

# VIDEO TOASTER USER

an Avid Media Group, Inc. Magazine

THE PERSONAL VIDEO PRODUCTION MAGAZINE

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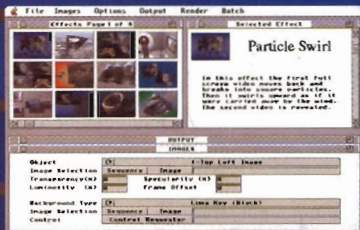
## Break Out!

- **Video Flyer Ships!**
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- **Toaster System 4.0**
- **Video Toaster Expo '94**
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#### **Video Toaster User**

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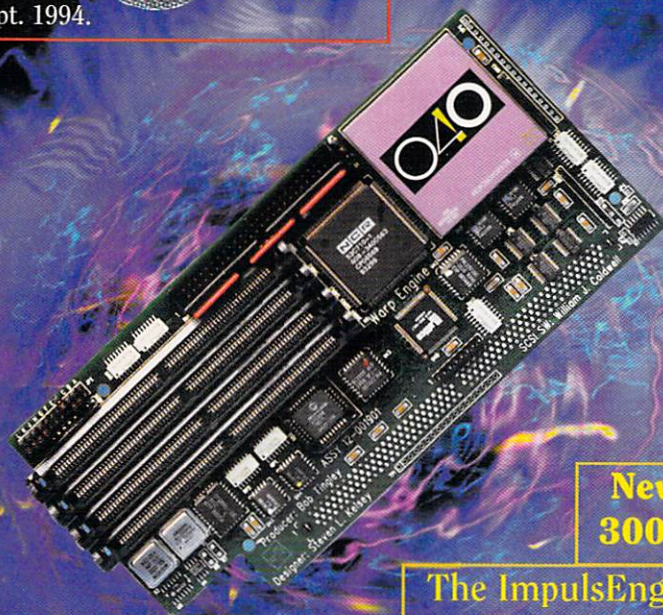
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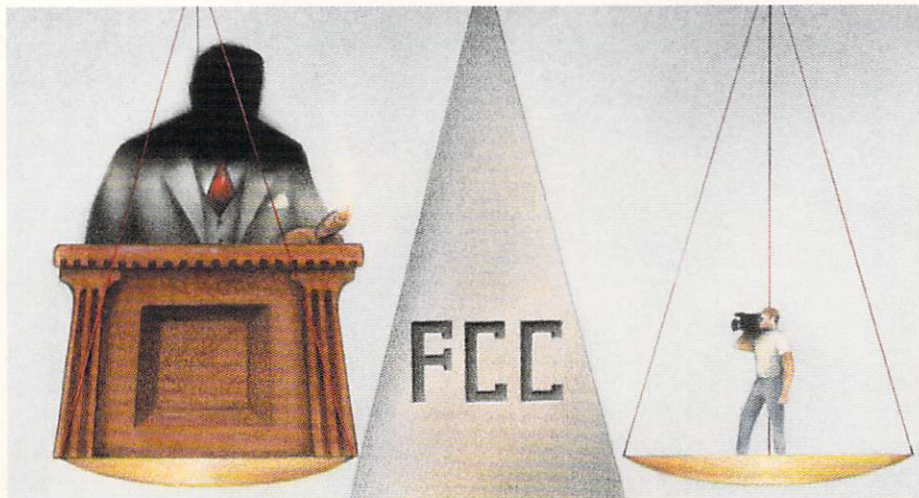
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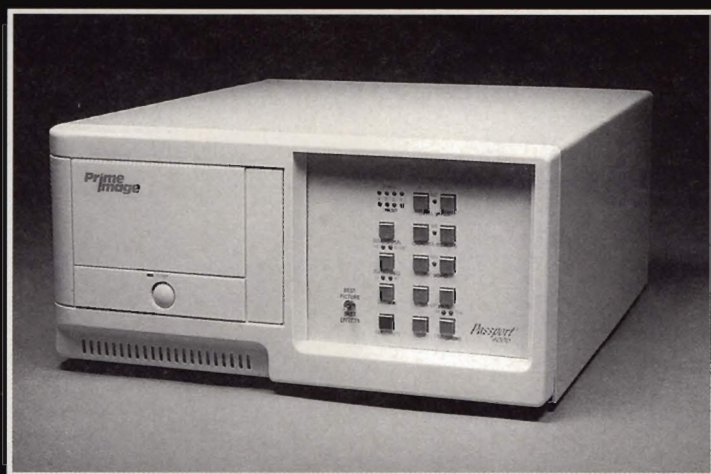
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THE PERSONAL VIDEO PRODUCTION MAGAZINE

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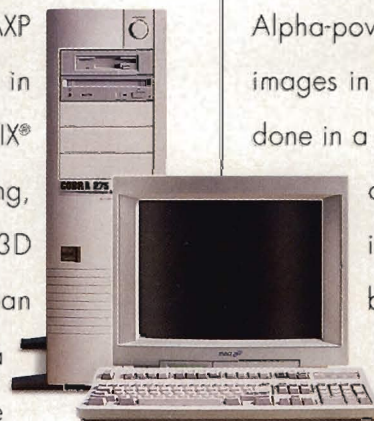




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# TOASTER TALK

## NewTek Upgrade Mania

Toaster System 4.0, Flyer and LightWave 4.0

by Jim Plant



# A

lthough NewTek released an unbundled version of LightWave 3D for the Amiga last summer, the last 12-15 months have been relatively slow (at least in terms of significant product releases). All that is about to change. In the two-month period of December 1994-January 1995, NewTek will ship several important products, including the Video

Flyer, Toaster System 4.0 and new versions of LightWave that run on computers powered by Motorola, Intel, MIPS and DEC Alpha processors. In addition to these impending releases, NewTek is also hosting the first-ever NewTek developer's conference, and co-sponsoring the inaugural Video Toaster Expo (see the Video Toaster Expo Show Guide in this issue). To say the folks out in Topeka are busy is a huge understatement.

At press time, the first Flyer beta units are shipping to dealers and developers. NewTek expects to have all beta units (about 175 units) shipped before the end of November. Volume shipments, including the almost 2,000 units that were pre-ordered (with deposits) back in July, should begin shipping around mid-December.

A few weeks after the Flyer begins shipping, NewTek will release a major system software upgrade for Video Toaster users. Purchasers of Toaster System 4.0 (TS 4.0) will have the option of installing the upgrade from a single CD-ROM disk or 60 floppy disks. (Hmmm...could there be a CD-ROM drive purchase in your future?) So, what new features do you get with TS 4.0?

### Switcher:

- Ability to edit projects
- Visual Framestore representation
- CG pages directly available to Switcher
- Ability to sequence Framestores and CG pages
- Paint graphics now appear as croutons
- New file management utilities
- Over 100 new effects

### ChromaFX:

- Unlimited number of effects saved as croutons in projects

### ToasterCG:

- Ability to rotate, resize and shear text
- Unlimited CG pages stored independently
- Auto-sequencing of CG pages
- Extensive ARexx controllability
- Improved brush preview operation
- Spell checker
- Haiku generator (ARexx-formatting sample program)

### ToasterPaint:

- All-new interface
- Full-screen, full-color paint (with Amiga 4000)
- High-performance airbrush
- Stencil
- Alpha channel
- Alpha channel painting
- New color editing with HSV color wheel
- Postscript text support including rotate, resize and shear
- New ARexx macro interface
- User-definable palette
- Improved tools for range painting
- Improved global flood fill

### LightWave:

- Surface sample sphere display (HAM, DV1 or Picasso)
- Basic inverse kinematics
- "Unaffected by Fog" option for objects
- "Unseen by Rays" option for objects
- Improved shadow mapping and soft filtering
- Anamorphic option for NTSC widescreen or CinemaScope
- Item selection by clicking in LightWave view

### Modeler:

- Enhanced control of Bones
- Multi-level undo and redo

Toaster System 4.0 software will list for \$595. Call your local dealer (or call NewTek for your nearest dealer) for more information.

As mentioned in last month's "Toaster Talk," if you are purchasing the Video Flyer, you automatically receive the Toaster System 4.0 software. But the Flyer hardware also activates these additional TS 4.0 features:

- Load and save Flyer video clips in LightWave
- Rotoscoping with ToasterPaint on Flyer clips
- Batch image processing
- Live video in and out of LightWave 3D
- Single-frame animation control of Flyer
- Create custom DVEs with LightWave
- Stop-frame animation
- High-speed Framestore access
- Time-lapse photography

### CD-ROM Option

Like Toaster System 4.0, the Flyer software will also ship with the option of CD-ROM or floppy disk instal-

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# TOASTER TIMES

## Commodore Update

Jim Plant

**O**n Nov. 7, the liquidator handling the case of Commodore and a group headed by Creative Equipment International (CEI) President Alex Amor met in Miami and (according to Amor) reached a verbal agreement to sign a contract for the purchase of the assets of Com-

modore Electronics Limited. On Nov. 8, Amor said, "We reached an agreement and expect to sign the contract at the end of this week or early next week." According to Amor, other bidders, most notably the Commodore-UK management group headed by David Pleasance, would have up to three weeks to

respond and counter CEI's agreement. "At the end of that three weeks, all interested parties will get together in a room and finalize the deal," he said.

While expressing caution that "this is by no means a done deal; anything can go wrong," Amor said, "I see no major obstacles that will prevent

us from purchasing the Commodore assets and resuming production." Amor said that he had alerted his unnamed U.S. manufacturing partner to begin preparations to produce new Amigas.

Amor has accepted an invitation from Avid Media Group, Inc. to address attendees of the Video Toaster Expo 1994 held on December 14-15 at the Universal City Hilton and Towers in North Hollywood.

For more information on VT EXPO '94, contact Avid Media Group, Inc. at (800) 322-2843.

## Making a Splash with Toaster Effects

Corey Cohen

**Y**ou're a director or ad agency in search of some nifty visuals for your next shoot. Unnecessary costs are as desirable as nuclear winter. When an animator offers you the same great effects for thousands less than his competition, who are you going to sign a contract with?

Supplying a lower-cost alternative to Silicon Graphics Inc. (SGI) effects via his Toaster is Jim Carbonetti Jr.'s passion. The owner of SteadyGlide Digital in Montrose, Calif., Carbonetti recently exercised his burgeoning skills while working on a recent television commercial for Foster's Freeze Food and Fountain, a fast-food chain based in the Western United States.

Providing assistance on the promotion was Ken Wilder, head animator for Marmalade Productions and president of the Los Angeles Video Toaster Group. Soon after Wilder told Carbonetti about the restaurant's open call to advertising agencies to create a new campaign based on its "Big Splash Combo," the two began conceptualizing the finished product.

"When I first heard about the commercial, I saw it as a challenge," said Wilder. "There were no storyboards, no set

ideas." Both men were excited about the creative flexibility Foster's offered them.

A variety of programs and equipment was eventually used to realize a scenario in which a main character dreams about an animated hamburger, fries and soft drink that race down a live-video waterslide. Brilliance 2.0 was utilized for rotoscoping and to depict a cartoonlike bubble coming from the real-life character's head. Most of the objects were created in LightWave 3D, then digitally composited with footage of Carbonetti shot while descending a waterslide. The footage

was grabbed on Digital Processing Systems' Personal Animation Recorder, edited in time, and synchronized to Studio 16 audio board. Wilder used Forge to create some of the textures on the hamburger, and Image FX 1.5 was used in compositing and to create texture maps.

Feedback from Foster's was good: the company's CEO and others were happy with the commercial's look and price. It started airing on MTV, Nickelodeon and the USA Network in early September and was still appearing as late October. Plans for Carbonetti and Wilder to work on several more Foster's com-



In this image from Carbonetti and Wilder's Foster's Freeze commercial, a hamburger constructed with LightWave and Forge plummets down a waterslide.



mercials—which will likely use LightWave—are now in the preliminary stage.

Though the two men are hardly strangers to television—Carbonetti directed and Wilder was head animator on 27 episodes of the Sci-Fi Channel's *Mysteries From Beyond the Other Dominion*, for example—there is pride invested in every project.



A LightWave soda takes the plunge.

"Seeing your work on TV validates it," said Carbonetti. "You'll be watching a show and see something vaguely familiar....It's bizarre. From PAR to air."

Wilder shared his partner's enthusiasm. "I was at home one day watching TV with some friends when it came on. I jumped out of my chair and yelled, 'That's my commercial! That's my commercial!'"

Wilder and Marmalade Productions are currently working with NewTek to implement interactive stations throughout the country using the company's technology.

Unlike Wilder, who has been working with the Amiga for more than six years, Carbonetti purchased his first Toaster just last February, with the intent of learning to economically produce his own television shows.

Energized by recent attempts to duplicate Tom Hanks' SGI-aided ping pong scene in *Forrest Gump* (the actor was actually hitting matted-in balls) using the Toaster, Carbonetti was outspoken about his confidence in the system's capabilities.

"The Toaster unveils a lot of opportunities if you use it right. I'm trying to tell companies that are sold on SGI that the Toaster can do the same damn thing," he said.



# The Way I See It

## The Moral of the Story



Mike Danger

And like a good neighbor (sorry, Allstate), this column is there every month with more good things than are found in the new and highly overinflated Wonderbra. So here we go again with more toasty news than you can shake a lighted artificial fireplace log at. Thanks for flipping to this section of the magazine and continue reading for more fact and fiction.

Concerning the latest rumors on the Amiga 4000 machines and their availability, it seems that the banks have put a freeze on all machines belonging to Commodore USA to come up with some amount of worth for the remaining inventory. Machines have been trickling from the Philippines, Sweden and other overseas stockpiles. Charles Hill and Intelligent are refurbishing all the available 2000 through 4000-used machines to help keep the Toaster and Flyer from becoming homeless.

From my Toaster tip toolbox comes this tip and horror story. With the Amiga, Toaster and Flyer being birthed from electronic stock, these components need cleaning and maintenance. Floppies, hard drives and circuit boards can suffer damage from smoke, moisture, dust, and all those "I don't know how that got in there" foreign materials. Case in point: I recently purchased a new Amiga machine for a client from Sweden. Much to the dismay of the client, this blind columnist made a vain attempt at installing the appropriate cards, chip RAM and drives. Upon putting the first disk in, there was a crunch in the floppy drive that would have woken Rip Van Winkle from a deep sleep. The machine would not

read the disk. After butchering my personal machines to salvage a floppy drive and this relationship, I sent the new Toaster owner happily on his way. Embarrassed but not taking the used car dealer-way out in pleasing this new Toaster user, we proceeded to dissect the now sloppy floppy drive. Guess what we found? (I'll pause for a moment while you pencil your guess.) It seems that the dust and even one of those peanut-shaped packing material pieces had done a Houdini trick and somehow managed to plug up my drive. The moral of this story is that no matter how

much you care for your equipment, every so often you should have someone qualified take a soft-haired parts brush and clean your machine's internals. By the way, if anyone needs a

3.5 floppy drive, give me a call. Get that Dustbuster out and have at it.

Heavy phone sessioning has reunited me with one-time NewTekkie Ron (minus Roy and the Tigers) Siefried, who has left Kansas to transplant his roots in New York at Armato's Pro Video. Besides his storely chores, Ron is working on a pilot for ABC with the same people who brought the *Max Headroom* series to life. This project will be called *Girlfriends*, and if picked up will feature Ron's LightWave handywork. Be watching for this one, for if I know Ron, it's sure to be a winner.

This month's Toaster pro is Eric Cancagni from Pensacola, Fla. This Amiga genius, who is in desperate demand by local dealers, is a student at the University of West Florida. Eric switched his major from computer engineering to video production. His first encounter with VHS production left



Framescore of the Month goes to Eric Cancagni.

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# Learning Football with the Toaster

Joan Burke

**T**he Super Bowl is drawing near and thousands of men will soon be visually attached to their television sets. These football fans will also have women by their sides, some of whom have no understanding of football and could probably benefit from an instructional video featuring Toaster-produced animations.

Brett Roth, owner of Basic Football Productions Inc., a production company formed to make basic football videos, came up with the idea of making an instructional video about the game of football geared toward women.

"I thought of it [the idea] last November while watching a [Green Bay] Packer game," Roth said.

Roth did extensive research and found that 85 million women have not learned football and 70 million women do not know how many points a field goal is worth. "In spite of that, football is the most popular sport among men and women," he said.

With those statistics in mind, Roth set out to produce a video that would teach people the basics about football. He thought it would be helpful to incorporate 3D animation within the video. Unfamiliar with the animation field, Roth sent a representative to buy computers that do 3D graphics. A clerk at the store gave the representative a Sik Puppy Studios business card.

## Sik Puppy Studios

Sik Puppy Studios, a 3D graphics company in Milwaukee, eventually

received the job. The company consists of owners Randy Berdan and Neil Biondich, and rendering assistance is provided by Shanti Traskowski of Eclipse Imaging. Using an Amiga 2000 with a GVP '040 33MHz accelerator and an A4000 with 18MB of RAM, Sik Puppy Studios provided different levels of 3D graphics for Basic Football. "We came up with three minutes of animation," said Biondich. "For each segment we did a 10-second introduction. There were

is a hair-pulling process mainly because LightWave does not have inverse kinematics at the moment," Biondich explained.

## The Experience

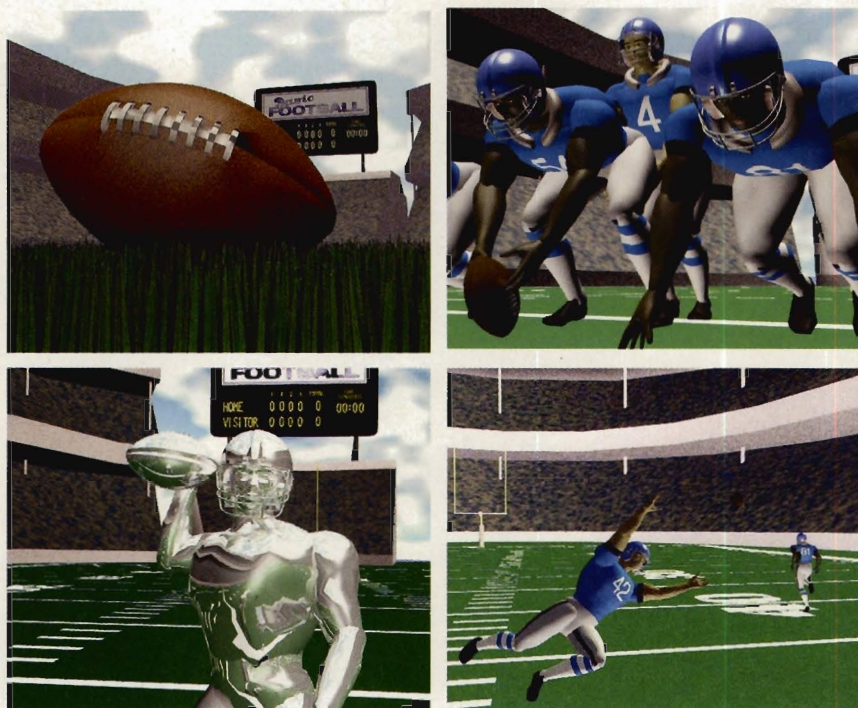
Although it required countless hours of work, the Sik Puppy Studio animators said the project was worth the effort. "It [the experience] was good because we never had to do character generation before," Biondich said. "If I could have asked for anything it would have been more time. We didn't have very long to do it." The time frame was six weeks to conceptualize, build and render more than three minutes of video.

## Upcoming Projects

Sik Puppy Studios is currently working on a comic book. Artist Dan Broderick is doing the pencil and ink illustration and then the animators will colorize it on the Amiga. "It is a unique approach to comic books where each segment of the page is going to be laid out in 3D and we'll shoot a still of it," said Biondich. Also in the works for Sik Puppy

Studios is an accident re-creation, which will feature a collision between two cars using fog effects in LightWave and painted fall off brushes. All of the work at Sik Puppy Studios is done with the use of the Toaster. According to Biondich, "the Amiga is by far my favorite computer. It's the most versatile."

Basic Football, a 40-minute video starring Burt Reynolds (and featuring graphics by Sik Puppy Studios), is now available.



Sik Puppy Studios created 3D graphics for Basic Football, a 40-minute instructional video.

simple flying logos like 'Blocked,' 'Kicked,' and 'Penalties.'"

The core of the project was the character animation.

"We modified the humanoid man to create the football players and built the football field and stadium from the ground up, so to speak," Berdan said.

Not only was character animation a bulk of the completed work, but it was also the most difficult to accomplish.

"Making the humanoid go from the walk to stand position or stand to walk



# News & Notes

## Help With Animated Productions

A new video service presenting television news and art departments, production and post-production companies, ad agencies and others with the opportunity to save time and money on animated productions has emerged.

Urban Interactive's service, "Completely Creative Backgrounds," is based upon state-of-the-art, computer-generated libraries for production. The company offers complete libraries by category, such as ripples, wipes and spins, as well as library-building and custom creation services in different formats. All copyrighted backgrounds are provided with full rights for unlimited use. Prices range from \$300 to \$3,000 for complete libraries.

For detailed information on all services or obtaining a demo tape, contact Charlotte Mitchell or Vincent Hollier, Urban Interactive, 5110 Goldleaf Circle, Ste. 292, Los Angeles, CA 90056, (213) 292-8093.

