?

First, spell out *everything* in your contract. This includes the exact title that will be attached to your name, placement (head credits, tail credits, promotional material, etc.) Make sure you retain some rights of reproduction for marketing purposes (i.e., your demo reel and any ads you might run). Be open and forthcoming with progress reports so that everybody knows how far ahead or behind the project might be. And, most important, be realistic about the whole thing. If you are producing many minutes of critical animation, don't do it for nothing. Ensure that you (or your client) actually has the required hardware to do the job *before* you start, rather than taking someone's word for it. And finally, if you aren't treated as a professional, leave and work for somebody who appreciates that there is no "create perfect animation in seconds" button on your LightWave Control Panel.

If you're really concerned, you might consider joining an animator's union. This may limit your negotiating flexibility, but the protections can be worthwhile. Most important, be smart! If you're in this as a business, not as a hobby, the job you have is *not* the only one around.

Next month, I'll return with another thrilling LightWave 3D tutorial. By the way, if you tried to e-mail me at the address listed there, you've probably found it comes right back to you. Sorry about that! The new address is "lthouse@primenet.com". I look forward to your feedback!

Tips From VTU Readers

To retrieve a surface attribute from Objects without loading them, go into the surface panel, find the surface name that needs to be altered and click "Load Surface". Find the object with the desired surface attribute, select it and click OK. Only the surface from the object will load. This trick works on Amiga and Alpha work stations. The only setback is, if the object that you're loading as a surface has more than one surface name, then LightWave will load only the first one.

New Plug-ins!

The release version of the BML run-time plug-in (BML/RT) is available at this anonymous FTP site: ftp.netcom.com:/pub/bh/bhood/LightWave/plugins/BML-RT.

Three flavors are provided:

bml-rt.p	Intel Windows 95 or Windows NT
bml-rt.p WIN3	Intel Windows 3.1 or Windows for Workgroups
bml-rt.p. Alpha	DEC Alpha Windows NT

All plug-ins are release 1.0 and all scripts (except mergelws.sip, that has no source) have been recompiled and updated on the site for them.

VTU

David Hopkins is founder of Mach Universe, a CGI effects house in Southern California. He is also a founding partner and President of Lighthouse Imaging. David is currently involved in FX work for four upcoming feature films.

Thanks to Don Culwell at Magnetic Dreams and Bob Hood, President of Virtual Visions, Inc. for tip information.

DR. TOASTER

Toaster ER!

Help with Integration and Add-Ons

by Dan Ablan

I can't believe it's already May. Good things happen around this time of year when it comes to Toaster production. A revitalization comes over people, and new, fresh ideas are explored. Well—on to this month's questions.

Q: We are currently using the VO-9850 and VO-9800 Sony U-matic SP video recorders and an Abner edit controller. We also have the Toaster 4000 system. We would like to integrate the two systems, but we need an interface. What would your advice be on an appropriate interface for the Video Toaster.
Thanks,
Davidson A. Bruney

"For about $100, you can add a HD floppy to your computer. It needs to be specific for the Amiga, because there is software that goes with it."

A: At this point, it comes down to preference. I'm specifically talking about the use of decks and the Toaster. S-VHS has more resolution, however, the people watching your tape watch it on a monitor, not a scope, and what they see is what's important. If I couldn't use BetacamSP machines in an edit suite and wasn't nonlinear, my next choice would be the route you've chosen. In my opinion, 3/4" videotape holds color and crispness better than S-VHS.

As far as your edit controller goes, the Abner does a nice job. Something you might look into, however, is upgrading to an AmiLink system from RGB Computer and Video. Over the past several years, RGB has done a good job making a CMX-style edit controller just for Toaster production. The edit controller's interface integrates into your existing Toaster system. What's great about this controller is the EDLs (Edit Decision Lists), instant cueing of Toaster wipes and CG pages, and more importantly, you don't need a third hand to control everything, because it runs on your Amiga in conjunction with the Toaster software.

Another way you can go is to install a GPI trigger to cue the Toaster. A few years ago, there were a couple of units available that did what you are looking to do. Check with your local Amiga dealer on GPI interfaces. If there is no dealer in your area, I can recommend someone, or check the back pages of *VTU*.

Q: I would like to find out how you can format a SyQuest 88 MB disk for DOS from my Amiga. Please explain it in layman's terms for the Amiga. I'm more of a PC user. Also, where can I get the DOS drivers for the SyQuest machine after I have formatted the disk so I may use it on the IBM PC?
Thanks,
BionicPkl1@aol.com

A: If your Amiga is operating under Workbench 2.1, you should have no trouble formatting a SyQuest in DOS mode. Look under the Storage drawer for the DOS Driver drawer. Inside, you'll find the PC icons for DOS formats. These icons (such as the PC icon) make it extremely easy to format floppies as DOS on your Amiga. Simply drag the PC0 or PC1 icon to the DEVS, DOS Driver's drawer. Reboot the computer, and PC floppies will read. When it comes to removable media, it's not as simple. Once you've hooked your SyQuest into your SCSI port on your Amiga, run HDTools from Workbench. Make sure the drive is being "seen" by the computer. Next, you'll need software that will mount removable media as a DOS device. I use ASIM CDFS for my Bernoulli and CD-ROM drives. ASIM CDFS puts a CD0 icon in my DEVS drawer. When the system boots, DOS removables/CD-ROM are mounted as well as any PC floppies. Check with your dealer for ASIM CDFS or other removable DOS software for the Amiga.

Q: Perhaps you could take a stab at a software problem. We are running a VT2000 board in an A2000 with a CSA 68030 at 50 MHz with 16 MB and a DKB Megachip. We upgraded from Toaster 2.0 to 3.1 about six months ago. One of the things I was most looking forward to in the upgrade was PostScript font support. Unfortunately, our PostScript fonts have never worked correctly. When I try to select a PostScript font from the font library, I get a message that says "Font Type not recognized." The old fonts from 2.0 still work fine, as do the Chroma fonts. I considered upgrading to 4.0, but we don't have $500–$600 in the budget for this. Does this problem sound familiar???
Sean Wallace

A: I upgraded to 3.0 so long ago that it's difficult to remember what it was like before PostScript fonts. The problem you are talking about came up a few

Dr. Toaster continued from page 32

SLICES

As The Map Turns

Seamless 3D Surface and Image Maps

by James Hebert

This month I have some useful tips that appear, on the surface, to be related to LightWave alone. Not so! Along the way, you'll discover useful tricks for the Art Department Professional software (version 2.0 and higher) and ToasterPaint (all versions). In fact, some of these techniques will work in most paint or image-processing programs available for the Amiga. The principles are similar, though the names of the commands may have been changed (to protect the innocent, no doubt).

This month's installment will be useful for image mapping in a 3D program where the image edges *must* be seamless from left-to-right. (An example of this might be an image the repeatedly scrolls from right to left in the background of an animation, such as a map of the world.) This tip can also be used in a 2D paint and animation program such as DeluxePaint or Brilliance and useful for image mapping in a 3D program where the image edges must not only be seamless from left-to-right, but also top-to-bottom. (For example, a captured image of brick or tile that you need to complete the *perfect* 3D patio you just modeled.) Making seamless images for sale as a product is a possibility. Impressing your friends with a new way to kill 20 minutes is another.

"This month's installment will be useful for image mapping in a 3D program where the image edges must be seamless ..."

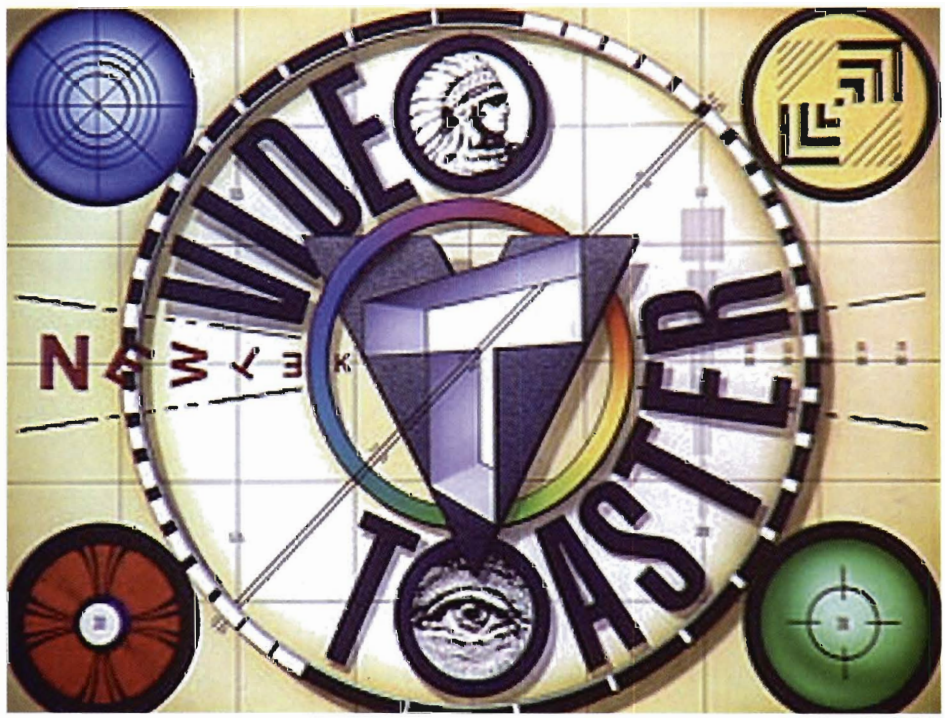


Figure 1

When I first began using the Video Toaster, I tried producing seamless, tiled images. I would Framegrab an image from the Switcher, save it to disk, enter ToasterPaint and begin touching up the outer edges of the image.

With the brush tool, I would pick up a brush about 30 pixels wide on the extreme left side of the image. Then I would use the Flip command and reverse the brush horizontally so that it flip-flopped, creating a left-to-right mirror image of itself. I would go over to the right side of the screen to carefully plant that brush along the right edge of the picture.

Obviously, the left and right edges of the image would match as mirror images of one another. But the inner edge, or rather what is now the left side of the brush I just placed, would not match the portion of the image that was underneath when I stamped it. There would always be a noticeable seam that I had to go back and correct using the blur command to fuzz the edges out, or cutting and pasting pieces from elsewhere in the image to hide the edges.

Clever me. I repeated this process along the top and bottom of the image: Cut the brush, flip the brush, line up the brush, place the brush and blur the edge. An hour or more later, I had made a single, seamless image, but a night of this activity would leave me just about capable of maintaining an intelligent conversation with a four-footed farm animal. Pixel wrangler, indeed!

Today, with a few extra tools, I can reduce this process to about 5 to 10 minutes. Without these tools, I

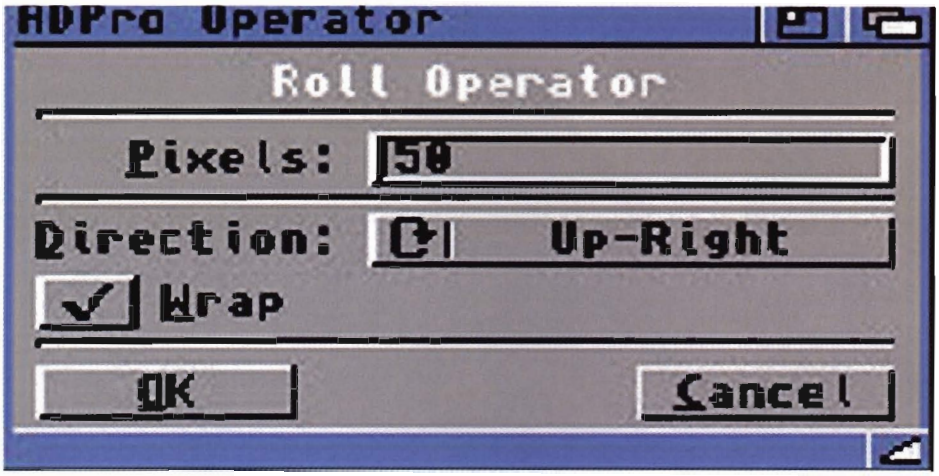


Figure 2

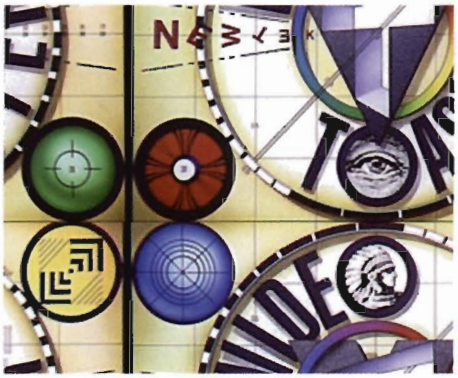


Figure 3

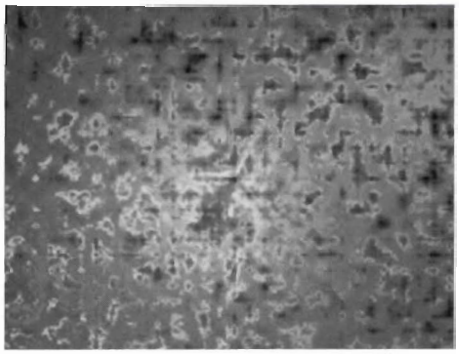


Figure 4

can still whip one up in about 10 to 15 minutes. The concept of a seamless image is a straightforward one: The outside edges of an picture (or a brush, if it is less than a full-screen-sized image) must match, so that when the image is repeatedly applied to the surface of a 3D object, its surface pattern appears seamless and unbroken.

Steps to Perfection

Here are the steps for making one the quick way, using ADPro (and the paint program of your choice). Note that I am assuming you are using 24-bit imagery and that your paint package can handle it, but this will also work with less than 24-bit imagery. The image depth does not matter to this technique.

1. Load the image into ADPro, version 2.0 or higher. (See Figure 1 for the image I started with—in this case, something familiar to us all, with a naturally non-repeating pattern.)

2. Select the Operator named Roll and execute it.

3. The Roll panel will appear. From here, you have a number of options to select. I prefer Pixels set to 50, Direction set to Up-Right, Wrap option turned on (Figure 2).

4. Press OK and let 'er rip!

5. Select the Render/Execute button (the one that calculates and redraws the new image on your Amiga screen) to see what happened (Figure 3).

6. Save this new image.

7. Enter your paint program and load the image you rolled. Select the appropriate tool (or tools), and touch up the seams that cross the image. Use a combination of cut-and-pasted pieces from other parts of the image that look similar, along with Blur (smooth or smear) to fuzz out the seams. Note that sometimes, as in this case, there are some pretty thick seams to correct. Other images will match up more easily; just do your best to fill them in.

8. Once the seams are gone, the seamless image is done! The left and right, as well as top and bottom, edges are perfectly matched (because ADPro did the work for you, slicing the image up and shifting the pieces so the truly mismatched outside edges were placed further into the picture area where you could correct them easily).

If you go to map this image in a 3D program, it will tile perfectly. With natural-looking patterns like metal or sand surfaces, when there is little noticeable pattern besides random detail, you're done. You may notice, however, that with an image such as the examples here, where there is a clearly recognizable picture, it becomes more difficult to line up this image if you want it to appear in just the right place on a given surface. In this case, go back to ADPro and Roll the image the same number of pixels back in the opposite direction. This returns the image to its centered location, placing your corrected edges back to the original edges of the frame. Because the image has been fixed, it will tile perfectly, and if you use only one instance (say, on a billboard object), it will center itself correctly as well!

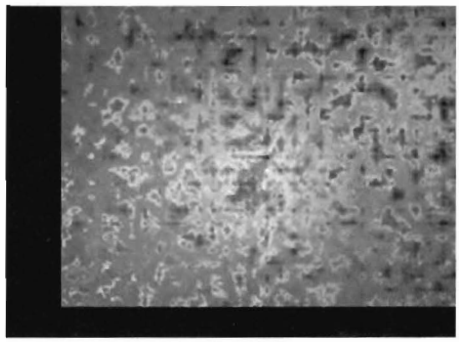


Figure 5

Still Seamless with TPaint

If you do not have ADPro, you can still create seamless imagery. You can either follow my old ToasterPaint method outlined earlier, or use this one (which is a bit easier and more efficient, especially if you do not have to buy another program!). This trick will work with other paint programs too, provided they have tools for resizing and positioning the image in a similar fashion.

1. Enter ToasterPaint and load the image (Figure 4).

2. Press (g) to turn on the Screen Coordinates display.

3. Pick up the entire image as a brush. (Select the rectangle tool, select the scissors, select the solid fill button, and pick up the entire screen.)

4. Select the TxMap draw mode. (Go to the Transparency/Warping panel and make sure the Smoothing [or Antialiasing] is turned on.)

5. Press (shift–k) to clear the screen to a black image.

6. Go to the lower left-hand corner of the screen. Hold down the Alt key. Starting at coordinates of about 40X, 440Y, drag out a box until you reach the upper right hand corner of the screen. When you let go of the mouse, ToasterPaint will redraw the image, slightly smaller than full screen, and shifted to the upper right (Figure 5).

7. Return to Normal draw mode, select the scissors and pick up a brush (about 30 pixels wide) of the right side of the stamped image area. Go to the left side of the stamped image and place this brush right up against the left edge of the picture.

8. Now do the same with the top of the stamped image. Pick up a brush about 30 pixels high from the top of the stamped image and stamp it down

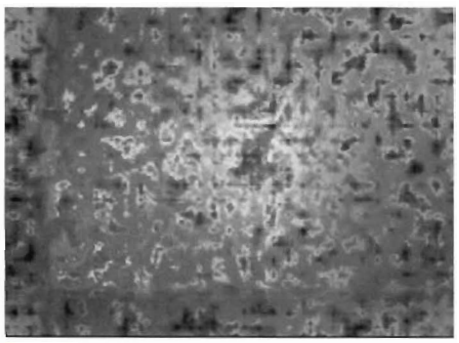


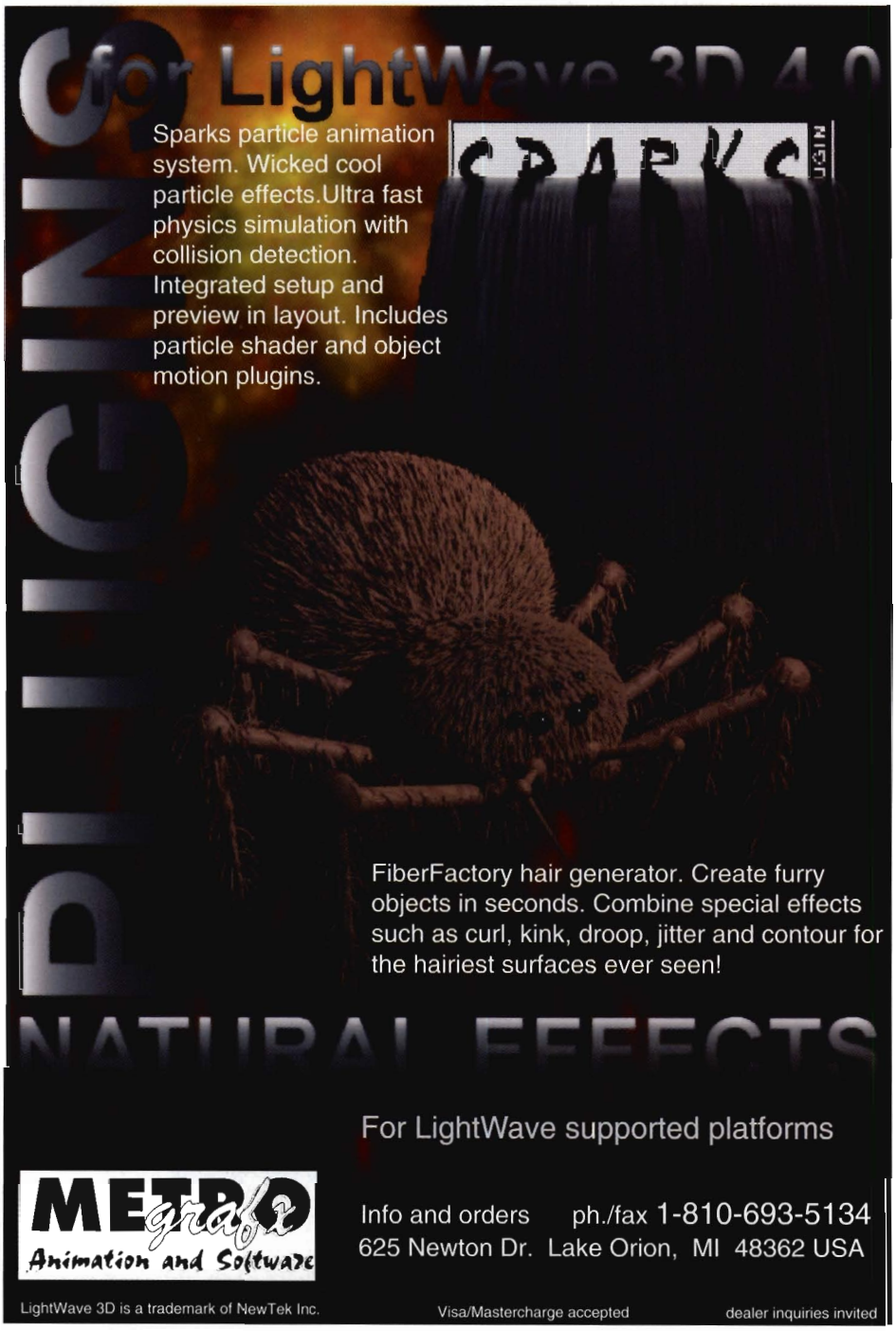
Figure 7

right under the bottom. At this point, you have just performed the Roll operation that we used ADPro for in the previous example. The only difference is that you've done it with a slightly smaller image (which, in most cases, will not make for any noticeably lesser quality in the rendered 3D image later on). (In Figure 6, I have already removed the top and right edges that I repeated, as noted in step 10.)

9. Touch up the seams that cross the image. Use a combination of cut-and-pasted pieces from other parts of the image that look similar, along with Blur (smooth or smear) to fuzz out the seams (Figure 7).

10. At this point, you're almost done, and you have a choice. You can cut out the current image, save it and call it a day. Or you can remove the 30-pixel right side and 30-pixel top that you used to match up sides, and save the resulting image so there is less chance of someone's eye catching the repetition of a portion of the image. In either case, go ahead and cut out the remaining image, save it (using Save Brush) and proceed to image map in your 3D program.

You can use these two techniques to create images that need to be seamless on two edges only, like the top and bottom, or the left and right, for backgrounds that scroll in either direction. You can tile them onto huge polygons in the background of a LightWave 3D animation and have the polygon move slowly or rotate through the scene, making a monolithic background pat-



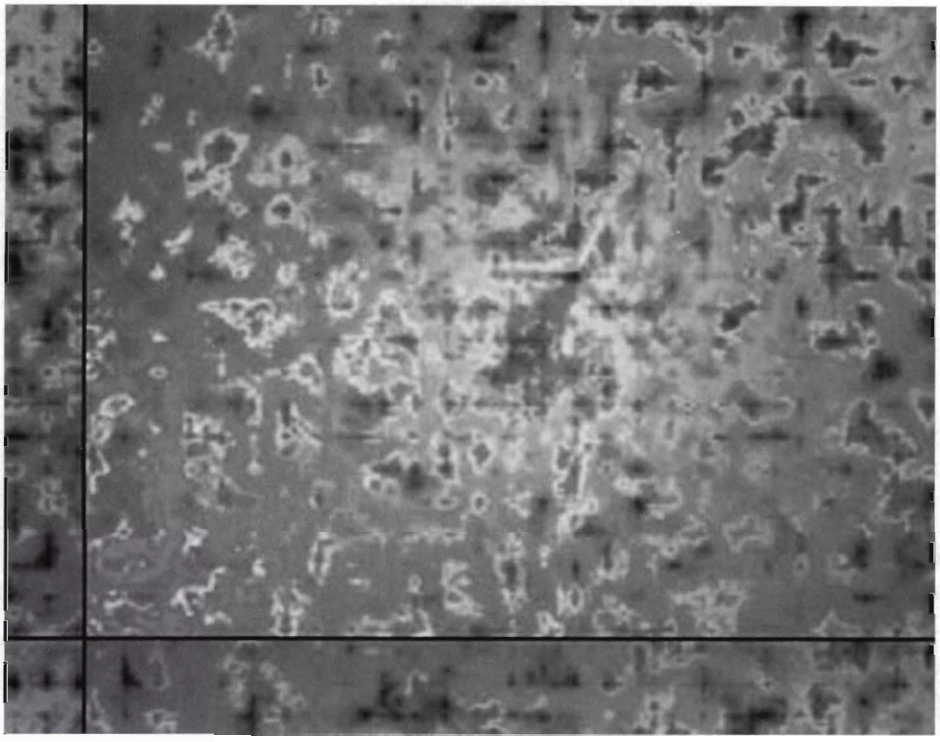


Figure 6

tern behind objects in the scene.

Take the time to study your paint package or image-processing package and see if the techniques demonstrated here apply to you. You may be surprised to find a command that takes a few steps off the process (and a few minutes too!). For myself, I would never have thought to name a command like ADPro's roll as Roll, since that's not the way I imagine the process of shifting the picture. Oh well. It works, and it works well. Go with it. Until next time!

VTU

James Hebert (james@quvis.com) is a technical writer for QuVis, Inc., maker of QuBit and other products. His credits include manuals for the Video Toaster, the Flyer, LightWave 3D and others.

EDITORIAL EVALUATION		
Circle number on Reader Service Card		
I found this article:		
Very Useful **Circle 045**	Useful **Circle 046**	Not Useful **Circle 047**

Toaster Post continued from page 18

once you get the hang of tilting and shearing text in ToasterCG. You simply open up a requester where you set the type style, type in the text and then set the rotation and shear angles. After hitting OK, you return to the main CG screen and click on your typeface panel, and at the bottom, under "box," you will see the text you typed in. Click it as if you were loading type and a box will appear on the screen with your text inside of it. Then, as you manipulate the size of the box—wider, taller, up and down—your text changes shape instantly. I have already used this in a couple of commercials, and my clients love it!

So, cut to the chase. Is Toaster 4.1 worth having for the linear Toaster enthusiast? A thousand times yes! Can you get along without it? Yeah, but unless it is distinctly a matter of putting out the bucks, I can't see any reason why you would *not* want to get a copy. So, NewTek has come through again, with digital flying colors!

VTU

Burt Wilson is the author of "Complete Post Production with the Video Toaster" and a Southern California video professional. He can be reached on-line at burtwilson@aol.com.