## Sundance Acquires System

Sundance Digital Inc. has acquired the marketing rights to the Sundance System software/hardware, formerly marketed by Sundance Technology Group.

The Sundance System is a powerful integrated video logging and editing software/hardware package for use with the Macintosh. The System derives its power by combining an intuitive logging program with a powerful and easy-

to-use editing program. The System also provides an easy upgrade path to non-linear, using Sundance's RADIO non-linear editing engine.

Sundance Digital Inc. is an international supplier of video and audio solutions, providing off-the-shelf products as well as custom-designed digital network systems. The company's focus is on the development and marketing of user-oriented solutions that integrate video, audio, graphics, and data delivery and interchange, utilizing both present and emerging technology.

## Recognition for Pinnacle

Pinnacle Systems was recently awarded an Emmy for outstanding achievement in the science of television technology by the National Academy of Television Arts and Sciences. The company was recognized for its address compression technology, which enables real-time mapping of video onto sophisticated 3D animated models created in post-production (a previously prohibitive process from both a cost and technology perspective).

The Emmy is the second for Pinnacle, which received one in 1990 for pioneering the video workstation concept. The company is one of 15—a group including Kodak, Panasonic and Sony—to receive multiple technical Emmys since the commencement of the awards in 1946.

*Compiled by Joan Burke and Corey Cohen*

The Way I See It continued from page 9

this career student with a hunger for more. Although the school has a Toaster, it seems that hardly anyone has mastered the on-off switch on the back. Immediately after finishing his introductory video classes, Eric became part of the Nautilus News TV team on local cable access. His LightWave and Toasterized graphics began appearing on the school project soon after, giving the show the professional touch it needed. Besides his love for computers and the Toaster, his time is spent producing his own music for these video efforts. By the way, some of Eric's work has appeared regionally in magazines and in TV commercials, even though he is too modest to brag about it.

Presented for your viewing enjoyment is Eric's graphic as framegrab of the month. Believe it or not, his station

logo took a matter of minutes using ToasterPaint. Keep up the good work, Eric, and if I had my way I'd be willing to bet you'd be teaching that class soon.

Even though I'm not a Toaster tech, I play one in this column, so let me remind you of the Video Toaster Expo in Los Angeles from December 11 through the 15 at the Universal City Hilton and Towers. I'll be there, so who knows—maybe I'll be fortunate enough to trip over you. Upon closing let me wish you Happy Holidays and a Merry New Year. Drop me a line at:

Rockasaurus Productions  
Dept. ICU  
6706 N. 9th Ave., Ste. B5  
Pensacola, FL 32504  
(904) 479-0305

WU



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FOR INFORMATION CIRCLE 111



# NEW PRODUCTS

Compiled by Joan Burke and  
Corey Cohen

## Drive-In

### Taking a Drive

Product: DRIVE-IN

Description: Video Toaster Flyer support product

Price: \$495

Desktop Video Systems

14121 West 95th St.

Lenexa, KS 66215

(913) 782-8888

Fax (913) 492-6908

The *DRIVE-IN* is a hard drive expansion system for use with the Video Toaster Flyer and other nonlinear-based editing systems. The system includes a custom-built, FCC-certified hard drive enclosure and power supply that can support several Flyer-compatible hard drives. It is available as either a bare bones enclosure or a delivery-ready preconfigured system with preformatted hard drives and cabling. Several models of the *DRIVE-IN* are available to the video pro-



fessional for configurations ranging from low-budget desktop to high-end rack-mount applications. Internal CD-ROM drive options can be purchased for use with Flyer software. An optional 6 x 50 Centronics adaptor kit that will allow for up to six 50-pin Centronics connectors (used to provide a complete solution for connectivity and pass-through for all three SCSI controllers used with the Flyer) is also available.

**FOR INFORMATION CIRCLE 1**

### Enhancing Adaptors

Product: YCP-GA, YCP-GA-C

Description: Graphics adaptors for the Amiga

Price: \$99 each

Y/C Plus, Inc.

310 S.W. 6th Ave.

Topeka, KS 66603

(800) 586-1700

Fax (913) 235-3485

Y/C Plus, Inc. has released two video graphics adaptors



for the Amiga. The *YCP-GA* converts the Amiga RGB (monitor output) to high-quality Y/C (S-Video), allowing animators the use of larger monitors to visually enhance detail. When used with a YCP-100, the adaptor

allows routing of the Y/C signal through #2, #3 or #4 inputs for easy Toaster training. The *YCP-GA-C* converts Amiga RGB to full-color composite out, and can turn any Amiga into an economical Character Generator.

**FOR INFORMATION CIRCLE 2**

### Virtual CD-ROMs

Product: Virtual World

Description: CD-ROMs

Price: Starting from \$149.95

Nippon General

Nagoya, Showa-ku, Gokiso

3-16-15, Japan, 466

81 (52) 871-9616

*Virtual World*, a set of CD-ROMs released by Nippon General, is now available.

The discs contain wire frame models, textures for surface mapping, background art and a variety of sound effects. Disc one, "Wired Reality," features several detailed 3D wire frame models for use with

LightWave. Categories include plug-in effects, science, medicine, landscape and more. Disc two, "Mapped Out," includes a number of high-quality seamless textures for surface mapping. Maps include Hollywood-style building fronts, walls and floors, and even foods. Disc three, "Climates," features background art for multimedia presentations. "Textures Sounds," disc number four, highlights MIDI files, musical instruments and sound effects. These CD-ROMs are sold individually or as a set.

**FOR INFORMATION CIRCLE 3**

### Fancy Photorealism

Product: World Construction Set

Description: Modeling software

Price: \$250

Questar Productions

1058 WCR 23 1/2

Brighton, CO 80601

(303) 659-4028

Questar productions has announced the release of *World Construction Set* (WCS), computer terrain modeling software. This software uses an ecosystem modeling approach and combines familiar 3D imaging techniques with nature's own process to deliver scenes with lifelike detail. WCS features a powerful renderer that produces photorealistic images. Also included with the system is a geographic information system database, using real-world coordinates and allowing for an unlimited number of



objects. The flexibility enables accurate depiction of landscapes and vector information at any scale.

**FOR INFORMATION CIRCLE 4**

### Practical Fractal

Product: FractalPro Image

Library Vol.1

Description: CD-ROM

library

Price: \$59.95

MegageM

1903 Adria Ave.

Santa Maria, CA 93454

(805) 349-1104

MegageM has released *FractalPro Image Library, Vol. 1*, an Amiga CD-ROM with more than 350 fractal art images and several VistaPro DEM files of fractal objects. This CD-ROM features easy access to all IFF images via drawer and direct view icons. The library is organized as sets of 16 images, each with thumbnail images showing all 16 images in one set. Besides fractals, the library





also includes stereoscopic 3D fractal-wrapped spheres, landscape images, video overlays and even human faces. Also included in the library are 19 zoom sequences of 10 kinds of fractals with magnifications of up to 100 trillion. Almost all of the GIF images may be used royalty-free.

**FOR INFORMATION CIRCLE 5**

### Looking Into LightWave

Product: "LightWave on Location"

Description: Technical book on LightWave 3D

Price: \$59.95

New Era Press

23120 W. Lyons Ave. #5252

Santa Clarita, CA 91321

(805) 259-0821

New Era Press has announced the release of "LightWave on Location," an in-depth tutorial and production manual for NewTek's LightWave 3D. This complete reference is geared for all LightWave enthusiasts, from beginner to advanced. Covered topics include Quickstart basic tutorials designed to help novice modelers and animators acquire basic LightWave skills. The manual also features theories of 3D fundamentals, including lighting, color, motion, scene design and directing techniques as they relate to LightWave. Included in the advanced sections are complete explanations and tutorials on all of LightWave's functions and complete production examples from storyboard design to client meetings.

**FOR INFORMATION CIRCLE 6**

### Speedy Rendering

Product: Cobra AXP 275

Description: Rendering and graphics workstation

Price: starting at \$9,587

Carrera Computers

23181 Verdugo Dr., Ste.

105A

Laguna Hills, CA 92653

(714) 707-5051

Fax (714) 707-5053

Adding to its line of Cobra AXP systems, Carrera Computers has released the *Cobra AXP 275*, a rendering and graphics workstation. By using the Alpha 275 MHz CPU, the Cobra AXP 275 speeds up animation requirements. The Cobra AXP 275 can be directly connected to the Amiga system with the built-in Carrera Computers network card. The Cobra AXP 275 is currently shipping with ScreamerNet and will have an upgrade path program



for the Alpha LightWave software when it becomes available. The Cobra AXP 275 also works with several different applications, including Caligari Truespace, Real 3D, BlackBelt and more.

**FOR INFORMATION CIRCLE 7**

### Learning from the Pros

Products: *Shooting for Realism with Allen Daviau and Sacha Vierny*, *Shooting for Drama with Robby Muller and Peter James*, *Shooting for Black and White with Allen Daviau and Denny Lenoir*, *Shooting for Fantasy with Sacha*

*Vierny and Denny Lenoir*

Description:

Cinematography training videos

Price: \$89.95 each for schools and corporations, \$49.95 for individuals

First Light Video Publishing

8536 Venice Blvd.

Los Angeles, CA 90034

(800) 777-1576

Fax (310) 558-7891

First Light Video Publishing has recently added four new programs to its series of titles showing some of the world's finest cinematographers in workshop settings: *Shooting for Realism with Allen Daviau and Sacha Vierny*, *Shooting for Drama with Robby Muller and Peter James*, *Shooting for Black and White with Allen Daviau and Denny Lenoir* and *Shooting for Fantasy with Sacha Vierny and Denny Lenoir*. The 55-minute tapes are designed to guide viewers through lighting problems and their solutions, while comparing different approaches to these problems. The programs were produced by the Australian Film, Television & Radio School.

**FOR INFORMATION CIRCLE 8**

### Look It Up

Product: "The Professional Video SourceBook, Second Edition"

Description: Catalog of video needs

Price: \$3.95

B&H Photo-Video

Dept. 9938

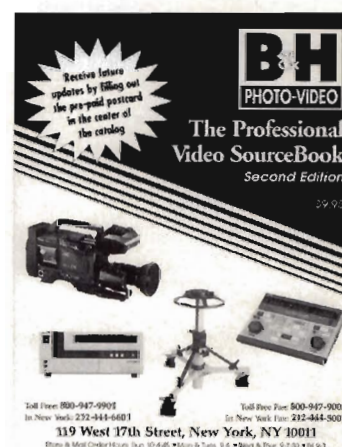
119 West 17th St.

New York, NY 10011

(800) 947-5548

"The Professional Video SourceBook, Second Edition," almost twice the size of its predecessor, summarizes information about a variety of video products into an easy-to-read format. The 446-page catalog covers the full gamut of video

needs, from the mundane (cables, tapes and tripods) through the necessary (camcorders, editors and VCRs) to the exotic (night-vision lenses and wireless microphones with space diversity reception). Improvements to the second edition include an expanded audio section that now features professional-grade mixers and CD players, DAT machines and high-performance microphones. To better serve the comput-



er-based video market, products such as Truevision's Targa 2000 EISA, Touch-Vision's Cineworks and Fast's Video Machine have been added as well.

**FOR INFORMATION CIRCLE 9**

### Ready Your Brushes

Product: Alpha Paint

Description: Paint and image enhancement application for the Video Toaster

Price: \$699.95

InnoVision Technology

1933 Davis Street, Ste. 238

San Leandro, CA 94577

Fax (510) 638-6453

With *Alpha Paint*, InnoVision Technology is aiming to provide the first all-in-one professional paint solution. Alpha Paint contains a wide variety of 24-bit painting, masking and image enhancement tools, and a full 12-bit alpha channel for anti-aliasing, blending and compositing. With an exclu-



# NEW UPDATES

## A Wide Range of Editing Power

Product: Editizer 3.0

Description: Editing software

Price: \$2,495

TAO Media Systems

501 W. 5th St.

Rolla, MO 65401

(800) 826-3348

Fax (314) 364-5631

TAO Media Systems is now shipping its new *Editizer 3.0*, which has been redesigned to accommodate growth as broadcast merges into multimedia, telecommunications and computer technologies. New features of the *Editizer 3.0* include fit and fill control of Dynamic Tracking and



slow motion VCRs, editing control software for selected video recorders, support for standard EDL formats, video images in the tape logger and tape library search. The user-friendly upgrade also

sive time-saving single monitor interface, Alpha Paint offers real-time, full-screen painting in 16 million colors directly on the Toaster's display. In addition, Alpha Paint features are unique key translucency and soft-edge feathering effects over live video utilizing the Toaster's hardware Video Mixing Channel. Alpha Paint is fully compatible with Toaster Video System 2.0, 3.0, 3.1 and Toaster 4000.

FOR INFORMATION CIRCLE 12

interfaces with a wide range of editing equipment, auto assembly of EDL and non-linear editing software.

FOR INFORMATION CIRCLE 10

## Additional Flexibility

Product: MediaEditor

Version 3.9.8

Description: Video editing software upgrade

Price: \$150

Interactive MicroSystems, Inc.

9 Red Roof Lane

Salem, NH 03079

(603) 898-3545

Fax (603) 898-3606

Interactive MicroSystems, Inc. has released a feature-packed upgrade of its *MediaEditor* program for the Amiga. *The MediaEditor 3.9.8* has enhanced its variable screen resolution, point-and-click A/B roll editing and the Sony VISCA control. *MediaEditor* features flexibility that allows users to run any Amiga program or AREXX script from the edit list. The upgraded software supports several serial control industrial decks, including Panasonic, Sony, JVC and Sanyo.

FOR INFORMATION CIRCLE 11

## Stepping to the Mike

Product: Producer Series

Description: Microphone system

Price: Starting at \$480

Azden Corporation

147 New Hyde Park Road

Franklin Square, NY 11010

(516) 328-7500

Fax (516) 328-7506

Azden Corporation has introduced its first system for the broadcast market. *The Producer Series* features the new 111R on-camera receiver. The receiver is miniature in size and has

output volume adjustment, balanced or unbalanced output capability, adjustable mute/squelch, headphone output with volume adjustment and a removable rubber ducky antenna. Also included is a 9-volt battery or DC 12-volt power input, mini-to-mini output cable (standard) with mini to XLR



and mini to phone plug available as options. The *Producer Series* is available in 10 frequencies.

FOR INFORMATION CIRCLE 13

## Getting Effects

Product: RocGen Plus

Description: Genlock device

Price: \$215

Roctec Electronics Inc.

170 Knowles Dr., Ste. 206

Los Gatos, CA 95030

(408) 379-1713

Fax (408) 379-1897

Roctec Electronics has announced the release of *RocGen Plus*, a genlock device that allows users to overlay titles, graphic clip art or animation onto videos. *RocGen Plus* is fully compatible with the complete line of the Amiga series, and features a user-friendly panel design and easy installation. *RocGen Plus* includes Auto video pass-through, which allows the signal from the Amiga to pass through to the monitor even if the Amiga is off. The extra key-in port feature allows the *RocGen Plus* to engage external keying devices for the production of special video keying effects. *RocGen Plus* also includes an Amiga/video control that provides for



user-control of the varying degrees of "fade" and "dissolve" between the Amiga graphics and external video source simultaneously.

FOR INFORMATION CIRCLE 14

## Mysterious Polygons

Product: Gothic Mansion

Description: 3D object design package

Price: \$69; \$99 with Gothic

Furniture

Earthquake Productions &

Publishing

13351 Foothill Blvd.

Fontana, CA 92335

(909) 899-1800

Earthquake Productions & Publishing has released *Gothic Mansion*, a package containing more than 50,000 polygons. *Gothic Mansion* is a two-story-plus-attic mansion with a wrap-around porch and a three-story octagonal tower accessible from both floors. It features an authentic exterior with doors, sliders and windows, plus an interior containing staircases, appliances and walls with individual surfaces for easy texture mapping of rooms. LightWave formats feature exterior textures such as glass and a basic landscape.

FOR INFORMATION CIRCLE 15

## Correction

In the August issue of VTU, it was incorrectly stated that Cybernetica had released Newton's Law 1.0. At press time, the product has still not been released, and Cybernetica cannot provide a definitive release date. VTU regrets the error.



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FOR INFORMATION CIRCLE 154

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# DEAR JOHN

## Broadcast-Quality Output

Individual Tastes Differ

by John Gross



**W**ith topics from overheated Amigas to image quality to soft spot edge angles, this month's column dutifully answers all your mind-boggling questions.

**Q:** I have an Amiga 4000/040 with 10MB of RAM, a Toaster 4000 and a PAR card installed. I'm an avid LightWave user, but, no matter how fast your machine is, the rendering is always a slow process (unless you have an extra \$15,000 lying around for a Raptor or other ScreamerNet system—which I don't).

I would like to leave my machine on at night and while I'm at my day job, but it gets too hot. What's the problem and is there something I can do about it?

Also, sometimes my Workbench doesn't load and my Amiga gives me the purple ROM 3.0 screen with the cute little animation of the disk going into the drive.

Chuck Ashlock  
Longmont, Colo.

**A:** There should be no reason why you can't leave your machine on all the time. In some of the early shipments of Amiga 4000s, there was a mistake in the installation of the cooling fans: many of them were installed backward. Feel for air coming from the back of your computer. If there is none, your fan is installed backward and is actually blowing air into the computer as opposed to sucking the hot air out. This could be causing your heat problem.

As far as your machine not booting properly, this could be caused by your hard drive not spinning up quite fast enough in your boot process. If a warm reboot (Control-Amiga-Amiga) fixes this, it is most likely the problem.

**Q:** Our company is a Betacam facility and we are currently rendering our LightWave animations directly to BetaCam SP from the composite output of the Toaster via a single-frame recorder. Some form of hard disk real-time playback to tape would seem the way to go and Digital Processing System's Personal Animation Recorder sounds like the ticket, but we are getting mixed messages as to the quality of the real-time images from this device.

DPS, of course, swears to the PAR's broadcast-quality output. However, in an article in *LIGHTWAVEPRO*, the author, a *seaQuest DSV* animator, indicated the PAR's output was currently satisfactory only for previewing animations used in broadcast applications. It was hinted that newer hard drives will permit a higher-quality (broadcast?) real-time playback.

### The questions:

1. Does the PAR currently offer real-time playback with image quality comparable to single-frame recorded to BetaCam SP?

2. If this process requires a specific hard disk, what model of disk is it?

3. Would it be wiser to wait and use the Video Toaster Flyer, with its new real-time compression scheme, as an animation player/recorder (since recording real-time video to hard disk is also a feature we would like to have)? I am admittedly hesitant to jump on the early Flyer bandwagon and become a guinea pig for this product while the bugs are worked out...and there will be bugs.

S. Aull

Moving Images Video Production  
Fairbanks, Ark.

**A:** To me (and a lot of others), broadcast quality is an ambiguous and subjective term not unlike "multimedia" or "information super highway." There are no specifications determining the visual "quality" of an image, but there are specifications to determine whether a signal is "broadcastable." A broadcast-quality signal means that it meets RS-170A specifications as far as being broadcastable. It does not mean that you and I are going to agree on the quality of the image.

Since the PAR uses JPEG compression, there are definitely times when you will see JPEG artifacting (as an example, stars tend to get blown out). However, there are many times when a PAR animation looks fine and can easily be used for an application. It's all subjective.

Chances are, since you are used to seeing your images on high-quality BetaCam SP, the image quality from the PAR may not meet your needs, as it will definitely be compressing the images.

It may be that as drives become faster, images will not have to be compressed as much, and that may help solve these problems.

As far as waiting for the Flyer, it can be argued that there is always something to wait for in this industry. Those early Flyer buyers will be getting what they want and be able to do work with it.

My best advice, being that "broadcast quality" is subjective, would be to take some of your images to your dealer, if possible, and convert them on the PAR and take a look at them. You may be surprised, or your hesitations may be confirmed. Either way, you'll be one step closer to making a decision.

The following is a reader's response to a question I had in the September 1994 issue from Betty Willis asking about frame accurate freeze frames:

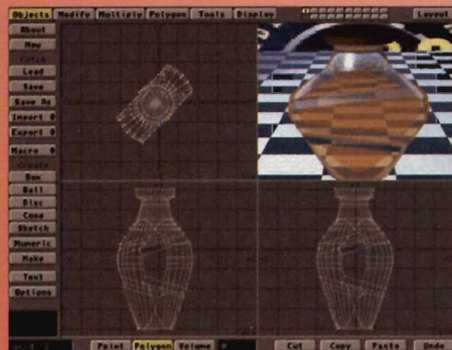
This came to me as I was trying to freeze one precise frame from a playback VTR. I found myself trying over



# NEW ERA PRESS Announces

## *LightWave on Location!*

*The Digital Directors Guide to Desktop Animation*



**Modeling Techniques**



**Visualization**

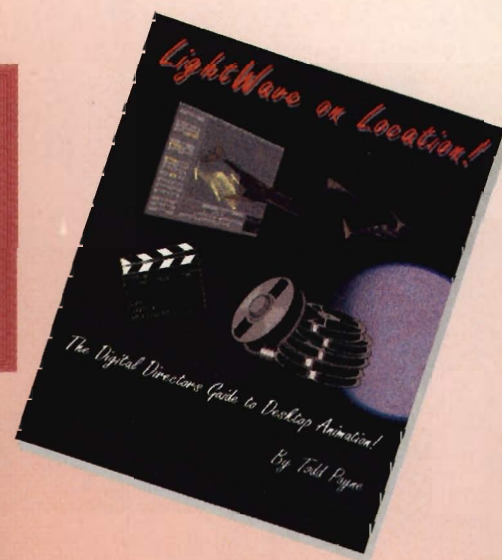


### **Animation Concept & Design**

This complete reference and training manual is geared towards all LightWave enthusiasts from beginner to advanced.