EDITORIAL EVALUATION		
Circle number on Reader Service Card		
I found this article:		
Very Useful **Circle 028**	Useful **Circle 029**	Not Useful **Circle 030**

THE SCOOP ON AMIGA TOASTER 4.1

by Bob Anderson

NewTek plans to release the Video Toaster standalone software upgrade on CD-ROM only. This disk contains 650 MB of images, objects, effects and scenes, as well as the program data that makes up the 4.1 upgrade. This decision was made for several reasons: If we're to ship all of the materials that come with 4.1 in a floppy disk version, it would require over 700 floppy disks. (Remember that the new A4000s are shipping with low-density floppy drives.) An installation of this magnitude would take days to complete (let alone the "I'm on disk 693, and it says bad disk" problems).

The CD-ROM gives users a very easy answer to this problem. You only need to install the necessary program files to your hard drive (this requires less room than Video Toaster version 3.0), and you still have instant access to all of the *additional* materials from the CD.

More and more titles are shipping on CD-ROMs. (See the Feb. issue of *VTU* for a sampling.) This medium allows software manufacturers to deliver vast amounts of material without requiring you to purchase additional hard drive space or encountering the problems associated with huge install routines.

VTU

Bob Anderson works in marketing at NewTek, Inc.

Ron Thornton, creator of the Emmy award winning, computer-generated images of Babylon 5, is out to amaze science fiction audiences again, but this time his eye is on the Saturday morning crowd. His new creation, Hypernauts, debuted on ABC with a special prime-time episode on March 1, combining live-action video with computer animation to create an action-

LAUNCHING HYPER

packed, visually exciting and story-driven show for kids. It's a show that's guaranteed not to insult their intelligence—and one that won't have their parents worried sick about violent content.

Sharkey teaches the bad guys a valuable lesson in "Battle at Vekara." An entire alien city was generated in LightWave 3D. The extensive use of CGI in *Hypernauts* allows writers to let their imaginations run wild.

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NAUTS

by Rosemary Picado

Thornton and his crew at Foundation Imaging use LightWave 3D to load in the geometry of their computer generated images used to tell the story, consisting of space vehicles, creatures and aliens of all kinds. LightWave is also used to add paintmaps and as their camera to create lighting for their virtual photography. Hardware includes Pentium and Digital Equipment Corporation Alpha computers. The Foundation crew also uses After Effects on the Macintosh for morphing, blue screen composite shots, backgrounds, laser effects and all other 2D requirements.

Quest for Quality

The idea for the series was born out of Thornton's frustration with low-quality children's programming. He admits that he is not very experienced with the Saturday morning marketplace, but he believes that kids deserve better, more intelligent shows.

"I grew up on stuff like *Thunderbirds*, the Jerry Anderson series, and I kind of wanted to do something like that. Something that wasn't just kids kicking the crap out of each other and then cutting to Japanese stock footage, because I still think you can have an exciting show without the direct physical violence," he said.

The plot of *Hypernauts* follows the adventures of three cadets from the Academy of Galactic Exploration. Ace, Max and Sharkey have to find their way back home after they are accidentally catapulted into the uncharted reaches of space. With the help of their new alien friend and mentor, Kulai, and their three-legged pet, the Gloose, the Hypernauts must also stop a previously unknown enemy, the Triad, from invading Earth. Glenn Herman, Heidi Lucas and Marc Brandon Daniel star as the Hypernauts, along with Carrie Dobro as Kulai. Ron Campbell plays the mysterious Paiyin, a trader who hunts the galaxy for the elusive Kulai.

Pitching the Show

Thornton and the crew at Foundation Imaging pitched the show to ABC with a demo reel they had created in advance, a necessity for a project with such unique visuals. Still, Thornton found himself doing a lot of convincing, even with such a quality product. Problems with other series going over budget made the network a little reluctant to take on something this ambitious, but finally, it was the reputation of Foundation Imaging that really convinced the executives at ABC to give the go ahead.

"They had a comfort factor with us, because they knew that for the last three years, *Babylon 5* was brought in on time and on budget," Thornton said.

The creation of the demo reel not only sold the show, but also ended up helping the writers of the series create scripts. The writers sometimes had a hard time imagining the variety of animations, said Thornton. "We were talking about 'Mechsuits' (a robot vehicle used by the Hypernauts), and they thought we were talking about costumes," Thornton said.

Ron Thornton on the set of the demo that sold the show with promo director of photography and Rave Video Productions Facility Owner, Rex Olson.

The demo reel took two days to shoot at Rave Video Production Facility in Burbank, Calif., said promo director of photography, Rex Olson. They used two Toasters in the production of the demo.

Creating a Universe

As George Lucas once said, a special effect without a story is a boring thing. But supervising animator John Teska can tell quite a story with all of the tricks in his magic bag. Teska grew up on *Godzilla* flicks and names the aforementioned Lucas' masterpiece, *Star Wars*, as being a great influence in his search for a career. Originally from a traditional stop-animation film background, Teska worked with master film animator David Allen when he first joined the industry, and later moved into television. Teska has worked for Foundation Imaging for two and a half years on such projects as *Babylon 5* and his favorite so far, the bumpers between children's shows on the CBS Saturday morning lineup, *The Action Zone*, featuring his cute little flying robots.

Teska says he finds freedom in computer animation compared to traditional stop motion. He built about 40 percent of his characters with Modeler, consisting of the geometry, or bone structure, fleshing them out with Photoshop for the following 60 percent. "Photoshop is just invaluable in terms of doing the image mapping, giving it a believable look," Teska said, "All his [the character's] little wrinkles, all his little moles and warts end up in a paint map."

Teska is particularly proud of the Gloose. The Gloose is three-legged dog-like creature who becomes a companion of the Hypernauts, much to the chagrin of their alien mentor, Kulai. (She would rather have him for dinner.)

The Gloose started out as an animatronix puppet sculpted by the Optic Nerve company. The puppet is used in 75 percent of the live action and close up shots on the show. Once Teska got a

HYPERNAUTS continued on page 36

Dr. Toaster continued from page 25

times. It seemed to be that the fonts trying to be loaded were not Adobe Type 1 fonts. True Type fonts won't load. Check your directories to see what extension your fonts have on them. From a program such as DirectoryOpus, check to see if your fonts have the .AFM extension. If this still doesn't work, try copying a font or two from a friend's Amiga (if possible), and see if they will load. If not, you may want to try reinstalling the software.Your PostScript fonts should work in both ToasterCG and LightWave without much hassle. If your problems persist, NewTek tech support can walk you through your problems.

Q: I have a Toaster 4000 card in an Amiga 2000, and I am trying to convert LightWave stills to my PC using Art Department Professional. When I change them to 256 colors, they look awful. If I try to save them in 24 bit, they won't fit on a floppy. Do I have to buy a high-density drive? Will that solve my problems?
Nino Del Padre

A: Don't be fooled by what's on your computer screen. Even though you are using a 4000 card in a 2000, you are still limited to 16 colors on your screen. So, although the image is scaled to 256, you only see it in 16 colors. And, frankly, it *will* look awful that way. If you want to keep your image in 24 bit, then you would want to purchase a high density (HD) floppy drive. One nice thing about the old Amiga 4000, in addition to the high-color display, is the HD floppy. The Amiga 2000/2500 has a port on the back of the computer for an additional floppy drive. For about $100, you can add a HD floppy to your computer. It needs to be specific for the Amiga, because there is software that goes with it. However, you can always "Scale" the image, especially since you are using ADPro. By decreasing the size of the image, say from 752x480, which would come in at 1.08 MB, to 526x336 (30 percent), your image is still 24 bit, but now has a size of 395 K. You can put two images on DD floppy this way! The best thing to do is to purchase a JAZZ drive by IOmega. It costs around $450 and a cartridge costs of about $100. A 1.0 GB removable device would solve *all* your image size problems.

Next month, check in for diagnosis on timing your Video Toaster with traditional video equipment. We'll cover black burst signals and what you can do to achieve the best possible signal health from your Toaster. Comments, and questions can be sent via e-mail to me at dma@mcs.net, or by mail to AMG Media, attn.: Dr. Toaster. Thanks for reading, and we'll see you next month.Good luck!

VTU

Dan Ablan has been involved in all aspects of video production with the Toaster, and uses one every day in his own business, AGA Digital Studios, in Chicago, Ill.

EDITORIAL EVALUATION
Circle number on Reader Service Card
I found this article:

Very Useful	Useful	Not Useful
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HYPERNAUTS continued from page 31

hold of the model, he had it laser scanned and encoded into the computer to create a twin of the puppet. The Gloose then came to Teska as a wire mesh frame, consisting of 40,000 to 50,000 polygons of geometric data. Real photographs of the puppet were used to map the image in Photoshop. The result is an exact copy of the animatronix puppet, gifted with the ability to roam freely.

The Gloose proved to be quite an animation challenge for Teska due to its unique physical structure—it only has three legs. "As an animator, I've always been looking at how creatures move. This is the first time as an animator that I've had to start from scratch. There is no three-legged creature, so I took a lot of references from dogs and other animals running, but then I had to go forward in my own head and make this a believable, living, breathing thing, even though it doesn't fit any mold," he said.

Other effects Teska is excited about are giant friendly hornets and surprisingly evil butterflies that terrorize the *Hypernauts* in the episode in production called, "A Walk in the Garden."

Necessity—Mother of Invention

Staying on a children's show budget, though a necessity, was not easy for the Foundation group. "I didn't want to make anything that looked cheesy," Thornton insisted. The original concept involved five *Hypernauts*, but due to budget concerns, they were forced to reduce the cast to three cadets and an alien. Also, Thornton had originally wanted to shoot the series on 16mm film, but found that it was impossible to achieve the level of quality effects for the budget allotted. (He couldn't disclose the amount, but said that it equaled approximately the budget of a standard animated show.)

Then Thornton saw a videotape using the Filmwork post-production process, where less expensive videotape is used during filming and then "dirtied up" to look more like traditional film. Thornton was sold and director of photography Jim Mathers agreed.

The team wins a battle at the Vekara Spaceport. The background is computer-generated with the ironic exception of the Mechsuit: A full-size mock-up of the walking machine was built to allow interaction with the cast with a minimum of post-production headaches. © 1996 GREENGRASS PRODUCTIONS

They ended up shooting the show digital Betacam with Mathers ligh the sets to give the effect of film. results are impressive, said Thornton

"We're even Filmworking some of effects, which is kind of interesti Thornton explained, "It's actually a pro that degrades the image, but it w exceedingly well. It's much more plea to look at than raw video."

One groundbreaking technique Ma used can certainly be described as a un way of getting special types of shots: With camera mounted on a three-axis head using a gib arm for control, Mathers wor tual reality goggles plugged into the cam

The Star Ranger is the Hypernaut's home away home. All the interior sets (designed by Steve were created to match the look and feel of the effects models. © 1996 GREENGRASS PRODU

Then, he stood, holding the camera at a length, and flew it around to get the sho wanted. "It's really cool!" Thornton ra "Jim Mathers is fabulous. He'll try anythin

The tone of the animation Hypernauts is much brighter than p ous projects, such as *Babylon 5*, Thor said. "We're not hiding anything in dark and dreary. It's all very, very br and it's interesting because sometim doesn't look real, but it's cool."

Teska also relied on Mather provide good lighting matching look and feel of the photograph his computer-generated imag This is especially important with many scenes cutting back and f from live-action to effects. E more complicated were the c posite shots, where virtual com er-generated elements, like pieces, robots or animals had t dropped in beside a setting Mathers previously shot on stage. "I wouldn't call it so muc problem rather than a learn curve," Teska said.

But the constant enemy of qu ty animation is time. Teska's gr est challenge is churning numerous quality shots that n

The Flapjack is the primary transport and exploration craft used by the Hypernauts. Designed by Steve Berg and built in LightWave Modeler by Ron Thornton. The image maps were painted in Adobe Photoshop. © 1996 GREENGRASS PRODUCTIONS

his own high standards in a fast paced production environment while staying on budget. To save time and money, Teska created a library of prebuilt motion cycles for his characters to be used as starting points for animation, unlike traditional animation where every shot is a unique setup and objects must be loaded from scratch each time. For example, the Gloose has a series of walks and runs, with a "cute" walk cycle, an "I'm not feeling good" walk cycle and a "help me, my *butt* is on fire" run, he explained. But this is not to infer that the Foundation animators simply load these cycles and watch them run. The cycles are just *starting* points, and each shot will have to be customized for the episode. Not only do the character's motions have to be unique and believable, they must also breathe life into the image. "The real trick is adding a personality to the character," said Teska.

Thornton directs Glenn Herman as "Ace," Marc Brandon Daniel as "Sharkey" and Heidi Lucas as "Max."

Learning to set up these time-saving cycles on such a tight production schedule, helped to get the project moving, but also proved difficult for this self-described perfectionist. "I want to spend days upon days getting something just so, but you don't always have that luxury," he said. Still, he is proud of what they have been able to achieve.

Get Me to the Toy Store

Teska enjoys the speed and freedom of working in the virtual realm of computer animation, but he does miss the physical act of creating models. Sometimes he longs for the day when he could walk around his creation to get a feel for its own concrete reality, but that day is long gone, even though it was only a few short years ago. His remedy comes in the form of toys and action figures, an essential and fun factor in the children's programming industry. "When the Micro Machines came out for *Babylon 5*, that was the first time any of us got to just sit and hold any of the space ships and play with them. It would be wonderful to see the *Hypernauts* figures

Ron Campbell as the trader Paiyin who has it in for the Hypernaut's friend and mentor, Kulai.

appear in toy stores to play with."

And using LightWave has made this possibility surprisingly accessible to manufacturers. With this technology, those who would be preparing a style guide for merchandising could gain access to any angle of the vehicles or creatures, and easily print up precise specifications for a toy line from the actual CGI's used on the show.

This proves advantageous to any company who might want to buy a major toy license. "We can give them all the databases, which automatically makes their patenting easier," said Thornton.

"Nothing would make me happier than having a *Hypernauts* Happy Meal."

Is this the future of Saturday morning television? "I think so," Thornton answers, "more from the point of creating a high-quality show. I don't know many people who can sit down with their kids and watch Power Rangers, yet this is something that you can watch with your kids because it doesn't take anyone's intelligence for granted."

Watch Hypernauts Saturday mornigs at 9 a.m. PST, 10 a.m. EST on ABC.

VTU

Rosemary Picado is the managing editor of VTU. *Reach her online at RPicado@aol.com.*

EDITORIAL EVALUATION

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I found this article:

Very Useful	Useful	Not Useful
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Creating the Gloose

by John Teska

Wireframe Model

This image shows the Gloose in its most basic form as a wireframe model. This geometry represents the three-dimensional scan of the puppet sculpture. The model is composed of over 21,000 points and 39,000 polygons. The legs, torso, tail and head were scanned as separate parts and "stitched" together in Modeler. "Bones" have been added in Lightwave to allow the model to be posed and animated.

Solid Model

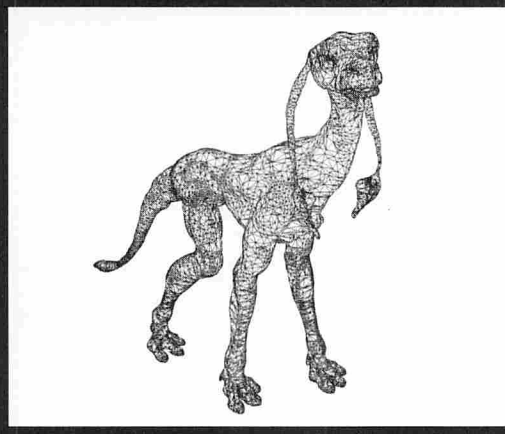
This LightWave rendering of the unpainted Gloose looks more organic because the "smoothing" option in the surfaces panel has been turned on. The detail of the scan is readily apparent, yet this is a relatively low-resolution object. The solid model render is useful in hunting for defects such as holes or creases in the scanned model.

Color Model

Here the wild Gloose is seen in a natural setting with texture maps on the skin. Photographs of the painted puppet were flat-scanned into the computer and applied to the model. Special attention had to be paid to where different surfaces joined to avoid streaks or misaligned edges of texture maps. The final step in creating a shot like this is matching the lighting of the background.

John Teska is supervising animator of Hypernauts.

All images © 1996 GREENGRASS PRODUCTIONS



The three-legged Gloose presented quite a challenge for supervising animator John Teska, but now he runs wild and free on *Hypernauts*! © 1996 GREENGRASS PRODUCTIONS

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FOR INFORMATION CIRCLE 196

TOASTERIZED

WWW

Resources and Roadmaps for the NET

by Harv Laser

Two years ago it didn't even exist. Now you see it everywhere: "Visit our Web page!" Industry estimates claim over 30 million people are using the Internet, and the Web is definitely the fastest growing area on the Net. Web pages contain everything from mind-boggling graphics to some guy's lame homepage that lists his favorite CDs. The Web also offers Video Toaster and LightWave users a showcase for their demos, a place to advertise their services and download information or 3D objects day or night. There's absolutely nothing stopping you from exploring the net or putting up your own Web pages!

Get Involved or Just Watch

Because the Web is hypertext-based rather than linear, there's no start or end point to it—just set up a browser on your computer and go surfing. It's not so much a highway as it is a gargantuan collection of on and offramps where you can go from serenely viewing pictures in the Louvre in Paris to examining the latest Congressional legislation to checking out the hidden references in last week's episode of *The Simpsons* to...well, you get the idea.

As a videographer, LightWave artist, software developer or whatever your chosen field, the Web is also probably the easiest, cheapest way to publicize yourself, your creations, your services and your products to the entire industrial world.

Getting on the Web

To get yourself and your computer on the Web takes less effort for Mac and PC users than for Amiga users, simply because there's more industry money supporting those platforms. But with the rebirth of the Amiga, thanks to Escom and Amiga Technologies GmbH, hopefully this has changed. New software includes the Amiga Surf Net bundle, an A1200 with WWW and other internet tools.

With some variation, all you really need is a modem, a phone line, an account on an Internet Service Provider (ISP) and a software application for your particular brand of computer known as a browser. Folks who sign up for some ISPs get a Web browser built into the custom front-end software provided by that service, such as with AOL and Prodigy. There's really not much brainwork involved—hook up the modem (a 14.4 kbps modem is really the slowest you should consider for Web browsing, and they're under $100 now), install the software, punch in your personal info (including credit card), and you're on-line. But these all-in-one packages, while quick and easy, are often the least flexible solutions.

Other services offer the customer a choice of a standard UNIX dial-up shell account (more on this later), or a SLIP/PPP account bundled with a custom browser. In Netcom's case, it's called NetCruiser. Still others, such as PSInet, give you an account and an off-the-shelf browser, such as Netscape Navigator, to go with it. ISP prices vary, but typically a monthly account with some number of "free" hours of usage runs from $10 to $25.

Another approach is to visit a software or book store and buy a commercial browser first. Otherwise, getting bundled software and account packages is simple: you can find them stuck inside many plastic-bagged computer and Internet magazines on any large newsstand, or call the service you're interested in and they'll send you a disk (or sometimes a CD-ROM) for free. And if you visit a trade show, such as COMDEX or CES, you can pick up more free on-line service signup disks than you'll know what to do with.

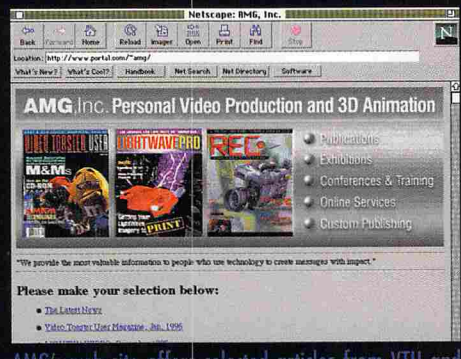
But before delving into a discussion of Web browsing on Amigas, a disclaimer is in order. Several new Amiga Web browsers are said to be in development. A source inside Amiga Technologies told me that the company is evaluating no less than a half-dozen different Amiga browsers (which he would not name) with the goal of bundling one with each computer shipped. The outcome remains to be seen.

Current Non-Vaporware Amiga Web Browsers

ALynx is a port of the UNIX Lynx text-based browser which runs as a client under AmiTCP (or MLink). It's quite fast and stable, and if you have no use for Web graphics or fancy fonts, it may be all you need for now. But as you've probably figured out, graphics are half the fun of the Web. ALynx presents an inlined graphic simply as "[IMAGE]" so you can see where it goes, but not what it is. External graphics and other files show up as a "[LINK]" and can be downloaded and displayed with external viewers or players.

NewTek's WWW and Internet presence is substantial with its own Net domain, BBS and FTP sites

One of the most popular browsers is NetScape, which has its own site on the World Wide Web.



AMG's web site offers selected articles from VTU and LIGHTWAVEPRO as well as the on-line 'zine REC.

Many ISPs offer UNIX Lynx right at the user's shell account prompt for immediate use without the need to download or install *any* software on your part. Just log in with any terminal program, enter "lynx" at the shell prompt and you're on the Web. Like graphical Web browsers, Lynx also has a bookmark feature.

Amiga Mosaic, as the first graphical Amiga Web browser (based on NCSA XMosaic), is not the most modern or most capable, but more people use it than any other Amiga browser. The public release of MUI 3.2, the interface engine under AMosaic's hood, also made the program much more stable and more capable of handling forms on Web pages (Figure #x). However, AMosaic doesn't know about "Netscapeisms" such as fancy backgrounds or centered graphics. (The language used to build Web pages, HTML, is supposed to be standardized but Netscape has broken many rules with its variant of it.)

To be fully appreciated, AMosaic needs AmigaDOS 3.0 or 3.1 because its inlined graphics are driven by the datatypes system not available in older OS versions. You'll also want to view the Web in at least 256 colors, so use an AGA Amiga or a graphics card, such as Picasso II to get more than 16 colors in high-res video modes.

Because the Web is graphics intensive, your Amiga should have at least a 68020 CPU, and 4 MB RAM because AMosaic uses only Chip RAM for the inlined graphics. If your Amiga has no Fast RAM, things get very slow. (Readers of this magazine are less likely to be using bare-bones Amigas, of course, but these requirements are the "basic" ones.

AMosaic is freeware. There's no office to call if you need help, but there's copious support available on Usenet and via the AMosaic Internet mailing list. "Official" support is at http://www.omnipresence.com.

Chimera is a graphical Web browser developed by Holger Kruse (kruse@cs.ucf.edu), who also created the port of X-Windows known as "AmiWin" atop which Chimera runs. The installer scripts for both AmiWin and Chimera are as close to bulletproof as I've ever seen (but make sure you have the Commodore Installer program V1.24 or higher). Although Chimera runs a bit slower than AMosaic (it builds an entire page before displaying anything), for an Alpha version application, it's incredibly stable, and the colors of its inlined graphics are gorgeous on an AGA machine. Chimera does not use MUI or datatypes. If you've ever used X-Windows on a UNIX box, this setup will look very familiar to you. If not, no

problem—it'll just look a bit strange, because you can only use two fonts unless you register AmiWin. Still, Chimera is quite serviceable.

And here's something radically slick to try: If your ISP has a graphical Web browser, such as Netscape Navigator installed, with a SLIP account you can run that browser and redirect its screen output into AmiWin and use it on your Amiga! Get AmiWin and Chimera from any of the "Aminet" FTP sites or many on-line services such as Portal.

IBrowse by Stefan Burstroem, is a second-generation Amiga browser from some of the same guys who brought you AMosaic. IBrowse, unlike AMosaic and Chimera, is multithreaded, meaning you can have multiple Web page connections open at once and interact with them without waiting for other actions to finish. It's also faster than AMosaic and lets you scroll a Web page's text up and down while it continues to fetch graphics on that page. The latest IBrowse news and downloadable version can be found at http://www.omnipresence.com.

This is a fast-changing area of Amiga software, so you'll want to keep up on the latest developments. For a good overview of these and other Amiga browsers in development, such as WebLink, Juggler, AWeb and MindWalker, visit the following site http://www.phone.net/home/mwm/amiga-browsers.html.

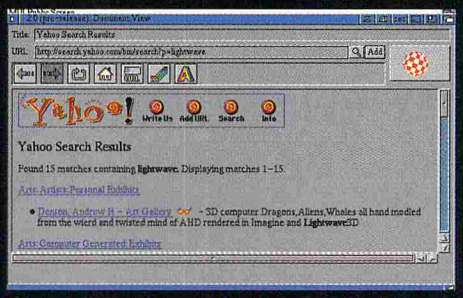
NewTek's Bulletin Board Service offers direct access to info and downloads anytime (913-271-9299).

Putting an Amiga on the Net

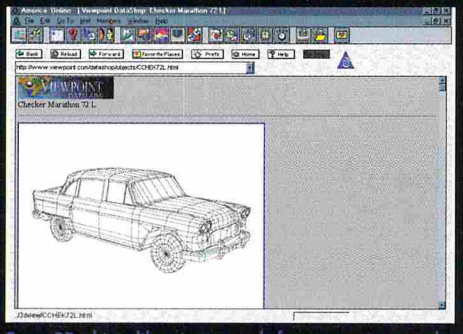
While there are more ways to get an Amiga on the Net than I can cover here, I can give you the most popular two. AmiTCP, a rather hefty Amiga software package, installs on your Amiga and interfaces with a SLIP or PPP on-line account. Installing AmiTCP requires quite a bit of user input, including getting some mysterious "IP numbers" from your service provider. But AmiTCP is well supported and in wide use. Look for the demo version on Aminet FTP sites and commercial services.

The shareware Multilink (MLink) by Ezra Story (ezy@panix.com) is a *lot* easier to install and configure than AmiTCP, and since it basically turns a standard dial-up UNIX shell account into a pseudo-SLIP account, it doesn't give you some of the capabilities that AmiTCP does. But it's very compact, stable and capable of running any of the Amiga browsers I've named, along with just about any other AmiTCP or AS225r client software, including FTP and IRC packages. MLink consists of two programs: One goes into your UNIX dial-up shell and the other goes on your Amiga. The program is entirely configured with Amiga icon tooltypes. The UNIX side

Some Amiga and Toaster users groups have their own sites and are valuable sources of fun and information.



Yahoo! offers a fast and fun way to find World Wide Web and Internet sites of interest.



From 3D object libraries to stock footage sources—the Net allows users to download data 24 hours a day!

requires compiling on your host system, but precompiled versions for many hosts can be found at http://www.hut.fi/~oahvenla/MLink/ and can save you time and hassles. (Hey, artists don't want to deal with code compilers anyway!) MLink comes with well-written AmigaGuide format documentation that does an excellent job of getting it up and running quickly.

For additional Amiga networking solutions, check out "Connect Your Amiga! A Guide to the Internet, LANs, BBSs and On-line Services" by Dale Larson, Commodore's former Amiga networking guru. This book can be bought through Larson's company, Intangible Assets Manufacturing, or many Amiga dealers. Send e-mail to "info@iam.com" for Larson's catalog of products and prices. Also, start reading "comp.sys.amiga.networking" and ".datacomm" on Usenet. These are both invaluable pit stops on the information superhighway to get your questions answered.

Creating a Web Presence

So, you've got a browser and you've been admiring Web pages that others have built. Now, you decide you want to make yourself or your company visible on the Web too. How is this done?

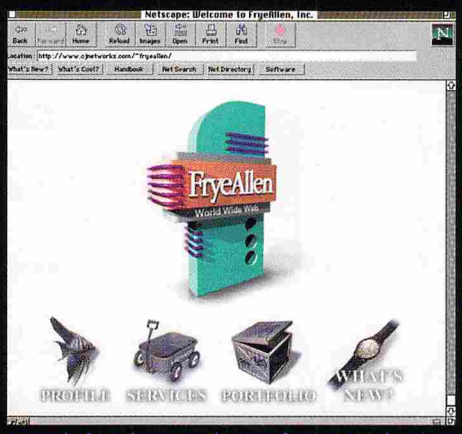
Actually, it's fairly easy. Web pages are human-readable text files that have been enhanced to include formatting instructions in HTML (HyperText Markup Language). If you've ever seen raw TeK or AmigaGuide documents, the concepts are similar, but the actual mechanisms and code are different.

A Web page can contain plain text, headlines in different sizes, inlined graphics (usually GIF, JPEG or PNG format files) that appear next to the text, fill-out forms and selection buttons, and "hot links" (clickable text or graphics) with which you can download files, such as larger format pictures, animations and sounds in various formats. You can hop directly to other places on the current page, other pages, and even other sites on other servers on the other side of the world.

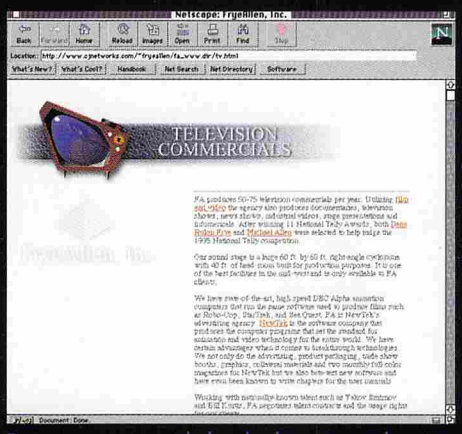
HTML Web pages can be created in any text editor. The market is being flooded with special-purpose editors specifically designed for Web page creation, such as Adobe Pagemill, Quarterdeck WebAuthor, Assistant Pro, and others for PCs and Macs. These editors generally insulate you from having to actually soil your fingers with HTML. They're more like page layout or publishing programs with output destined for a Web page rather than a sheet of paper.

There's a lot of good (and not so good) books on the subject. I found IDG's "Creating Cool Web Pages with HTML" by Dave Taylor to be a painless introduction that helped get me started.

For Amigas, there are few commercial dedicated Web page design programs. I use the combination of two shareware programs: HTML Heaven



A simple but elegant Web page from VTU's designers and NewTek's Advertising agency, FryeAllen, Inc..



Design your pages with download time in mind so your visitor will immediately see images and information.

by Paul Kolenbrander (paul@serena.iaehv.nl) and GoldED by Dietmar Eilert (dietmar@tomate.tng.oche.de) that talk to each other through their ARexx ports. There are also some Final Writer ARexx macros out there to turn your word processor into something resembling an HTML editor. Two of the newer Amiga entires include WebMaker by Pascal Rullier (rulliwer@club_internet.fr) and AmiHTML which is basically a CanDo deck by Summit Productions (sunnit@mindlink.bc.ca). But for quick page changes or minor edits, I just toss my .html files into any text editor.

Once you've created your Web pages, you have to mount them on a Web server somewhere and make them accessible to the world. In most cases, all you need is a standard dialup UNIX shell account on an Internet provider who has a Web server. (Note: Some providers, such as AOL and CompuServe, do not give you a shell account. Instead, they provide you with a Web page design interface and some proprietary way of installing your pages on Web servers.)

In your shell, you create a directory called "public_html" into which you can upload your pages or create more subdirectories to better organize things. Typically, your main or "home" page is named "index.html" and your other pages are linked from that one. Then it's a matter of setting the correct UNIX permissions on your directories, .html files and graphics.

Of course there's another option—hire someone (or a company) to design, install and maintain your pages for you. There are plenty of them willing to do exactly that, for a price. Typical Web page storage and fees, above and beyond on-line account fees, vary from one service provider to another. It's best to check with a provider to learn if their policies, free storage or prices have changed and that you fully understand what your dollars will get you before you commit yourself. A quick telephone survey of some popular providers turned up the following information:

Portal Information Network
(1-800-433-6444)
5 MB free Web page storage with account. More at $1 MB per month.

America On-line
(1-800-827-6364)
No charge for Web page storage with account.

CompuServe
(1-800-848-8990)
Personal pages only (no advertising permitted). 1 MB free storage.

CalWeb
(1-800-509-9322)
From 2 to 10 MB free Web page storage, depending on account type.

Best Internet
(1-415-964-2378)
25 MB free Web page storage with any account.

These are just a few examples. New ISPs are springing up weekly. If the companies above can't meet your needs, shop around. Be mindful that some of the smaller providers might limit you to the number of free hours you can log in each month, or they may have a limited number of incoming phone lines through which you can connect. If you have to update your Web page right now and can't get on-line to do it, that cheap account isn't saving you money, it's costing you money!

Related Web Pages

As you will see below and when you visit these pages, almost all of them will have links to other topically-related pages. Use your browser's "hotlist" feature to save a bookmark to the page you're currently visiting. This makes it easy to go back there later without having to type in the long Web addresses. Here's a few sites of interest:

- Amiga Technologies GmbH
http://www.Amiga.DE
- AMG Media—VTU, LWP and REC.
http://www.portal.com/~amg
- Denton Art Gallery
http://www.eunet.ch/People/ahd/home.html
- Discount Don's 3D Gallery
http://www.portal.com/~donr/
- Render-Cam Images
http://www.crl.com/~rci/rci.htm
- Scan America
http://www.discover.net/scanam/scanam.html
- FryeAllen Advertising
http://www.cjnetworks.com/~fryeallen
- LightWave Research & Develop-ment
http://www.voiceoflight.com/litewav1.htm
- LightWave—the Tomahawk site
http://tomahawk.welch.jhu.edu/
- Jurassic Park memorabilia
http://www.c2.org/~glewis/
- Digital Illusions
http://www.mcs.com/~bcleach/illusions/
- Professional LightWave Animators Page
http://www.pb.net/~limg/
- University of Ottowa - LightWave Communications Research Laboratory
http://optics.genie.uottawa.ca:8080/LtComResLab.html
- Render-Cam Images
http://www.crl.com/~rci/rci.htm
- Amiga Mosaic
http://insti.physics.sunysb.edu/AMosaic/
- Amiga Mailing Lists
http://www.iam.com/amiga/lists.html
- NewTek, Inc.
http://www.newtek.com/
- Amiga Users Group
http://www.cucug.org/amiga.html
- 3DSite
http://www.3dsite.com/3dsite/
- Virtual LightWave Demo
http://cseunl.edu/~mohrt/lightwave
- Select Solutions
http:www.Dvideo.com

VTU

Harv Laser (harv@cup.portal.com) is the Sysop of Portal's Amiga Zone and the "webmaster" of AMG's WWW pages. His own pages are at http://www.portal.com/~harv.

ASK AND YOU SHALL RECEIVE

Getting the Most Out of Tech Support!

by Greg Ready

I would like to share some information with users about NewTek's Technical Support operation. I have been involved with NewTek for about three years and I'm coming up on my one year anniversary as manager of Technical Support. Many people I talk with say things like, "How in the world can you sit and listen to everyone else's problems day in and day out?" It's not easy sometimes, but there *are* cases when a job like this can be very satisfying. For example, say you are talking to a guy somewhere in Montana. He needs to be up and running for tomorrow's shoot but his Flyer won't boot. (A note for name droppers—we don't care if this is a shot for MGM or a shot of your kid's T-Ball game, both situations are treated with the same importance.) If I can make this guy's Toaster/Flyer system come up and function properly, it not only makes him happy, but it also makes me feel warm and fuzzy while I fulfill my job description.

Taking Care of Business

How do you get the most out of tech support? There are certain guidelines that you as a user can follow to help us make your dealings with us fast and effective. You need to realize that, yes, we do know what deadlines are, and yes, we do know how frustrating it can be if your equipment is down. Our whole purpose as a support staff is to help you get your equipment back on its feet as quickly and efficiently as possible. I find that the people who are the most satisfied with our services are the people who are most willing to be patient and help us help them. With this in mind, please remember a few things when calling or contacting us. Tech support is an interactive medium! Solutions are usually achieved by question and answer sessions. Do not be offended if a tech rep starts asking you questions about the question you just asked. If it seems as if we are trying to pry more information out of you than what you have given, you're absolutely right—we are. This interaction helps us understand what you are doing, what the system is doing and what your next course of action should be. Also remember that your knowledge of how your equipment works is *not* the issue at hand, and "I don't know" is always a viable answer. However, the more information you can provide, the faster the problem can be nailed down and corrected.

Tech Support Tips

Here is a list of good things to do when calling or contacting NewTek, Inc.'s Technical Support department;

•Be ready and be in front of your machine. Q & A sessions are cut off prematurely when you have to "try that and get back to us."

•Be patient. Contrary to popular belief, we do not operate on the "squeaky wheel gets the grease" theory. Calls are taken and returned in the order in which they are received. "Nice guys" are not given front-of-the-line treatment, they just have a better experience while getting the information they need.

•Be concise. Concentrate on one particular problem at a time. Many times, especially with fax messages, we get bombarded with unrelated information including a long list of problems, ideas and questions. We, always welcome the input, but sometimes it really bogs down the flow of technical information back and forth. Try to keep fax messages within one page and be as *specific* as possible.

•Have your serial number ready. You must provide a registered serial number for *any* Lightwave 3D inquiries. Toaster/Flyer serial numbers are the first thing we will need if you have to send in your Toaster or Flyer card for repair and before you receive a Return Maintenance Authorization (RMA) number.

•Read through the documentation, readme files and the Toaster manual first. I believe there is a phrase that goes "RTFM—Read That Fine Manual" before calling a support service. Yeah, I'm laughing too, but it is

TECH SUPPORT continued on page 47

Navigator 1.0
Fast Flyer Fun

by Chris Fenwick

Recently, there's been a minor wave of people writing software ARexx scripts and offering them for sale. That's where Navigator 1.0, from Token Video (612-437-1708), comes in. Navigator is a collection of ARexx scripts that has all the benefits and drawbacks of ARexx. When everything is set, Navigator will save you gobs of time on specific tasks. However, if you don't have your computer set up the same way that the programmer did when he wrote the script, good luck. (In all fairness, I was reviewing a prerelease version of Navigator. The release versions will have manuals and on-line help.)

Navigator has eight scripts that create a tab at the bottom of your Flyer Sequencer software: CheckAll, Grab Clip, Grab Still, Make Project, New Clip Pro, Set Length, Set In/Out, and Song Length are the current scripts, and if used properly, they'll amaze!

"...Grab Still takes you to the Switcher and grabs whatever you put on-line with one keystroke."

Perhaps the most impressive script in Navigator is Grab Clip which allows you to grab a Flyer clip while you still have control of the Toaster switcher. For example, put the spinning "Next" animation in the upper half

of the screen—that way it is standing by waiting for you. Now when you start the Grab Clip ARexx, you can trigger the animation and the black and white animation will be in the clip that is being recorded. This way you can dissolve to the clip with the animation already playing. Cool!

Show Business

Recently, a client wanted a "slide show" made up of a bunch of frame grabs from a tape they had already produced. About 15 minutes later, I had the completed 20-image project. First I ran the "Grab Still" script that asks you to name the stills, where to put them and how to number them. Then Grab Still takes you to the Switcher, and grabs whatever you put on-line with one keystroke. It's a Macro that greatly simplifies making a Flyer Still, but considering how many hoops you normally jump through, it gives you features that aren't available without the script.

The next tool in the Navigator arsenal I used on the slide show was Make Project. This is where the "You do what I want you to do" dilemma comes into play. Make Project only works with a series of Flyer Stills that Navigator's Grab Still ARexx Script has created. If you have a directory full of Flyer Stills that Grab Still has created, it works wonderfully. Navigator asks you for the directory to reference and what effect you want between your stills and BAMM—a sequence ready for output.

OK, you don't want three second stills? Try Set Length. Set Length will go in and set the length of *all* Flyer Stills in the current project to whatever length you want. Remember, however, these are Flyer Stills, not Framestores. By running these three scripts the process of creating the slide show was a breeze!

Don't Sweat the Details

How about all those pesky dialog boxes that come up when you're editing saying you must move your in- or out-points to the left or right in order to have proper effect playback? Navigator has a script called Set In/Out that will make minor changes to your in-and out-points to better facilitate the effects you are using. This alleviates brain strain when you're polishing a sequence.

The last script I specifically want to mention is Song Length. This script is a little tricky if you don't follow the documentation. It allows you to start a long song at the beginning of a project and then trail it under a series of clips in any length you want. Where you want the song to fade out, place a stop icon and then run the Song Length ARexx script. Song Length will total the duration of clips until it reaches the stop icon and then set the duration of the song clip accordingly.Very handy.

The ARexx programming language offers both developers and users an easy opportunity to create specialized, efficient and flexible software. Time is money, and Navigator will certainly save you both! VTU

Chris Fenwick owns Broadcast Business Graphics in Redwood City, CA. Reach him in care of VTU.

I DO TOO!
The Golden Rules of Wedding Videography

by Rev. John Jackman

"We're going to have the ceremony videotaped," said the bride. I explained that our church had rules about videotaping, and that the videographer would have to abide by them. "No problem," she said. "This is a professional outfit that has done a number of tapes for our company. They know what they're doing." Good, I thought. Always better to deal with a pro than Uncle Harold who got a camcorder for Christmas!

These two video guys showed up at the rehearsal with a truckload of AG-450s, mikes and mixers. They looked as if they had recently graduated from homelessness. All right, they knew their video equipment, but it rapidly became clear that they had no concept of how to behave in a church or at a religious ceremony. They wanted to hang cables *everywhere*. They kept interrupting the rehearsal to suggest changes that would give them a better shot. One of them planned to prance around up front with his AG-450 during the ceremony to get close-ups. After the rehearsal, I took them aside and laid down the rules in clear and unambiguous terms.

The next day, these fellows showed up on time—wearing the same clothes they had worn the night before. No kidding, the same clothes! They made it clear that they thought my rules were ridiculous, and that I just didn't understand television production (my decade and a half of experience in the field aside). They insisted they were professionals and that they knew about video. Grudgingly, the two agreed to videotape the ceremony from the rear and not to intrude in the service itself. Afterwards, the most frequently asked question at the reception was "Where did she get those two bozos with the cameras?" Those two bozos will never videotape in my church again.

While this story may be an extreme example, it's not the only horror story I could tell you. If you want to make it in the field of wedding videography, you'll need to learn more than how to handle a camera. You'll need to learn how to fit into an established religious ceremony, and how to carefully respect the varying traditions of different faiths and congregations. With that in mind, let me share with you "Pastor John's Golden Rules of Wedding Videography."

The Golden Rules

1. Contact the pastor, priest or rabbi by phone well in advance of the service. Introduce yourself, and ask what guidelines the congregation has for videotaping weddings. Larger congregations may have a list clearly spelled out on paper. Ask for a copy. Assure the clergyperson that you will respect these guidelines, and will not intrude into the service itself.

2. Attend the rehearsal, usually held the night before the ceremony. It's a good idea to bring your equipment at that time. Use the rehearsal as an opportunity to set up and establish good camera angles. Remember, you won't be able to stop the actual ceremony to get a better shot!

3. Bear in mind that the congregation will stand at certain points in most ceremonies, and plan your shots to compensate. Ask the clergyperson about this. In buildings without a rear balcony, you'll have to plan a way to raise the camera to shoot over the heads of the crowd.

4. If you don't own a second camera, consider renting one. You can more than make up for the rental with your "deluxe two-camera wedding" price. While the majority of congregations and clergy will not allow a cameraperson up front during the ceremony, many will permit an unattended stationary camera. You can set this camera up during the rehearsal to shoot the bride and groom during the ceremony (Figure 1). Position the camera as unobtrusively as possible. If the clergyperson is reluctant to agree to this, emphasize that this is your method of providing an excellent video, while respecting the sanctity of the service at the same time.

5. Get a pair of good FM mikes; they will really pay off. Remember, the father of the bride (who is probably paying your bill) really wants to hear the whispered "I do." You'll never pick that up on a camera mike. Have the groom, who closely resembles a penguin, wear the wire. The mike will not show up against a black tuxedo, and will pick up groom, bride, and clergy quite well. If you are using two cameras, use two mikes as well. Send the signal from the groom's mike to the unattended front camera; mike the clergyperson and send that signal to the rear camera. This will

prevent any difficulties with lip sync.

6. Think creatively about lighting. Most churches are lit like the Batcave, and clergy are reluctant to let you spoil the visual appeal of the sanctuary with studio floods and fresnels. A single, very strong flood from the balcony or rear may be acceptable. Consider the possibility of purchasing a nice-looking pair of living room floor lamps with amiable light cones. Rig these up with 120-volt halogen bulbs and position them partway back on either side.

7. Take a cue from the professional still photographers. They always pose 10 to 20 thousand formal shots and close-ups (at least it seems like that many) after the service. In the past 15 years, I've never seen a videographer take advantage of this—they're usually breaking down equipment while the photographer is posing shots. Wouldn't it be great to get a tight close-up of the ring being placed on the bride's finger? Get posed close-ups, and grab shots of the various formal poses with family. Clergy generally don't care what you do during these posing sessions!

8. Finally, dress for the ceremony! You may do most shoots in baseball cap and t-shirt, but when taping a wedding, you should be dressed as if you were a guest. Still photography pros know this and invest in a comfortable but respectable suit specifically for weddings.

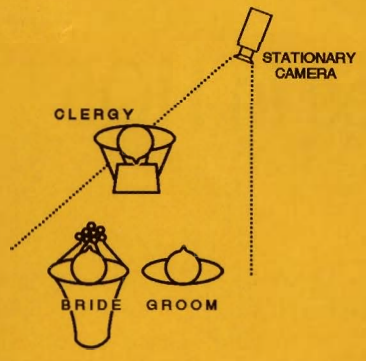


Figure 1: Place the unmanned camera as unobtrusively as possible. Disrupting the ceremony is bad business.

Remember, the clergyperson is a professional trying to do a job. He or she will put as much time as you (or more) into the service, and will get paid a fraction of what you will receive. And despite the way we are depicted in movies and television, most clergy are hard-working, reasonable people. We will work with you if you will work with us. Bear in mind that most of us are struggling to keep the spiritual nature of the ceremony intact against many pressures from family, friends and social planners. After patiently explaining to the bride why she can't have a Kurt Cobain song as the processional, the clergyperson may not be in a mood to argue with you about camera placement! If you respect the rules of the congregation, respect the ceremony itself and do a professional job, that clergyperson will be kindly disposed to having you back—and to referring business your way!

VTU

The Reverend John Jackman is Director of Video Ministries for the Moravian Church in America. He is also pastor of Battle Hill Community Church in Union, N.J. As an active pastor and videographer, he knows both the lens and the viewfinder of the video camera. You can write him at 779 Liberty Avenue, Union, N.J. 07083 or contact him at (908) 688-2532.

EDITORIAL EVALUATION
Circle number on Reader Service Card
I found this article:

Very Useful	Useful	Not Useful
Circle 054	Circle 055	Circle 056

TECH SUPPORT continued from page 44

true that you will absorb the information better if you read it. You may also want to check out one of the many sites NewTek has on-line. The Internet, WWW and various services offer users 24-hour access to not only "official" information and downloads, but also the valuable experience and advice from other users!

NewTek No-No's

•Don't get mad at the receptionist. The receptionist is a very important link between technical support and you. If the phones are tied up and your call goes back to the receptionist, please leave your name and number so we may call you back. Jumping down her throat is *not* going to get you through to a technician, and is to date the only way anyone has been banned from calling us.

•Don't call in and say "This *@!!% thing doesn't work! It's your fault and YOU need to fix it NOW!" This will start off the conversation on the wrong foot and lessen the effectiveness of the call. We hope this does not occur because, in the end, we both lose out.

•Don't be offended when we ask for a serial number. This is for your protection as well as ours. Your registration entitles you to unlimited free tech support (something that is becoming increasingly rare these days!) Our services are provided for anyone who has purchased our software—not those who "obtained" it.

•Don't hold back relevant information. We are not out to blame other devices in your machine for your troubles, but conflicts do happen. Often, we know solutions and workarounds for hardware and software conflicts, but we aren't going to suggest those if you aren't forthcoming about your system configuration. On the same note, if you have done something out of desperation to try and fix the problem yourself, tell us about that too. We are not here to blame or judge your competence—we are here to help you fix your problem.

That's about it. Pretty simple, huh? It has been interesting, enlightening and educational speaking with our Toaster users over the years. Now that 4.1 is shipping and LightWave is out for all our supported platforms, we realize how much importance needs to be placed on expanding support. Some of our future plans include a fax-back service directly from our information database, specialty teams to troubleshoot third-party compatibility problems and, of course, the expansion of department personnel to take care of the increasing call volume.

By the way, if any of this sounds fun, and you have always had a secret desire to live in Topeka, Kans., feel free to send us a resume. We are always looking for personable, experienced technicians to join the team. On behalf of the Technical Support team here at NewTek—thank you for your support!

VTU

Greg Ready is the manager of NewTek's Technical Support department.

Tech Support is available;
8 AM–8 PM Mon. to Thurs.
8 AM–5 PM Fri.
Phone: (913)228-8282
BBS: (913)271-9299
Telnet to BBS.NewTek.com
Tech Support Fax: (913)228-8222
America Online: Keyword NewTek
CompuServe: Go Amigavendor
FTP: ftp.NewTek.com
Home page: www.NewTek.com

REVIEW

It's a RAID

Storagepath Flies in HQ5

by Rick Bertaut

With the increasing video quality NewTek is unlocking with the Video Flyer NLE software, the need for faster hard drives is inevitable. Although the current HQ5 mode gives better-than-Betacam SP quality, it still falls short of the Flyer's fantastic D2 capabilities. Flyer owners are faced with a major dilemma. Do you scrap the drives that used to be good enough for standard mode but are not acceptable for use in HQ5? Do you reconfigure these drives for use as system data drives and replace them with the latest HQ5-compatible drives? What should you do when the D2 option appears in the Record menu? What percentage of your HQ5 drives (if any) will be capable of the higher data rates? Is there another way that you can get more speed from your current hard drives and not end up with a pile of rotating scrap? These questions initiated a search for a cost-effective storage solution that works with the Video Toaster Flyer.

The Storagepath five bay RAID system is very well built and can be delivered ready for you to install your hard drives. Simple, fast and flexible!

To the Rescue!

It has been said, "If you build a better mousetrap, the world will beat a path to your door." Well, Storagepath has integrated several components and built that mousetrap for the Flyer. It's called the SP-5BTHT, and it is quite a performer, using a custom controller to divide and store each byte of data over multiple hard drives. This technique places much less demand on each drive and therefore speeds up the effective total data rate to and from the Flyer. The evaluation unit supplied to *VTU* was built to have a total data storage capacity of 8.7 GB. Housed in a well-built, all-metal tower chassis are five half-height drive bays filled with four Hewlett Packard C3325A fast SCSI II drives and an IFT-3000 SCSI-to-SCSI disk array controller. Each of the four drives has a total capacity of 2.2 GB and is mounted on a removable docking frame. Each frame has its own 1-inch fan to move as much air away from the drive as possible.

A rotary selector switch is connected to the drive's Unit ID jumpers, allowing the user an easy method of changing each drive's SCSI ID. Each unit also has a key that locks it into the docking frame. The lock is attached to a switch that cuts power to the drive before it is removed from the system, so the device conforms to the Hot Swap standard. It's not necessary to power down all of the drives if you need to replace a failed drive in the system. This feature is not necessary when used in a Flyer system, but it does add safety when reconfiguring drives.

In the back of the unit below the drives is a 200-watt power supply to provide more than enough power for the drives and controller. The back panel has one 50-pin Centronics SCSI connector, the AC power connection, on/off switch, two fans and an RS-232 port. One of the fans is part of the 200-watt power supply. The other is a 5-inch high-speed fan that sucks *any* heat away from the drives. This unit has more airflow around the drives than on any other drive chassis I've seen! This is good for the drives, but with all of these fans—one on each docking bay, the power supply fan, a mega fan on the back and four drives spinning—I found the unit to be a bit on the noisy side. For this reason, most people will want to isolate the tower from their primary edit suite.

Heart and Soul

So far, I've mentioned all the parts of this unit except one: The IFT-3000 Disk Array Controller, which is the heart and soul of the SP Tower. Without it, the tower would be just another drive box. On the hardware side, this controller uses an Intel 486 processor to control the data flow to and from three SCSI busses. There are two 72-pin SIMM sockets

The Storagepath nine bay system offers power users greater space and flexibility.

with a minimum requirement of 2 MB of RAM. The unit I tried had one 4-MB SIMM installed, but it can be expanded to 64 MB. This RAM is used to buffer the data flow if one of the drives needs to recalibrate. This controller provides for equal data distribution allowing the Flyer to access four different drives as one! This can provide greater flexibility to both Flyer and LightWave users.

RAID Technology

The technology behind the tower, known by the acronym of RAID (which stands for Redundant Array of Independent Devices), was conceived to add data integrity to storage systems used in big business (banks, finance and information management arenas). These institutions were uneasy with the fact that a drive crash could wipe out part of their database. One method used to combat this problem is tape backup, but tape is slow. RAID entered the picture with a much faster semiautomatic system that would provide the data integrity they needed. The controller actually breaks the data into several blocks for reading and writing to several drives in parallel, and lets the Flyer see this group as one device like FlyerA0.

RAID striping is implemented using a variety of methods and is identified by a number (0, 1, 3, 5 and up). Each level has its strengths and weaknesses. Level 1 and up provide fault-tolerance by mirroring or parity striping the data across all of the drives. If one of the drives in the array fails, the controller can rebuild the data after the failed drive is replaced. RAID level 0 only stripes the data across several drives and does not include the data integrity of the higher levels. This may seem useless, but for video it is a perfect solution. By writing the data in parallel to a group of drives, the effective speed is dramatically increased, and for video, speed is good. Also, if your video clip gets corrupted, it is an easy procedure to recapture it from your source tape. There are even programs that automate this recapture for you.

Configuration and Setup

The control interface on the IFT-3000 has many features that give it the flexibility to work in the Flyer Suite. The front panel is deceptively simple, with a back-lit LCD display and two control buttons giving access to the setup menus. One button is for menu selection, and the other is used as the Enter key. The menus let you set and manage functionality and operation to view and edit logical drives, set the RAID level, assign a spare drive for redundant applications, set the termination–even set the controller's logical ID.