Covered topics include:

- **Quickstart** - basic tutorials designed to help novice modelers and animators acquire basic LightWave skills.
- **Exploring LightWave!** - an advanced section includes complete explanations and tutorials on all of LightWave's functions.
- **LightWave Applied** - complete production examples from storyboard design to client meetings.
- **Theories of 3D Fundamentals** - including lighting, color, motion, scene design and directing techniques as they relate to LightWave.
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## DEAR JOHN

and over again until I hit the left mouse button at precisely the right frame. So I found a better way to do this. Use the GPI from an edit controller to press the left mouse button for you! All you need to do is plug an "active when low" GPI from the edit controller on a female DB-9 (hot pin from the edit controller GPI to pin 6 on the DB-9 and the GND to pin 8 of the DB-9—these are the pins used for the left mouse button). Next, choose your input video on the program bus, and position the mouse pointer on the freeze button so that if you press the left mouse button now, it will freeze the incoming video. Now unplug your mouse without moving it and plug the DB-9 that you made into the mouse port. Choose the frame you want to freeze on your edit controller as the IN point and push preview. Voila! You have the frame frozen that you want.

Francois Pominville  
Montreal, PQ

### John says:

Sounds like it would work, but I can't recommend unplugging your mouse and plugging something else in while your computer is on. You may get away with it nine out of 10 times, but there is a chance that you might blow a fuse in your computer. I've foolishly unplugged and re-plugged mice before (and will most likely do so again—I'm a glutton for punishment) and never been bitten, but I know people that haven't been so lucky. And believe me, you feel really stupid if you make this mistake.

**Q:** I have been animating for three years, but using LightWave for only one year.

I have two questions about LightWave that I hope you can answer:

1. Why is the Spot Soft Edge Angle allowed to go no higher than the Spot Cone Angle?
2. When I change the size of the grid in the options menu in Layout, the zoom factor in XY, XZ and ZY views changes and the length of the lines on the lights change. Why is this?

Casper McElwee  
Animation director  
Mercury Productions  
St. Louis, Mo.

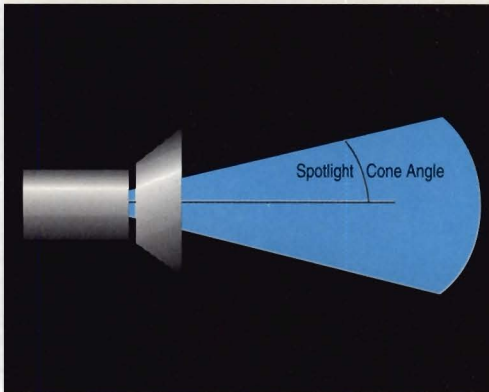


Figure 1: The cone angle of a spotlight is measured from an imaginary line projecting straight out of the light.

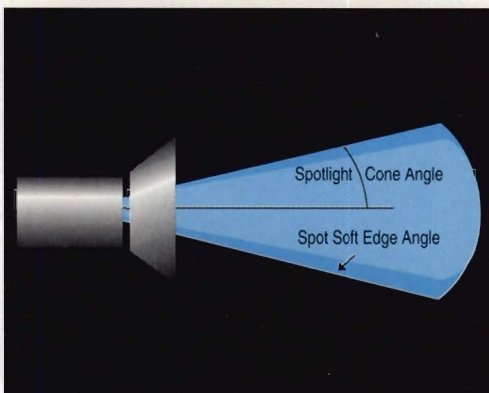


Figure 2: The soft edge angle is measured from the outer edge of the cone angle back toward the center line running through the light.

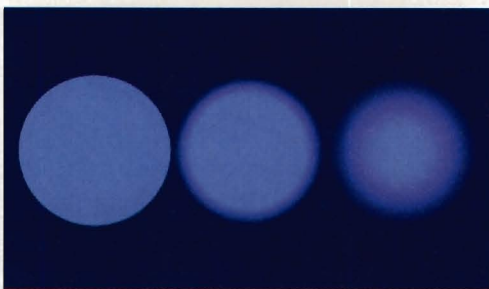


Figure 3: These spotlights each have a 20-degree cone angle. Their soft edge angles are 0, 5 and 20 degrees, respectively.

**A:** The cone angle of a spotlight is measured from an imaginary line projecting straight out of the light, so a cone angle of 30 degrees actually inscribes an arc of 60 degrees (Figure 1). Try using a cone angle of 90 degrees to see what I mean.

The soft edge angle is measured from the outer edge of the cone angle back toward the center line running through the light (Figure 2).

This soft edge just determines how much the area of solid light blends into the area of no light. A soft edge of 0 degrees would create a solid-edged spotlight. Higher degrees create a softer edge. Remember that the area of the spotlight doesn't change, as the soft edge angle is always measured from the outside edge.

You should now see why the soft edge angle cannot be bigger than the cone angle: it would "intersect" itself once it reached the center line.

Figure 3 shows three different spotlights with varying soft edge angles.

The reason you zoom in when you change grid size (in the orthographic views) is that the relative grid size stays the same. Zoom out a few times so you can see the entire grid in the XZ (top) view, and then change the grid size to see what happens. It appears as if the object is getting larger (or smaller) and the grid is sitting there, but you are actually moving into or out of the grid. Try doing a few zooms to see the difference (the grid will get closer). The camera and lights are attached to the grid and are always the same size relatively speaking (by the way, so are you in the orthographic views). Notice a large grid size and a small object. It will usually end up "inside" the camera (which is proof that the "lens" of the camera is actually at the center point of the camera representation).

All of this is easy to deal with if you just practice certain habits, such as automatically zooming out a few times if you just made the grid size smaller and vice versa or zooming in if you just made it bigger. Of course, the camera view isn't affected by all of this sizing and zooming.

VTU

John Gross is a supervising animator for Amblin Imaging and the editor of LIGHTWAVEPRO newsletter.

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# TIPS & TECHNIQUES

## Working with Modeler

### A Beginner's First Look

by Brent Malnack



**S**ome of you may have noticed I was missing last month. My wife, Mars, gave birth to an 8 lb. 10 oz. baby boy named Alexander. After a month of chaos, I'm prepared to return to Toaster Tipsville.

Just over a month ago, I began work on a new book, "Modeler Made Easy." This complete novice's guide to LightWave Modeler will be available in early 1995. This month's tips are pulled from the new book. Those of you already comfortable with LightWave and Modeler may want to skip over this month's column, as it is aimed squarely at the beginner.

Before we begin, I want to request any tips related to video editing with the Toaster. I will run a full column

ket. When first launched, the interface appears with numerous buttons surrounding the outer edges of the screen, and three windows with a grid, one with a circle.

The grid areas are where most of the work is done. The buttons are used to activate various tools that assist in the building of objects. If you look closely, you'll notice that in the bottom right corner of each grid is a word describing which view it is. By default, the top left grid window represents the top view, the lower left grid window represents the face or front view, and the lower right window represents the left or side view. These three views are used to visualize an object under construction.

In the center of each grid view is a double line running horizontally and vertically through the middle of the view. Known as the world origin, this is used to define the axis of rotation for the object. If the object is created with the world origin running through the center of it in all three grid views, it will rotate properly when animated in LightWave. In some cases it is desirable to have the world origin in a place other than the center of the object, and I'll cover that situation later.

Also, take note that in each grid view is an indicator of the directions for that view. In the face view, the indicator at the left center of the view says "-X." This means that going to the left in the face view will be a move in the negative X direction. Moving to the right will be heading in the positive X direction.

As stated in the Toaster manual, the X axis moves from left to right, the Y axis up and down, and the Z axis in and out. To visualize this better, think of the X as moving from left to right on your computer monitor. The Y axis would travel from the bottom to the top of your monitor, and the Z axis would travel from your face straight into the monitor.

By placing the mouse pointer at the white intersection between the grid views and holding the left mouse button down, the size of the various grid views can be interactively altered.

### Connect the Dots

If you remember your geometry, and hopefully you do, you will recall that polygons are made from points. In its most basic form, think of Modeler as a 3D connect-the-dots program. To illustrate this, let's create a three-dimensional letter M. Sure, Modeler can load any of the large assortment of PostScript fonts included with the Toaster, but using them doesn't further your knowledge of object construction.

The buttons at the top of the screen are perhaps most important. They determine which buttons appear



While LightWave comes with a large assortment of fonts, creating a letter by hand can go a long way toward understanding the basics of 3D modeling.

of them in the near future. Feel free to describe using the Toaster with various other equipment and how you have maneuvered around any technical difficulties.

### A Beginner's First Look at Modeler (Part I of II)

Although you may have briefly looked at LightWave and loaded and rendered some of the sample objects that come with the Toaster, many have never attempted to use Modeler. You probably see Modeler as the button at the top right corner of LightWave that seems so intimidating.

Go ahead, click the button. I'll give you a breakdown of the complex interface that appears. Actually, Modeler is one of the easier 3D modeling programs on the mar-



at the left side of the screen and place Modeler into different modes. To the right of the menu buttons are two rows of squares. These represent different layers. Multiple layers can be thought of as different pages of a document, or multiple swap pages in a paint program. Elements in different layers can be combined to build more complicated objects.

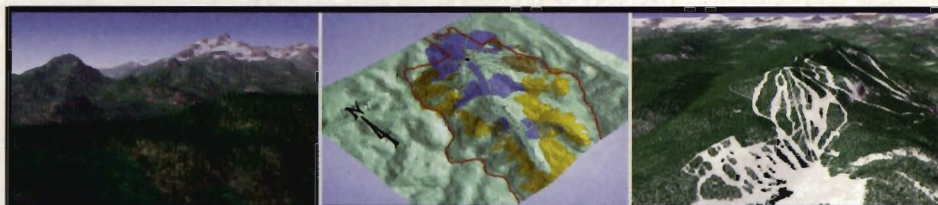
Click on the Polygon button at the top of the screen. This will now change the list of buttons available on the left side of the screen. On a piece of paper, draw the outline of the letter M. At each corner in the outline, draw a large dot. Think of each dot as a point that will comprise the polygon.

Move the white intersection bar so that the face view consumes the majority of the screen. On your piece of paper, number the points starting at the bottom left corner with 1, and proceed clockwise until all of the points have been numbered. If you drew your M in the most common manner, it should consist of 13 points.

In Modeler, click on the Points button under the Create menu. The mouse pointer will now display a circle in the center. Starting somewhere in the lower left corner of the face menu, click the left mouse button. A new pair of crosshairs will appear, displaying where the point is about to be created. Press the enter key. This will place a point at that location. Move up higher, straight above the first point, and click again.

Press the enter key. Don't worry if the points are not in a perfect line. They may be moved later. Move slightly to the right and click again. Press the enter key. Follow this procedure until all 13 points have been placed in a clockwise manner. Click on the Make button or press the "p" key.

You have just successfully created a polygon. It should roughly resemble the image on the next page. At the bottom of the screen, click on the Point button. You will then be in point select mode. Hold down the left mouse button and drag the pointer of a point that needs to be moved. When you move over it, it will become yellow and the selection info window at the bottom center of the screen should read "1." This means that one point is currently active for further manipulation, and thus most Modeler action



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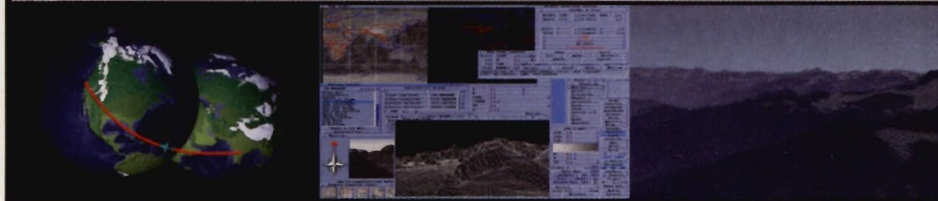
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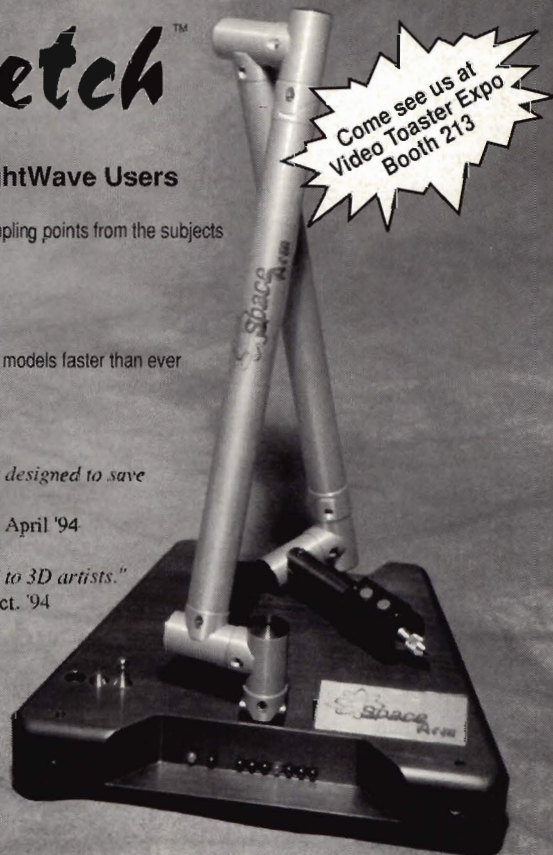
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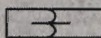
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FOR INFORMATION CIRCLE 103



## TIPS & TECHNIQUES

buttons will only affect the currently selected point.

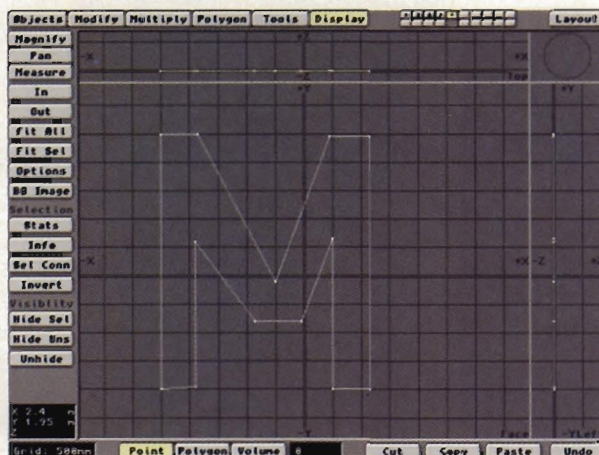
Click on the Modify button at the top of the screen. Again, a new set of buttons appears along the left side of the screen. Under the Position menu, click on the Move button. Although the Drag button would be more useful for the following operations, I want to familiarize you with the concept of the Move button. Hold down the left mouse button and drag the point to its proper location. Sometimes it may

click on the Move button and move it until it is in the proper position. Follow this procedure for any points that need it.

### Keeping It Planar

Make sure that any movements to any of the points are done within the face grid view only. The points need to lie in a plane in at least two of the views to prevent an illegal polygon. If you were to select a point on the M and drag it in the left or top view, you would essentially destroy the polygon.

Once all the points are in place, it's time to get a better look at our M. Drag the view intersection line until the four grid views are roughly the same size. Click on the Display button at the top of the screen. Now click on the Options button. This will open up the Display Options requester. Under the Preview column, select Moving and Solid. Click on OK. Your M should soon begin rotating in the upper right window. Click and hold the left mouse button



When the points have been placed as described, the screen should look similar to the one above.

seem difficult to line up the point perfectly in a straight line with connecting points. This is usually because the current size and zoom of the grid window makes it fall on either one side or the other of the line you're trying to line it up with. For the mean time, get it as close as you can and let go.

### The Big Blank Zone

One of the more complicated Modeler concepts for a beginner to understand is de-selection. De-selection is the process of turning off whatever is currently selected, be it a point, polygon or volume. To complicate manners, action buttons often need to be de-selected before the active item can be de-selected.

Click on the Move button to de-select it. It should no longer be yellow. Next, put your mouse pointer where there are no buttons. (Sounds offensive, doesn't it?) Click the left button. This will de-select any highlighted items. This same procedure can be accomplished by pressing the "/" key. Now select another point,

with the pointer in the window with the rotating M. As you drag the mouse, notice its influence on the display. The object may be moved until the angle pleases you.

Click on the Objects button at the top of the screen. Click on the Save button and type M.lwob in the requester that appears. You have now successfully created a flat letter M. Next month we will finish this tutorial by extruding the M, applying surface information and adding a bevel.

Again, please send any of your handy Toaster Tips to me c/o:

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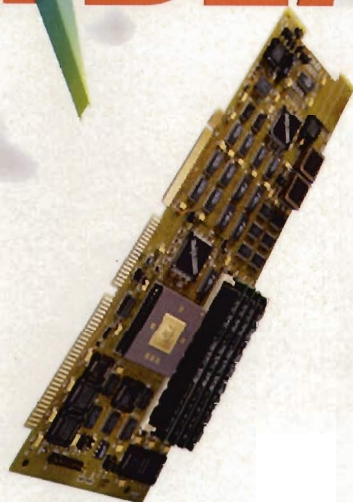
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FOR INFORMATION CIRCLE 142



# SOUND REASONING

## Capturing the Excitement

Recording Sound for a Wedding or Event

by Cliff Roth



**E**vent videography—shooting weddings, bar mitzvahs, sweet sixteen, corporate and private parties—is probably the easiest way to break into the video production business with low-budget (Hi8, S-VHS and lower) equipment. In the worst-case scenario you're operating as a one-person crew. Just managing to get decent pictures may be a struggle. But paying equally careful attention to gathering sound will lead to more polished and exciting editing, and a more satisfying finished production.

Regardless of whether you're working by yourself or have the aid of an assistant or two, planning out the audio side of the production in advance will always pay off. You'll probably be shooting with just a single



ILLUSTRATION BY DAVID SMITH

camcorder, but you might want to consider using more than one microphone to gather the sound. This will provide more mobility and flexibility—especially when using wireless microphones. The golden rule of capturing good audio, as stated here before, is to get the microphone up close to the sound source—preferably within a foot or two of the speaker's mouth.

### The Stage

If the person performing a wedding service or giving a speech is speaking behind a lectern, it's relatively simple to place a microphone on a small desktop mike stand. A wireless microphone makes it much simpler to set up, but be sure to monitor the sound constantly with headphones to check for interference or dying transmitter/receiver batteries. If you use a wired micro-

phone, tape down the microphone cable along the floor where the cable runs, and be sure to use a professional low-impedance microphone with a 3-pin XLR plug. (If your camcorder has a mini-jack microphone input, as most consumer models have, place the XLR to mini adaptor close to the camcorder's jack.)

Although directional microphones are customarily recommended for podium applications—to minimize pickup of coughs in the audience and other distractions—my advice is to use an omnidirectional microphone, for the simple reason that it's a lot less hassle and a lot more forgiving. What happens if the priest or rabbi accidentally knocks the microphone to one side, or if he or she leans more to one side of the lectern than the other? With a directional microphone, the sound exhibits an odd tonal quality as it moves into the off-axis range. Omni microphones pick up a bit more noise, but are more forgiving when it comes to placement and orientation.

A wedding may pose a particular audio challenge if the bride and groom will be reading their own vows, or making other statements, and won't be speaking from behind the same podium as the master of ceremonies. If you were shooting the wedding as a scene for a dramatic production, there's no doubt how you would mic this: you'd have an audio person hold a fishpole microphone mount (a portable boom) over their heads, with a microphone about two feet above. But such equipment is usually too distracting and annoying to the participants for such a solemn event. In rare circumstances where the situation merits, you may create the equivalent setup by hanging a microphone from the ceiling so it will be directly above the spot where the bride and groom will stand.

The simplest way to get good sound from the nuptial couple is usually with a super-directional shotgun microphone (hypercardioid pickup pattern). Either have an assistant point the microphone or (if you're doing it alone) carefully mount the microphone on your camcorder, making certain that it's centered properly and parallel to the lens.

### Pumping the Beat

If you're going to shoot people dancing, be sure to record at least one complete song by the band. Record it continuously, all the way through, without pausing the camcorder. Later, when you edit together shots of the dancing crowd, the continuous music soundtrack will give your video coherence, rather than having random snippets from different songs accompany the pictures.



Obtaining a good recording of live music is unquestionably the most challenging part of this assignment—take a listen to just about any bootleg concert tape to appreciate the problem. It's a topic I'll be returning to in a future column, but for the time being, remember one word: balance. You want to place the microphone (presumably the built-in camcorder microphone) close to the band, but not so close that it tends to pick up one instrument more than any other. No matter what you do, it will never sound as good as a studio recording, however. In fact, one excellent way to cheat the situations is to ask the band for a copy of their demo tape, which was presumably recorded and mixed professionally. If there's a song on the tape that they played at the event, you might want to substitute it for your live recording.