I found the front panel to be adequate but clumsy to use, because you have to scroll through menus and submenus to get to all the areas needed for setup. The designers have also included an RS-232 port, allowing you to access these same functions. By connecting a null modem cable to almost any dumb terminal program, it's much easier to access the setup menus. The controller creates a multifunction menu display and even gives you a dynamic transfer rate indicator. I first tried using the Amiga's serial port but later switched to a laptop because I didn't like having to switch back and forth between screens. I found the data rate indicator interesting, but questionable as it didn't match the speed indicated through the Flyer's HDTools program.

What is amazing to me is that Storagepath has taken four HP drives that when tested alone, will *barely* function in standard mode. But, by integrating them into a RAID array, they test as 99% HQ5-compatible, giving over *30 minutes* of video data space! This is good for all of us, because when NewTek raises the limbo stick and allows our drives to dance to the tune of D2, there will be a larger selection of compatible drives.

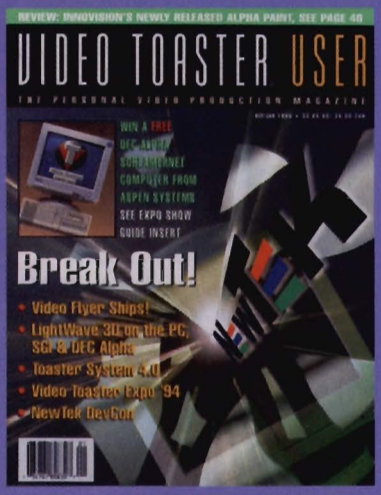
But, unfortunately, all of this comes at a cost. The SP Tower, with all its merits, is a toy for the unlimited budget crowd. Just the chassis, including everything but the drives, costs over $4,500. And, if you buy it configured as the 8.7 GB system tested, the price goes up to over $8,000. So, if you have the cash and want a true performer, the SP-5BTHT may be just the ticket. But, if you consider the dollar-per-gigabyte value, there are less expensive options available. A 9 GB Seagate Elite, with the current price of $1895, is a more cost effective video storage solution at 21 cents per MB. Storagepath clocks in at $1 per MB. When Seagate starts shipping the Elite 23 GB drive, the current Elite 9 GB prices are sure to fall. By integrating components, Storagepath has managed to increase the data rate of drives that are technologically inferior by today's standards. This is a remarkable feat, but considering the fact that you still need a drive on the Flyer's other SCSI bus to allow the Flyer to perform an A/B roll, the cost is not for the timid.

VTU

Rick Bertaut owns Quality Video Productions in San Jose, Calif. Reach him at (408) 248-8208.

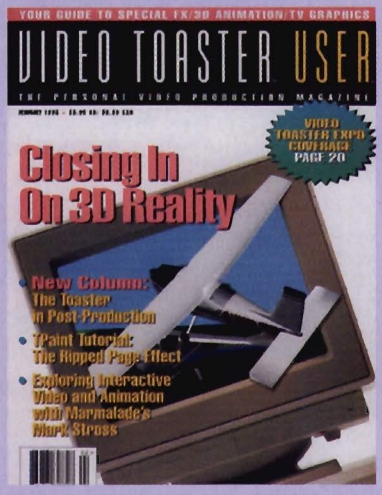
YOU CAN GO

WITH VIDEO TOASTER



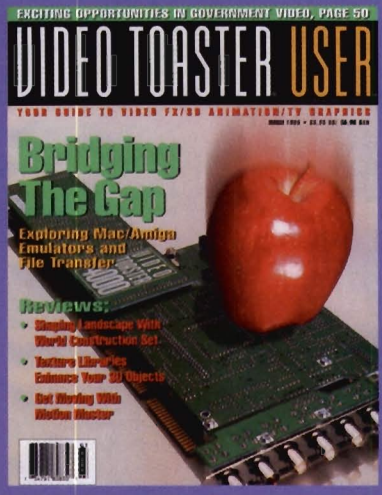
December/January 1995

Seizing Opportunity: Profile of a Leased Access Success Story; How to Avoid Modeling Problems; Making Titles Fly; Alpha Paint, ImageFX 2.0, Pegger 2.0 and Texture reviews



February 1995

The Silent Witness: A Crash Course in Accident Reconstruction; Stross Management (Marmalade profile); Video Toaster Expo '94 Coverage; TPaint Ripped-Page Effect; Paper Clip modeling; MultiLayer, Sparks reviews

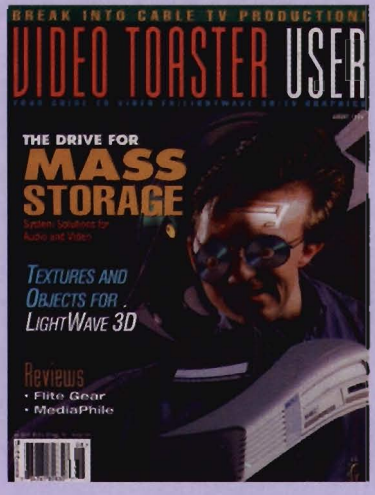


March 1995

The Ultimate Toaster Peripheral: Why Buying a PC Makes Sense; Area 51 profile; Exciting Opportunities in Government Video; Exploring Amiga/Mac Emulation; More Attractive Bevels; Lathing a Light Bulb

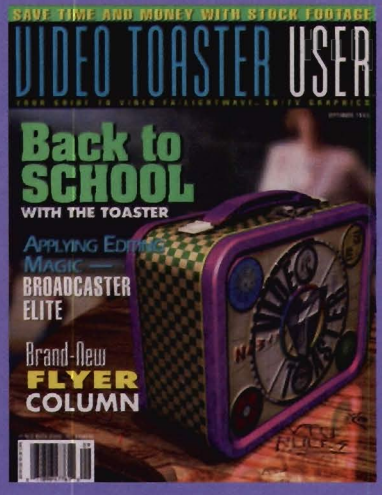
July 1995

The Mighty Effects of *Hercules*; Speed: A Look at LightWave 3D Rendering Options; LightWave Extras; TPaint and CG Shoot-'em-up; QuickText, Visual FX and Amiga Desktop Video CD reviews



August 1995

Mass Storage; CD-ROM Textures and Objects; Break Into Cable TV Production; Digital Airbrushing, Flyer Audio Editing and TPaint/CG Chiseled Marble Effect tutorials; Flite Gear, MediaPhile quickviews



September 1995

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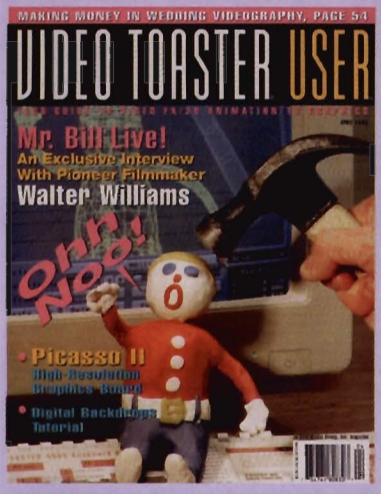

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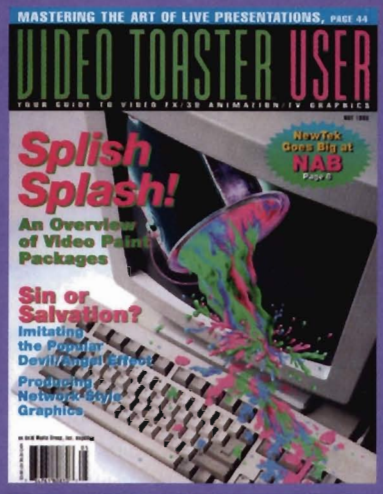

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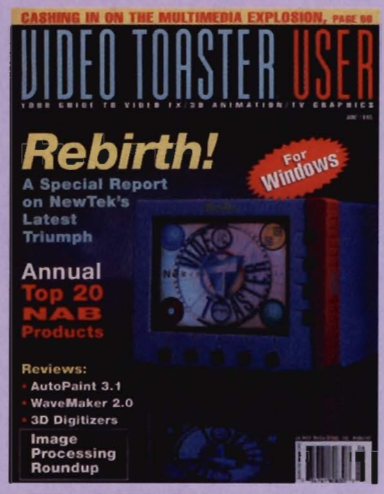

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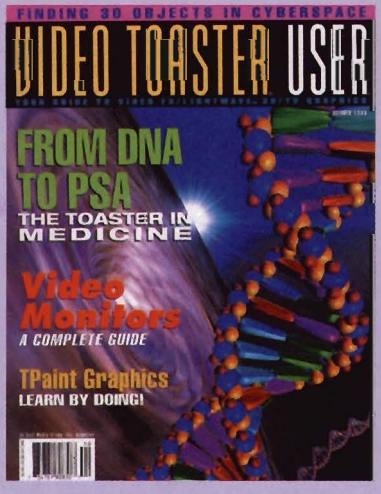

October 1995

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Amiga-Link

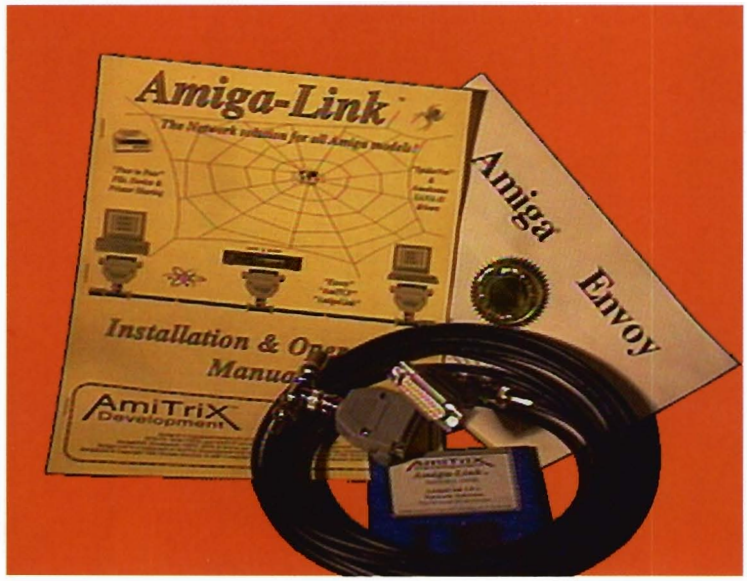
The Floppy Disk Port Network Solution

by Douglas J. Nakakihara

Amiga-Link allows you to network up to 20 Amigas using their floppy disk ports. I reviewed the initial release of this product for *Video Toaster User* over a year ago with extremely high praise, but unfortunately Amiga-Link was never widely available. Finally, Amiga-Link has found its way back to the North American market by way of a Canadian distributor, AmiTrix Development.

Hardware

The Amiga-Link's hardware is totally encased in the plastic 23-pin D-Sub connector that fits into each networked Amiga's floppy disk port. Cabling is accomplished with standard RG58 cable with BNC connectors while hardware installation is fast and easy. The maximum recommended cabling length is 330 feet.



If you already have an external floppy drive connected to the port, you can use its pass-thru connector. If your computer doesn't have one, AmiTrix sells a cable splitter ($36). With Amiga-Link installed, you can still have up to three floppy drives.

The beauty of using the floppy disk port is that it does not monopolize the parallel or serial ports, other similar low-cost networking solutions do. Furthermore, Toaster owners in particular will like the fact that it doesn't use a valuable Zorro slot. This also means that Amiga-Link is compatible with all Amigas...well, almost all.

Probably due to space limitations, Amiga Technologies left off the external floppy disk port on the new Amiga 4000 Towers. Internally, however, the circuitry is still there. AmiTrix is aware of the problem and is currently determining the best way to handle it.

Software

Amiga-Link comes with its own peer-to-peer networking software, though it also ships with Envoy 2.0 from Intangible Assets Manufacturing. The network driver is SANA-II compatible, so it will also work with AmiTCP. The software is compatible with AmigaDOS versions from 1.3 through 3.1 and can be installed on floppy disk-only systems, including CDTV and CD32 with SX-1 (you can use a software keyboard emulator for installation).

When you install the Amiga-Link software, you will be asked to supply a "host" name for each node (computer). My recommendation is to use a one-character name. For example, say I have an A3000, an A4000 and an A1200 networked, called 3, 4 and 1, respectively. Using a short, but meaningful name will allow it to be automatically appended to the volume and device names when they are used on a remote node (to prevent name conflicts). For example, "DH0:" becomes "4-DH0:" and "Work:" becomes "3-Work:" when they are accessed from another node. A short host name keeps the overall name short. The Amiga-Link software also includes a few diagnostic programs to help test network operations as well as a program that monitors activity.

Exporting and Importing Devices

The Amiga-Link software is divided into two main programs: Export and Import. With Export, you indicate which storage devices will be available to other nodes (e.g., RAM:, Work:, Workbench:, CD0:, etc.). Unless you are really concerned about security, you can make all devices available. Then you'll only have to run Export again if you add or remove a device.

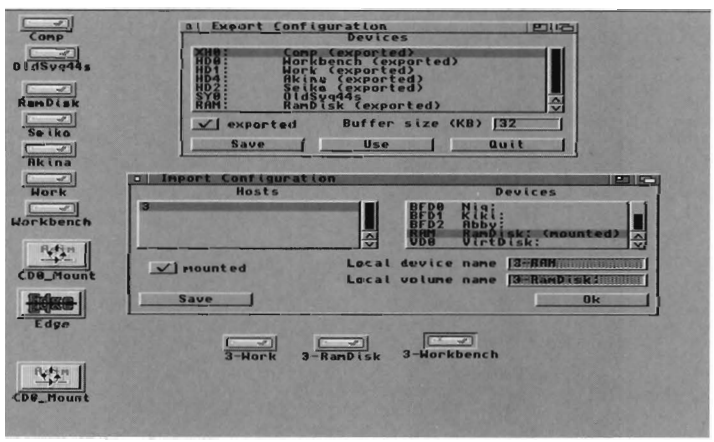
Once the exported devices have been identified, a small program is run every time you boot the node. This reads a small list of exported devices stored in ENVARC:. The list is an ASCII file, so you can edit it manually if you prefer.

The Import utility gives you a list of all of the available exported devices for each host. To import a device, simply highlight its name with the mouse and click the

"mounted" gadget. Before you actually mount the device, you can edit the device or volume name, which has the host name appended to the beginning by default.

Once you've identified the devices to import you can either click "Save" or "OK." The difference between the two is that Save will create Import icons in the WBStartup drawer. These devices will be imported every time you boot up and can cause a series of error requesters if the imported host machines are not running when you boot. So if you don't have all your computers on all the time, select OK.

Imported devices appear on the Workbench and are accessible by programs just as if they were physically located in the importing machine. This includes related icons that have been "left out" on the Workbench. It's more elegant than the way other programs handle it, where all of the imported devices appear as drawers within a "host" device.



Network Printing

With Amiga-Link you can print to any node attached to a printer. Essentially, this is accomplished by using the AmigaDOS CMD program on each node to redirect print output to the print-server (i.e., the node with the printer). The print-server monitors a special directory using the Amiga-Link Spooler program. When a print-file appears, it sends it out to the printer.

As for performance, I copied a 1MB file from RAM: to RAM: in about 26 seconds. (Both machines have 40MHz '040s.) That's roughly about 40K per second. In comparison, I've gotten around 60K per second using ParNet. However, Amiga-Link barely touches the CPU while ParNet hogs it. This could be important if you are multitasking other programs.

Envoy's Ups and Downs

As mentioned previously, Envoy 2.0 is included and can be used instead of the Amiga-Link software. Envoy's documentation is disk-based, and not all features are covered. Moreover, novice users may find the installation confusing and too complex, although there are some helpful tips in the Amiga-Link manual.

The main benefit of using Envoy is its robustness as well as being a "real" network with configurable users, groups, security, etc. If a node goes down and you reboot it, communications will be reestablished automatically. This is not the case with the Amiga-Link software, where on occasion I've had to reboot both the exporting and importing nodes to get the network operating again. Another benefit of using Envoy is that you can use Amiga-Linked Amigas with an Ethernet network, and it handles networked removable media better.

There are downsides to using Envoy with Amiga-Link, however. One is the fact that devices cannot be networked temporarily, but the real bummer is performance. Data transfer rates on large files (1 MB or larger) can be nearly twice as slow! (Note: According to the ReadMe file, the effect can be minimized by reformatting networked partitions using a larger block size.)

"Sure, Amiga-Link is much slower than Ethernet, but if you don't have an extra Zorro slot for an Ethernet card, it's not an option anyway."

In any event, whether you choose to use the Amiga-Link software or Envoy will depend on your particular situation. In a business environment, I'd probably opt for Envoy. For the home user with multiple Amigas, I'd probably use Amiga-Link. It's great that both are provided.

The original Amiga-Link distributor was supposedly developing utilities for a LightWave "rendering farm" option, but I don't think it was ever released. However, it would not be that hard to write your own with ARexx. I can't detail it here, but one way to accomplish this would be to have an ASCII file on one machine that indicates the next frame to render. Each rendering node then looks to this file, using a looped ARexx script, to determine what frame to render, then increments the number in the file.

I love this product and have been using it for over a year! The basic Amiga-Link package will network two Amigas and lists for $275. Additional nodes can be added for $165 each. The price includes all software, network interfaces and cabling. Sure, Amiga-Link is much slower than Ethernet, but if you don't have an extra Zorro slot for an Ethernet card, it's not an option anyway. (My A4000 is filled with the Toaster, Flyer and TBC-IV.) Plus, I don't have to keep switching things plugged into my serial or parallel ports, as I would with alternative solutions. So, if you can accept the transfer rate and need to network your Amigas, this is the product for you. VTU

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Power in Numbers

Networking Video Toaster Flyer NLE's

by Steve Easley

It's been said that the Flying Wallendas used a net when they practiced never-before-seen aerial feats. Although the feats I am doing have never been seen before (and I sometimes feel like I'm part of a circus), I have not had the luxury of a net when I was flying—until recently.

As the Director of Video Services for Worthington Voice Services, Inc. in Columbus, Ohio, my co-worker Bengt Brown and I produce a show called *The Dating Network*, a 30-and 60-minute show that is shown on more than 120 cable and television stations throughout the United States and Canada. Our feat is to produce 120 different shows a week consisting of video segments and Framestores. The shows are mostly Framestore/Flyer Still-based, but each episode has totally different information. We end up processing about 3,125 images a night to use the very next day! The Amiga and the Video Toaster Flyer digital video non-linear editing system are the tools that have made all this possible.

The Right Tools for the Job

The Amiga is the most powerful computer I have ever worked with. We currently use PCs, Macs and Amigas in our office, but the Amiga is the only computer that I can effortlessly multitask on. I have been able to run the Framestore processing program, work on an image in ToasterPaint and copy files between Flyer hard drives—all at the same time! There is absolutely no way that a Mac or PC could do that. The Flyer is equally powerful. It is the only non-linear editing system in its price range that offers a complete video post-production system with TPaint, CG, Chroma effects and 3D animation programs plus, real-time effects and a Switcher.

Most other non-linear editing systems in its class only include a weak CG program and effects that have to be rendered. With the Flyer, you can have a dissolve or *any* other effect in real-time between all images or video footage. The Toaster Flyer has definitely cut our production time and improved the look of the shows, but the pressure to continuously display those 3,000 images was still tremendous—until I developed my Flyer net.

After purchasing our second Flyer last July, Bengt and I researched the possibilities of networking them together. Up to that point, our biggest concern was that something could happen to our only Flyer. If that happened, no shows could be produced and deadlines would be missed. Because of time constraints, backing up projects to DAT was out of the question. By networking the systems together, we would be able to have a perfect back-up system—both Flyers could be identical. If we updated a show on one Flyer, we could immediately send that information to the other for back-up or broadcast.

We chose ENLAN-DFS (from Interworks at 909 699-8120) to network our systems together, and it works wonderfully. It has given us enormous flexibility and has saved our company valuable time. If a Flyer is having a problem, we can transport all of the ad information to another Flyer and play the show there. It takes the network about 10 minutes to transport 120 Framestores (one half-hour show's worth), so our downtime is very short. It is also fairly easy to set up and *very* easy to use. With ENLAN-DFS, all drives on *all* systems appear as icons on *each* system. There is no need for a network server, so any task can be performed on any system and not all systems have to be on the network at the same time. However, we have run into some oddities that we had to work around.

Overcoming Setbacks

The first problem we encountered was some Framestores being corrupted after they were sent through the network. When the Flyer tried to play them, they crashed the system. We finally found that all Framestores should be sent within the Flyer using the Files/Files mode. Previously, we had been transferring files from the Workbench. We now think that the bundle-bit from the Workbench is lower than through the Flyer, meaning the Flyer can send more information at one time than the Workbench can. Workbench was probably not able to send all the information for a Framestore at once and this appears to have been causing problems in the Flyer.

Because all the networked drives are available to all systems, the Files/Files mode works just as it would if you were transferring information from FlyerA to FlyerB. Plus, the Flyer tells you what files it is transferring at that time, so you know it is still working. From the

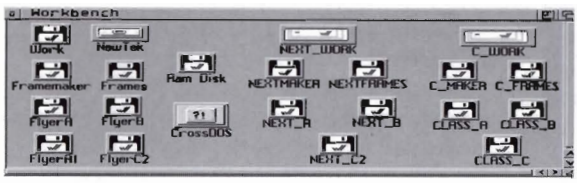
Workbench, you do not receive any feedback until it has

completed so it ends up that sending information through the Flyer is actually much better.

Transferring video clips, on the other hand, has to be done through Workbench. I do not know why, but the Flyer will not send the information and a "bad number" error is displayed instead. I think it might be because the Flyer cannot recognize another system's drives as Flyer drives. (This is, however, just a guess.) We have rarely had problems sending video clips through Workbench, though it does take a very long time to transfer the information. We usually remove a Flyer drive from one system and hook it into another when we want to copy video information. This is not very difficult to do, and 2 GBs of video information can be copied from one Flyer drive to another in about 10 minutes if they are connected to the same Flyer SCSI system.

Overall, I would highly recommend ENLAN-DFS to network Flyers together. Transferring small files like projects and CG files is very quick and easy, and if you are on a tight schedule like we are, the flexibility the network gives you is a great relief.

The biggest problem we now have is remembering what information is only on one system. With the aid of Ronn Black, an ARexx programmer and owner of Black Tie Software, we are developing a sync directory program to alleviate that problem. This program will automatically track information that has been created or updated on one Flyer and place it in a directory to be sent to the other Flyer systems. We hope to make this program available to anyone who is interested in it later this year. (Watch *Video Toaster User* for more details.)



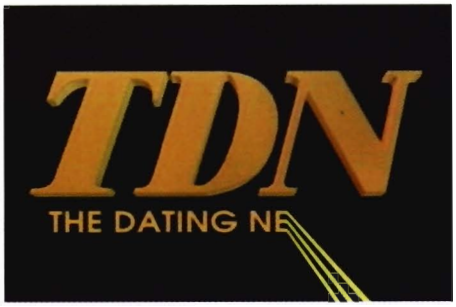
A well organized Workbench screen can add many productive hours.

Audio Tips and Tricks

With the pressure of producing so many shows every day, I've had to find ways around problems quickly. Here's a trick for changing audio that I figured out about a year ago, and it's how we update our music in the shows. We currently have 120 show "templates" on each Flyer. Each template gives unique attributes to each region's shows; however, all the templates reference the same music files. Instead of tediously going through every template and changing the music, I just change the *source* files.

Say you have just finished a seven minute promotional video for a client. Your music crouton is chopped into a dozen or so pieces so the audio is fading up and down according to the VO. The client comes in and loves it—except for the music. He wants to hear something different, and he wants to hear it now. Under your breath, you start to grumble. Even though you have version 4.1 with its inherent ability, you know that it's still going to take several minutes to replace all the audio croutons. And what if he wants to hear another selection...and another? Don't worry. You can easily accommodate him virtually within seconds.

You have recorded three selections into the Flyer: Music 1, Music 2 and Music 3. The piece that is in the project right now is Music 1. You want to update the show with Music 2. Here's how. First, jump to the Workbench by holding down the left Amiga key and (m) at the same time. Find your audio drive (we'll call ours "Flyer C"), and open it up by double-clicking it. Hold down the right mouse button, and the Workbench menu appears. Go to the Window menu and click "Show" and "Show All" and click the right mouse button. Then "View by" and "Name" and click the right mouse button again. This shows all the files stored on that drive in alphabetical order. Now, find the Music 1 file and click it (only once). Then hold down the right Amiga key and (r) at the same time. This is the keyboard shortcut to rename a file. A



requester comes up asking what you want to name the file. For now, rename it "JUNK" and hit Return. Then, highlight Music 2, hold the right Amiga key and (r) again and rename this file "Music 1". Jump back into the Flyer [left Amiga and (m)] and replay the project. The new music selection will play throughout the project.

Thanks to the marvels of non-linear editing and the Flyer, you have just updated the music in your project within seconds! If your client does not like this piece of music, you can try Music 3, and so on. If you prefer, all of this can be done within the Flyer by selecting a music crouton in the Project/Files or Files/Files mode. Then click on the Controls button. When the Control window opens, rename the file in the name window. Both work equally as well, but it takes a little longer to do in the Flyer.

One *big* caution: If you plan on using this method of changing music, every piece of music has to be at least as long as the original. This is easier to do than it sounds. Before recording new music, check the out-time of your original music clip and make sure the others are at least that long or longer.

Voidall and Avail Flush

A few months ago, NewTek issued a notice about a technique to remove old temporary data on your Flyer drives. Temporary data is data the Flyer creates to perform transitions between two clips that are on the same drive. As the name implies, it is just temporary and needs to be deleted from the system before a new project is played. If you are not doing this now, you should. It helps immensely to avoid problems while playing a project, you do this through the use of a Shell. A Shell is a variation of a Command Line Interface or CLI, and it allows you to communicate directly with AmigaDOS to perform functions. To do this, open your Work drive, or the drive where your system software is stored. Open the system folder and double-click the Shell icon. After the Shell window opens, type "VOIDALL" (it does not have to be all capital letters), and then press return. Your Flyer drive lights will start blinking as the temporary data is being removed from them. This process will take around 30 seconds depending on how much data is being removed. Don't worry, it's not removing any of your video clips, and you will be notified when the process is complete.

More Tricks

Here's another step to help a project play better. After the Voidall is complete, type in "AVAIL FLUSH" (again, it does not have to be all capital letters). Avail flush is another AmigaDOS command: "Avail" shows how much RAM—both Chip and Fast—your system has and how much is currently available. "Flush" gets rid of all unused libraries, devices and fonts from RAM.

This process frees as much memory as possible for the Flyer to use while playing a project. You might want to leave a Shell icon out on the Workbench screen so you don't have to go digging for it all the time.