Another alternative is to take a feed from the band's own mixing console, or from the public address system of the hall where the event is taking place. This will also be discussed in more detail down the road, but keep in mind three main points: First, be sure that all the sound is going through the board (that is, that there are microphones in front of each instrument). Second, bring more than one set of cables and adapters to take the feed (most boards offer both line and microphone level outputs—try each). Third, be sure to monitor the sound at all times, listening especially for hum problems.

The easiest music to record is a single instrument—such as an organ or piano—since you needn't worry about the balance between various instruments. In the case of a traditional pipe organ, you probably don't need to worry much about proper microphone technique—you'll hear it from just about any location. But a piano, violin, acoustic guitar or just about any other instrument should be miked up close, or it will sound muffled and there will be distracting noise from conversations, silverware clanging, chairs moving, etc. Record the complete rendition of "Here Comes The Bride" and the "Wedding March," if played, in their entirety: try not to pause the tape, even if you're moving the camcorder to a new location. Having this music available will be useful when you are editing.

## Pressing the Flesh

Undoubtedly the most fun and distinguishing aspect of shooting a wedding is working the crowd. Just about anyone can get good shots of the bride and groom. But beyond the technical mastery of video, there's a wonderful world of psychological and sociological exploration in developing the art of the interview (see Jim Jarmusch's film *Mystery Train* for some humorous insights). Ideally,

you'll have an assistant approaching guests and interviewing them, but if you're working alone, you might just walk up to each table and offer someone a handheld wireless microphone. Have them pass it around to anyone who cares to say a few words to the bride and groom.

When most people first use a handheld microphone, they tend to put it directly in front of their faces, blocking their mouths with it. As you start

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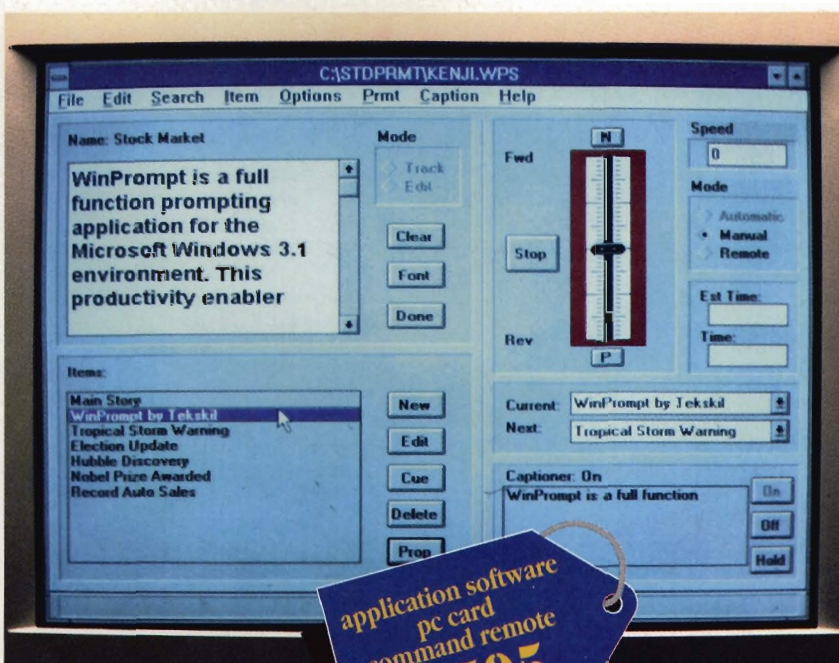
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## SOUND REASONING

passing a microphone around a group of people, tell them to hold it low, below their chins, so you can see their faces with the camera.

As people become intoxicated (especially young friends of the bride and groom, or inexperienced employees at company parties), they may tend to shout into the microphone, and hold it right up against their lips. A foam wind-screen will help, both sonically and hygienically. But to really keep the

sound from distorting, your best microphone choice is a condenser model that has an attenuator pad built in (the attenuator switch is usually labelled -20dB). Though technically speaking, most dynamic-type microphones don't really distort in this situation, they tend to overload camcorder input circuitry, causing distortion anyway. (In other words, it hardly matters whether distortion occurs at the microphone or at the input circuitry—the result is the same: bad sound.)

Of course, the best solution is to get the participants to hold the microphone further away from their mouths. That's also where an assistant, who holds the microphone at a proper distance, comes in handy.

### The Final Mix

There's a major difference between having sufficient audio material and having abundant material when it comes time to edit. It's my suspicion that many beginning videomakers tend to bring back abundant imagery to the edit room, but not much in the way of good audio choices.

Ideally, when it comes time to edit the wedding video, your audio kit bag will include the following elements: An introduction, such as music that was playing as guests arrived. The service. Music that accompanied the service. Music from the first dance. General dance music. Interviews with all members of the wedding party, including the bride and groom. Interviews with other guests. The toast to the bride and groom (not just the spoken words, but the clinking sound that glasses make when they're tapped together). Other touches, if time permits, might include a visit to the kitchen where food is prepared, including the sounds of pots clanging. The setting where the wedding is taking place may also have rich ambient sound, such as ocean waves or a busy city street.

If the couple drives off in traditional style, with tin cans clanging behind the car, a good audio recording of the farewell scene will add an excellent finishing touch.

Ultimately, just as with pictures, you won't use all these sounds in the final edited production. But—just as with pictures—not all of the recordings will come out right, and editing will involve pulling together the best elements. Many event videographers prepare a "shot list" before going out on location, jotting down all the shots they need to get. Adding a few items for the "audio list" can go a long way toward ensuring a professional looking—and sounding—production.

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# TAMING THE WAVE

## The Need for Speed

### Raptor Plus Meets All Expectations

by David Hopkins



**A**fter a mere two months after purchasing my long-awaited Raptor, I heard that DeskStation Technology had yet another machine "You have got to be kidding me!" was my first reaction. And this new one was even faster! And not a whole lot more money! What's wrong with this picture?

First, let me tell you that the Raptor is a truly fast computer. When I first began working on *Digital Man*, an upcoming feature film from Republic Pictures, I was still waiting for mine to arrive, hoping that its much-

touted speed would be able to pull off all of the film resolution effects I would need to do. While setting up some of the scenes in preparation, I would render tests in Medium Resolution with Antialiasing off. Often these images (such as Figure 1) would take approximately 45-60 minutes per frame. With my Raptor, the same scene rendered in High Resolution with High Antialiasing at about 15 minutes per frame. It's just plain fast.

So, approaching the end of *Digital Man*'s production, here comes the Raptor Plus. It looks just like the old Raptor (except for the word "Plus" silkscreened under the original logo). It acts just like the previous Raptor (except for the cute little "bleep" sound it makes when you turn it on). But the fact of the matter is that this machine is just about twice as fast. That's right, about twice as fast as a Raptor.

The image shown in Figure 2 (another shot from *Digital Man*, but

you knew that, didn't you?) renders in High Resolution, High Antialiasing with Traced Shadows at two minutes per frame. Excuse me while I roll my tongue back up.

Are you a "power" animator? You need a Raptor Plus. Already have a Raptor? Imagine up to twice that level of productivity. I'm talking about final rendering of complicated film resolution, ray-traced, motion-blurred, antialiased animation frames in minutes. The image in Figure 3 took 8-1/2 hours to render on one of my 28 MHz '040s. The same image took 50 minutes per frame on my Raptor. And it took 30 minutes with the Raptor Plus. You decide.

#### Security Concerns

And now, on a more serious note, I must pass along a word of warning about data security. What does this have to do with the average 3D animator? I felt the same way until, while working on *Digital Man*, it snuck up and bit me.

A couple of days prior to showing the latest effects we had created for a number of the producers' associates, our animation recorder started behaving erratically. The manufacturer of the recorder was more than happy to try to help and we shipped the problem drive to them. To our great satisfaction they were able to recover the majority of the files and promptly returned the drive. Everybody's happy, right? Right.

Travel with me to a few weeks later. In my capacity as a columnist in this magazine, I receive promotional material from many companies. A new demo reel from the aforementioned manufacturer caught my attention not only because it was a nice tape, but because it contained some of my animations from *Digital Man*. With a credit attributing it to the wrong production firm. Without mentioning the film's title at all and without permission.

This, my friends, is called copyright infringement. While I was certainly pleased to see my work included on the demo reel, the producers of the film (who actually own the rights) were not so pleased. Compounding the problem, one of the animations featured my image-mapped Digital Man...who's also a member of the Screen Actors Guild. You get the idea.

As I write this, the manufacturer has reached a settlement with the producers, and not a terribly cheap one. They still insist, however, that I gave them permission to use the footage. You'd think I would at least have given them the proper credits, no?

Here's the point: Remember that data on a drive sent for repairs is no longer private. The hands that fix it are going to, by nature, have access to the contents.



Figure 1



Figure 2



Figure 3



This applies equally to demo reels. Make sure that you have proper notice of copyright on both the tape itself and on the tape's case. If you must send raw data as I just described, include a cover letter stating in no uncertain terms that the information on the drive is not for public distribution. No joke—this could happen to you. And if you are one of the many manufacturers who fill their demo reels with user-created imagery, make sure that you have the proper permission to use it. Putting it in writing is protection for you as well as the artist.

### Time for Compositing

Gee, time flies when you're on a soapbox. Time to lighten up. We all know LightWave is an amazing 3D animation package, but did you know it's a pretty mean compositing system as well? For *Digital Man's* title sequence it was necessary to lay credits on top of some of my animation. The only problem was that while the animations took a great deal of time to render, the final order of credits would not be available until near the end of production. The only solution, of course, was to render out the animation as one set of images and the titles as another set for compositing in the proper order later.

I rendered the titles themselves against a blank background and generated both IFF images and Alpha images in the process. The major credits (primary stars, producer, director, etc.) required the text to type onto the screen as if it were a computer readout. These were created as full-blown animations. Later credits only needed to "pop on," so only one or two frames were required. Once the background animation was completed it was put on the PAR so that we could choose visually where to cue each credit. Once the frame was known, the background animation images were loaded as a sequence into LightWave and placed, surprisingly, in the background image.

The appropriate credit image or sequence was loaded into the foreground image, and its alpha image or sequence was loaded into foreground alpha image. These were bumped using the Frame Offset to make the first frame of each credit appear on

the desired first frame of background. It was impossible to tell that the credits were not a part of the primary rendering to begin with.

There are advantages and disadvantages to this approach. Chief among the advantages is that it is a simple matter to "scoot" the layers around to adjust timing without having to re-render an entire animation.

The primary disadvantage is that it takes up a lot of hard drive space

since you are holding three animations instead of one. Happily, simple images like a credit and its alpha channel make for pretty small files. But get this: Since the background animation was antialiased when it was rendered, and the credit was antialiased when it was rendered, the composite pass doesn't need any antialiasing at all. As you can imagine, this makes for a fast composite render. The average time to composite three

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## TAMING THE WAVE

1024x768 images was approximately one minute per frame on my Progressive 28MHz 68040.

What if you never do titles? How does this apply to you? Well, this trick works for more than text, and with even more technique variations. Say you want to create a quick and easy dissolve between two different animations (or even PAR-grabbed video). Load one sequence as the foreground, the other sequence as a background, and use a foreground dis-

solve envelope to specify the number of frames for the dissolve. Again, no antialiasing required. Using an alpha channel in the middle shows that all sorts of nifty effects are possible here, too.

Here's a quickie: We've all had this happen. You create an object in Modeler, take it into LightWave and adjust settings, then want to make further modifications to the object. The common rule is that you should go into Modeler, use "New" to clear out the lay-

ers and then import the model from LightWave. This will assure that the surface definitions remain intact, since changes made in LightWave don't get applied to the original Modeler copy of the object. Of course, sometimes we forget to do that and proceed to modify the original model.

When this new model is exported, guess what? There are no surface definitions. But here's a little trick to solve the problem before you re-export. Go to an empty layer in your Modeler and import the old "surfaced" version of the object. Since the surface names will be the same (except for any new surface names you may have added in the newer model), the "old" surface definitions will "bleed" into the revised model's surfaces.

Now, go back to the Modeler layer containing the new version of the object and export that one. Poof! The surfaces are intact. Of course, if you re-exported before you realized the error, the LightWave model is in fact the same as the Modeler original...no surfaces. Sure, this technique may be a bit convoluted, but it can save a lot of hassles in the right situation.

Well, that's about it for this installment of "Taming The Wave." If you have questions, suggestions or tips you would like to pass along, here's the place:

Mach Universe  
Attn.: David Hopkins  
8102 Dabny Lane  
La Palma, CA 90623

*David Hopkins is a professional LightWave animator and founder of Mach Universe, a computer graphics firm. His clients include EMI Records Group, Caesar's World Resorts and Merrill Lynch. He is currently in the midst of a three-month animation project on the beautiful island of Maui, Hawaii.*

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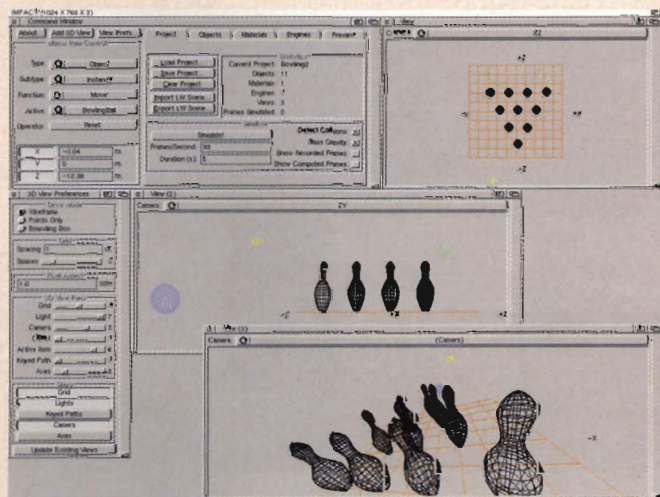
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# SLICES

## Remembering the Past

### The Evolution of the Toaster

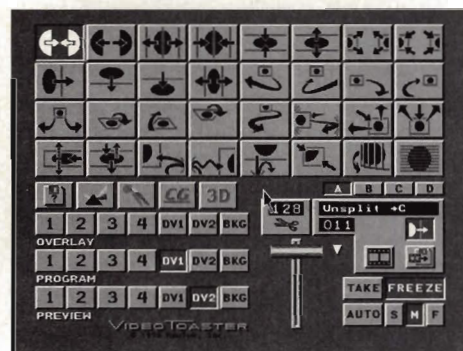
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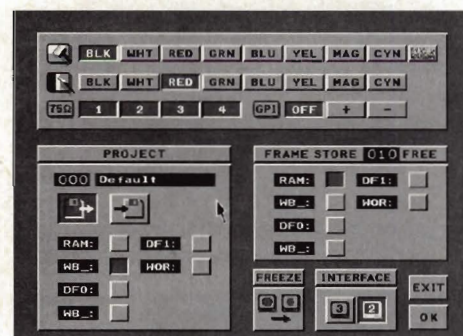
he holidays are traditionally a time for reviewing the past and anticipating the future. With this in mind, I thought it would be a good time to look back at the Toaster's early days and chronicle its changes with each release.

#### System 1.0

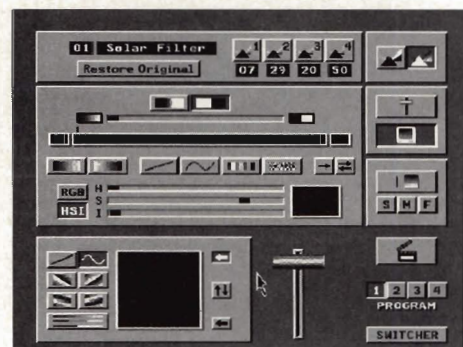
The Toaster began shipping in October 1990. Units were sent to dealers for demonstration and select direct buyers who were in the video industry. This was the 0.9 release, which shipped with a manual that lacked about 75 percent of its imagery. It was an exciting pioneer release. In early 1991, the 1.0 release shipped.



1.0 Switcher



1.0 Setup



1.0 ChromaFX

The 1.0 Switcher—This was the original look for the Toaster. The original Toaster screen sported three large busses for working with video and only four effects banks (four!), and had a "quick access panel" for selecting, loading and saving effects, CG pages and framestore images.

The 1.0 Setup screen was called Preferences in those days. It contained catch-all controls for the Project and Framestore drive, the monitor display, Toaster hardware settings and matte effects settings.

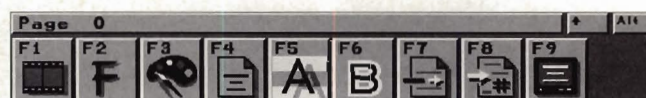
The 1.0 ChromaFX color processor—ChromaFX had the



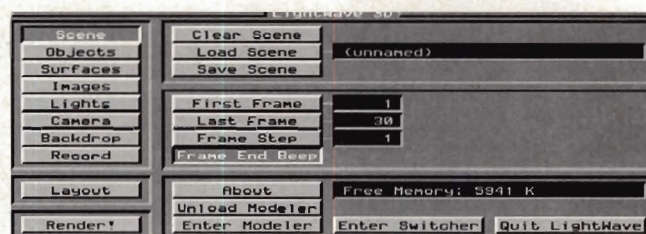
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1.0 Paint Palette



1.0 CG



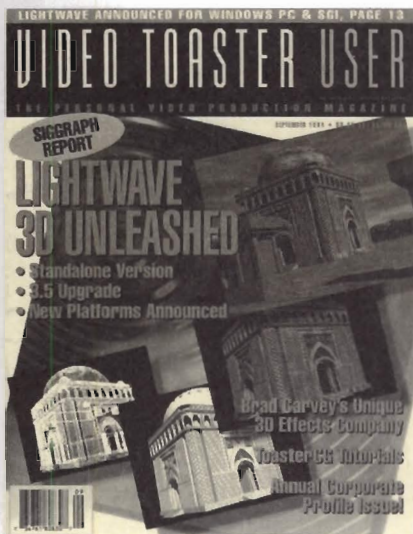
1.0 Renderer

misfortune of having a confusing interface. It was difficult to work with ChromaFX and the program could only be used in real-time. You could not create filters ahead of time to use from the Switcher screen. It was neat, but not as friendly as it needed to be.

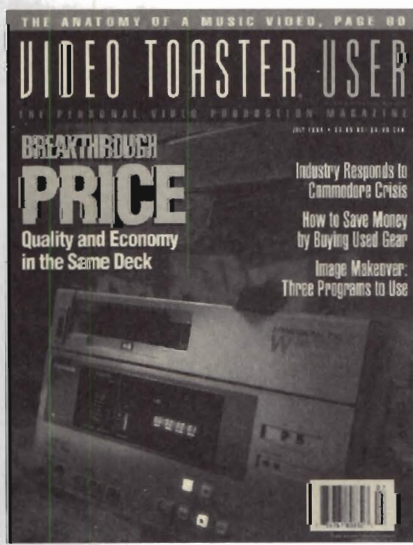
The 1.0 ToasterPaint main tools panel—As many people know, ToasterPaint started life as a stand-alone paint program from NewTek called Digi-Paint. It was not difficult to adapt Digi-Paint to its new home, and the ability to paint on 24-bit images greatly improved the Toaster's usefulness. The HAM display limitation on the Amiga screen was hard to work with, but the results in 24-bits always looked terrific.

The 1.0 ToasterCG—ToasterCG was originally a keyboard-only program. You could not use the mouse within it. The function keys ran the program, and each had three functions: the unshifted function, the shifted function and the Alt-key function. All fonts were bitmapped and were only available in a few sizes. Also, they consumed a great deal of space on hard disk.





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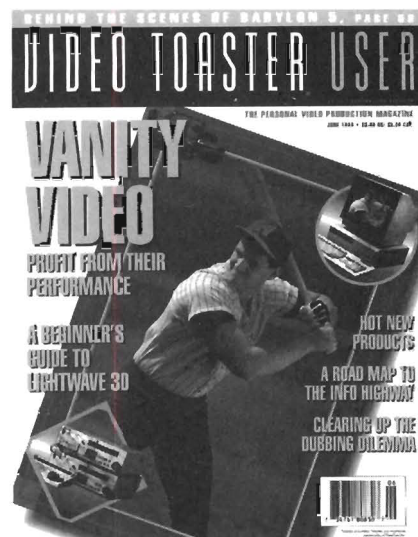
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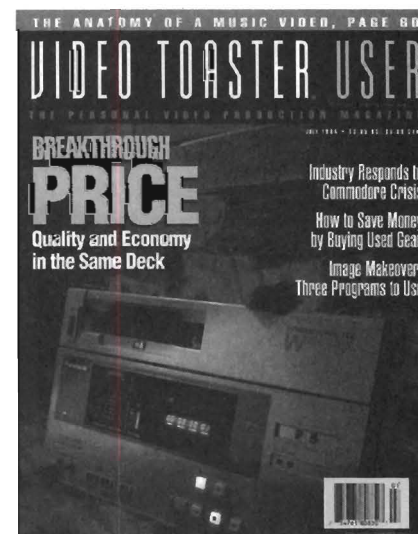
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# *ImageFX*<sup>2.0</sup>

*"When Your Image Is On The Line"*

ImageFX is the only image processing software package you will ever need for your Amiga...Period. This phenomenal program comes with a complete array of professional 24-bit paint tools and unsurpassed special effects. When you're up against a deadline, you don't have time to second guess. ImageFX gives you total control of the creative process with the fastest and easiest to use interface on the market.

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For a complete list of features in ImageFX 2.0 call the Nova Design support line at (804) 282-6528.

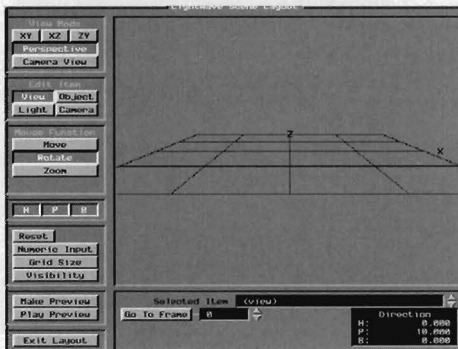


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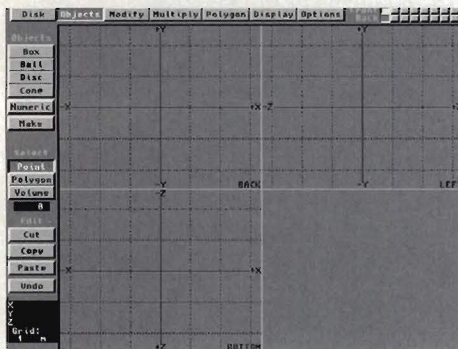
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## SLICES



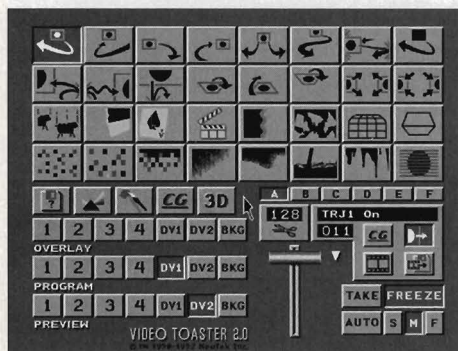
1.0 Layout



1.0 Modeler

The 1.0 LightWave screens (Renderer and Layout)—At this time, LightWave did not use the Layout screen as its main screen (with overlays that accessed its surfacing and layout controls). The Renderer was it. In Layout you set up the scene. At the Renderer screen you controlled the environment. Also, it was from Renderer that you could enter and exit Modeler.

The 1.0 Modeler screen—Things were somewhat simpler back then: you worked with eight layers, and the window layout was somewhat rearranged. The original Modeler lacked many of the finer controls available now. There were no macros, no import/export functions with Layout and no Boolean operations. Modeling required a great deal of manual labor.

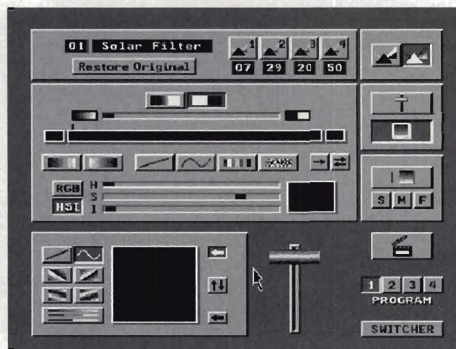


2.0 Switcher

## System 2.0

System 2.0 shipped near March 1992. There were great changes in two portions of this version of the Toaster: the Switcher and LightWave.

The 2.0 Switcher beefed up its effects by offering six banks, plus new kinds of effects based on silhouetted people, organic animations and others. In addition, you could combine certain effects with the Smooth Fade effect to dissolve partial effects on and off screen.



2.0 ChromaFX

The 2.0 Setup screen was unchanged.

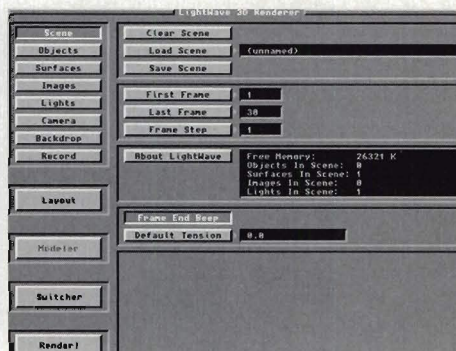
The 2.0 ChromaFX became more useful with the addition of presets, effects that could be sent over the Switcher and used much more easily.

In 2.0, ToasterPaint was enhanced by the addition of the ability to import framegrabs directly from the framebuffers, but there was no change to its control panels.



2.0 CG

The 2.0 ToasterCG added the ability to overlay its interface on top of the preview output, making the combination of text and background images easier.



2.0 Renderer

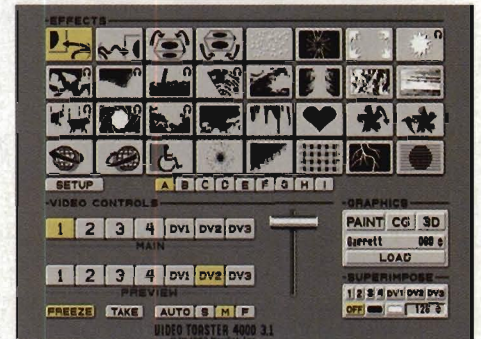
LightWave 2.0 saw major changes. The addition of many new controls forced the Renderer portion of the program to jump to a high-resolution display to accommodate the number of buttons it had to hold.

Modeler 2.0 changed very little, with the addition of only a few useful commands.

## System 3.0

System 3.0, also called Video Toaster 4000, saw a split in the Toaster's abilities based on the Amiga model you owned. The new Amiga 4000 featured new display modes based on a new chipset. Certain Toaster functions could take advantage of this, and did. The interface added yellow highlighting for greater visibility, and 4000-based effects were added to the Switcher.

Switcher 3.0 appeared very different from its predecessors. The Overlay Bus was renamed Superimpose and moved to position of lesser prominence. This



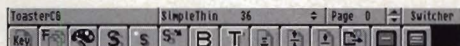
3.0 Switcher

was an attempt to reduce confusion, as the overlay bus was only needed for certain types of effects and did not play as major a part in production as the other two busses. There was a new look to the buttons, and the quick-access panel now had a pop-up menu to select Framestores and CG pages.

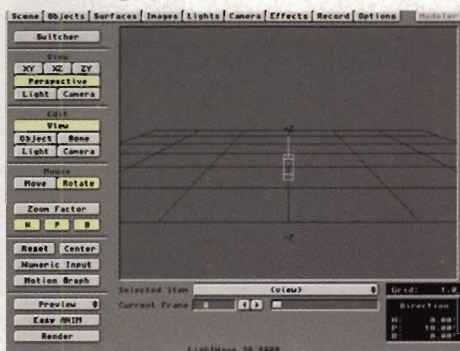


3.0 Setup





### 3.0 CG

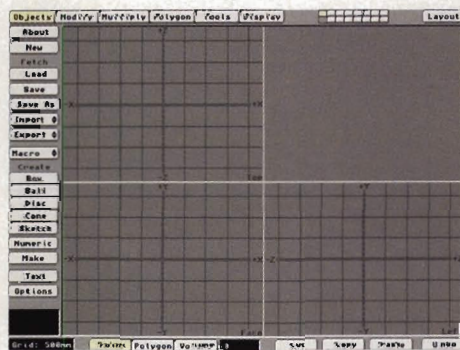


### 3.0 Layout

The 3.0 Setup screen also received a new look, and had some friendlier controls for loading and saving projects (no more confusing button icons). The frame capturing and saving controls were moved from the Switcher to this screen, and made easier to operate. Setup still tended to be a catch-all screen for other controls.

ChromaFX 3.0 saw a new interface look, but no new features were added other than the addition of new built-in color filters.

ToasterPaint saw no new features in 3.0 due to a "passing of the baton" within the programming department at NewTek. The new person handling



### 3.0 Modeler

paint would need time to understand and improve the original code.

ToasterCG 3.0 contained much-needed changes in the form of a mouse-driven interface, PostScript font support and 24-bit brush support. Later, in 3.1, gradient color blends were added for an even more professional look.

LightWave also changed radically in 3.0. The Renderer screen was gone,

having been added to the Layout screen. Now all animation controls could be accessed from the same screen, including Modeler.

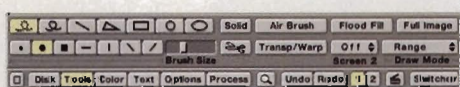
Modeler lived up to its promises in 3.0. ARexx Macros and PostScript font support gave it a much-needed boost. Boolean drilling functions were added, as well as more point/polygon selection tools.

### System 4.0

For System 4.0, the Toaster underwent another period of great change and functionality. The addition of the Flyer hardware converts the Toaster into a nonlinear editor, lessening the importance of the Switcher as "Grand Central Station" for the Toaster. The Switcher will remain, yet it will now be one of several control panels for the main screen. These panels have been documented elsewhere in *VTU* lately, so they are not shown here again.

Setup may or may not "go away" depending on whether its controls can be assimilated into more logical locations. At press time, it was undetermined where these controls would go.

ChromaFX will gain a few changes. Filters may now be loaded and saved independently. Filters that have been saved as a crouton may



### 4.0 Paint Tools

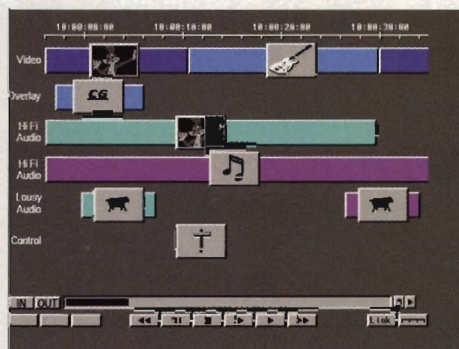


### 4.0 Paint Palette

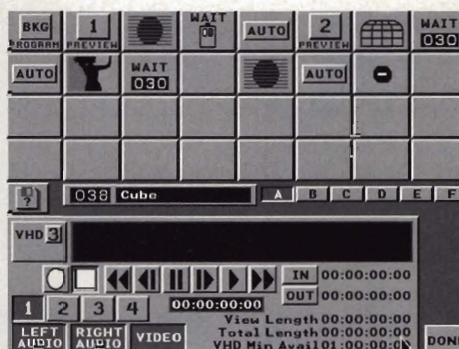
be loaded into ToasterPaint as a framebuffer image.

ToasterPaint 4.0 was recently unveiled and has a new look and new features, such as air brush, stencil, alpha channel painting and PostScript font support.

ToasterCG will still look the same, but new improvements in brush handling and features such as rotatable text will add to its appeal. Pages may now be saved independently of their original book file and books may be combined.



### Switcher screen with controls for the VHD



### Timeline editor

LightWave and Modeler may look the same on the surface, but underneath, streamlined code and many new powerful features (Metaform in Modeler and Inverse Kinematics in Layout) will bolster its already-strong following.

I leave you with a final look at the past, when we first began thinking of the future. The final two screen shots show early interface ideas for the Flyer, designed back in 1990 (yes, that's 1990). The first image shows an alternate view of the bottom half of the old Switcher screen, with controls for the VHD (Video Hard Drive). The second image shows a timeline editor, an idea that NewTek played with for some time before opting for the simpler storyboard interface of the current Flyer.

VTU

*James Hebert has written, edited, designed and produced user-documentation for NewTek since Video Toaster System 2.0.*

### EDITORIAL EVALUATION

#### Circle number on Reader Service Card

I found this article:

Very Useful

Circle 033

Useful

Circle 034

Not Useful

Circle 035



# CYBERSPACE

## Relieving Frustration

### Using Helpful Video Utilities

by Geoffrey Williams



It seems a bit strange that after doing this column for over two years, this is the first time I have covered video utilities. Part of my hesitation is that the Toaster makes plenty of video utilities unnecessary. However, there are still a number of handy things to know about.

If you have a lot of video sequences on tape, you might find a simple video catalog program useful. There are quite a few of them available, some of them quite elaborate. A simple one with an attractive user interface is Ken Winfield's VCR Tape Filer. It's short on a lot of bells and whistles, but is easy to use. It has fields for show name, type and tape location,

play full color bars, SMPTE color bars, EBU color bars, Blue color bars, a convergence pattern (for determining if the monitor's RGB guns are properly aligned, and for testing the aspect ratio of the monitor), a black screen (to use to pre-stripe a tape for insert recording or editing), and a screen with a white border to make centering the screen easier. You can also put a picture in your s: directory and rename it VTOT.pic, which will be displayed when you press a hot key.

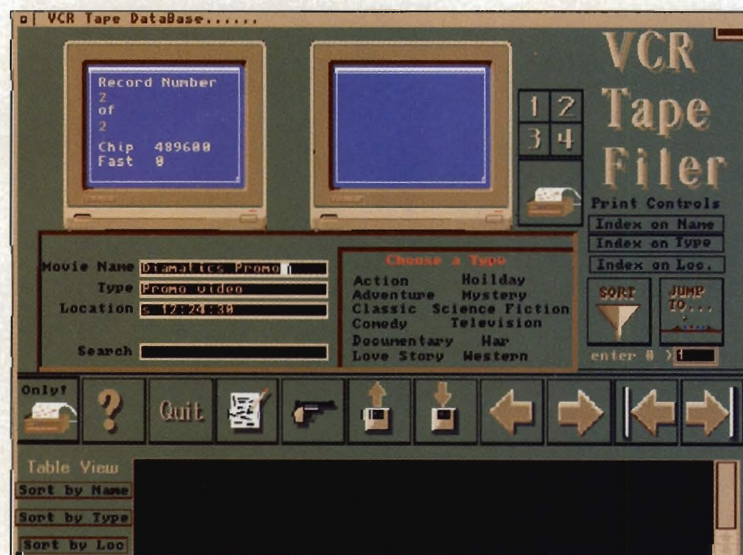
The next set of functions allow you to make alterations to the current screen (whatever is being displayed at the time, be it a picture or the Workbench). Any of these changes can be saved as an IPF file, and this even works on the screens of running programs. You can convert a screen to overscan, create a two-color screen that displays only the outlines of the image on that screen, turn the image into a two-color monochrome screen, create a single plane negative or a full color negative, antialias the image, blur it, and even clean up stray pixels.

Once you have the displayed picture the way you want it, there are a number of things you can do with it. For example, you can fade it up or down from black, with controllable fade speed or flip the image horizontally or vertically. The colors can be changed by bringing up a palette requester. You can also toggle the mouse pointer off and on.

There are several additional functions. You can turn interlace on if you are displaying a non-interlaced image (non-interlaced images will not record properly to tape). It is also possible to move the screen around using the arrow keys, or automatically center it. There is an adjustable audio tone. You can execute a script or open a CLI shell.

Overall, it is one of the slicker shareware programs available. VTOT makes life a little easier when using your Toaster as an encoder.

If VTOT does not do enough to help you tweak your monitor, another Berro program might help. VPG is a video pattern generator that allows you to display several patterns that can be useful when making adjustments. The crosshair appears in the center of the screen, and using Preferences and a reticle generator for a one-time adjustment of the screen position is suggested. The outer frame draws a two-pixel-wide box around the edge of the display. There are separate horizontal and vertical lines that can be displayed to help you adjust pincushion. There is also a scalable rectangle that can be displayed in the center of the screen. These displays can be combined in any arrangement, and you can display them in red, green, blue or black.



VCR Tape Filer catalogs all of your videotapes

and you can sort or search by any of these categories, or do a keyword search. It can display a table view sorted by the field of your choice, and you can send to the printer. It is designed to help people organize their videotape collections, but it works fine for keeping track of video segments and their locations.

One of the oldest and most versatile of video utilities comes from Mike Berro with his Video Tools on Tap, better known as VTOT. The original shareware version was quite good, but he later came out with a commercial version. When that exited the market, he released a version of the commercial product as shareware.

VTOT is a collection of useful functions, all of which are available from within any program through the use of hot keys. The first set of functions bring up a variety of screens. The press of a hot key combination can dis-



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### Here's what the experts are saying about Alpha Paint:

"Alpha Paint is a remarkable step forward for the Video Toaster....Alpha Paint is a must-have for anyone using the Toaster in a professional environment."

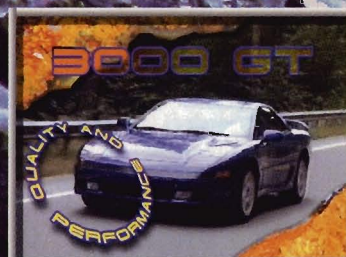
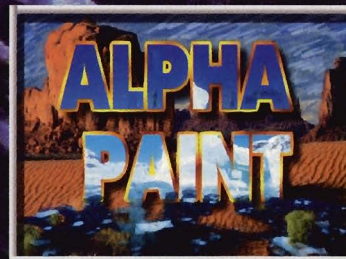
*Frank Kelly, Video Toaster User Magazine*

"Look no further for a first class Video Paint box.... Alpha Paint is everything ToasterPaint should have been and then some."

*Mark Thompson, Amiga World Magazine*

"This product is a technical marvel!....InnoVision has created the paint program we've all been waiting for....I highly recommended Alpha Paint as a tool that can easily pay for itself within a short amount of time."

*Brent Malnack, A/V Video Magazine*  
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I keep mentioning testing programs because they are quite important. The only way to know that what you are seeing through your equipment is going to be what other people see on their equipment when they play back your video is to make sure that everything on your system is well-calibrated.

The ultimate testing system I've seen in the shareware realm is a collection of 20 screens and animations from Dave Muse called CVTS (Complete Video Testing System). Each screen is designed to help you test a specific aspect of your video signal. The best part of the package is Dave's clear explanations about how to use each test. If you are doing video, you will be thankful that Dave has gone to all the trouble to put this together. It is extremely well done.

The system includes tests such as color bars, gray-scale, color purity, linearity, convergence, focus, bloom, window, centering, over-scan, horizontal and vertical resolution, interlace, chroma resolution, luminance noise, chroma noise, color crawl, camera resolution, dropouts and a multiple test pattern. A number of the tests are very clever anims that work well as test patterns. Not only are the tests great, but you also get a substantial video education in the process thanks to Dave's clear guidance. Bravo!

LogTape, written by Mike Berro, is a simple tape logging program that greatly simplifies the tape logging process if you have been doing it by hand. Tape logging is the process of watching a tape and manually logging the in and out points to be used later in an on-line editing bay. Having this all done beforehand saves you lots of money. This logger does not read time code, but you can reset it to start counting from zero when you start playing the tape. Obviously, this method is not going to be frame

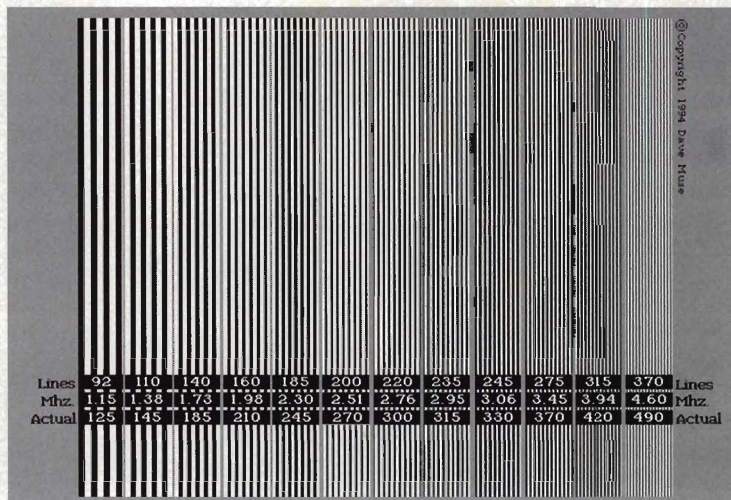
accurate, but it can get you close enough. You simply hit F1 and F2 when you see each edit in- and out-point that you want to record, and those numbers are input into the list. You can also add notes as to what each scene is. The list can be saved or sent to the printer. You

screen, which can easily be keyed over video. You can also have a solidcolored border around the numbers. The clock displays reel number and hours, minutes and seconds, or any combination thereof. It can also display just a running clock that counts up in seconds.

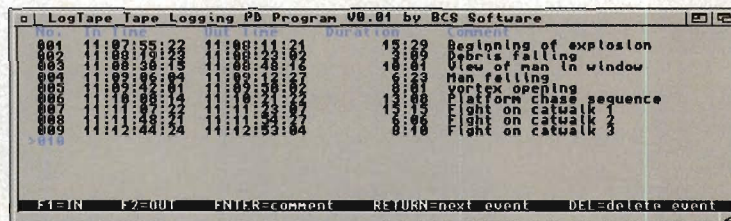
There are a number of companies that manufacture handheld SMPTE calculators that make adding, subtracting and other manipulations of SMPTE time code numbers a snap. There are a couple of programs for the Amiga that have similar capabilities, and they both have the same name. SMPTECalc from Trimiga Corp. works much like a calculator. It can handle both regular decimal calculations as well as SMPTE calculations, and you can also do mixed mode calculations. In mixed mode, you can multiply a time code by a decimal number, such as  $3 \times 3:23:45$ . All calculations are done in non-drop frame mode, but can easily be converted to drop frame with the press of a button. Previous calculations are displayed in a window, and can be sent to the printer. It can also do time scaling, so that you need only type in 45 and press the minutes button to enter 45 minutes. It is simple to use and quite handy.