I recommend that you make a copy of it first just in case it gets deleted or misplaced in the future. To do this, click the Shell icon, press the right Amiga key and the (c) key at the same time and the computer will make a copy named "Copy 1 of Shell", then click on the copied icon. Click and hold the right mouse button to view the Workbench menu and select the "Icon" menu. Select the "Leave out" option. The copied icon will move from the system folder to the Workbench for easy access.

Steve Easley and Bengt Brown hard at work in their studio.

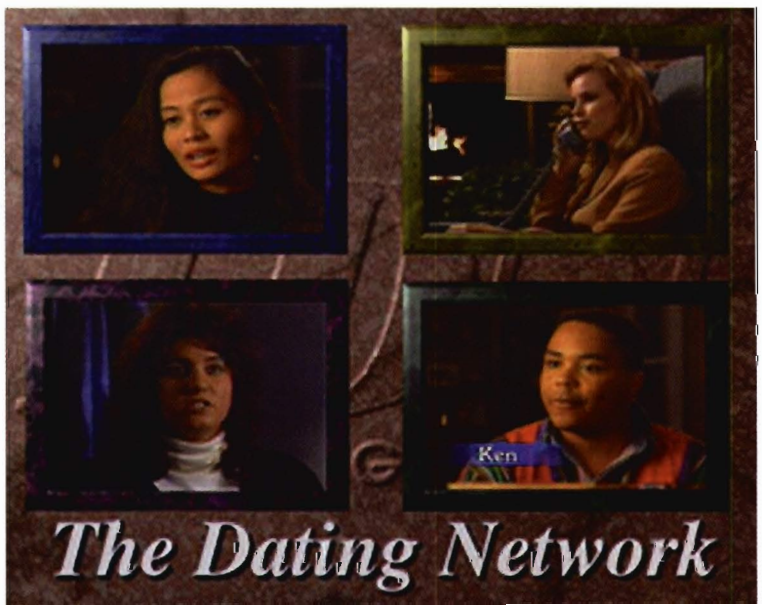
Satellite Programs

We have found that a project has fewer problems while playing if LightWave, ToasterPaint, ChromaFX and CG are turned off. Also, make sure they have been turned off before you save the project. The Flyer saves all settings with the project. If you save a project with the CG open, the next time that project is loaded, the CG program will be opened as well. Make sure you turn off all the satellite programs before you flush the RAM (use Avail flush).

Since we purchased our first Flyer, we've produced approximately 2,500 shows. We recently purchased our fourth Flyer, almost a year to the date from our first one. Four Flyers will enable us to produce almost 200 shows per week, and ENLAN-DFS along with and these tricks have helped us accomplish this feat. I'm sure it will help you, too. In the future, I hope I can pass along more tricks we've discovered that will allow your Flyer to soar even higher.

VTU

You can reach Steve Easley at Worthington Voice Services, Inc., 651-F Lakeview Plaza Blvd. Worthington, OH 43085



Old Ironsides

Build Your Own Cannon–Part 1

by Kyle A. Thatch

Welcome to another adventure with LightWave's Modeler program. In this first segment of a two-part tutorial, we are going to build a cannon much like the ones found on a pirate ship. Before you begin, a few modifications should be made to Modeler. Hit (o) for Options on the keyboard, and make sure that polygons are set to one-sided and quadrangles, curve division is course and undo levels are at 15 (for 4.0 users). Press (d) for Display, and make sure unit system is metric.

Lathing Iron

To turn the barrel of our cannon, we need to make a profile to lathe. Starting in layer 1, drag out the face view until it completely fills the entire screen. All you need to do is enter the following points using the Points command, then make the points into a polygon for lathing. Select the Polygon menu, then Points. Press (n) for Numeric and enter the following coordinates. Remember to press Enter to close the numeric requester, then hit Enter again to make the point.

	X	Y
1.	0.0000 cm	3.8625 cm
2.	463.3395 um	3.8579 cm
3.	908.8732 um	3.8444 cm
4.	1.3195 mm	3.8225 cm
5.	1.6794 mm	3.7929 cm
6.	1.9747 mm	3.7570 cm
7.	2.1942 mm	3.7159 cm
8.	2.3294 mm	3.6713 cm
9.	2.3750 mm	3.6250 cm
10.	2.3294 mm	3.5787 cm
11.	2.1942 mm	3.5341 cm
12.	1.9747 mm	3.4931 cm
13.	1.6794 mm	3.4571 cm
14.	1.4750 mm	3.4400 cm
15.	1.4750 mm	3.1250 cm
16.	1.5093 mm	3.0596 cm
17.	1.5961 mm	2.9973 cm
18.	1.7370 mm	2.9398 cm
19.	1.9267 mm	2.8894 cm
20.	2.1578 mm	2.8480 cm
21.	2.3918 mm	2.8274 cm
22.	3.4723 mm	2.7697 cm
23.	4.4194 mm	2.6919 cm
24.	5.1967 mm	2.5972 cm
25.	5.7743 mm	2.4892 cm
26.	6.1299 mm	2.3719 cm
27.	6.2500 mm	2.2500 cm
28.	5.0000 mm	-2.2500 cm
29.	5.3827 mm	-2.2576 cm
30.	5.7071 mm	-2.2793 cm
31.	5.9239 mm	-2.3117 cm
32.	6.0000 mm	-2.3500 cm
33.	5.9239 mm	-2.3883 cm
34.	5.7071 mm	-2.4207 cm
35.	5.3827 mm	-2.4424 cm
36.	5.0000 mm	-2.4500 cm
37.	0.0000 mm	-2.4500 cm

Now that you have created all of the points that make up the profile, hit (p) for Polygon to create a polygon for lathing. Go to the Multiply menu and select lathe, (n) for Numeric, set sides to 32, axis to Y, and then hit Enter twice to lathe the profile. Drag out the tri-view to show all three views equally again. Select (y) for Rotate, then (n) for Numeric, and enter 90 for the angle and Z for the axis. Press (d) for Display, select wire or wireframe and then hit Enter. Place the cursor on the end of the barrel and hit (g) for Go to and zoom in a couple of times using the (>) key. Using the wireframe view, select only the 32 polygons that make up the bottom of the barrel (Figure 1); you may need to click on some of the unwanted polygons to turn them off. Go to the Polygon menu and press Merge to merge the 32 polygons to 1 polygon. Select (q) for Surface and enter "Barrel-Flat" to name the surface. Next, hit (") for Invert Selection. Name these surfaces "Barrel-Smooth".

Finally, using the Space bar, toggle to the Point Selection mode at the bottom of the tri-view. Pick the point in the middle of the barrel that is left from merging the polygons, then hit (z) for Delete. That completes the lathing process.

Cutting the Bore

Before we can cut out the bore a small adjustment needs to be made to the barrel. Hit (t) for Move, then (n) for Numeric, type in -3.5 mm for X and press OK. To make the hole, we are going to use a Boolean Operator. Press 2 to go to layer 2, hold down the Alt key and press 1 to put layer 1 in the Background. Select the Objects menu and disk, press (n) and enter the following:

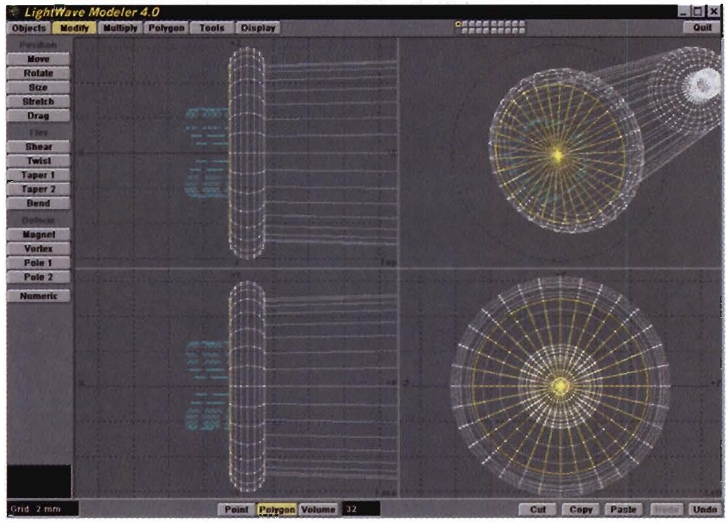


Figure 1

Sides = 3D 32
Axis = 3D X
Segments = 3D 1
Center X, Y and Z = 3D 0
Bottom = 3D -4.35 cm
Radii X, Y and Z = 3D 4.2 mm
Top =3D 1.45 cm

Hit OK, then hit Enter to make the cylinder. Using the Space bar, toggle to the Polygon mode at the bottom of the screen. Select both ends of the cylinder and name (q) the surfaces "Barrel-Flat". Now hit invert selection (") and name these surfaces "Barrel-Smooth".

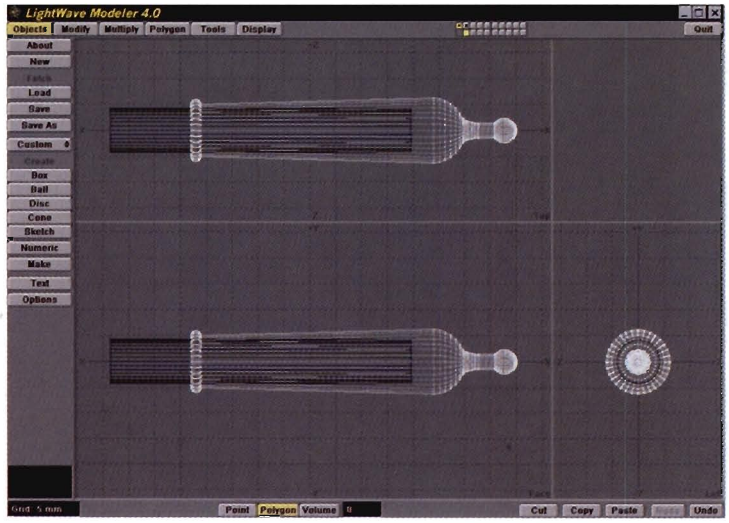


Figure 2

To perform the Boolean Operation we need to flip the layer selection. Do this by hitting (') to flip the layers. Now all that is left to do is perform the operator (Figure 2). Press (B) to bring up the Boolean requester, choose Subtract and then OK. Now, just relax and let the old CPU do the work. To complete the operation, hit (m) for Merge Points. This should eliminate 32 points.

Small Details

All that is left to do with the barrel of our cannon is add the firing hole and the rotation rods on either side of the barrel. Let's begin with the rods. Select layer 3 and enter the following under the Disk Numeric requester:

Sides =3D 32
Axis =3D Z
Segments =3D 1
Center X, Y & Z =3D 0
Bottom =3D -1.05 cm
Radii X, Y & Z =3D 1.6 mm
Top =3D -4.6 mm

Hit Enter after you close the requester to make the cylinder. Select both ends of the cylinder and name them "Barrel-Flat". Invert your selection (") and name the rest of the cylinder "Barrel-Smooth". Go to the Multiply menu, select Mirror and then (n) Numeric. Make sure your axis is set for Z and position is 0.0. Press Enter to perform the Mirror. We now need to perform another Boolean Operation, just as we did earlier. Hold down the Alt key and press 1 for layer 1. Now hit (B), select Subtract and then OK. Hold down the right mouse button and select both ends of the rods where Layer 1 cut polygons away (Figure 3), then hit (z) to delete the unwanted polygons. Finally hit (x) to Cut the rods and 1 for layer 1, then hit (v) for Paste into layer 1.

Last, but not least, create the firing hole. Return to layer 3 with layer 1 in the background. Once again, make a cylinder with the following:

Sides =3D 32
Axis =3D Y
Segments =3D 1
Center X =3D 1.9025 cm; Y and Z =3D 0
Bottom =3D 5.8 mm
Radii =3D X; Y and Z =3D 925 um
Top =3D 7.18 mm

After making the cylinder, select the bottom of the cylinder. Press (h) for Stretch, then (n) for Numeric. Type in the following:

Factors	Center
X =3D 1.18	X =3D 1.9025 cm
Y =3D 1.0	Y =3D 0.0
Z =3D 1.18	Z =3D 0.0

Click in a blank area of the screen to deselect all polygons, and select the top of the cylinder. We need to make a hole in the cylinder next, but instead of using a Boolean Operator, we will bevel it instead. Hit (b) for Bevel, then (n) and enter 0.35 mm for Inset. Set Shift to 0.0, and select OK to perform the bevel. Select (b) again this time make the Inset 0.0 and Shift -0.85 mm. The bottom of the hole should be

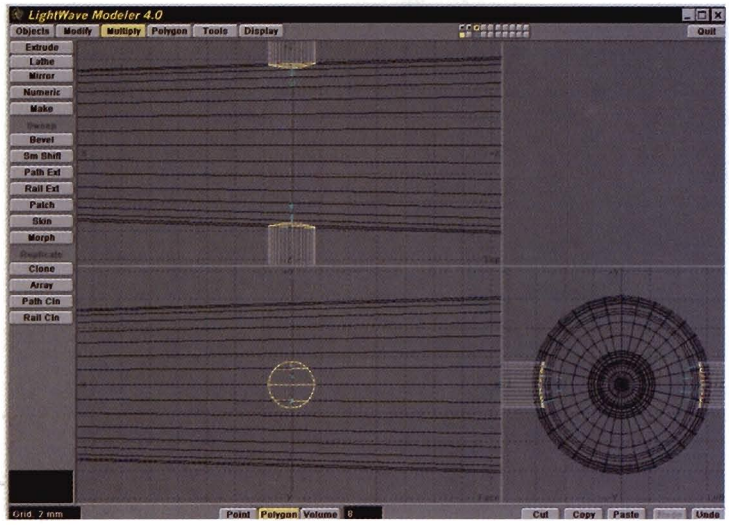


Figure 3

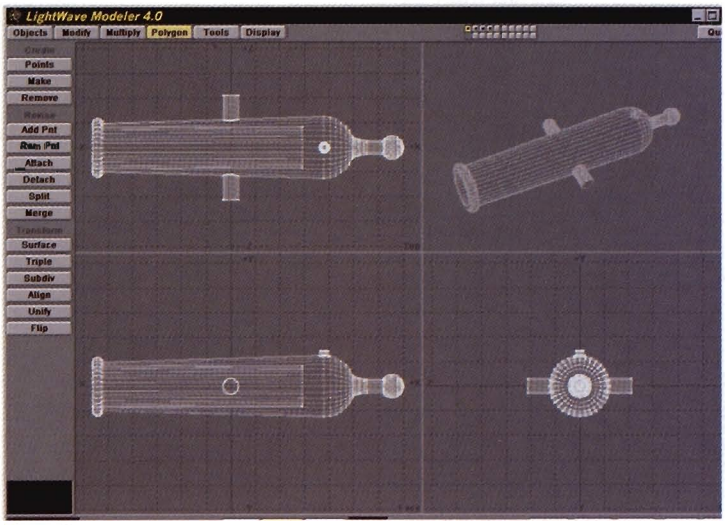


Figure 4

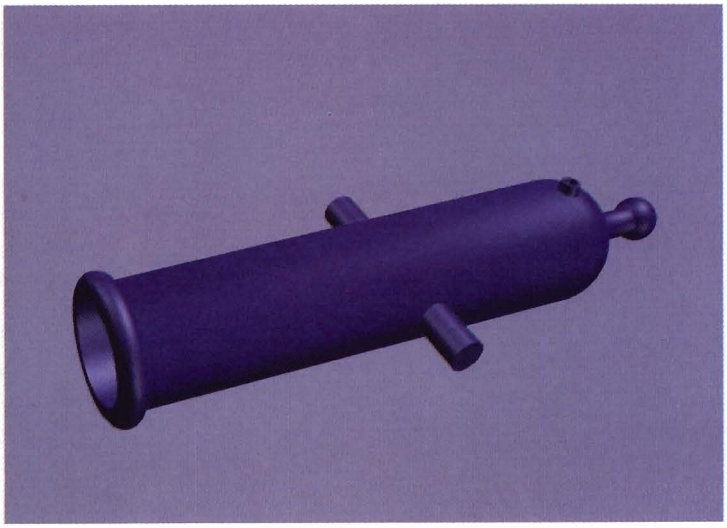


Figure 5

selected. Name this "Barrel-Flat". Click a blank area of the screen and select the top of the cylinder again. From the Polygon menu, select Merge to merge the 32 polygons that make up the top of the cylinder down to 1. Name this surface "Barrel-Flat". Hit (]) to Select Connected, then hit (w) for Polygon Selection. Use the window to scroll to "Barrel-Flat". Press the (-) button next to the window that says "With Surface". This should leave only polygons that will be named "Barrel-Smooth".

Now to finish the firing hole. Put layer 1 in the background and perform a Subtraction Boolean Operation to the firing hole. Select the bottom polygons that make up the bottom of the hole and delete them. Cut (x) the firing hole to layer 1 and (v) paste it in place. Merge all points (m) in layer 1, and save the finished barrel.

"You should not approximate or guess when making your objects, unless your finished project is abstract art or your creative imagination. I used a cannon from a toy pirate ship for the basis of the project."

To save the barrel, select (S) for Save As and enter "Barrel.lwo". The finished barrel, if everything went o.k., should look like Figure 4 in Modeler. Notice the position of the rotation rods at the center of the Modeler screen. This is the local origin of the rotation for the barrel. Figure 5 shows what you should get when rendered in Layout. Make sure to turn on Smoothing for the surfaces named "Barrel-Smooth" in the Surfaces panel.

Wrapping Up

When making any Object, you should try to obtain a physical model of the object to ensure your animation is to scale. Take our cannon object, for instance. Not everyone has a cannon in their backyard, right? But everyone does have access to a model of a cannon. You should not approximate or guess when making your objects, unless your finished project is abstract art or your creative imagination. I used a cannon from a toy pirate ship for the basis of this project. Measurement is always of key importance when modeling, and the shape of the barrel had exact measurements. Next time, we will complete our cannon by building the four-wheel cart that holds the barrel. Have fun!

Kyle A. Thatch is President of Synthetic Design Images Inc. in Louisville, Ky, and can be reached for questions or comments at Synthetic Design Images Inc., 4328 Annshire Avenue, Louisville, KY 40213. E-mail him at http://www.win.net/~sdiinc/ or call him at (502) 458-2496.

VTU

Bend Me! Shape Me!

TPaint Brushes, Titles & Transparency

by Michael Speigner

Has this ever happened to you? You create the perfect logo for your client in LightWave 3D and need to convert it to a brush for use in ToasterCG. You painstakingly surface and position it in just the right place. You light the logo for optimum impact. You render the image and load it into ToasterPaint. Because the image is an odd shape and has areas in the middle of the logo that have to be cut out, you select No Background from the Brushes menu, click the scissors, cut out around it and *presto*! You've made a fine brush of your client's logo. Now you meticulously set up your TitleCG page and insert that wondrous logo as a brush. You render this image to the monitor and prepare yourself for all the well-deserved glory, only to find that the brush is full of unsightly holes. Bummer!

The completed image ready for output to the format of your choice.

Been There, Done That, Fixed It!

The reason your brush is full of transparent holes is, when you chose No Background when cutting it out, you told TPaint to cut out the area you drew around and to disregard the black pixels. Well, TPaint has no way of knowing exactly which black pixels to choose, so it disregarded all of them, even the ones that are *in* your logo. Now, you can try changing the background color to one that is not in your logo. But beware: No Background only works with black. At this point, you have three options: First, let it go and hope that nobody notices. Second, cut it out manually. Third, create a mask to use as your cutout tool. If you chose the first option, then please get out of the business, because you're just giving us serious Toaster Ninjas a bad reputation. If you choose the second option, then we'll see you back at this tutorial in about two hours when you've given up. If you choose your third option, then read on.

What we need to do is create an image that is the same shape as the logo we want to cut out, but only use one that has *white* pixels. With this image, we will utilize the No Background feature and cut away the white pixels. This will be our mask. Then we'll go to the full color logo and hit ReDo to perfectly cut out our logo. Sound a bit confusing? It's really very simple. By the end of this tutorial, you'll be creating clean and professional brushes in no time at all.

Making a Mask

Let's start by returning to LightWave. Believe it or not, this is where we will make the mask, directly from the logo object that you created. (This procedure also works with *any* object in your arsenal.) We should begin with a fresh scene, so clear your current scene by selecting Clear Scene from the Scene menu. Next, load your logo as you would normally. Using your best judgment, scale your logo to the approximate size on the screen that you want your brush to be in ToasterCG. This is important because Toaster 3.1 will not allow us to resize the brush in ToasterCG. Once you have the logo about the size you want, hit F9 on the keyboard to render it to the monitor. Make sure this is the correct size.

When you're happy with the size of your logo, surface, rotate and light it until it resembles what you want your final brush to look like. Once you are satisfied with it, you're

ToasterPaint's *No Background* function sometimes leaves artifacting and allows the alpha channel to peek thru. An undesirable result at best.

ready for the show to begin. As mentioned earlier, to pull this effect off smoothly, we are going to need two separate images. One will be the black-and-white image for the mask, and the other will be the full-color final image.

First, the full-color image. Since you have already set up your logo the way you want it, just hit F9 and render it to the monitor. Don't be afraid to use Antialiasing here as it will have no negative effect on this process, but will greatly improve the look of your brush. Now, there are a few ways to get this image to TPaint, but I'm just going to cover one of them. Without closing LightWave, go to the Switcher and take note of which DV buffer is active on your main monitor. This is *crucial* to the following steps. Next, click on Paint. This will bring you into ToasterPaint. From here, load the image directly from the DV buffer that holds your logo. To do this, hold down your right mouse button. This will cause another set of menus to appear. While holding down the right mouse button, drag your pointer over the "Preferences" menu on the right, then the Grab-<DV? button (?=3D, the buffer that you made note of while out in the Switcher), then let go. This will cause your main monitor to go blank for a moment, while TPaint grabs that image and loads it. Once your logo is loaded, you are finished with TPaint for a while. Now, go back to the Switcher (*do not* choose "Exit"), and again return to LightWave.

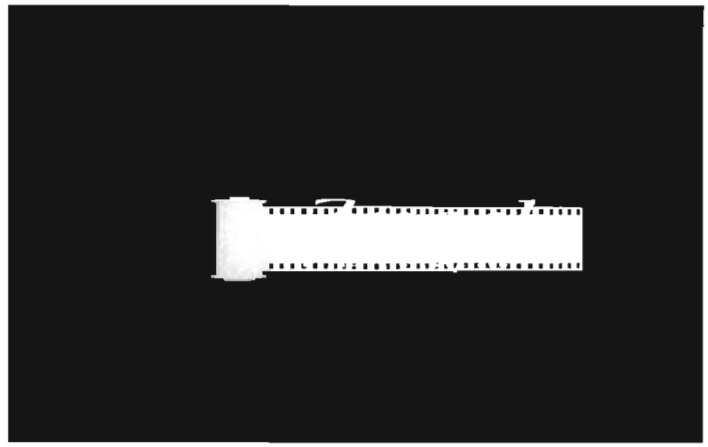
Our next step is to create the two-color, black-and-white image that will serve as the mask. It is *very* important that you do not make any changes to the camera settings or to the logo itself. Well, if we don't change our logo, then how are we going to get it to be all white in color? Simple, it's *fog*. Yes, *fog*! First, let's enter the LightWave Effects menu and ensure that our Backdrop color is set to 0, 0, 0. This will cause our background (later to be cut away), to meet the color requirements by TPaint's "No Background" operation. Then we will change our Fog Type to Linear. It really doesn't matter which type of fog you use, just as long as it is active. I chose Linear because it's the first choice available. Now, we need to set both our minimum and maximum fog distances to 0. This will cause our logo to be filled completely with fog. To ensure that the mask will be completely contrasting to the black background, choose a fog color of 255, 255, 255. We have just instructed LightWave to force our logo to be a bright, featureless white blob. Hit F9 on the keyboard and render this image to the program monitor. You will notice that the fog settings are replacing all of the pixels that made up your logo with white ones. You should have a black-and-white mask.

Use the same steps that you did earlier to enter TPaint. Before we grab our mask image from the DV buffer, we need a fresh screen without losing our original logo already there. To do this, hit the (j) key on the keyboard. This will "jump" you over to TPaint's other swap screen. You may now grab the mask image from the DV buffer, just as you did earlier.

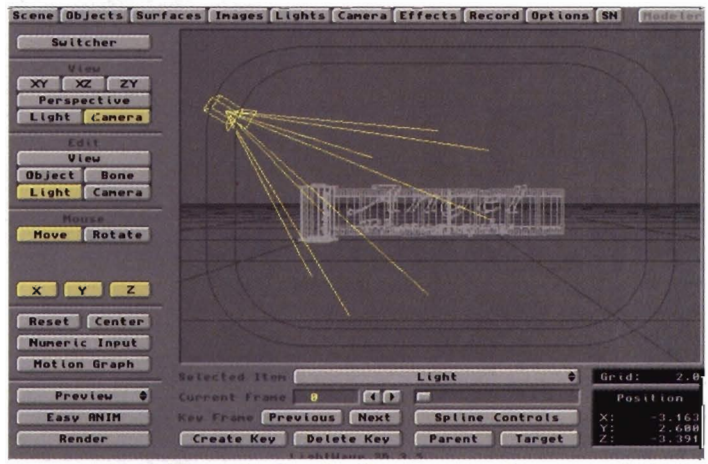
Once you have the black-and-white mask loaded, you're ready to cut out your logo. Start by selecting the Filled Rectangle tool and then click the Scissors button. Holding down your right mouse button, select No Background from the Brushes menu. Draw a rectangle around the white mask area. When you're finished, you should have the white pixels attached to your mouse cursor. Move your mouse around a little to make sure that you don't have any black ones. If you do, make sure that "No Background" is selected and try cutting it out again.

The next step is to utilize TPaint's powerful ReDo feature. Press (j) on the keyboard again to jump to the swap screen with your original, full-color logo. You will still have the white mask attached to your mouse cursor. This is fine,

The logo object, post render, created in LightWave 3D and ready for further treatment.



The Alpha Channel transparency mask, created in LightWave using the Fog feature, will allow the logo to show thru our selected background image.



Once created in Modeler or elsewhere the object is transported into Layout for further tweaking of the lights and camera angle.

LightWave's Effects menu with the settings you need to achieve the Alpha Channel "fog" mask.

however, *do not* stamp this down on the screen. ReDo will only redo the last operation. And now for the moment we have all be waiting for—click the scissors button and with one mighty click of the ReDo button, we have our logo as a perfect brush. Yahoo!!! Now, save your brush and you are ready to place it in the CG.

List of Steps

Here is a list of the basic steps to follow to convert any logo, object, or 3D text into a foolproof brush:

1. Load your object into LightWave.
2. Surface, position and light your object as desired.
3. Hit F9 to render.
4. Enter TPaint and grab the correct DV buffer.
5. Without closing TPaint, go back to LightWave.
6. In the Effects menu, make the Backdrop color 0, 0, 0.
7. Set your Fog type to Linear and your minimum and maximum Distances to 0.
8. Set Fog color to 255, 255, 255.
9. Hit F9 to render.
10. Return to TPaint and jump to the Swap screen.
11. Grab the correct DV buffer.
12. Select the Filled Rectangle tool, Scissors and "No Background" and Draw a box around your white mask.
13. Hit (j) on the keyboard, select the Scissors and hit ReDo.
14. Pat yourself on the back, pop open your favorite fizzy beverage and smile!

VTU

Michael Speigner is the owner of Computer Data Imaging and has won national awards for animation and video production. He can be reached at (513) 771-7585 or CDI2000@aol.com.

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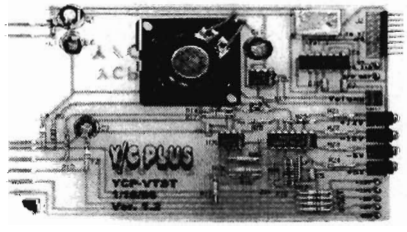

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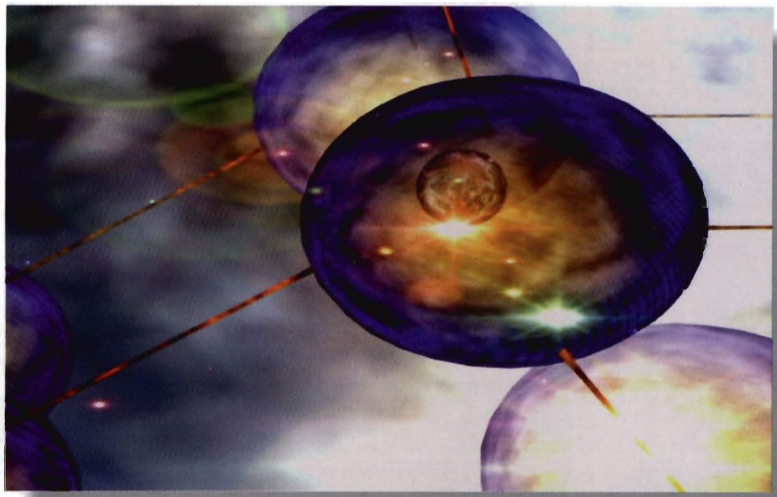
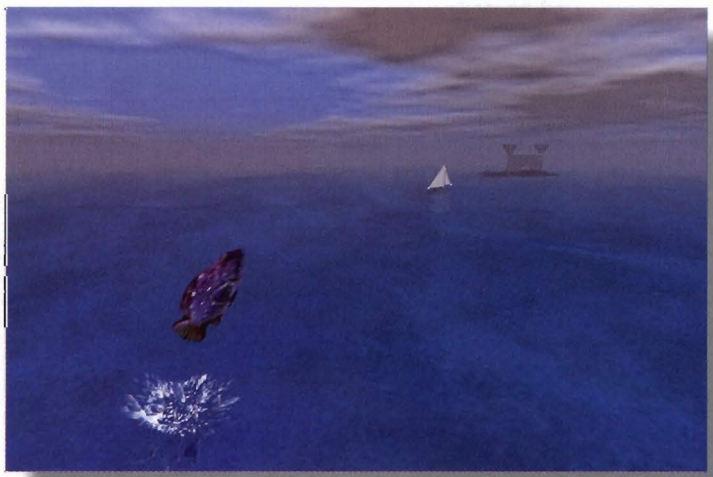


▲ The Brain Works by Fred Pienkos

Pienkos created this image from an 8000-frame animation to show the inner-workings of the human brain at the synaptic level. He used an Amiga 4000, 18MB RAM, PAR and LightWave 3.5. Pienkos owns Adell Graphics in Chicago and you can each him online at faith@tezcat.com.

▼ American Flywheel by Don Myers

Myers created his idea for modern mass transit with LightWave 3.5, Amiga 3000, 14MB of RAM on an '030 accelerator. He also used Photoshop for touch-up and enhance the lens flair. Myers is also the creator of the "Nick Dixon, Private Eye" comedy videos. You can reach him at PixSell (513) 861-9159.



▲ Splash! by Dan Kosmal

A mystic atmosphere prevails in this frame created on an Amiga 2000, 18MB RAM, '040 accelerator and LightWave 3.5. Render time was aproximately five hours. The piece was created for Living Picture Productions in Berkeley, CA. Reach them at (510) 528-8452.

▼ Sunday Football by Mario Cascio

After watching Sunday football, Cascio went to work with LightWave 4.0 on an Amiga 4000 with 040 and 18MB of RAM. Cascio owns Promotion Inc. in Wisconsin. Reach him at (414) 697-1979.

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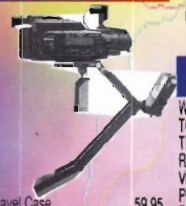

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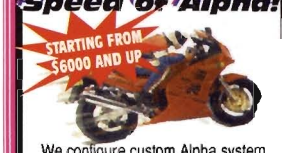

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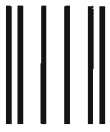

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DP-800H "XL" Package:
- DP-800H Supercam 3-CCD camera head with 1.5" electronic viewfinder and Anton Bauer Gold Mount battery plate
- Fujinon S14x7.5 BRM 14:1 servo zoom lens
- CC-H800 Thermodyne hard shell carrying case
- WV-QT700 tripod mounting plate
- Two Anton Bauer Digital Trimpack 14 batteries
- Anton Bauer 2-position quick charger

AG-EZ1
3-CCD Digital Videocassette Camcorder

Heralding a new era in video, the AG-EZ1 is the world's first camcorder to incorporate 6mm DVC (Digital Video Cassette) technology. The biggest leap in video since S-VHS and Hi8 were introduced six years ago, DVC is a revolutionary video format that delivers such high quality —it literally rivals broadcast cameras. Utilizing DVC the AG-EZ1 records an extraordinary 500 lines of horizontal resolution—nearly 25 percent more than S-VHS, Hi8 or laserdisk, and 50 percent better than a live television broadcast. And because it's digital, picture quality is not only sharper but unbelievably clear. Audio is also recorded digitally, resulting in quality equal to that of CDs. In addition to it's digital capabilities, the AG-EZ1 also features a 3-CCD pickup system,180,000 pixel color viewfinder, 10:1 power and 20:1 digital zoom, full automatic and manual controls and a large LCD panel.

- Three CCDs with 270,000 pixels each are horizontally staggered for optimum resolution.
- Digital recording system delivers incredible 500 lines of horizontal resolution and virtually no noise. The signal-to-noise ratio is 54dB, an improvement of 6-9 dB over conventional analog systems. This actually represents a S/N ratio 2-3 times better than existing camcorders.
- Audio is also recorded digitally using PCM (Pulse Code Modulation) for quality that rivals CDs.You can choose between two-channel 16-bit recording or two sets of 12-bit stereo, with the second set reserved for uses such as narration.
- Includes a huge 1.5" 180,000 pixel color viewfinder. The viewfinder also tilts 120 degrees vertically for shooting subjects from high or low angles, & its professional size means you don't have to press it against your eye to see the picture.
- Variable high speed shutter goes from 1/60—1/8000 of a second in 14 increments.
- Built-in Digital Electronic Image Stabilizer (DEIS) compensates for jittery video and is particularly effective when the digital zoom is employed.
- Equipped with 10:1 power and 20:1 digital zoom lens .Both zooms are adjustable in four speeds (3.5 seconds—15 seconds) based on how hard or soft the zoom toggle is pressed. To set up a shot quickly, a Turbo Zoom function moves from tight to wide angle, or vice versa, in under two seconds. For extreme close-ups the lens can focus up to 1/4 inch from the subject.
- Digital Photo-Shot let's you record a still-frame for about six seconds, while audio continues as normal. This feature is great for creating video photo albums or insurance tapes, as 290 still pictures can be recorded on a single 30-minute tape and 580 shots on a 60-minute tape. Using the TopScan feature any shot can be found easily.
- Large LCD panel on the side of the camera displays camcorder status and operating modes.

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porta brace

- Designed for working from the back of a van or the trunk of your car. The top loading case has a wide open fold back top that stays neatly out of the way. It's lighter and more compact than shipping cases, thus saving valuable storage space. With other equipment crowded around it the sturdy built-in frame provides added protection.
- Heavy duty shoulder strap & comfortable leather hand grip.
- Carry it in crowds – crush proof aluminum guard protects viewfinder.
- Fits into back seat and fastens securely with seat belt.
- Holds camera with on-board battery attached.
- Lid closes with Velcro for quick-opening or secure with full-length zippers.
- Two trim exterior pockets and clip board pocket.
- Dual purpose rear pouch is an expandable battery chamber or all-purpose pocket.

JVC GR-DV1 Digital Video Camera

The GR-DV1 is based on the new DV format—developed and supported by the major manufacturers of AV equipment—and uses the mini DV cassette, which is only slightly larger than a matchbox. JVC's technical achievements—such as the new glide mechanism and multi-layer PCBs—have made it possible to create the world's smallest and lightest camcorder. Offering first-class picture and sound quality, the GR-DV1 is packed with high-performance features that make it the ideal AV tool for the multimedia age.

COMPACT AND LIGHTWEIGHT DESIGN
- Weighs only 1.0 lb. (450G) and measures 1 7/8" x 5 7/8" x 3 1/2" (43 x 148 x 88mm).
- Fits easily into pocket or purse.
- Handy upright design allows easy operation.

HIGH PICTURE AND SOUND QUALITY
- 570,000-pixel 1/3" CCD for enhanced detail and clarity.
- Over 400 lines of horizontal resolution.
- Low lux operation: less than 1 lux in slow shutter mode.
- High-*res* digital image stabilizer eliminates camera shake without effecting picture quality or image size.
- PCM digital audio stereo recording modes (2-ch/48kHz/16-bit & 4-ch/32kHz/12-bit).

SPECIAL EFFECTS (Shooting)
- 100x super digital zoom (10x optical).
- 12 digital effects and 18 scene transitions.
- Snapshot mode for shooting "snapshots".
- Motor drive mode shoots snapshots in rapid succession.
- Wind cut filter reduces noise for improved audio.
- Squeeze mode adapts to widescreen (16:9) TVs

SPECIAL EFFECTS (Playback)
- Connects directly to a TV monitor for playback.
- Mounts on the supplied docking station for special playback and editing.
- Docking station offers VCR controls, audio and video output jacks (including S-video). Can also be operated using remote controller.
- 5 digital effects (echo, black & white, sepia, strobe, and classic film) plus pinpoint 10x *digital zoom* during playback.

EDITING FUNCTIONS
- Insert editing and stereo audio dubbing.
- Snapshot search for creating video albums.
- New random assemble editing for programmed rearrangement of up to 8 scenes at a time via remote controller.
- 5 digital effects and 17 scene transitions (by scene) during editing.
- Built-in digital time code plus computer connection using JLIP (joint level interface protocol) allows for future expandability.

USER-FRIENDLY OPERATION
- Menu system reduces the number of controls and switches.
- Unique slide-in/out electronic color viewfinder which also acts as power switch.
- Full auto mode and adjustable manual modes.
- 5-sec. rec (QwikPix) keeps scenes lively.

JVC PROFESSIONAL

GY-X3
3-CCD S-VHS Camcorder

By employing professional camera technology in new economical ways, the new GY-X3 delivers all the performance you expect from a 3-CCD camera: higher resolution, better sensitivity, lower noise and more natural color resolution—without a hefty price tag. It features a full-size head drum, 550 lines of horizontal resolution, 60 dB signal-to-noise ratio, sensitivity of F8 at 2000 lux and minimum illumination of 4 lux. It also has XLR balanced audio inputs, time code generator (CTL), 1.5" viewfinder, powerful 14:1 servo zoom lens and much more.

Features:
- Non-detachable 14:1 professional servo zoom lens has a motorized iris that smoothly adjusts to varying lighting conditions. The zoom and iris can be manually operated for additional control.
- In low-light conditions, you can choose from a variety of gain settings up to +24 dB with minimal increase in noise. In addition a Maximum Gain Mode allows you shooting in near darkness. Achieves an incredible 100% video level in light as low as 4 lux
- Automatic Level Control lets you pan from a brightly lit to a dimly lit area in one take, without adjusting gain settings. The GY-X3 automatically detects and applies the correct amount of gain so you can concentrate on getting the shot.
- Full Time Auto White function analyzes the light sources' color temperature and continuously corrects changes. Follow a bride from outdoor sunlight through a fluorescent lit hallway into a reception room and never have to adjust the white balance. Also indispensable when shooting outdoor sunset weddings.
- Extended Electronic Iris provides a continuously variable shutter without using ND filters. Allows smooth continuous point and shoot work from dark hallways to bright outdoor settings.
- 1.5" high resolution viewfinder displays tape remaining, date and time and battery condition. Key parameters like audio levels can also be superimposed over the picture if desired.
- Two-channel *Hi-Fi* audio recording (with separate XLR balanced inputs) plus a linear audio track
- Variable Scan Mode for flicker-free shooting of computer CRTs
- Designed to be as comfortable as it is affordable. Weighing only 12.8 lbs. including lens and viewfinder, the camera is perfectly balanced for exceptional comfort. All controls, including audio level adjustments are at your fingertips.
- Built-in Control Track (CTL) time code generator writes absolute frame address data onto the control track of the tape. When the tape is played back in the JVC Edit-Desk system (see below), the time code data is accessed, thus ensuring accurate logging and editing. In addition, the GY-X3 logs each new recorded scene in the "user bit" portion of the time code. This Scene Finder function lets you quickly locate the next or previous scene with the Edit-Desk system. Scene numbers are also displayed in the LCD display of the camera.

GY-X2B 3-CCD S-VHS Camcorder

- Newly designed three 1/2" CCD image sensors deliver 750 lines of horizontal resolution and superb signal-to-noise ratio of 62dB
- New micro-lens technology provides exceptional sensitivity of F8.0 at 2000 lux and LOLUX mode lets you shoot with almost no light! Shoot superb footage with excellent color balance at a mere 1.5 lux
- Variable Scan allows flicker-free shooting of a computer screen
- Quick Record Mode - when turned on the camera is set to the auto iris even if lens is set at manual. Also activated is (ALC) Automatic Level Control and EEI Extended Electronic Iris which provides both variable gain and variable shutter. Now you can shoot continuously from dark room to bright outdoors without having to adjust gain, iris or ND filter.
- Full Time Auto White circuit lets you move from incandescent to fluorescent to outdoor lighting without changing white balance or the filter wheel. • Dual output system allows camera output to be connected directly to an external recorder

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Canon L2

INTRODUCING THE NEW CANON L2 Hi-8 CAMCORDER WITH VL MOUNT FOR INTERCHANGEABLE LENSES, RC TIME CODE AND DIGITAL EFFECT FOR UNLIMITED CREATIVE FREEDOM.

- 1/2" CCD with 410,000 pixels delivers over 450 lines of horizontal resolution
- VL Mount System allows use of a full range of interchangeable lenses from extrawide angle to super telephoto plus, optional EOS-VL adapter allows mounting of over 65 Canon EOS 35mm Autofocus lenses.
- Records RC Time Code while shooting and can also "stripe" RC Time Code to tapes already recorded on other equipment. With RC Time Code the L2 can be connected to an edit controller with RC Time Code capability for frame accurate editing.
- Advanced encoding functions mean the L2 can record much more than audio and video. It will mark tapes for speedy identification, and even find recordings by their date.
- Includes wide range 15:1 zoom lens with special coating to cut flare and ghosts while providing high contrast and natural tonal gradation. The lens also has an 8-blade iris for precision exposure control.
- Provides stunning AFM stereo with the choice of auto or manual level control. To match the audio with video the L2 has a high performance stereo/zoom microphone which lets you select the stereo angle and recording sensitivity.
- High speed Piezo autofocus allows focusing through glass or water. Also provides focus lock and manual focusing.
- Provides two different grips with independent start/stop and zoom controls. Built-in sports finder lets you view the viewfinder from arm's length away.
- Built-in character generator lets you superimpose two lines of up to 16 characters on your recordings. There is also a choice of three date and time displays.
- Variable high-speed shutter from 1/100 to 1/10,000 of a sec.
- Includes a wireless controller which to make it a highly sophisticated edit deck. Includes a full-function shuttle dial allowing easy selection of a range of forward and reverse playback speeds for swift, precise scene location.
- Automatic exposure plus manual control lets you lock the aperture at any setting from fully stopped down to fully open.
- The L2 has a variety of special effects. Add an extra dimension to your video productions with digital image manipulation and striking scene transitions.

Close-up – instantly doubles the magnification of the lens, giving you a 30:1 zoom
Slow shutter – four slow shutter speeds allow recording in light levels as low as 0.5 lux or add artistic after-images .
Overlap – (dissolve)
Wipe – this effect slides the picture off the screen while simultaneously replacing it with a new scene.
Freeze – freezes the picture while sound recording continues uninterrupted.
Art Freeze – records your scenes as colorful paint-like images.
Strobe and Art playback modes – six-speed strobe playback can be combined with three levels of solarization effects.

Optional VL-Mount Lenses for the L2

Extrawide 3x Zoom
The CL 5-15mm lens is a compact 3:1 extra wide angle lens thatprovides the equivalent of a 27mm lens on a 35mm camera. It can focus as close as 3/8" in the wide macro range.

Lightweight 8x Zoom
A lightweight 8:1 zoom (8.7-69.6mm) it'smuch more compact and weighs half the 15:1 zoom, making the L2 easier to handle.

250mm Super Telephoto
The CL 250mm Reflex Lens achieves the same magnification as a 1,350 mm lens mounted on a 35mm SLR. A built-in neutral density filter system provides easy four-stage brightness adjustment.

10x Zoom w/Optical Image Stabilizer
The Image-Stabilizing Zoom Lens CL 10-100mm deals with everything from slow movements that show up during hand-held telephoto recording to the fast vibrations when shooting from a moving car. Equally effective in low-light and during zooming.

EOS-VL Adapter
Allows over 65 high-quality Canon EOS 35mm lenses to be used with the L2.

CL 2x Extender
The CL2X Extender fits between the L2 and any VL lens, doubling magnification with no loss of sharpness.

SONY

EVO-9800A Hi-8 Player/Recorder/ Edit Feeder

- The EVO-9800A incorporates a built-in Digital Chrominance Noise Reducer (Digital CNR) to provide higher quality pictures. When the CNR mode is set to ON, chrominance S/N ratio is improved. At the same time, the field store used in the noise reduction process removes jitter to give clear, stable pictures.
- The EVO-9800A provides two channels of high quality PCM digital audio and a single channel of AFM. The EVO-9800A also provides balanced audio inputs and outputs via XLR connectors.
- Jog/Shuttle for picture search - The SHUTTLE mode provides high speed picture search of -17 to 19 times normal speed.
- Equipped with a built-in 8mm time code generator to record an absolute address on the video tape and to perform time code based editing. The 8mm time code is recorded between the video and the PCM audio tracks to identify each frame. The time code data is converted and transmitted via 9-pin (RS-422 serial) interface. If the tape was recorded with no time code, you can subsequently insert 8mm time code on the tape. Alternatively, existing time code can be overwritten with new time code.
- Dial Menu Operation for maximum ease of operation. Use the search dial to easily set various VTR operational modes; time code preset, time code superimposition, self-diagnostics display, digital hour meter information, etc.
- The EVO-9800A is 3-unit high and can be installed into a 19-inch rack by using the optional RMM-980 Rack Mount Kit.

EVO-9850 Hi8 Editing Recorder

- For enhanced picture quality, there is a built-in digital noise reducer for both the chrominance and luminance signals. In the CNR (Chrominance Noise Reducer) mode you can select low or high level of noise reduction according to picture conditions.
- Equipped with four channels of audio. Two AFM Hi-Fi stereo tracks plus two PCM digital stereo tracks. Each channel has balanced XLR inputs and outputs, plus there is individual level volumes for each track
- Assemble and insert editing modes. In the insert mode there is independent editing of video, PCM-1, PCM-2 and time code.
- Built-in TBC (Time Base Corrector). With TBC the EVO-9850 outputs highly stable video signals. A digital drop-out compensator is also built-in. TBC adjustments can also be remotely controlled with the optional BVR-55 TBC Remote Control Unit.
- Absolute frame accuracy for video editing and single frame recording. Accuracy of ±0 frames is achieved with advanced servo system, quick response mechanism & built-in 8mm time code reader/generator.
- The EVO-9850 is equipped with a built-in 8mm time code generator. Since the 8mm time code is recorded between the video and the PCM audio tracks in a separate and dedicated location, 8mm time code insertion or overwrite is possible without losing a generation. An RS-422 9-pin connector is utilized for communicating edit command and time code data. The 8mm time code is output as SMPTE time code through the RS-422 connection to the edit controller.
- With the optional EVBK-100 the EVO-9850 inputs and outputs SMPTE time code data via BNC connectors. Accordingly the EVO-9850 can feed time code to another VCR or can lock to an external time code.
- The Jog/Shuttle mode provides high speed picture search from -17 to 17 times normal speed.
- With the optional RMM-980, the EVO-9850 can be installed into a 19-inch EIA standard rack.
- External sync input to lock onto external reference video signals. This allows for synchronization with other video equipment.
- For customized operation there is a Dial Menu. You can set VCR operation modes like time code preset, time code superimpose, self-diagnostics display, with the search dial.

SONY

SVO-2000 S-VHS Hi-Fi Editing VCR

The new SVO-2000 is a powerful, yet easy-to-use S-VHS Hi-Fi editing recorder. Two SVO-2000 recorders combined with the optional RM-250 Edit Controller forms a cost-efficient cuts-only editing system – with full assemble, video insert, audio dub and program editing capability.

Superb Video and Audio Performance
- S-VHS format delivers 400 lines of horizontal resolution and consistent, clear image reproduction for superior results.
- Adaptive Picture Control (APC) System for optimum picture performance. In record mode, APC automatically tests an inserted tape and checks the condition of the heads. It then adjusts the VCR recording circuitry to capture images that are as clear and crisp as they can be. In Playback mode, APC automatically sets ideal balance of picture sharpness and clarity.
- Hi-Fi stereo recording system has a wide frequency response of 20Hz to 20kHz and a superb 90dB dynamic range, and individual recording level controls for the left and right channels.

Editing Features:
- The SVO-2000 has a Control-Edit Spin remote terminal that allows it to be controlled externally. Connects directly to RM-250 for easy setup.
- With Control-S input and output terminals, two SVO-2000s can be connected for synchro editing, without the RM-250.
- Also offers program editing capability, which allows automatic sequential editing of up to 20 pre-assigned scenes.

Convenient Functions
- Both the SVO-2000 and the supplied remote control have a dual mode shuttle dial for slow motion playback, frame advance and picture search in either forward or reverse.
- Automatic repeat enables it to repeatedly playback a program. At the end of the program or the tape, the VCR automatically rewinds and restarts the program from the beginning.
- Auto head cleaner prevents head clogging which could lead to deterioration of picture quality.
- Has an on-screen set-up menu for easy set-up of tuner, clock and timer programming as well as VCR and cable box control.

SVP-5600 and SVO-5800 S-VHS Player/ S-VHS Editing Recorder

SVP-5600 and SVO-5800 features:
- By combining the high resolution (400 horizontal lines) of S-VHS with high quality signal processing techniques like DNR, Digital Field DOC and Chroma Process improvement, they deliver the consistent picture quality so essential to editing. They also incorporate a wide video head gap and track width (58mm) for stable and faithful picture reproduction.
- Each has a built-in TBC plus an advanced Digital Noise Reducer (DNR) for both the chrominance and luminance signals to eliminate noise during playback. At the same time, a field memory incorporated in the noise reducer removes jitter to provide sharp, stable pictures.
- They also incorporate Chroma Process Improvement circuitry for excellent color picture quality in the playback mode. This advanced circuitry greatly improves the chroma bandwidth, thus enabling sharper and clearer color picture reproduction.

ADVANCED EDITING FUNCTIONS
- For frame accurate editing, both machines employ a sophisticated servo system, an improved quick response mechanism and built-in LTC/VITC time code capability.
- They are equipped with industry standard RS-422 9-pin serial interface. The 9-pin connector carries edit commands and time code data between the VCR and the edit controller.
- When connected to an RS-422 equipped edit controller, the SVO-5800 functions as an editing recorder. It performs assemble and insert functions and also provided audio split editing of normal audio tracks 1 and 2. In the insert mode, video, audio and time code can be inserted independently.

FOUR CHANNEL AUDIO SYSTEM
- They each incorporate four-channels of high quality video. There are two channels with Hi-Fi (AFM) tracks and two with longitudinal (normal) tracks. The Hi-Fi tracks provide a wide frequency response from 20hz to 20khz and a superb dynamic range of 90db. The normal tracks incorporate Dolby B noise reduction for high quality sound.

MULTIPLE INPUTS AND OUTPUTS
- Both machines employ composite and S-Video connectors. With optional SVBK-170 Component Output Board, they provide component signal output through BNC connectors. With the board, the VCRs can be integrated into Betacam SP editing systems.

USER FRIENDLY OPERATION
- They have a built-in character generator which superimposes characters on the "video monitor output" signal. This allows time code data, control track, menu setup and VCR function status to be shown on a monitor.
- For more efficient operation they have an on-screen setup menu which allows a variety of customized VCR mode operations. Programmed in the form of a layer structure, you simply go through the menu and initialize VCR operation.
- All parameters of the TBC, such as luminance level, chroma level, setup, hue, Y/C delay, sync phase and SC phase are easily controlled from the front panel, and can be remotely controlled from the optional UVR-60 TBC Remote Control.
- Quick and smooth picture search can be performed by either using an RS-422 equipped edit controller or the optional SVRM-100 Remote Control Unit. Recognizable color pictures are provided at up to10x normal speed in forward or reverse.

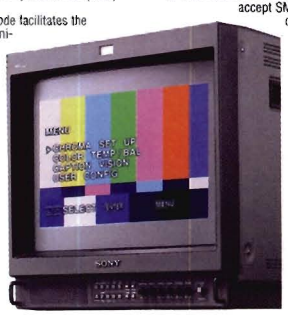
COLOR MONITORS

PVM-1350
13˝ Presentation Monitor

- Employs a P-22 phosphor fine pitch CRT to deliver stunning horizontal resolution of 450 horizontal lines.
- Equipped with beam current feedback circuit which eliminates white balance drift for long term stability of color balance.
- Has analog RGB, S-video and two composite video (BNC) inputs as well as 4 audio inputs.
- Automatic Chroma/Phase setup mode facilitates the complex, delicate procedure of monitor adjustment. Using broadcast standard color bars as a reference, this function automatically calibrates chroma and phase.
- Chroma/Phase adjustments can also be easily performed with the monochrome Blue Only display. In Blue Only mode video noise can be precisely evaluated.
- Factory set to broadcast standard 6500K color temperature
- Provides an on-screen menu to facilitate adjustment/operation on the monitor. The on-screen menu display can be selected in English, French, German, Spanish or Italian.
- On power up, automatic degaussing is performed. Also has a manual degauss switch to demagnetize the screen.
- Sub control mode allows fine adjustments to be made on the knob control for contrast, brightness, chroma and phase. The desired level can be set to the click position at the center allowing for multiple monitors to all be controlled at the same reference level.