R. A. Lewis' SMPTE Calc is a little less intuitive, but has the ability to convert more formats. It is actually more of a converter than a calculator. With it you can convert SMPTE drop frame

and non-drop frame, MIDI, and feet and frames for film. It is simple to enter time in SMPTE and instantly see how many MIDI beats or feet of film that would be. You can set the beats per minute, the time signature, whether you are using 8, 16, 35 or 70mm film, and 30, 25 or 24 frames per second for SMPTE. The only math functions are adding and subtracting. If you are working in a variety of mediums, this calculator/converter is quite useful.



One of 20 test screens in the complete video testing system.



Off-line editing is made easier with Log Tape by Mike Berro.



Master SMPTE conversion with these two SMPTE calculators.

can also log in drop frame or non-drop frame, or pause the count if you have to pause the VCR.

Another way to log a tape is to make a copy of it with timecode keyed over it. This is known as a window dub. For logging by hand, you don't need timecode accuracy, and a keyable time counter will do just as well. Gary Smith's InTime displays a running clock in the font, font size, color and position you want on the



The final program to cover has no serious purpose other than to help you relieve a little frustration. Mark Fennell's Target places a crosshair target on the screen that is designed to be genlocked over video. Press the left mouse button and a small splatter of blood appears. The right mouse button provides a much larger and gorier splat. It looks violent and tasteless, but I can already think of several video projects I'd like to play and blast away on for my own personal entertainment.

Of course, downloading programs is not the only resource available on the internets. There are many message areas of interest to those of us in video.

Fidonet messages are carried by several local BBSs. Here are a few message areas you might want to explore: Amiga Video covers issues of those using the Amiga for video. Messages for Toaster users, though, appear in the Video Toaster area.

You might also want to read the Pro Video and Pro Audio areas, which deal with professional-level equipment and issues. I have also found quite a few fans of *Babylon 5* among Toaster users, since it features some of the best LightWave animation you can hope to see. Fans avidly discuss it in the *Babylon 5* section. If your BBS carries Fidonet, but does not carry any of these message areas, ask the sysop if he would consider adding them.

For the broadcast arena, you might want to check out BPCNET. The only board I know of to access it is Broadcaster's BBS at (602) 872-9148. It includes BCST\_Moderator (a moderated discussion group about broadcast issues), BCST\_Want.ads (includes jobs and equipment wanted) and BCST\_CSR\_Support (direct connections to manufacturers of broadcast-level equipment).

The Internet has a number of newsgroups of interest to those doing video. Rec.video includes for sale and wanted messages as well as discussions about prosumer-level equipment. Rec.video desktop is the place to go for discussions about desktop video on all platforms. Rec.video production has discussions that somewhat overlap rec.video, but there is a bit more of a slant toward more professional equipment and you don't see as many for sale messages. *Babylon 5* fans can turn to rec.arts.sf.tv.babylon5 for discussions

about the show and the opportunity to brag about all that great LightWave work. Don't be fooled by any newsgroups that have both PC and video in the name. Remember, they are in the PC world, and the level of video sophistication in these groups deals primarily with getting SVGA cards to work.

As usual, if you don't want to hunt down all of the programs mentioned this month, I have put them all on a disk that you can get by sending \$5 to: Geoffrey Williams, VTU Video Disk Offer, 1833 Verdugo Vista Dr., Glendale, CA 91208.

VTU

*Editor's note: In the October issue of VTU, the BBS number for Club Toaster was incorrect. The number is (813) 398-0371. VTU regrets any inconvenience caused by this error.*

#### EDITORIAL EVALUATION

##### Circle number on Reader Service Card

I found this article:

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Circle 037

Not Useful  
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Santa Claus used to bring you toys for Christmas... Now he makes hard drives!

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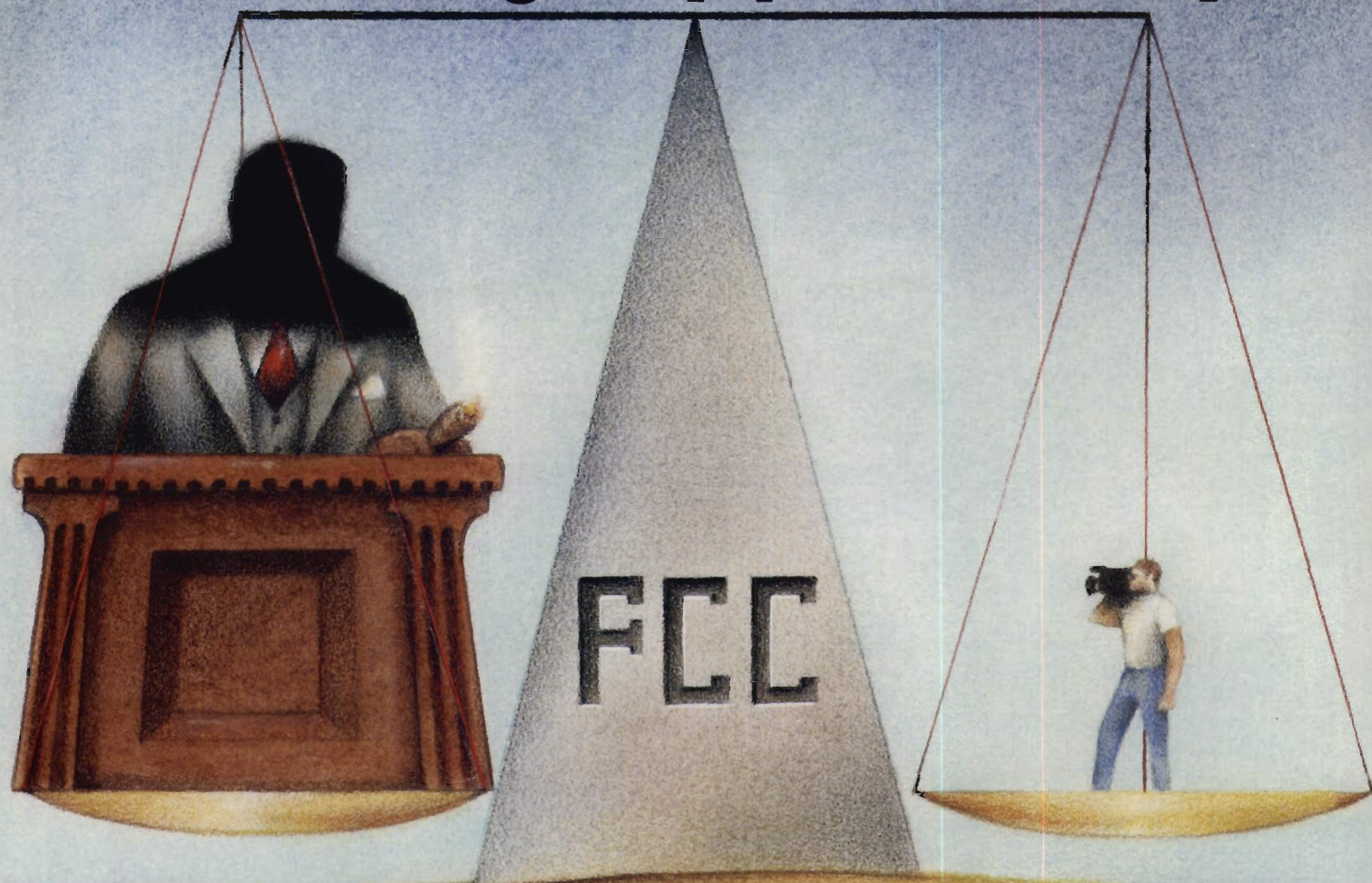
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# Seizing Opportunity



## Profile of a Leased Access Success Story

by Corey Cohen

If you've ever dreamed of entering the world of television production, you've probably imagined the rewards of having your work on display for audiences to see, admire, even learn from.

So consider what it would be like to have your very own network. Every show your very own, from concept to production to TVs everywhere. An opportunity to provide viewers with programming they might not otherwise see. The chance to make money while doing so.

Leased access can make this possible.

Leased access refers to a facet of television programming in which an independent producer contracts with a cable company to pay to air his programming for a certain amount of time. Ideally, this situation allows the programmer the opportunity to turn a profit by selling advertising during his broadcast time.

The key word is *ideally*. Though it's a concept rife with potential for cable companies, programmers and viewers alike, leased access hasn't proven to be the



network-alternative road to air time that programmers hoped for. Though the government has taken steps in the form of the Cable Acts of 1984 and 1992 (see box below) to help independent producers get on the air—therein increasing the diversity of programming—problems with obtaining carriage remain. Difficulties programmers have had getting and staying on the air and dealing with cable companies have received ample media attention in the past few years, including an overview in this very magazine (*VTU*, May 1994, page 50).

Problems with obtaining leased access are so compelling because of the inherent “one against the system”-like scenario: independent producers with varying amounts of wealth and imagination pitted against what many feel are monopolistic, oppressive giants. It's easy for those with any kind of vision to empathize with those whose efforts to exercise their creativity are met with resistance.

Though it's easy to see how the leased access situation can produce anger and frustration, it's important to remember that, like any struggle, those who aren't succeeding can and should gain inspiration from those who are. Amid the rough terrain that independent producers face in the leased access cable market, there are some who have certainly achieved success. Mike Conway is just one example of a programmer who has conquered the odds.

### Life Before Leased Access

Though Conway was born and raised in Hollywood, he never imagined he'd end up in production.

“I kind of backed into it,” he described while relating how his video experience began about 25 years ago with regular filming of a downhill ski-racing friend. “I'm very self-taught.”

## Leased Access Legislation

### The Cable Act of 1984

A section of this act ensures access to the cable system for parties unaffiliated with the cable company. The goal of this federal law was to ensure that the public would receive diverse programming, so in case an operator company chose not to provide its customers with a particular type of program, an independent producer could.

### The Cable Act of 1992

A provision of this act requires that the Federal Communications Commission (FCC) establish maximum rates for leased access and for billing and collections. Programmers and cable companies could also bargain for a lower rate. And the FCC would be forced to establish reasonable terms and conditions for granting air time.

Apparently, Conway did a fine job. What began as a part-time activity soon grew into a profitable venture, with projects for companies such as Gallo and consulting for studios like MGM and 20th Century Fox heading his way. Today, Conway and his wife, Renee, are the owners of Wilderness Productions, a company airing programming on four cable systems in Lake Tahoe and Reno.

Since 1974, when he founded Wilderness Locations Services, Conway has supplied production management for more than 75 feature

films—*Total Recall* and *Die Hard II* among the most popular—and more than 700 national television commercials. “I've had the very wonderful, unique experience of working with some of the best director/producers in the world,” he said.

Back in 1982, when video was in its infancy and just starting to make its way into production companies, Conway began utilizing it for his location scouting business.

While on vacation with his family two years later, Conway woke up late one night with a brainstorm: shoot a travel video. Though the sole piece of equipment with him was “one of those old umbilical cord-type cameras,” he shot what several magazines at the time declared one of the first travel videos. Six months later, *Video Vacations*—what Conway claims is the first home-shopping program—offered him a job as a field producer. In 11 days he traveled to 13 countries, and proceeded to sell thousands of travel tapes. That year Wilderness Productions started producing its own television programming.

### Trouble at First

When the Cable Act was enacted in 1984, says Conway, he immediately went to a local cable company and filled out an application to get on the air. His initial approach was met with stern resistance.

“I filled out all their applications, I gave them the insurance, I fronted them the money, I bought the equipment, I went on the air—and the quote was, ‘Well, you're calling on the same people as one of our salespeople, and we don't want to confuse our customers.’” Declaring that Conway's audio wasn't working correctly, the company revoked his air time.

“The general manager at that time exercised editorial control and took us off the air, which is a violation of the Cable Act. There was nothing wrong with our audio. I said, ‘Look, why don't you tell me the truth: I'm making too much money,’” said Conway.

For the following nine years, Conway worked with several other cable companies in the Tahoe area. Growing increasingly frustrated with the one that



The K-Mountain logo



# Seizing Opportunity

continued to deny him access, however, he instructed his attorney, ex-Chief Justice "Mean Gene" Rassmussen, to prepare the case for federal court. Within 10 days of Rassmussen's contacting the company's corporate management, leased access terms were negotiated.

Conway emphasized that Wilderness Productions' problem with the cable company was restricted to a particular

change the audience rather than the programming, which is a lot less money."

What airs on K-Mountain, Wilderness Productions' channel, is a blend of primarily local-oriented coverage. Among the regular programming are a real estate show featuring nearly 100 homes each month, local high school sports and a travel show. Conway recently finished work on *Mysteries Beneath Lake Tahoe*, a half-hour program on an old sunken freighter. And coverage of biweekly city council meetings keeps viewers updated on local politics.

Generally, says Conway, "We try to stay noncontroversial. I get people coming to me every week asking me to do some photojournalism on this or that, and I tell them, 'We don't do news.' I'm not saying we won't ever...but we've really tried to stay neutral."

As a business, Wilderness Productions appears to be doing fairly well. According to Conway, his programming is attracting national recognition, with nationwide advertisers adding to a list that has included Hertz, AT&T and MasterCard with increasing frequency.

But perhaps one of the greater pleasures Conway and the staff of Wilderness Productions receive from their work is the opportunity to film and otherwise help their community.

"We're really into doing community things," Conway explained, a point supported when Wilderness Productions recently received South Lake Tahoe's Volunteer of the Year award. Conway often travels on ride-alongs with the local fire department, and has done public service announcements for the local fire and sheriff's departments, forest service and highway patrol.



The dice in this marketing video for a local casino were made with the Toaster and DPaint.

local manager, and was remedied by going to the company's higher executives. "We beat our head against the wall with him for years, because we were trying to work with the local guy. When it went to corporate, they said, 'Sure, we'll access you.' We have a very good relationship with them now, and the new local manager is a jewel to work with."

Conway currently operates with two cable companies, TCI and American Entertainment (AE). AE General Manager Corie Hart characterized her company's relationship with Wilderness Productions as "excellent," describing it as mutually beneficial.

When asked about AE's leased access philosophy, Hart responded, "Our leased access channel should be community-oriented. We like people in the community to enjoy seeing themselves."

## What's On TV

Conway's current programming reaches approximately 110,000 households and 25,000 hotel rooms in the Reno and Lake Tahoe areas. With the hotel rooms constantly changing occupants, Conway says, "Every 2-1/2 days, we basically have another 50,000 viewers from somewhere in the world."

"I'm in a very unique situation as far as location because it's high tourism. I have the opportunity to



A K-MTN restaurant commercial featuring LightWave.

Conway also expressed pleasure at being able to work with Renee and his daughter, Jenae, on much of his programming. "I have the best family life of anyone I know of in the production business," he said.

## An Early Toaster User

Though Conway is a prominent figure in leased access, an equally appropriate distinction is his status as a Toaster pioneer of sorts.

Conway's first exposure to the then-unreleased Toaster came in 1987, when he remembers watching a computer show that demonstrated the emerging product. Captivated by a description of the machine, he called NewTek and asked them to send him one as soon as it was released. Later, at the 1991 National Association of Broadcasters convention, he was introduced by a NewTek representative as "the guy who gave us the first order on a Toaster."

Wilderness Productions' equipment includes four Amiga 500s, four 1000s, two 1200s, a 2000 and a Toaster 4000 with an '040 and 20MB of RAM. DeluxePaint, LightWave and Modeler are also part of the package.

Most of Conway's Toaster work is limited to character generation, while his Toaster operator, Rodney Volkmeyer, uses the device for graphics.

For a recent Sharper Image catalog cover, Volkmeyer retouched several photos of a skier in LightWave and then merged them together. A framestore for a technical video



demonstrating how a company's automatic tire chains work involved Volkmeyer re-creating the device with LightWave and then composing it in ToasterPaint.

"Some of our clients have gone, 'Wow, you can do this in Lake Tahoe?'" said Conway, describing feedback from Wilderness' Toaster use. "They've been pleasantly surprised with how fast we can whip something out."

Conway offered solid praise for the Toaster's effectiveness. "I think that if you take a look at the single best piece of production equipment you can buy for leased access, it'd have to be a Commodore with a Toaster in it. It'll do your billing, your quotes, your office work and your post-production." The producer added that he is "99 percent sold" on purchasing the Flyer for his studio.

### Advising Others on Leased Access Success

Conway offered several suggestions for independent producers trying to succeed in leased access:

- Look at your marketing approach with definement: "You go to the people that are spending the dollars and you come up with a better mousetrap for them. You say, 'Hey, you're buying a page in the newspaper for one day for \$350 and hitting 9,400 homes. [With us] you can hit 50,000 homes every day for \$495 a month.' Remember that newspapers are folding in the economics of this country and television stations are proliferating."
- Go to the top of the cable hierarchy if necessary: "First go in to the manager, make an appointment, go in and ask for their leased access application. If they don't have one, or the manager doesn't understand the leased access laws...go up the ladder until [you] find somebody who does."
- Consistently use the best equipment you can: "A philosophy I've always had is, 'It costs a nickel more to go first class.' I buy the most expensive things I can buy on everything that I can afford."

As Conway points out, however, there are some definite challenges involved in creating programming. "When you're buying leased access, you're paying for every minute that the modulator's transmitting, so you have to make every minute count. That's rough to do and keep it entertaining."

### Pondering the Future

Though Conway is pleased with his current dealings with TCI and AE, he recognizes the difficulties many independent producers are still facing in acquiring leased access.

"I doubt if there's a hundred of us across the country," he said. "It's a difficult thing to gain a leased channel. I get calls every day from people who say, 'I've been kicking these guys [one or more cable companies] around and they don't even know what leased access is.' I tell them you better get a copy of the Cable Act from the library or the FCC and read to them where it says they have to understand all the laws as a head-end manager."

"A lot of the cable companies don't want to bother with it, so they'll just tell you, 'We don't do leased access.' And my response is, 'Fine, I'll have my attorney talk to you.'"

"When you're issued a franchise to come into a city or town, you're basically given a license for a monopoly," Conway explained. "And when you're given a monopoly,

there are some rules you have to play by. Some of these rules are the Federal Communications Act, which is a lot stronger than the franchise agreements within counties. It's a real easy thing to say, 'We don't do it.' But that's quickly changing."

"What has to change to make the whole thing work better is more understanding of the act and more understanding of how to position yourself to get a leased access channel. That has to be publicized more."

One of the ways Conway is meeting this goal is through a recently signed contract with *Videomaker* to help work on a manual discussing how to succeed in leased access. The magazine, together with *Leased Access Report*, a newsletter it distributes, is an ongoing source of information for those interested in this market. (For more information about either publication, call 916-891-8410.) A speaking tour with Matthew York, *Videomaker's* editor/publisher and a vocal proponent of leased access, is also in the works.

The goal of the manual is to "enlighten entrepreneurs about new business opportunities available because of recent legislation," said York.

"We want to coach people to entrepreneur, not to fight."

The editor/publisher hopes that, eventually, all 10 percent of programming on stations required by law to have leased access will be filled by people who previously didn't have access to this marketplace. In this win-win scenario for the cable companies and independent producers, he says, the ideal coverage would be a mixture of local, national and regional.

"I'm jazzed about [the manual]," said Conway. "I'm going to have a ball maybe helping change some of the way television is done in the U.S. And I think it can help the industry, and help people from being frustrated. Years ago, when I got into it, there was no one to turn to. But now there are some sources of information."

"Because of the FCC's interest and their request to hear problems from applicants for leased access, I think it can only get bigger. I think cable television is becoming more and more community-oriented...and technology is going to dictate ease of more local television into place. We're on the tip of a vast change in how we all watch television."

VTU



Mike Conway (above) in his studio at Wilderness Productions, founded in 1974.



A battle in space provided through Rodney Volkmeyer's Toaster work.



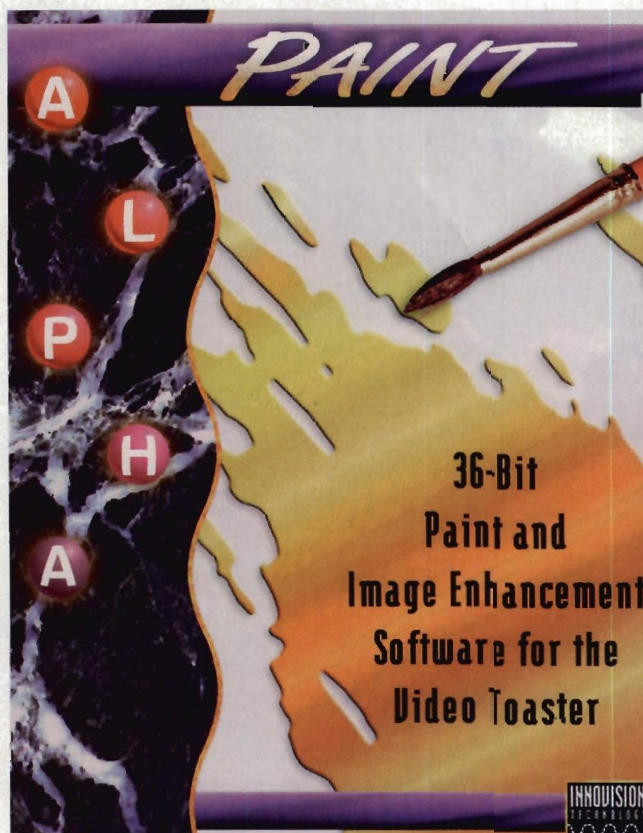
# Alpha Paint

## InnoVision's All-In-One Paint Package

by Frank Kelly

One of the most interesting things about the Toaster's success is the many different ways it is being used. Originally intended to provide the fundamental tools for desktop video production, it can now be found in hundreds of applications, including elaborate edit suites where it is used to assist in the production of nationally broadcast programming. Despite the Toaster's many tools for graphics creation, it lacks some of the more sophisticated features usually associated with production systems that some "power" users from the broadcast industry are accustomed to using. A crop of utilities and image processing programs have helped to fill some of the gaps, but there hasn't been a third-party "all-in-one" paintbox package specifically for the Toaster until the introduction of Alpha Paint.

InnoVision Technology, creator of Montage for the Video Toaster, obviously did its homework carefully. Many of Alpha Paint's features were developed based on suggestions from experienced Toaster users with previous experience on high-end broadcast graphics systems: stencil masking, area selection by a range of colors or luminance, interactive scaling, video alpha channel, rub thru, practically unlimited undo and redo, postscript text support, interactive rotation and others. Most impressive of all, this powerful paint package works directly with the Toaster's frame buffers and program output to allow real-time painting and image processing without having to use a lesser quality display option to "preview" the results. In fact, it can be disconcerting to see your RGB monitor go completely dark once you launch the Alpha Paint program (list price \$699.95). Actually, you won't be needing it. Both the interface and the actual image itself are shown directly on the Toaster's



program output. Your preview monitor shows the image and all real-time painting, minus the program interface.

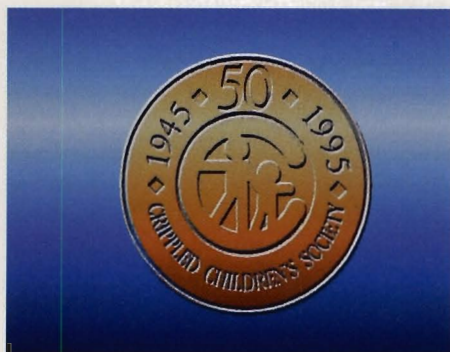
### Let's Talk Bits

InnoVision's advertising places great emphasis on Alpha Paint's 36 bits. To explain why this is so important, we need to briefly look at the difference between ToasterPaint's 24 bits and Alpha Paint's 36 bits. ToasterPaint creates images that contain 24 bits of color information. This 24 bits consists of 8 bits for each basic color component of red, green and blue. Alpha Paint starts with the same 24 bits of color information, then adds 8 bits of graphics alpha channel along with 8 additional bits for video alpha channel. There is also another 8-bit grayscale layer used for stencil masking.

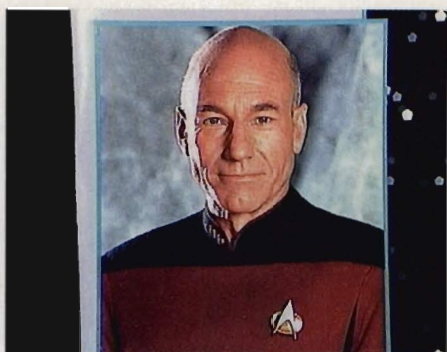
So what's all the fuss about Alpha Paint's extra bits? The additional alpha channels greatly extend the amount of translucency that can be used when layering graphics or showing video through a graphic or another video source. Weighted brush strokes such as those from a pressure-sensitive drawing tablet benefit greatly from the use of these extra alpha channels to create brush and pen strokes that are smooth, fluid and faithful to the artist's intent. Even without a graphics tablet, there are many artistic effects available in Alpha Paint that require soft edge feathering along with variable transparency to achieve a pleasing result. Without the extra alpha channels, these effects simply would not be possible.

All these bits and bytes mean little to most of us so long as we can get the Toaster to do what we want, with as little getting in the way of our creativity as possible. That's where Alpha Paint's extra horsepower really comes into play, by allowing more options and greater experimenta-

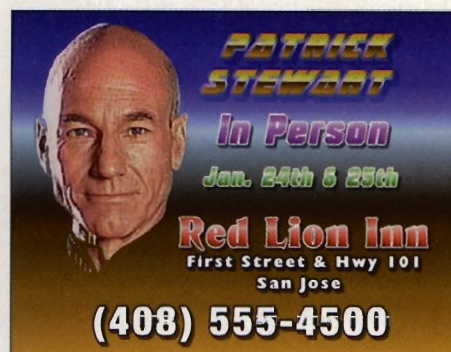




Artwork with background stencil rub through.



Magic wand used to remove backgrounds and fill with black.



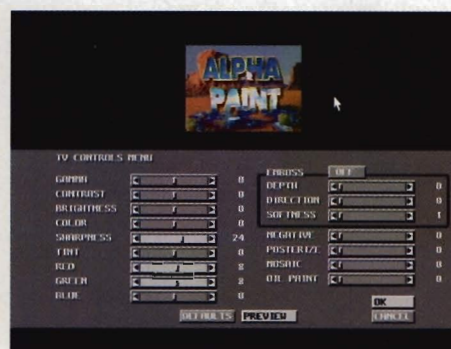
Composited with text effects.



Camera grab



Using brush attributes fog, face fill and glow.



The TV Controls Menu

tion. Alpha Paint's variable transparency options are nearly limitless. You can use the luminance value of a cutout brush, entire swap buffer, or one of the many palette fills as a transparency blending mask. Alpha Paint comes with many banks of pre-defined solid and gradient color palette buttons, some of which mimic realistic 3D shapes in appearance. You can easily create your own custom palette fills containing a wide variety of highlights and multi-directional gradient spreads. Besides the obvious benefit of having fully customizable color gradient fills, you can apply the grayscale luminance values of these custom palette fills for variable transparency. This variable transparency option can be used with either the graphics alpha channel for compositing still images or the video alpha channel for "video-on-video" layering effects.

### Lots of Power, Easy to Use

At first glance, Alpha Paint's interface might seem a bit foreign to those accustomed to ToasterPaint, though users of Montage will feel right at home. Palette gadgets and traditional paint tools are selected from a main menu bar that appears whenever the right mouse button is pressed. A series of menus and submenus are selected

from button gadgets that are logically related. The palette controls submenu is especially powerful and easy to use, with its color picker and gradient fill generator. Many of Alpha Paint's submenus provide easy access to image processing effects that would take many steps and perhaps several other programs to accomplish. The TV controls menu allows you to select oil painting, embossing, color correction and more. Once settings are adjusted, they are applied to a miniature version of the full screen image. While not a totally accurate depiction of the modifications, it provides a much faster way to preview the adjustments before applying them to the entire image. Some of these same image filtering options can be applied to specific areas of the image if selected by one of the painting tools when in the appropriate mode.

Alpha Paint's manual is intimidating in terms of size, but actually quite easy to navigate, with a table of contents and index. The main reason for its heft is the extensive tutorials, which cover every aspect of the package's various capabilities. Because Alpha Paint offers so many options, many of which can be used in conjunction with each other to create totally different effects, these tutorials are quite useful. Anyone familiar with the hot keys used in

either ToasterPaint or DPaint will be able to work with Alpha Paint without even opening the manual. However, to fully appreciate the power and flexibility of many of Alpha Paint's exclusive features, some time working with the tutorials is a must.

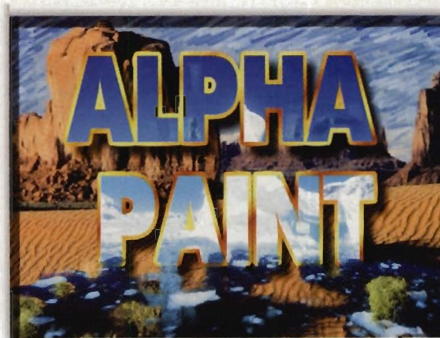
For anyone who has spent time cleaning up logos or touching up still backgrounds, Alpha Paint has some features you are going to wonder how you ever did without. The magic wand gadget allows you to create a stencil mask that is specific to a single color or a range of colors. On many occasions, a graphic design or logo is captured from tape or a camera copy stand. In these instances, a solid color is rarely just a single color, but varying shades of that color. This can make selecting areas for cutout or color treatment quite time-consuming. By adjusting Alpha Paint's tolerance slider in the magic wand submenu, you can widen the range of colors that will be affected by the stencil mask. Furthermore, you can use multiple selections of different colors as components for the stencil. Once applied, the stencil can be used to protect the selected area, or used exclusively of the rest of the image for specific manipulations.

One good use of this feature is making cutout brushes without a

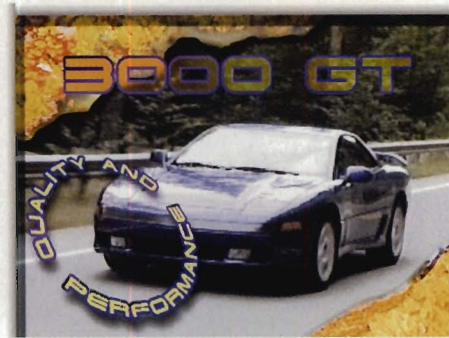




Alpha Paint's 3D perspective rotation, scaling and image compositing.



Texture Mapping and edge attributes can be applied with only a few menu selections.



Playback of soft edge key effects over live video using the video Alpha Channel are easily achieved.



Custom colors can be quickly created and recalled by selecting one of 200 online color boxes.



The Text Menu provides sophisticated controls for Titles and Logo treatments.



The Main Menu gives the user easy access to Pen, Feathering, Airbrushing and other controls.

background. While Alpha Paint supports the use of black transparency for cutout brushes, the use of a stencil mask on images that don't have solid background colors behind the area you wish to cut out is a really time-saving feature. Once an area is excluded with a stencil mask, it cannot be "picked up" with the scissor tool. No longer does an area have to be totally black in color before you can "lift" an image from it.

The magic wand is also quite useful for globally selecting colors throughout an image for rub thru or paint bucket fills. An onion skin feature can also be used in combination with the rub thru mode to take the guesswork out of the process of compositing images.

Brush manipulation options include resizing via either a percentage value or interactively with the mouse. 3D manipulation on all three axes can be set from the submenu or via hot keys. Border, shadow and outline options can also be applied to any cutout brush. A cutout brush can be stretched, rotated and slanted, and given a neon glow, shadow and a different face fill, such as a texture from another IFF file or framestore. Here again, Alpha Paint's palette selectors

can be used as both fill colors and alpha channel transparency masks to create unique effects with cutout brushes not possible in any other package.

### Text Options

Alpha Paint supports Toaster, Chroma and Postscript Type One fonts. Once a font is loaded, text is entered, then displayed, with user-selectable face, border and shadow attributes. A preview box allows you to see generated text, which is very helpful when choosing fonts from the large selection that is available to those with Toaster 3.0 systems. Alpha Paint's antialiasing enhances the look of any text generated. Alpha Paint also offers a unique text rotation option that allows text to be tilted on any of three different axes and manipulated in a circle. Because all generated text is a cutout brush once rendered, it can be manipulated with all of the same variable adjustments as any other cutout brush. The only caveat is that unlike with a character generator, the text cannot be edited once generated. Making use of Alpha Paint's multiple undo and redo features allows for plenty of experimentation to archive many versions easily. With a bit of

advance planning creating your text graphics, you can quickly generate text headers and logos with stunning results.

### Drawing vs. Mousing

Alpha Paint fully supports pressure-sensitive drawing tablets that provide Amiga drivers. Although pressure sensitivity isn't a requirement for your drawing tablet, there are advantages that make it an option worth considering. Pen and pencil drawing and brush stroke painting are much more intuitive if your paint software supports variable pressure and stroke weight, and Alpha Paint does. Even without a drawing tablet, you can mimic weighted strokes with your mouse or trackball via a menu selection. Alpha Paint's support of pressure-sensitive drawing tablets shows further commitment to InnoVision's desire to please users who are accustomed to high-end platforms.

### File Support

Alpha Paint directly supports loading and saving of Toaster Framestores, IFF24 and JPEG Files. It also has an option in the brush menu that allows you to specify "Mac" graphic aspect ratio. For those working with graphics



from the Mac platform, this is a very useful feature. Brushes and files from Alpha Paint are stored in standard file formats, but also save additional alpha channel information in separate Alpha Paint settings files for later recall when the brush or picture file is reloaded into Alpha Paint.

### System Requirements

Alpha Paint will work with any Video Toaster system version 2.0 and higher. Twelve megabytes of fast RAM is a minimum requirement, with 16MB or more recommended. Alpha Paint will operate with one megabyte of chip RAM and Amiga operating system 1.3, but 2MB of chip RAM and version 2.04 Workbench and up are strongly recommended. Your Amiga platform must have at least an 030 accelerator, with more performance increases expected from 040 systems. You must have at least 10MB of hard disk space available for installation. Copy protection is designed to allow only one installation per CPU, but inexpensive site licenses are available for multiple installations in the same location.

### Last Words

I've spent a lot of time listing the capabilities of Alpha Paint, but it's hard to put into words how using the program has changed the way I view the Toaster's capabilities. Alpha Paint is a remarkable step forward for the Video Toaster, placing it in the forefront of high-end graphics workstation performance. The video-through-video capabilities have opened new vistas for transitions that are truly unique, and inspired me to think of different ways to edit my productions. Nearly all the features that I find useful in other programs and wish I had for ToasterPaint are in Alpha Paint, plus many more that I would have never imagined. In my opinion, Alpha Paint is a must-have for anyone using the Toaster in a professional environment. Anyone using Alpha Paint for even a short time will realize that InnoVision has delivered a paint package for the Toaster that truly unleashes its potential.



### Company Mentioned:

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FOR INFORMATION CIRCLE 17

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FOR INFORMATION CIRCLE 116



# Pegger 2.0

## A Must-Have for Toaster Users

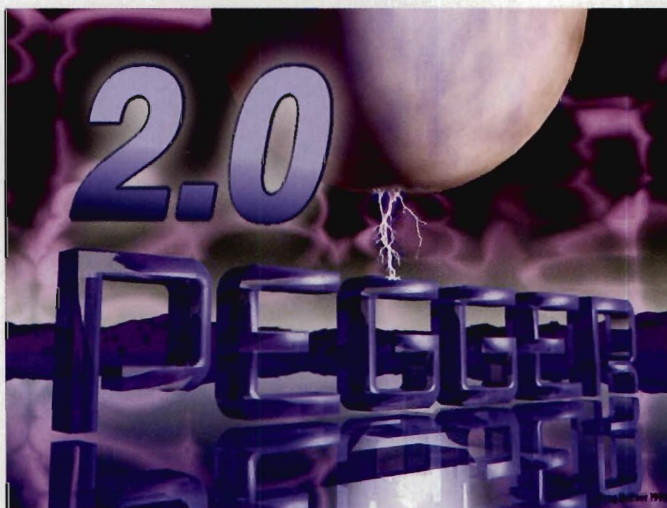
by Douglas J. Nakakihara

One thousand percent more disk space. Only \$50! Perhaps that's a little bit of an exaggeration, but it's not far off the mark. Pegger, from Heifner Communications, allows you to take advantage of the tremendous file storage benefits of JPEG with programs that don't natively support it. When used with the Video Toaster, framestores can be automatically saved in JPEG format, using more than 90 percent less disk space than a framestore. The JPEG files can be loaded, too, and the Toaster will think and act as if they were actually framestores. Moreover, this may be the only way to use JPEG files for image maps with most 3D programs, including LightWave. Pegger supports IFF24, Framestore, DCTV 3 and 4 (filtered and non-filtered), HAM8, Impulse RGB8, IFF8, IFF8 grayscale, Targa, JPEG grayscale and ToasterCG formats.

### Program Monitoring

In previous versions, particular directories had to be specified for Pegger to monitor. Now you can specify "by program" when Pegger operations should occur. For example, you can have it so anytime LightWave reads a JPEG file, it will automatically convert it to IFF24, no matter where the file is stored. This also means you aren't locked into a particular format for a directory. Programs can read JPEG files in a Toaster Framestore directory, interpreting them as IFF24 or any other supported format. This also allows applications to work with the JPEG'd images without conversion. Previously, you had to disable Pegger to do this.

To maintain compatibility with certain directory utility programs (such as DirectoryOpus), Pegger displays uncompressed file sizes, though the actual file being stored is significantly smaller. This discrepancy made it difficult to determine the real file size. This is no longer a problem if the program used to view the file size is not a Pegger-monitored program.



### The Three Amigos

Pegger utilizes three main tasks. The monitoring task is called Snoop, which distributes compression or decompression chores to the CJPEG or DJPEG tasks as required. For each program or directory, you can independently specify whether JPEG compression or decompression should take place. There may be times when you always want a program to be able to read a JPEG file, but don't necessarily want to always save it in JPEG format. You can also enable or disable

these settings using a cycle gadget. This is handy for temporarily changing Snoop entries without losing setup information.

The Snoop compression option has a number of additional parameters. A pre- and post-processing ARexx script can be specified. Pattern matching is available to limit processing to files that meet a particular filespec. JPEG quality is adjustable here. You can also specify whether the compressed file should create a new file or replace an existing file using the same file name. If you are creating new files, several renaming keywords are available for building a name using all or parts of the original file name. For example, the files Render001, Render002, and so on could be automatically renamed Render001.jpg, Render002.jpg, etc. When snooping directories, there is an option to include subdirectories.

The Snoop decompression option also has ARexx processing capabilities, pattern matching and a subdirectory option. Additionally, you must specify the format used when a JPEG file is decompressed. A cross-block smoothing option is available to smooth out severely compressed JPEG files.

The compression and decompression tasks can be accessed directly as well, which allows you to process specific files or batch-process entire directories. All of the corresponding parameters available in Snoop are duplicated in these windows, with some additional control functions. A status window that displays information on files in queue



and the file currently being processed can also be brought up. One problem I found is that when multiple files are selected (using shift-left mouse button), the files will not process automatically. You must manually cycle through each selected file and decompress it. I mentioned this to tech support, and hopefully it will be fixed in an upgrade.

The Batch Directory Window appears when processing a batch of files. This lets you add and remove certain files and modify the Rename string before the processing is actually performed. Information on the number of files to be processed, to be over-written, and with bad target names (e.g., duplicate filenames), as well as free space on the destination volume, is displayed.

### Installation Hints and Tool Types

For proper installation over an old version, make sure you don't have Pegger running. In fact, I'd recommend deleting the old version first—directory and all. You might want to jot down your snooped directories first, although I think you'll want to completely switch to snoop-by-program anyway. (According to Heifner, the old directory-monitor method was only left in for backward compatibility.) After installation, several preconfigured programs will appear. To use them just toggle the "Disabled" gadget to "Enabled."

Once installed, the Pegger icon has an extensive number of Tool Types to configure it to your system. All of the default settings can be specified here. I was happy to find that the (eventually annoying) animated title window can now be suppressed. If you can spare a megabyte or so of hard disk space, to conserve memory, I'd recommend changing the TEMPORARY\_DIR tool type from T:, which is normally in RAM:, to a directory on your hard disk.

### Compression and Speed

The default JPEG compression setting of 85 should work for most applications. At this setting, you can save 15 or more framestores on a single low-density floppy disk.

However, the manual addendum indicates that darker images may need compression set to 95, but this still results in a 4-to-1 compression ratio. Furthermore, processing time has

been substantially reduced. It now beats ImageFX and zips by ADPro (which it beat before). Pegger 2.0 uses significantly less memory to process JPEG files compared to other image processors because it works on a small portion of the file at a time. I've tested this on several large bitmaps, some of which wouldn't even load into ADPro because I don't have enough RAM.

I've compared JPEG'd framestores using an 85 compression setting against the original picture and there was barely any difference. You'd never notice the difference if the images weren't being compared. I JPEG all of my framestores. However, since you lose some amount of detail every time the same image is JPEG'd, it is best to try to only use it on final images. Also, you probably don't want to automatically JPEG LightWave frames unless you have to because of disk space limitations. It will increase rendering time.

Pegger 2.0 will now work across networks and has been tested on PAR-NET, Enlan DFS and Oxxi's Novell client software. It also works fine with Spectronic's floppy disk port network,

AmigaLink. Pegger requires DOS 2.0 or greater, 2MB of RAM (a little over 300K of memory is used when idle) and a hard disk. An '030 or better processor is recommended.

Since the day I installed the original version, Pegger has become an indispensable program in my Video Toaster setup. If you own a Toaster or work with 24-bit images, you should own Pegger—period. (Note: For a limited time, Heifner is offering Pegger 2.0—regularly \$99.95—for only \$49.95, and the upgrade is only \$15.)