PVM-1351Q
13˝ Production Monitor

Has all the features of the PVM-1350 *PLUS* -
- Is also a multisystem monitor. It accepts NTSC, PAL and NTSC video signals. NTSC 4.43 can also be reproduced.
- Equipped with a SMPTE 259M Serial Digital Interface. By inserting the optional serial digital interface kit BKM-101C for video and the BKM-102 for audio the PVM-1351Q can accept SMPTE 259M component serial digital signals.
- Equipped with RS-422 serial interface. With optional BKM-103 serial remote control kit all of the monitor's functions can be remotely controlled with greater confidence and precision.
- Equipped with input terminals such as component (Y/R-Y/B-Y), analog RGB, S-video, 2 composite video (BNC) and 4 audio terminals for complete flexibility.
- Aspect ratio is switchable between 4:3 and 16:9 simply by pressing a button.
- Underscan and H/V delay capability. With underscan, entire active picture area is displayed. Allows you to view entire image and check the picture edges. H/V delay allows viewing of the blanking area and sync/burst timing by displaying the horizontal and vertical intervals in the center of the screen.
- Color temperature switchable between 6500K/9300K/User preset. 6500K is factory preset. 9300K is for a more pleasing picture. User preset is 3200K to 10,000K.



PVM-1354Q/PVM-1954Q 13˝ and 19˝ Production Monitors

All the features of the PVM-1351Q *PLUS*:
- SMPTE C standard phosphor CRT is incorporated in the PVM-1354Q/1954Q. SMPTE C phosphors permit the most critical evaluation of any color subject. Provides over 600 lines of horizontal resolution.
- The PVM-1354Q mounts into a 19-inch EIA standard rack with the optional MB-502B rack mount bracket and SLR-102 slide rail kit same as PVM-1351Q. The PVM-1954Q mounts into a 19-inch EIA rack with the optional SLR-103 slide rail kit.

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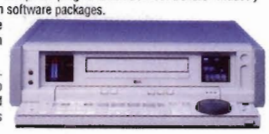
SANYO

GVR-S950 S-VHS Single Frame Recording VCR

- Built-in single-Frame Animation Controller eliminates the need for separate or computer plug-in animation controllers. Industry-standard protocols, make it compatible with most popular graphic and animation software packages.
- SMPTE Time Code Generator and Reader with Built-in Drop and Non-Drop Frame Read/Write is fully programmable from an external computer and resettable from the front panel.
- Video and Audio Switcher with Two independent Video and Audio Channels. Each video channel contains both composite and S-Video inputs. Each audio channel contains two linear and two Hi-Fi inputs Switching can be performed either manually, or under RS232 or RS422 control. Video and audio channels are switched independently letting you perform break-away edits.
- Auto-Sensing Single RS422/RS232 Input eliminates the need for optional external interfaces. Interface requirements are automatically sensed and adjusted within the recorder.
- Input and Playback Video Processing allows adjustments to the video level of the incoming signal. Signal levels and hue can be adjusted during playback.



GVR-S955 S-VHS Single Frame Recording VCR

All features of the GVR-S950 PLUS --- The GVR-S955 contains an on board two input audio/video switcher. Unlike the GVR-S950, the GVR-S955 can be programmed via the RS-422 bus for complete audio/video breakaway editing. As a result of this "audio/video breakaway" feature, time code can be added to tapes with exisiting video.

JVC

S-VHS EDIT-DESK SYSTEM

BR-S500U Player • BR-S800U Edit Recorder
RM-G800U Edit Controller

Fast, accurate and professional style videotape editing is now more affordable than ever. This new "S" editing system, costing thousands less than ever before, consists of the BR-S500U Player/Feeder, the RM-G800U Edit Controller and the BR-S800U Editing Recorder. Linked via JVC's proprietary control bus, these three units offer all of the editing features professionals have come to expect. The VCRs feature a fast, heavy-duty tape drive similar to that used in JVC's renowned "22 Series", and the built-in CTL (Control Track) time code provides unparalleled accuracy and flexibility. Best of all the VCRs feature an open architecture for easy system upgradeability.

OPEN ARCHITECTURE

Two plug-in extension slots on the rear panels (for both VCRs) accept a variety of optional expansion boards. To build a PC-based editing system, add the SA-K27UA RS-232C interface board. To use with more sophisticated editing controllers, plug in the SA-K26U RS-422 board. Other boards include the SA-K28UA 45-pin board for connection to older JVC editing systems, the SA-N50U DNR board with time base stabilizer, and the SA-R50U VITC/LTC time code generator/ reader.

CONTROL TRACK TIME CODE SYSTEM

Built-in time code reader (BR-S500U) and time code reader/generator (BR- S800U) utilize JVC's CTL (Control Track) Time Code System. This system records absolute tape address information (hours: minutes: seconds: frames) on the control track, and provides fast and accurate access to any frame on the video tape. This is far superior to control track counters that lose reference when the tape is removed. CTL Time Code can be added to the tape during the recording process or "post striped". For professional SMPTE time code operation there is the optional SA-R50U VITC/LTC Time Code Reader/Generator card.

SUPERB VIDEO PERFORMANCE

Has latest picture improvement technologies for razor sharp images, with over 400 lines of horizontal resolution. Digital Y/C separation, chroma noise reducer, chroma aperture correction and a 3-line cross-talk cancellation all combine to offer outstanding image quality, even when dubbing down multiple generations.

32X VARIABLE-SPEED SEARCH

Front-panel search dials featured on both the BR-S809U and BR-S500U provide fast, accurate picture search at up to 32x normal speed. This is possible due to the incorporation of a heavy-duty direct-drive mechanism similar to that used in JVC's "22 Series."

FOUR-TRACK AUDIO

Each features two Hi-Fi stereo channels with a wide frequency response and a dynamic range of over 80 dB and two linear tracks. The linear tracks of the BR-S800U can be dubbed independent of each other and of the video. This is ideal for adding background music or sound effects to an existing audio track. There are two audio level meters, switchable between the Hi-Fi and linear channels. Separate input and output terminals are provided.

RM-G800U EDIT CONTROLLER

- Has two GPIs allowing automatic triggering of special effects generators, switchers or audio mixers.
- Features automatic assemble and insert editing, audio insert editing, as well as preview/review for checking edits before and after editing, and goto for direct access to any edit point. A capstan bump function is provided to assure greater edit consistency.
- 8-digit LED counter indicates all edit data in either the TC or CTL mode. Switchable between player and recorder.
- The RM-G800U's Jog control is precise and responsive, making it easy to locate any frame on the tape. You can enter the Jog mode directly and switch between the player or recorder at the touch of a button. The Jog dial can also be used to enter and trim edit points and pulse timing from the GPI ports.

TAO EDITIZER 3.0

A/B Roll Edit Controller for PC or Macintosh

Hardware Features:

- 3 VCR control ports for true A/B roll. Each VCR port can support a different protocol.
- Dynamic Tracking (Slow-Motion) Control provides a "fit and fill" type interface.
- Built-in SMPTE Longitudinal (Audio) Time Code generator with external & internal video sync.
- Three multi-speed SMPTE Longitudinal time code readers.
- Auxiliary serial port for full control of Newtek Video Toaster, GVG 100, and Panasonic WJ-MX50 switchers. Also Hotronic AS-11, Pinnacle Aladin and Videonics MX-1.
- Audio Control: Mackie CR-1604, TAO FollowMix, Alesis ADAT.
- MPC Audio & MIDI support for embedding sounds and MIDI sequences in your EDL.
- DPS TBC II & III support – you can control two personal TBC cards and the Personal V-Scope from a serial port.

Software Features:

- VCR Control – up to three VCR controllers on-screen simultaneously. Jog and shuttle control. You can use either your mouse or keyboard.
- Tape Logging – Multi-event search, copy directly into edit list, multiple log windows may be opened simultaneously, log files or selected events may be printed to a window.
- Includes non-linear editing support.
- Time code generator in Dr op/Non-Drop frame.
- Multi-event controller can handle up to 16,000 events. Interactive graphical "Time Line" window. Two audio-video splits per event, cut/copy/paste events.
- Preview, Perform, Review, Automatic and manual EDL modes.
- Optional support for AutoDesk 3D Studio, Lightwave 3D.

EDITIZER-DTC

First editing controller to directly control JVC's BR-S500U and BR-S800U (EditDesk) VCR's. The Editizer-DTC plugs directly into their 12-pin serial bus connectors and consistently achieves accurate edits through control of the BR-S500/800 capstan bump feature.

- TAO's 12-pin interface provides a direct line to JVC's precision-built VCRs and eliminates the need for hundreds of dollars worth of extra control boards needed in an A/B roll set-up.
- Direct connection also means that the two slots in each VCR remain free for other enhancement boards such as TBC cards.
- Editizer's time code generator window provides remote control of JVC's CTL Time Code Generator so there's no need to buy additional time code boards. Plus, this leaves both linear channels free for higher quality production work.

Panasonic

AG-1300

Industrial 4-Head VHS VCR

- HR (High-Response) mechanism uses the full-loading tape transport system for quicker picture display, fast forward and rewind.
- Enlarged multi-function display gives all information at a glance. Indications for the time, recording or playback mode and other often used functions are easy to confirm from across a room.
- S-VHS quasi playback (SQPB) let's you playback S-VHS tapes (in normal VHS resolution).
- On-screen display (in four languages) provides clear and easy to follow programming instructions.
- Industrial strength VCR, the AG-1300 features a rugged metal cabinet on an aluminum die-cast chassis. Includes full one-year warranty on parts and labor.
- Other features include: built-on head cleaner, automatic repeat, real-time counter, frame advance, high-speed search (27x in SLP mode), 181-channel tuner, one touch recording.

AG-2540

Industrial 4-Head VHS Hi-Fi VCR

Same exact features as the AG-1300 *plus*—

- Super jog/shtuttle puts 19-step control over playback speed at your fingertips, giving you greater control while searching for scenes.
- Hi-Fi stereo sound system with a dynamic range of more than 90 dB.

AG-1980

S-VHS Hi-Fi Editing VCR

Incorporating advanced digital signal processing and digital noise reduction circuitry, the new AG-1980 delivers such high picture quality—that it's third-generation picture looks almost as good as first-generation offerings from other VCRs in it's class. In addition to it's incredible video quality, the AG-1980 also features a full field digital TBC, insert and assemble editing, Hi-Fi stereo, quick response mechanism and a remote editing terminal.

- Still the only VCR in it's class to provide near frame accurate editing. When used with edit controllers from Videonics, FAST and FutureVideo, the AG-1980 achieves an accuracy of ± 2 frames. And, the 5-pin edit terminal on the rear panel makes it very easy to set up an editing system.
- Performs all assemble and video insert edits as well audio video dubbing. Also has independent linear audio input and output for more flexible audio dubbing.
- Hi-Fi stereo audio with a frequency response of 20Hz to 20kHz and a dynamic range of 90dB. It also has Hi-Fi recording level control, headphone monitor terminal with volume control and a mic input terminal.
- Digital Processing:
  —Equipped with a Digital Comb Filter using an advanced 3-dimensional system the AG-1980 provides complete Y/C (luminance/chrominance) separation. This practically eliminates color and luminance blurring.
  —Field coefficient Digital Noise Reduction (DNR) circuitry processes the Y and C signals separately, thereby boosting the signal-to-noise ratio and reducing noise during playback.
  —Has a built-in full field TBC (Time Base Corrector) that eliminates even the smallest of jitter, skew, head impact error and color blurring. Invaluable for editing, the TBC helps maintain high picture quality even through the third-generation.
- Besides it's digital circuitry, the AG-1980 also features laminated video heads. Clearly superior to heads of conventional ferrite they provide richer, more vibrant color reproduction and a higher signal-to-noise ratio.
- Advanced dual-loading mechanism features a quick response time, requiring only 0.5 seconds for a picture to appear from Stop mode and 1.9 seconds from FF/REW.

AG-5700

S-VHS Hi-Fi RS-232 Editing VCR

- Has amorphous video heads to yield a higher signal-to-noise ratio.
- Achieves an accuracy of ± 3 frames with optional AG-A570 Edit Controller.
- Built-in RS-232 provides machine control of playback, recording and editing functions from a computer. You can use the power of your computer (with optional software) to assemble hundreds of scenes, create edit decision lists and do complex editing jobs.
- Auto Repeat function continuously replays a tape which can be cued for tape's end or when recorded material ends.
- Separate Hi-Fi (Ch.1/Ch.2) audio recording level controls with display. There is also a headphone output with volume control.
- For unattended recording there is a Sensor Recording function. When a video signal is detected the power is automatically switched on and the AG-5700 begins recording.
- For video presentations the AG-5730 is ready to go. Weighs less than 13 lbs, extremely compact with a built- in carrying handle.

AG-DS540/AG-DS550

Professional S-VHS Source Player/ S-VHS Edit Recorder

- 3-dimensional digital TBC with a correction range of one field. With the VCRs continuously retaining one field in memory, the data is used for 3-D type processing thereby providing excellent dropout compensation.
- Digital Signal Processing for improved picture quality, and for maintaining uniform picture quality during editing. Digital processing circuits include:
  —Chroma Aperture Compensation (CAC): Eliminates color blurring and expands chroma bandwidth.
  —Digital Noise Reduction (DNR): Processes Y & C signals separately to boost S/N Ratio by minimizing noise during playback.
  —Digital Comb Filter: Advanced 3-dimensional system for total Y/C separation providing reduced color and luminance blurring.
- Employs amorphous video heads that have a higher magnetic coercivity than conventional ferrite heads. Expanded frequency response from the amorphous heads enhances picture quality by minimizing color blurring.
- Built-in LTC/VITC (Longitudinal/Vertical Interval) time code reader/generators for absolute frame accurate editing.
- IQ (Intelligent Quest) mechanism delivers precise, high-speed operation. The dual-loading system achieves high-speed response while protecting tapes and heads. The tape transport mechanism uses five direct drive motors, including two reel drive motors.
- Performs audio split editing which lets you set the edit-in and edit-out points separately from those for video.
- Capstan Control System with large capstan spindle allows high-speed search at 32x normal speed (with color picture).
- 4 channel audio – 2 hi-fi stereo channels with dynamic range of 90dB as well as 2 linear channels with Dolby NR. Each audio channel has its own input (AG-DS50 only) and output with individual channel-level setting capability and use XLR connectors.
- Provide 16:9 wide aspect compatibility, so they are fully equipped for the next generation of televisions.
- 3 rack units high, they are unbelievably compact for easy space saving installation. 19" rack-mountable with optional AG-M730.

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Specifically designed for enhanced digital video and audio performance, the new 4LP series of Ultra SCSI drives are ideal for applications ranging from multimedia/ presentation to digital video editing and video servers.

- Embedded Servo Technology eliminates the need for thermal calibration, thus ensuring a continuous data stream with no housekeeping dropouts.
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- All drives are Ultra SCSI (SCSI-3 SPI) compliant, with transfer rates up to 20Mb/s (8-bit Narrow) and 40Mb/s (16-bit Wide).
- All drives rotate at 7200 rpm, have a maximum seek time of 17 to 20ms and an average latency of 4.17ms.
- All drives are 3.5" form factor & are either 1" high or half height.

Model	Capacity	Interface
ST32171N	2.15GB	Narrow (8bit)
ST32171W	2.15GB	Wide (16 bit)
ST34371N	4.35GB	Narrow (8bit)
ST34371W	4.35GB	Wide (16 bit)
ST19171N	9.1GB	Narrow (8bit)
ST19171W	9.1GB	Wide (16bit)

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HOTRONIC AP41

STAND ALONE TBC/ FRAME SYNCHRONIZER

- Compatible with S-VHS, Hi-8 and U-Matic SP equipment
- Frame synchronization with full frame memory synchronizes outside satellite, microwave and feeds with studio signals
- 4 times sub-carrier sampling, 8-bit resolution
- Adjustable horizontal and vertical blanking
- Proc-amp controls are presettable. Each control has a maximum useful dynamic range. Front panel buttons select different operational modes.
- Optional pixel by pixel DCIC (Drop-out compensator)

AP41-SF

- Same as above plus S-video output, freeze frame/field, Y/C adjustment and 16-speed strobe

AP41-SP

- Same as above plus wide-band comb filter (full bandwidth in all modes)

HORITA

BSG-50 Blackburst/Sync/Tone Generator

The BSG-50 provides an economical means for generating the most common RS-170A video timing signals used to operate various video switchers, effects generators, TBCs, VCRs, cameras and video edit controllers.

- 6 BNC video/pulse outputs
- Now available: 6 blackburst, 4 sync, 2 subcarrier
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- Separate buffer for each output—maximum signal isolation
- 1KHz, 0dB sinewave audio tone output, locked to video
- Outputs can easily be configured to meet specific user and equipment needs $269

CSG-50 Color Bar/Sync/ Tone Generator

- Generates full SMPTE color bars, blackburst and composite sync signals.
- Built-in timer can automatically switch video output from color bars to color black after 30 or 60 seconds. Easy and convenient for producing tape leaders and striping tapes with color bars and black.
- Front panel selection of full-field or SMPTE color bar patterns or color black (blackburst) video output.
- Includes crystal-controlled, 1KHz, 0dB audio tone output.
- Outputs: video, sync, ref frame, 1 KHz, 0dB
- Audio tone switches to silence and color bars change to black when using 30/60 second timer
- Fully RS-170A SC/H phased and always correct. No adjustment required. $349

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- **TG-50** - Generator/Inserter
- **TRG-50** - Generator/Inserter/Search Speed Reader
- **TRG-50PC** - Has all of the above plus RS-232 control.
- **VG-50** - VITC Generator, LTC-VITC Translator
- **VLT-50** - VITC-To-LTC Translator
- **VLT-50PC** - VITC-To-LTC Translator / RS-232 Control
- **RLT-50** - HiB (EVO-9800/9850)TC to LTC Translator
- **TSG-50** - NTSC Test Signal Generator
- **SCT-50** - Serial Control Titler "Industrial" CG, Time-Date Stamp, Time Code Captioning
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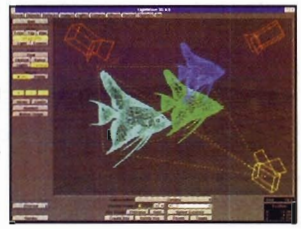

LightWave 3D is an all-in-one photo-realistic animation system. As part of the Emmy-award winning Video Toaster, LightWave 3D has been used in television shows such as seaQuest DSV, Babylon 5, Hercules and Star Trek: The Next Generation and Voyager. LightWave is also used by tens of thousands of people to create graphics for corporate videos, commercials, video games, print graphics and much more. LightWave 3D provides a comfortable, intuitive working environment that draws a real-world metaphor between an actual soundstage and your personal computer. Within LightWave Layout, create dramatic lighting effects, photo-realistic surface materials and intricate camera movements. Render still images or entire animations in 24-bit color. Create new props with the powerful tools in LightWave Modeler. From technical geometric forms to free-flowing organic shapes this model shop does it all. LightWave 3D's new plug-in architecture is supported by a growing number of independent developers. This allows you to customize LightWave with additional features such as gravity, particle systems, image processors, and more surfaces.

FEATURES:

- Inverse Kinematics allows creation of complex character animation more quickly. It makes animating more like puppeteering.
- Incredibly powerful modeler with new Metaform function that will transform rough geometry into organic looking objects.
- Reads (and writes) JPEG, IFF, SGI, TIFF, BMP, FLIC, CINEON, and many more image formats through Elastic Reality's Host Independent Image Protocol.
- Robust plug-in architecture gives other developers control over LightWave 3D to add additional features, such as gravity, image processing, or new modeling tools.
- Full Ray Tracing renderer including shadows, reflection, and refractions for ultra realistic imagery.
- Nearly all attributes of your scene can be animated through an easy-to-use key frame interface, or with envelope controls. You can animate lights, lens flares, textures, objects, even camera attributes such as zoom or depth of field.
- LightWave 3D includes a CD-ROM packed with license free objects, images, textures, and scene files created by the pros from seaQuest DSV, Babylon 5, and many other television shows.

DIGITAL PROCESSING SYSTEMS INC.

VT-2600 Personal TBC IV

- Component digital transcoding provides S-video input and output. Digital 4:2:2 processing ensures the cleanest possible picture. Composite video signal is also enhanced by a newly developed chrominance comb filter.
- It interfaces virtually any camcorder, VCR or laser disk player to production switchers or computer video systems like the Video Toaster.
- Features Rock Solid Freeze (field and frame), GPI Freeze, Variable Strobe, Forced Monochrome and Advanced Sync.
- Film Effect Strobe Mode - Simulates the 3-2 pull down conversion technique from a 24 frame per second film standard, to a 30 frame per second video standard.
- Can be installed in any Amiga or PC-compatible computers. Includes Amiga and MS-DOS software.
- Has a 50-pin CVE (Component Video Exchange) port. When connected to the DPS Personal Animation Recorder you can capture and record real-time video on the animator's dedicated hard drive. This combination is ideal for rotoscoping and other video capture processes.
- Fully compatible with TBC II, III and Personal V-Scope. The TBC IV is operated via software, or by using an optional DPS RC-2000 multi-channel desktop controller.

DR-2150 Personal Animation Recorder

The DPS DR-2150 Personal Animation Recorder is designed to record computer animation sequences directly to a hard drive and then play them back in real time. The DR-2150 is a card that plugs directly into an Amiga expansion slot and replaces both the single frame record VCR and the single frame controller. Bad edits, missed frames, tape dropouts and other mechanical glitches common to traditional VCRs are a thing of the past.

- Combines custom ICs and a proprietary implementation of the LSI chip set enabling component 4:2:2 digital recording to a dedicated hard drive.
- The hardware adaptively samples each new video image to determine optimum quality. Although standard compression ratios don't apply you can expect four to five minutes of high quality playback from a dedicated 540 MB hard drive.
- Has composite, S-Video and component (Betacam/MII) outputs. Also has a genlock input enabling it to be easily integrated with virtually any video production system.
- Offers multiple outputs: Can output animation as composite, S-Video and component (Betacam or MII). Also includes a genlock input which enables it to be easily integrated with virtually any video production system.
- Variable speed playback lets you play back 24-bit (16.7 million colors) animation in real-time 30 frames per second, or you can choose a lower frame rate to play back animations in slow motion.
- Supports direct rendering of all common image formats including 24-bit IFF and Video Toaster frame store files and is fully compatible with all pop ular animation packages including Morph Plus, Lightwave 3-D, Fractle Pro, Imagine, Vista Pro, and Cinemorph.
- Real-time video capture for roto-scoping and other video capture applications is possible when used in combination with a DPS TBC IV card.

PVR-2500 Animation Recorder

The PVR-2500 offers powerful features for awesome animation, morphing and rotoscoping capabilities. With features like 720 x480 resolution, 10-bit 2x oversampled video encoding, better than DT scaling, component and S-Video outputs, multi-processor support and FAST SCSI-2 hard drive controller, Perception empowers your computer to rival the finest professional production studios.

- The PVR-2500 is a full-length PCI card with a SCSI-II interface which connects to one or up to seven dedicated hard drives. Because the SCSI controller is integrated with the PVR-2500, video data never has to move over the PCI bus during playback. This avoids the bottlenecks found in systems which use the computer's hard drive for video storage.
- Designed to run under Windows NT 3.5 on computers employing 486 (DX2-66 or higher) Pentium, DEC ALPHA or MIPS processors. Perception's software utilizes NT 3.5's native support for multitasking and multiple processors, allowing use with the most powerful computers.
- Perception's exclusive multi-format virtual file system ensures complete integration with your existing Windows NT applications. Any acquired video or computer generated Perception video clips appear simultaneously in many different file formats including TARGA, SGI, BMP and TIFF. Also compatible with new NT versions of Lightwave 3D, 3D Studio, TOPAS 5.1 Pro, SoftImage and Elastic Reality.
- Video output section utilizes 10-bit 2x oversampled encoding and provides broadcast quality CCIR-601 (720 x480) resolution. It's dynamic range is in excess of D1 scaling so that images are brighter, have more color and greater spatial resolution. Component, composite and S-Video outputs are provided via the included breakout cables.
- Use with any compatible sound card while synchronization of audio and video is maintained by the PVR software. Captured audio is stored on the computer's system hard drive, notion the dedicated drives. This approach provides maximum flexibility for manipulating audio and video during editing.
- Can perform real-time interpolation of 30 fps video to 24 fps film rates or vica versa.
- Perception controls BVU protocol VCRs for video acquisition. VCR-like controls on the Perception's GUI simplifies the task of batch digitizing and recording. In this mode, reads SMPTE time code from the source deck.
- Drivers for Windows 3.1 are supplied as well so third party editing software like Adobe Premier can be used. In fact the PVR-2500 bundled with the AD-2500 capture card, a sound card, editing software and one or more SCSI hard drives becomes a non-linear editor of unparalled performance at an unbeatable price.

AD-2500 CAPTURE CARD

- The optional AD-2500 is a video capture daughtercard, that transforms Perception into a digital video recorder. The AD-2500 has component, composite and S-Video inputs for real-time recording and storage capacity is limited only by the size and number of attached SCSI hard drives. Captured video can also be exported as sequential RGB files for roto-scoping and other compositing applications.
- The AD-2500 incorporates a sophisticated automatic entropy prediction circuit that analyzes the content of incoming video and dynamically calculates the optimum amount of compression on a field-by-field basis—even during real-time recording. You also have complete manual control over compression level/quality settings.

Turnkey PVR-2500 Animation and Video Editing System:

• PVR-2500 Perception Card • AD-2500 Capture Card • 220-watt, 6-bay midtower case • PCI motherboard with 256K cache • Pentium 120 MHz processor • Diamond Stealth64 Video 2MB DRAM PCI display card • Quantum 1.28GB IDE system drive •32MB of RAM • Seagate (Barracuda) 4.2GB SCSI-2 Narrow hard drive • 3.5" floppy drive • Toshiba 4X EIDE internal CD-ROM drive • Creative Labs Sound Blaster 16-bit sound card • Altec-Lansing ACS-51 two-piece speaker system • Princeton Ultra 17" high resolution 17" multiscan monitor • Focus 2001A keyboard, • Microsoft MS mouse MS-DOS 6.22 & Windows 3.11 operating system software • Adobe Premiere 4.0a for Windows video editing software 7295.00

Additional Options: Windows NT 3.51 operating system software, Newtek Lightwave 3D 4.0 animation software

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- Can be powered by a 9V battery for 10 hours.
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Lavalier (clip mic) Systems

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- Ideal for mounting on camcorders with an integrated shoe assembly and an extremely lightweight compact design.
- Tight, supercardioid polar pattern has the ability to pick up only those sounds that correspond to the scene being filmed and rejects any disturbing ambient noise.
- Integrated wind screen eliminates handling and wind noise.
- Operating time of over 200 hrs. using its own built-in battery so will not put added strain on your camcorders already limited power supply **179.95**

K6 MODULAR ELECTRET MULTIMIKE SYSTEM

This rugged system has separate capsules and a powering module that can be combined to produce a wide variety of microphones. It converts quickly from one type of microphone to another by simply threading together various system components. All capsules use back-electret technology for uncompromised quality. Output of the powering modules is balanced, low impedance (200W) and terminates in a standard 3-pin XLR connector. The K6 series was designed to bring studio quality sound to the broadcast and field recording market. The K6 power supply can accept microphone capsules ranging in polar pattern from omnidirectional to highly directional shotgun, as well as special application lavalier microphones.

K6

Microphone handgrip and power supply capable of battery/phantom powering all microphone capsules in this series. One "AA" battery supplies power for approximately 150 hours or phantom power (12-48 volts). The K6 power supply has an integrated bass roll off switch and on/off switch with LED indicator for battery condition **219.95**

ME 66

Short shotgun capsule. All sound coming from the rear and sides of the ME66 is greatly attenuated, thus allowing this microphone to pick out specific sounds in noisy environments. Great for interviews in crowded situations, as a camera microphone for electronic news gathering (ENG), for unobtrusive theater sound reinforcement and as a podium mic. Frequency response: 50-20KHz ± 2.5 dB **209.95**
ME66 with K6 Powering Module **429.95**

ME64

Cardioid capsule. Feedback *resistant* due to its well defined directional polar pattern. This feature, as well as its extended frequency response, make this microphone capsule ideal for use in sound reinforcement or recording in noisy environments. Frequency response: 50-20KHz ± 2.5 dB **159.95**
ME64 with K6 Powering Module **369.95**

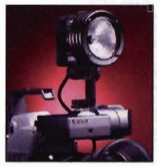
ME62

Omnidirectional capsule. Very broad and smooth frequency response, without proximity effect, its low handling noise and integrated pop screen make it ideal for interviews and live recording. Frequency response: 20-20KHz ± 2.5 dB **139.95**
ME62 with K6 Powering Module **349.95**

lowel®

VIP Video Lighting System

Designed for video, they are capable of 55 to 500 watts of power, can be powered AC or DC, camera or stand mountable. They are all convection cooled and some have adjustable light beam.



i-light

The tiny i-light provides fill light, eye-light, high-lights, and contrast control in news and documentary shooting

- Multi-use halogen source
- 55 or 100 watt, DC powered light (12 or 14 volts)
- Includes cigarette lighter connector or optional 4-pin XLR
- Optional controls include expandable barndoors, scrims, diffuser, dichroic filter, snoot, umbrella, gel-frame, flags.

V-light

Efficient enough to light a small room yet small enough to fit in a large pocket, the V-light can be used as a broad, key light, back light or fill light (with umbrella or gel.)

- Extreme wide-angle multi-use halogen source
- 500 watt. AC powered light
- Mounts on stand, clamps, boom, wall, window, door-top.

Pro-light

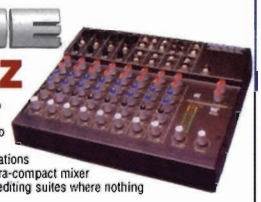
Can be used as a low-level key or accent light, fill light (w/diffusion), backlight or background light.

- Multi-use halogen focusing source
- 125 and 250 watt AC powered light or 100 watt at 12 volts
- Optional controls – expandable barndoors, scrims, diffuser, dichroic filter, snoot & umbrella, gel-frame & flags.
- Optional cigarette, 4-pin and 5-pin XLR connectors.

MACKIE

MICRO SERIES 1202 VLZ

12-Channel Ultra-Compact Mic/Line Mixer



Usually the performance and durability of smaller mixers drops in direct proportion to their price. Fortunately, Mackie's fanatical approach to pro sound engineering has resulted in the Micro Series 1202 VLZ, an affordable small mixer with studio specifications and rugged construction. The 1202 VLZ is a no-compromise, professional quality ultra-compact mixer designed for professional duty in broadcast studios, permanent PA applications and editing suites where nothing must ever go wrong.

BIG CONSOLE FEATURES

- Working S/N ratio of 90dB, distortion below 0.025% across the entire audio spectrum, switchable +48 volt phantom power and +28 dBu balanced line drivers.
- Real switchable phantom-powered mic inputs with discrete, balanced mic preamps as good as those found in big consoles.
- Has 4 mono channels, each with discrete front end mic pre-amp/line input and four stereo channels, each with separate left and right line inputs.
- Every input channel has a gain control with unity at the center detent for easy setup. Also a pan pot, low frequency EQ at 80Hz, high frequency EQ at 12.5 KHz, and two aux sends with up to 20dB available gain.
- Main outputs operate either balanced/unbalanced, as required.
- Switchable three-way 12-LED peak meter displays.
- Master section includes two stereo aux returns, a separate headphone level control, metering and two stereo aux returns.
- Line inputs and outputs are designed to work with any line level, from instrument level, to semi-pro -10dB, to professional +4dB.

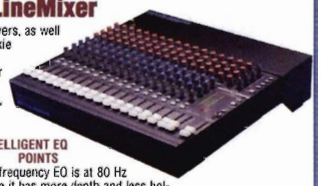
HEAVY DUTY CONSTRUCTION

- Designed for non-stop, 24-hour-a-day professional duty in permanent PA applications, TV and radio station, etc.
- Sealed rotary controls instead of open frame phenolic potentiometers that suffer from dust and contamination.
- Has steel chassis, rugged fiberglass circuit boards and a built-in power supply. Also has exceptional RF protection.

MULTIPLE APPLICATIONS

- Ideal "entry level" mixer for those just starting a MIDI suite
- Ideal as headphone or cue mixer, level matching pro audio "tool kit", drum or effects sends submixer, 8-track monitor mixer.

CR-1604 16-Channel Mic-LineMixer



The hands-down choice for major touring groups and studio session players, as well as for broadcast, sound contracting and recording studio users, the Mackie CR-1604 is the industry standard for compact 16-channel mixers. The CR-1604 offers features, specs, and day-in-day-out reliability that rival far larger boards. It features 24 usable line inputs with special headroom/ultra-low noise Unityplus circuitry, seven AUX sends, 3-band equalization, constant power pan controls, 10-segment LED output metering, discrete front end phantom-powered mic inputs and much more.

LOWEST NOISE, HIGHEST HEADROOM

- With the CR-1604, having the lowest noise and highest headroom (90 dB working S/N and 108 dB dynamic range) at the same time are not mutually exclusive. It is free of commonly encountered headroom restrictions, and is able to handle the occasional pegged input with ease. In fact, many drummers consider it the only mixer capable of handling the attack and transients of acoustic and electronic drums.

CONSTANT POWER PAN POTS

- Only with constant power pan pots will a source panned hard left or hard right have the same loudness as when it is sitting dead center. While most small mixers pass simple balance controls for pan pots, the CR-1604's carefully optimized constant power pan circuitry make it a professional tool with the kind of performance necessary for CD mastering, video posting and other critical audio production.

INTELLIGENT EQ POINTS

- Low frequency EQ is at 80 Hz where it has more depth and less hollow midbass "bonk". Midrange is centered at 2.5 KHz, providing for more control of vocal and instrumental harmonics. A specially-shaped HF curve that shelves at 12 KHz creates more sizzle and less aural fatigue.

REAL MIC PREAMPS

- The CR-1604 has genuine studio-grade phantom powered, balanced input mic preamps on channels 1 through 6. All CR-1604 (and XLR10) discrete input mic preamp stages incorporate four conjugate-pair, large-emitter geometry transistors just like the big mixers use. So, when recording nature sound effects to heavy metal or miking flutes or kick drums, you get the quietest, cleanest results possible.

AZDEN® PRO SERIES VHF WIRELESS MICS

The **AZDEN PRO SERIES** brings you high performance VHF wireless at a price you can afford. Built around a two-channel design they allow selection of a frequency for the cleanest signal - delivering clean, reliable RF performance for up to 250 feet. The Pro Series includes handheld and lavalier mic systems as well as the WMS-PRO which includes a lavalier and handheld mic.

They All Feature:

- All have two switchable frequencies - 169.445 and 170.245 MHz and a range of 250 ft.
- High performance VHF transmitters and receivers incorporating SMD (small mounted device) technology
- Compact receivers which connect to the camera's external mic jack and attach to the camera with supplied shoe mount or velcro
- LED indicators for battery condition, transmit and receive operation

COMPLETE SYSTEMS

WMS-PRO

- Professional VHF wireless system with 250 ft. range
- Two switchable frequencies (169.445 and 170.245 MHz)
- Includes handheld and lavalier mic for extra flexibility
- Compact transmitter attaches to belt or fits in a pocket
- Includes earphone monitor and leatherette carrying pouch
- Battery-powered receiver comes with belt-clip, velcro and shoe mount for added versatility **169.95**

WLX-PRO

- Sensitive lavalier mic with attached tie clip
- Lightweight belt-pack transmitter with two frequencies
- Includes wind screen, earphone monitor, shoe mount and velcro **159.95**

WHX-PRO

- Handheld microphone with built-in transmitter
- Operates on one AA battery for up to 8 hours
- Has a combination on/off-mute switch for quiet switching
- Includes shoe mount, velcro, earphone monitor **189.95**

PRO SERIES COMPONENTS

WL/T-PRO

- Lavalier mic with belt-pack transmitter
- Same as WLX-PRO except without receiver
- Owners of the WHX-PRO can combine the WL/T-PRO and have a complete system of handheld and lavalier mic w/receiver ... **109.95**

WM/T-PRO

- Combine it with the receiver from the WMS-PRO or WLX-PRO and you now have the ultimate quality microphone for interviews or pass around
- 3-position switch for on, off and "standby" for quiet switching
- Choose from 2 switchable frequencies **129.95**

WR2-PRO

- New receiver allows use of any 2 Pro Series mics simultaneously.
- Each transmitter can be 10 to 250 ft. from the receiver or more.
- Size of a cigarette pack the WR2-PRO mounts on a camera with supplied shoe mount or velcro
- Operates on a 9 volt battery and with optional adapters on 12 volt DC or 120 volt AC **199.95**

NRG

POWER BELT SERIES

NRG power belts are the ultimate power solution. They provide the power to run lights, camcorders and decks without the fear of shutdown. Advanced high-density nicad power cells provide the lightest weight and longest service life of any power products made. Innovative features such as dual power outputs, power indicator, removable packs, plus accessories like high-speed chargers, solar panels and high-current cables combine to form the complete power solutions for any kind of users.

880 Power-Pro +

- High capacity quick-charge capable 12-volt 10-amp sintered nicad power pack (removable).
- Power chassis with dual 3-pin XLR inputs allows for pack interchange without shutdown
- 2500-cycle cell life provides lowest cost per cycle.
- Microprocessor-controlled 5-step multi-color power indicator display.
- Belt with cellpack weighs only 4.9 lbs for all day comfort.
- Dual outputs allows simultaneous powering of two devices (eg. camera and light). Output configurations include cigarette lighter and 4-pin XLR in any combination.
- Charge in under 2 hours with the optional 650-III charger.
- Includes Power-Pro+ belt and power chassis, 12-volt 10-amp cell pack, model 600 overnight charger and comprehensive owner's manual. Fits waist size 30"- 40". (Available in large size 40"-52" if needed).

970 Power-MAX

Same features as 880 Power-Pro + Belt ***Plus–***

- Highest capacity quick-charge capable 12 Volt 14-AMP sintered nicad power pack (removable).
- Rugged high-grade, black leather belt case; chassis assembly with dual 3-pin XLR inputs for pack interchange without shutdown.
- Belt with cellpack weighs a comfortable 7.5 lbs.
- Includes Power-MAX belt and power chassis, 14-amp cell pack in 12V or 13.2 volt configuration, model 600 overnight charger, comprehensive owner's manual. Fits waist size 29"-44"
- Also available in 13.2-Volt 14-amp version. The 13.2-Volt version offers 15-20% longer runtimes because industrial VCRs shut off at higher voltage levels. By not shutting off the Power-MAX is allowed to fully discharge, thus the longer running time.

VARA-LITE PRO

Professional DC On-Camera Light

The revolutionary new NRG Vara-Lite Pro combines the ruggedness, light efficiency and versatility of NRG's best selling Versalight Pro (DC only) with a sophisticated electronic light management system. Thanks to on-board control IC's using NRG's Light-Gate technology, light intensity can be infinitely adjusted by the user within a range of 10% to 100% of the lamp's rated power. Now instantly adjust light output to exactly meet changing light requirements. Best of all, the Vara-Light Pro virtually eliminates color shift and dramatically conserves precious battery power by using only the power required for the selected light level.

- Accomodates bulbs from 20W to 100W OC.
- Prismatic dispersion grid provides smooth even light ouput and reduced glare without changing light intensity.
- Sturdy all-metal click tilt mounting bracket with ratchet action. Eliminates shake under action shooting conditions.
- Optional barn doors enhance light control capabilities.
- Front retainer assembly pops off for instant bulb access without the bother of screws.
- Rugged milled aluminum light head disperses heat and provides years of service under adverse conditions.

POWER STATION-2 SERIES

Just plug the PowerStation-2 into any AC outlet in the world and out comes perfectly regulated 12-volt DC power through four 4-pin XLR connectors and one cigarette lighter connector. It uses an advanced pulse-width-modulated power supply which allows for ultra-light weight and small size. It operates with little heat even at full output. The PowerStation-2 is the ultimate multiple-output professional power source for cameras, decks, lights, monitors, and a host of other video accessories.

- 85-264 volts worldwide auto-adjusting input (just plug in).
- Supply is fully protected from overcurrent.
- Ultra-light weight - under 3 lb.
- Outstanding 300,000 hour mean time between failure is far in excess of any other manufacturer.
- Ultra-efficient PWM regulation generates far less heat than linear type supplies.
- Provides the ultimate in performance and reliability in a universally compatible and compact package.

ALL ITEMS ARE COMPLETE WITH ALL ACCESSORIES AS SUPPLIED BY MANUFACTURER

FOR INFORMATION CIRCLE 129

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256 x 36	100 - 60ns (1MB Simm)	35
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68030@25Mhz CPU w/MMU
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Only 299.00
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CSA DERRINGER+ ACCELERATOR

68030 running @ 33MHZ with MMU &
68882 running @ 33MHZ (Included free) **349**
1Megabyte of 32bit ram (remap kickstart)
Install up to 32MB of 72 pin industry standard ram to come standard with the modification to work with the DKB Megachip (a $25.00 value if purchased seperately)

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68030 running @ 50MHZ with MMU
68882 running @ 50MHZ (+75) **349**
1Megabyte 60NS 32bit ram (remap kickstart)
Install up to 32MB of 72 pin industry standard ram
Ours is the only one to come standard with the modification to work with the DKB Megachip (a $25.00 value if purchased seperately)

4MB - 399 8MB - 499 16MB - 699 32MB - 999

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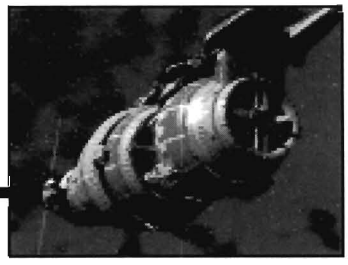

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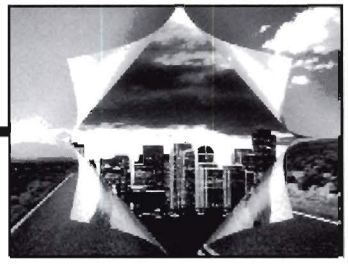

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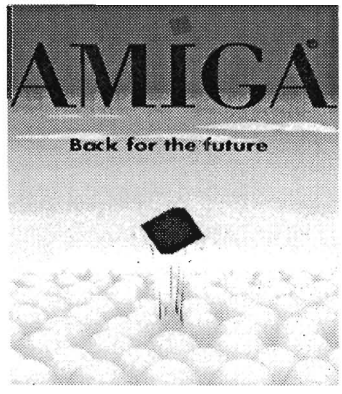

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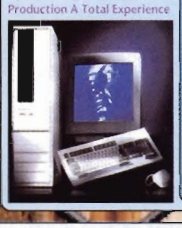

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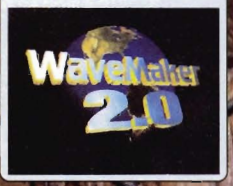

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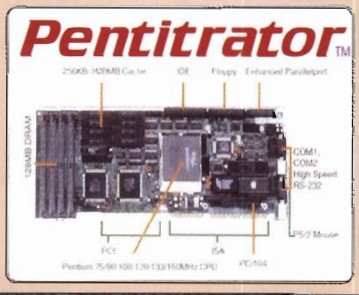

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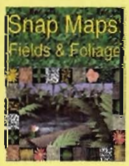

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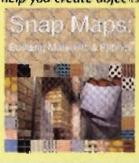

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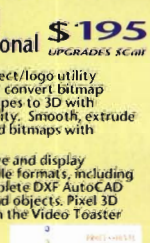

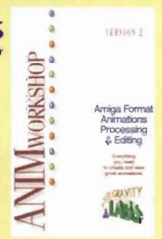

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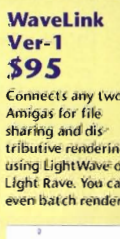

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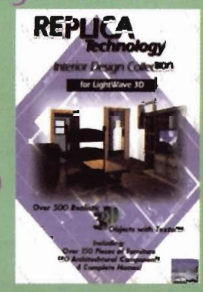

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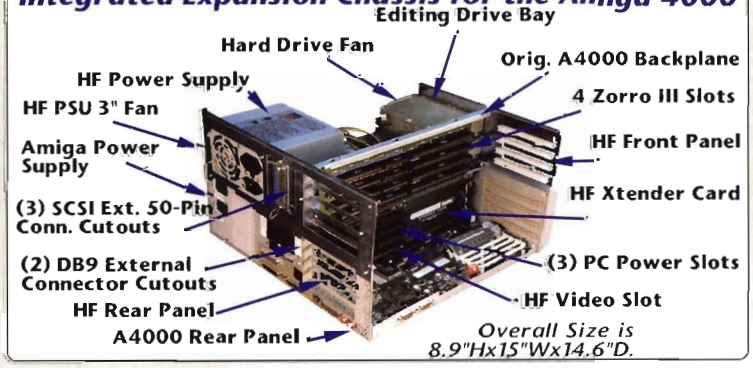

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LAST WORD

Unlearning To Succeed

Pitfalls Of The Old College Try

by Mojo

During a key scene in the obscure foreign film *The Empire Strikes Back* (it was made overseas, after all), the Jedi Master Yoda is doing his best to instruct a young Luke Skywalker in the ways of the Force. However, as a precursor to teaching him new skills and ideas, Yoda stresses that Luke must "unlearn what he has already learned."

Obviously, Yoda knew that many of his lessons would conflict with Luke's existing ideas about life, the universe and everything. In order to truly embrace and act upon new philosophies, one must be willing to purge (or at least revise) old ones. By the time *Return of the Jedi* rolled around. Luke had finally learned to do this and became a Jedi Knight.

"... you can take less than half a year's tuition at an average school and buy yourself everything you need to learn at home."

One lesson that is very difficult for the average, young American to unlearn is *not going to college will make you a failure.* We are all taught (in many ways) that unless we go to college and get a degree, we will never get a good education, we will never be eligible for a good job, and we will not have a happy life. This, simply put, is B.S. It is a lesson everyone must learn to unlearn.

I currently enjoy great success working in Hollywood as a special effects jockey on a popular prime time TV series. I make lots of money, have a nice car and girls follow me everywhere (well, two out of three). More or less, this is the American Dream. And you know what? I'm a college dropout! I never got a degree, a diploma or any other $50,000 piece of paper to tell the world that I was useful. In fact, I never even *touched* a computer the entire time I was in college. So there!

Everything I learned about computer animation I learned at home. My friend Marc sold me his old Amiga 1000 (after I had drooled over the pictures I had seen in his Amiga magazines), and I just started learning computer stuff. As I got more into it, I eventually moved up to a 2000 and then a 3000, and from DPaint to Imagine to a Toaster.

I taught myself how to animate and, after a series of events that have already been documented in this column, I wound up working on *Babylon 5*. Not because of a fancy degree, not because of my college-trained animation skills, but because of simple, old-fashioned hard work and dedication.

If you really want to, you *can* learn how to animate in school, but that requires a lot of unnecessary spending to have someone teach you. A few years ago, you almost *had* to go to school to learn because that was the only way you could get access to the expensive equipment. That's all changed now!

Thanks to new technology (and software like LightWave), you can take less than half a year's tuition at an average school and buy yourself everything you need to learn at home. In a few years, when you're ready, simply send out a reel of your fantastic work, and bingo! Start a new job and a new life as a professional. Trust me—it really works!

Of course, I'd be a fool to say that college was a useless endeavor. It certainly has much to offer under the right circumstances. Some people may have trouble learning by themselves, so the structured environment provided by a school may be the key for them to get ahead. Others may not be sure what they really want to do, so school is an opportunity to better understand what working in a particular field actually entails. Last but not least, school is—without a doubt—the *best* place to meet girls.

Even though I didn't go to college for computer animation, I did go to study film (and girls). In the long run, I wound up discovering that my education in film school was the perfect compliment to my animation studies.

Without a solid understanding of composition, lighting, editing and storytelling, I doubt anyone could achieve success as an animator. Sure, I taught myself how to use the computer—but what to do with it—how to make a movie —was an entire education unto itself.

Unfortunately, after three years, I ran out of money and had to drop out. Everyone told me that, unless I eventually went back and got my degree, I would never amount to anything. What they didn't understand is that no one in any art field gives a damn about your degree—all they care about it was you can *do*. You want to be a writer? Let's see your script. You want to be a photographer? Let's see your pictures. You want to be an animator? Let's see your demo reel. It always comes down to the same thing. I could have dropped out of high school, and no one I have ever worked for would have ever known, or cared.

In the end, even to be an artist, you *absolutely* do need an education. However, whether you get it at home, at school, in the workplace or through a combination of these is up to you. Just don't let anyone tell you that college is the *only* answer. If you find your parents or friends giving you a hard time, just close your eyes, imagine that you're Luke Skywalker and *unlearn*.

VTU

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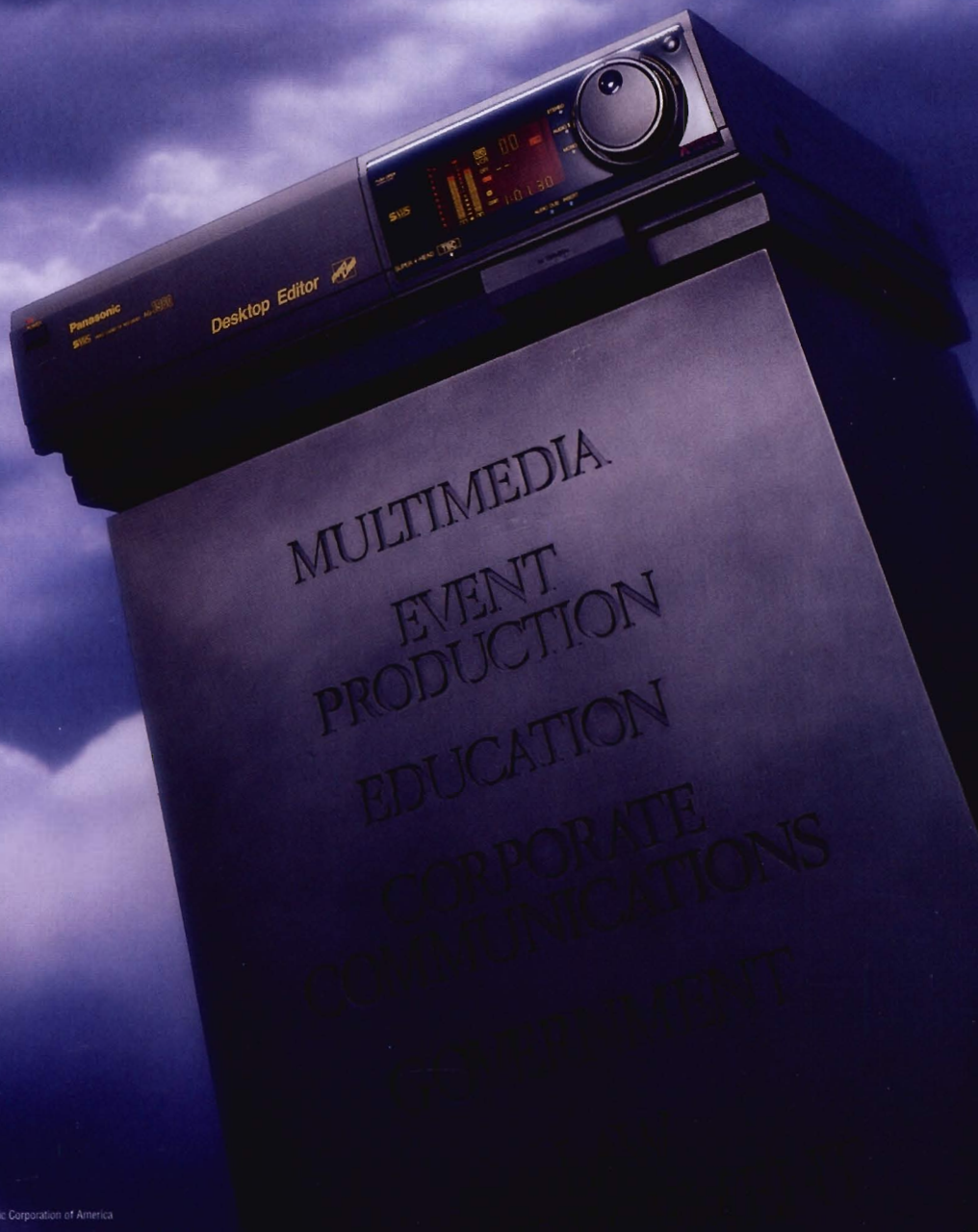

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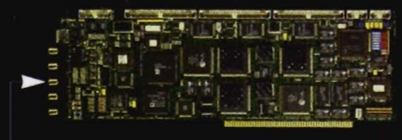

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