VTU

*Douglas J. Nakakihara is a freelance writer for several high-tech publications.*

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# ImageFX 2.0

## A Combination of Capabilities

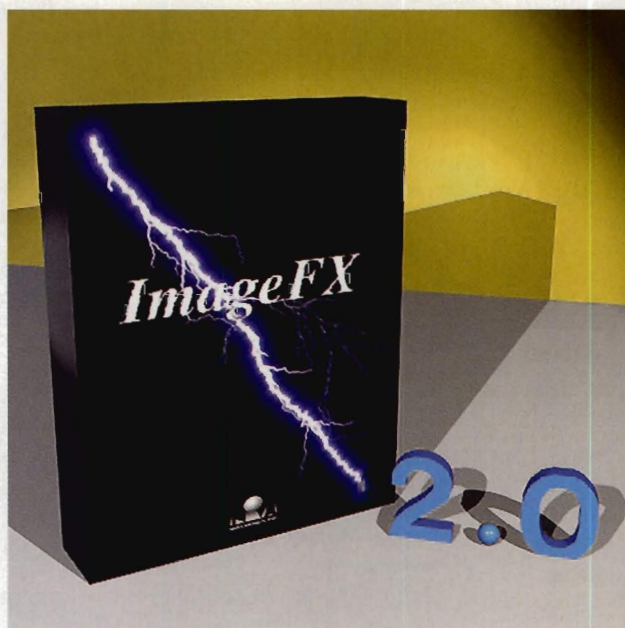
by Matt Drabick

Since its arrival over two years ago, ImageFX has been a competitor of Art Department Professional (ADPro) for performing image processing on the Amiga and Video Toaster. With its extensive collection of drawing and painting tools well-suited for creating original images, plus a professional morphing program, ImageFX combines image-processing, painting and morphing capabilities in one program. ImageFX has recently been upgraded to version 2.0 and includes a wealth of new features and enhancements.

Formerly sold by Great Valley Products, ImageFX is now distributed by Nova Design, the company that writes the software. System requirements are Workbench 2.0 or higher, 1MB of chip RAM, 3MB of fast RAM and a hard drive. ImageFX 2.0 is distributed using four disks and will automatically install itself in a hard drive. Additional RAM and a fast CPU are highly recommended for working with 24-bit and/or high-resolution images. If you want to use ImageFX 2.0 to create MPEG sequences, you'll need at least a 68020 CPU. While ImageFX is generally run using its own public screen, a second version that opens onto the Workbench screen and uses slightly less chip RAM is included with the package.

### Separate Modules

ImageFX can be neatly divided into five main modules or subprograms: Scanner, Palette, Toolbox, Render and Printing. Secondary modules include load, save and preferences. The save module selects the file format used (JPEG, Framestore, IFF, etc.) to save images. The preferences mod-



*"With its extensive collection of drawing and painting tools...ImageFX combines image-processing, painting and morphing capabilities in one program."*

ule provides access to various functions, including selecting the preview and render displays, selecting virtual memory, disabling the undo function and closing the Workbench. ImageFX loads images into a preview buffer, allowing the user to apply and preview an effect or paint directly on the image before the final rendering and displaying of the image. Various display devices are supported for previewing and displaying images, including the DCTV, IV-24, Firecracker, EGS, OpalVision, Retina and Picasso, plus the ECS and AGA Amiga chipsets.

Note that ImageFX can't access the Toaster's frame-buffer for displaying, painting and manipulating images unless used together with ToasterFX. Until recently, ToasterFX was sold by Byrd's Eye Software. At press time, new ownership was still to be determined.

For desktop publishing enthusiasts or owners of other framegrabbers besides the Video Toaster, ImageFX supports the Sharp JX100, Epson scanners, Progressive Peri-

pheral and Software's Framegrabber, GVP's IV-24 and MacroSystem's VLab. Printer support includes PostScript and Primera.

The color palette module allows up to 256 colors from a 32-bit palette to be displayed and manipulated. ImageFX supports RGB, YUV, YIQ, CMYK (new with version 2.0), CMY and HSV color spaces. Color ranges can be quickly generated and saved for later use.

ImageFX 2.0 loads, converts, displays and saves various image or file formats. Formats supported include Abekas, Anim, BMP, GL/DL, IFF, JPEG, Koala, MPEG, PCX, PIC,



PICT, PostScript, QRT, Rendition, Sculpt, SGI, Soft-Image, SunRaster24 and 32, Targa, TIFF, Wavefront and X11WD. New loaders include PostScript, PAR (Personal Animation Recorder files), PhotoCD and a Harlequin renderer. With version 2.0, Framestores can finally be loaded and saved. Auto-matic batch-processing of frames using selected special effects operators is also included.

### What's in the Toolbox?

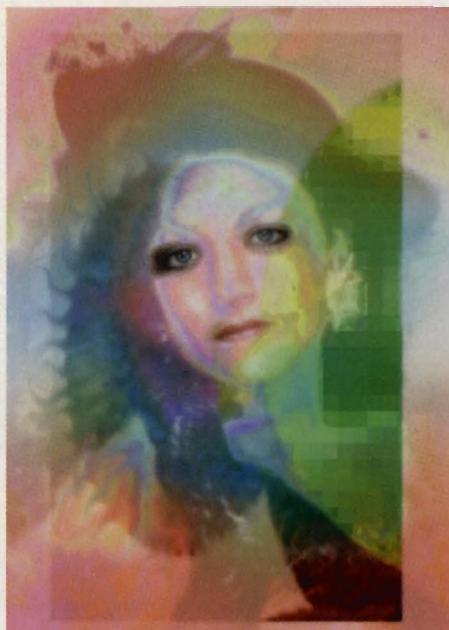
The toolbox module contains many of ImageFX's important features. It provides comprehensive drawing and painting tools, including curved- and straight-line tools, filled and unfilled shapes, multiple pen or brush tips and sizes, and area fill, plus airbrush, text and custom brush tools and an undo button.

At the top of the screen are the drawing and painting tools. Immediately below are 15 buttons neatly divided into categories such as convolve, brush, filter, composite, transform, distort, hook, effect and ARexx. Each area provides tools for processing and manipulating images. While the overall appearance of the toolbox module is the same as in previous versions of the software, many of ImageFX 2.0's new features and enhancements are found there.

The airbrush tool now works in real time, providing immediate user feedback while working with brush or pen tips up to 255 pixels in size. Other drawing tools can also have pen tips up to 255 pixels in size. The size tool now has half- and double-scaling operators. When memory permits, multiple buffer and brush support is provided, and proves to be useful for blending two or more images together or repeatedly working with several brushes or objects at the same time. A small preview window is now included with most operators and special effects. By previewing the effect or operator before rendering the full-screen image, lots of time can be saved, while allowing greater freedom for experimentation.

### Interesting Effects

New operators and effects include 3D perspective, apply texture, ramp edge detect, video limit, median filter, shear, straw, crystallize, polar mosaic, dream, lens flare, radial star, swirl, wave generator and lightning. While some of the new effects such as video



There are 65 symbols included with ImageFX 2.0, such as JFK, Mark Twain, Cheetah, and the United States flag.



Existing features from earlier versions of ImageFX have been upgraded for better performance.



The scene above shows a lens flare that you can add to 2D or 3D images.

limit and swirl are available with ADPro, others are truly unique. The lightning effect generates streaks of lightning with multiple branches and radial star creates radiating beams of light. While difficult to properly describe, the straw effect creates an impressionistic visual. Video limit adjusts an image's chrominance and

luminance levels for safe video levels. The ramp edge detect tool causes a pixelated effect with false colors. Finally, the 3D perspective tool moves and rotates images through the X, Y and Z axes.

There are 65 symbols included with ImageFX 2.0, such as JFK, Mark Twain, Beethoven (the composer, not the dog), Easter egg, scissors, Cheetah, cube, United States flag, eye, light bulb, baseball, fish and dollar bill. Fifty-five textures are also included, such as plaster, tree bark, tile, plaid, vinyl, snake skin, linen and squares, plus various brick, stone, wood and paper textures. Brushes and textures can be used to create original images or enhance existing images.

Existing features from earlier versions of ImageFX, including the custom convolve and transform effects, antialiasing, 2D rotation, feathering, relief map, compositing, roll, text generation and oil paint, have been upgraded for better performance.

As an added bonus, several extremely useful utility programs are also included with ImageFX. The browser utility creates and displays full-screen images and texture files plus objects such as thumbnails or miniature versions for quick-reference purposes. This utility also allows IFF, JPEG and MPEG files to be converted into thumbnails. The Viewtek utility loads and displays IFF, ANIM, GIF, JPEG and info files. Viewtek also creates and plays back ANIM7 animations from ANIM5 and ANIM8 animations. Both ANIM7 and ANIM8 animations use 32-bit compression for smoother playback than ANIM5 files on an Amiga 3000 or 4000. While slightly larger in file size, ANIM7 animations also play back faster and more smoothly than ANIM8 animations.

### Third-Party Support

Besides ToasterFX, several other programs work with ImageFX, including MultiFrame from MacroSystem Development and MultiLayer from Prime Software. Like the ADPro version, MultiFrame provides batch processing of frames using ImageFX's operators and effects without requiring the user to write and execute ARexx scripts. For example, to emboss a sequence of animation frames using the ImageFX/MultiFrame combination only requires typing in the path name of the files to be embossed and clicking on a few buttons. The sequence is





This image was created with lightning bolts of varying intensity.



ImageFX's new radial star effect creates beams of light.



The straw effect was used above to create an impressionistic look.

then automatically embossed and saved to the hard drive. Using the ImageFX version of MultiLayer to composite multiple layers of digital images is quite similar to using MultiFrame (both programs were written by the same person).

Though comparisons to ADPro are tempting, ImageFX is in a class of its own. While Elastic Reality (formerly ASDG, the developers of ADPro) pursues the SGI and Macintosh markets, Nova Design is committed to supporting the Amiga and Video Toaster. Combining professional image processing, paint and morphing software

in a single program, ImageFX 2.0 is a significant upgrade that adds many new features to an already outstanding program.

VTV

*Matt Drabick is an independent video and computer graphics producer in Raleigh, N.C.*

#### Companies mentioned:

Nova Design, Inc.  
(ImageFX—\$349 list)  
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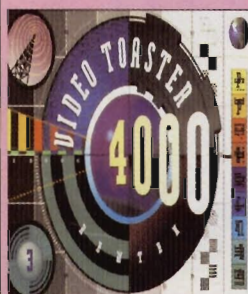
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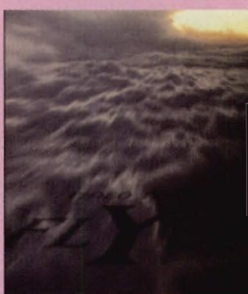
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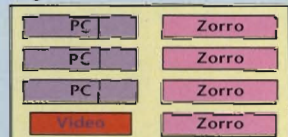
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**A4000 LIMITATIONS** → Although you have a video slot, four Zorro and three PC slots, you can add only four cards: e.g., the Video Toaster (which is a double-width card) occupies two card positions (two Zorros and one PC), leaving two card positions available; adding the Flyer (a Zorro card) takes up another position, leaving one remaining card position (PC/Zorro); and since your Flyer system requires a TBC, that takes your last card position. You need more expansion than that for pro video production!



### TOASTEROVEN ADVANTAGES

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### A4000 LIMITATIONS

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### TOASTEROVEN ADVANTAGES

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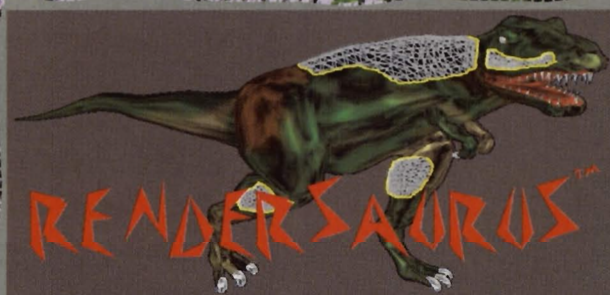
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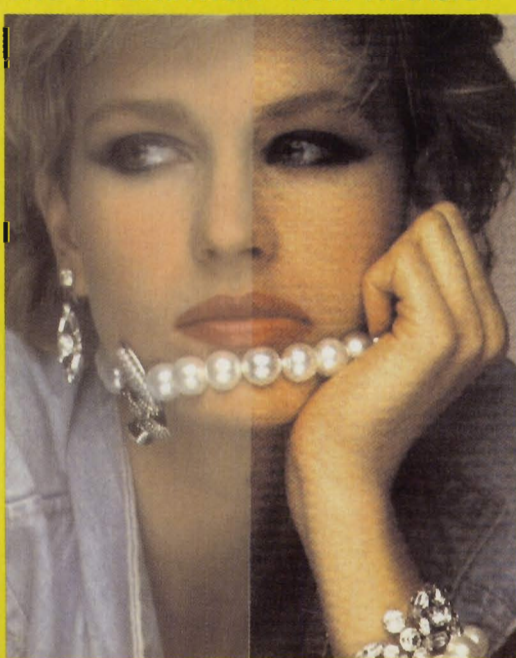
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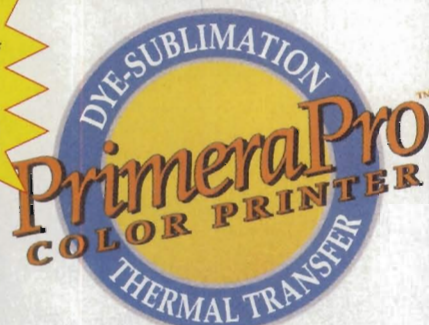


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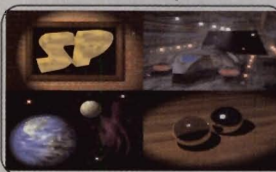
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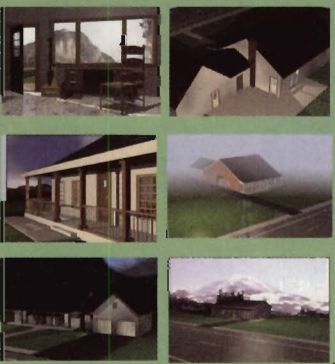
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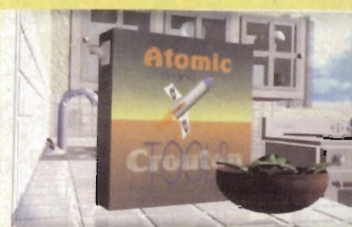
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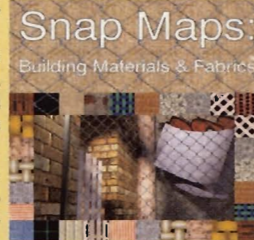
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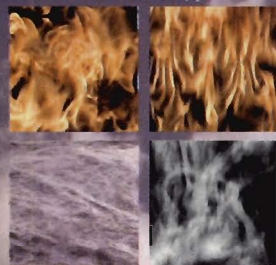
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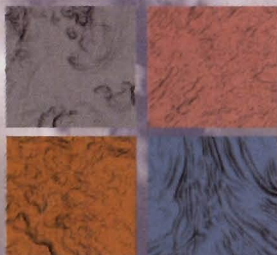


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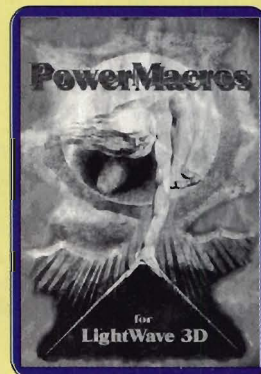
Snake  
Render Batch  
Move Scene  
Smooth Velocity  
Focal Distance

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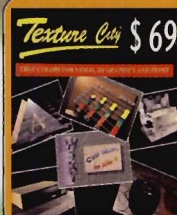
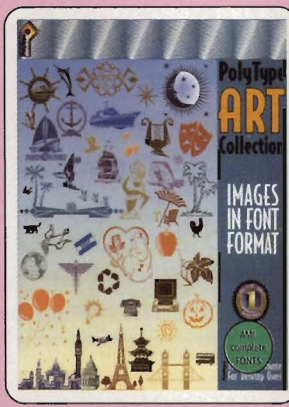
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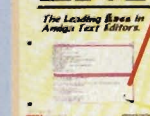


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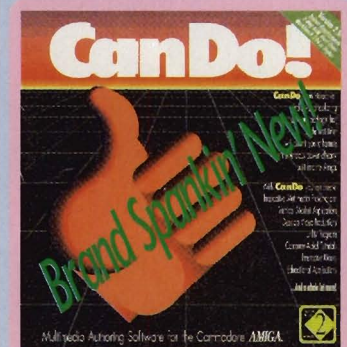


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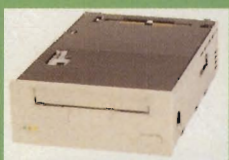


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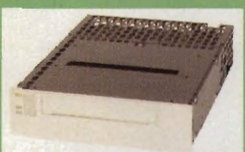
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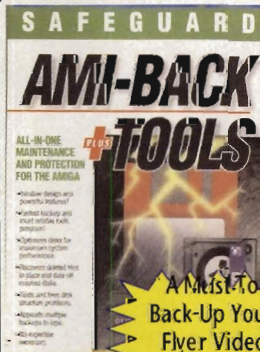
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# About Textures

## Exploring Nature's Backdrop and Surface Pro

by R. Shamms Mortier

**G**reetings from the Green Mountains. This is the start of a continuing series of articles that will describe and evaluate texture libraries and texture design software for NewTek's LightWave. We will look at new LightWave-specific texture libraries, texture "generators," and also ways that textures can be designed in various paint programs and image processors. Occasionally, we'll also explore what textures might be best for specific applications, and how to utilize them. This edition in the series deals with two new texture libraries, the best and most novel textures they contain, and what they look like when mapped onto 3D objects (as depicted in the artwork in the figures). The two products are "Nature's Backdrop" from Infinite Solutions and "Surface Pro" from Visual Inspirations.

### Digital Textures: A History

Today is far from yesterday, when there were only a handful of textures available for any 3D work. Some of the first libraries of textures available were of far less quality than today's. The reason for this was that 24-bit painting and animating in general were severely hampered by the lack of 24-bit boards. With the explosion of the hardware has come an equal expansion of suitable image libraries and design tools to address that hardware. NewTek's LightWave software has always had both accompanying textural images and ways to create your own textures, but the appetite of 3D artists and animators for more textures is never satisfied. The last thing they want is to overhear a client say he has "seen that look before," especially in a competitor's video. Textures fall into two general categories: photographic and graphic. Photographic textures are created with either a camera (still-video or video) and digitized in some manner, or are scanned in from a slide or hard copy (photo or print).



Surface Pro from Visual Inspirations consists of four drawers that are installed in the Toaster Directory.

Graphic textures are created in paint programs, scanned from original art, or created on-the-fly with special mathematical algorithms (called "procedural textures").

### Nature's Backdrop

Nature's Backdrop textures can be used on 3D objects or as backdrops for an entire scene. Nature's Backdrop consists of a library containing dozens of images per collection, all in 24-bit format and ready to store to your hard drive and apply. These images work best when applied to planar surfaces, as their sides do not match up (making them unsuitable

as-is for spherical and other non-planar applications). The central themes include wood, stone and paper. Though the original volumes were marketed on disk, they are now available on CD-ROMs as well, and are suitable for Amiga, Mac and PC applications.

Of all of the textures in these sets, I enjoy the "paper" category the most. The best way to actually apply the paper texture is as a "deform map." When you apply a deform map, it actually deforms the surface of a 3D object so that the polygons that make up the object try their best to conform to the pseudo-3D texture being applied. With a little experimentation, you can also make the paper textures look like crumpled cloth in LightWave, and the 3D surface can then emulate a bedspread, table cloth, or even crumpled curtains in the background. The paper textures also work well as bump maps. Unlike deformation maps, bump maps do not actually warp the surface of a 3D object, but do give the illusion that they have a degree of depth because of the way they react to light. The whole collection consists of six volumes and free sets of brush images in 16-bit 24-bit, and sells for \$119.95 for any three of the six floppy sets or \$49.95 for one set (1-3 are stone surfaces, 4 is exotic hardwoods, 5 is paper/fabric and 6 is building materials). The CD price



is not available at press time. All images are sized to 752x480 for Toaster use.

## Surface Pro

Surface Pro is more than a collection of images. It is a complete LightWave solution. It consists of four separate drawers that are installed in your Toaster directory: SP surfaces (and reflection maps), SP objects (special objects for using and experimenting with the included surfaces), SP Images (textures and reflection maps) and fully renderable SP scenes. This is definitely a package that was meant to excite Toaster users by its thoroughness. When a surface is loaded in, you can play with the settings and create an infinite variety of new surfaces as well. In addition, and of startling importance, the surfaces come in mapping varieties that allow you to use them with different 3D objects. Most have separate files that indicate whether they are to be used as planar, cylindrical, cubic or spherical maps, and some are specifically designed as reflection maps. This is something no other texture libraries that I know of for LightWave (or any other 3D product) have been consciously designed to accommodate. Make sure there's room in your Toaster drawer because you'll need about four megabytes of space.

The included scenes can be played with as well, but you might enjoy rendering them as-is first. There is a Borg cube scene straight out of *Star Trek: The Next Generation* that's really great when a lens flare star is added behind it. The CircuitBoard scene is the most awesome, as you can really image a circuitboard surface and fly around it (try the same surface as a frontal projection map on a sphere for that "Death Star" look). Another scene, Landing Bay, is one to behold for sci-fi fans, and shows off the "tech map" surfaces quite nicely. There are 17 scenes included with Surface Pro. It is one of the best texture application packages ever to be designed for LightWave use.

The next article in this series: "TextureScape" (from Spectral Collage) for the Amiga "Emplant" emulator and other Mac LightWave users, and how to use it to create exhilarating LightWave textures (including fully animated ones). See you in ROMulan space....Enjoy!

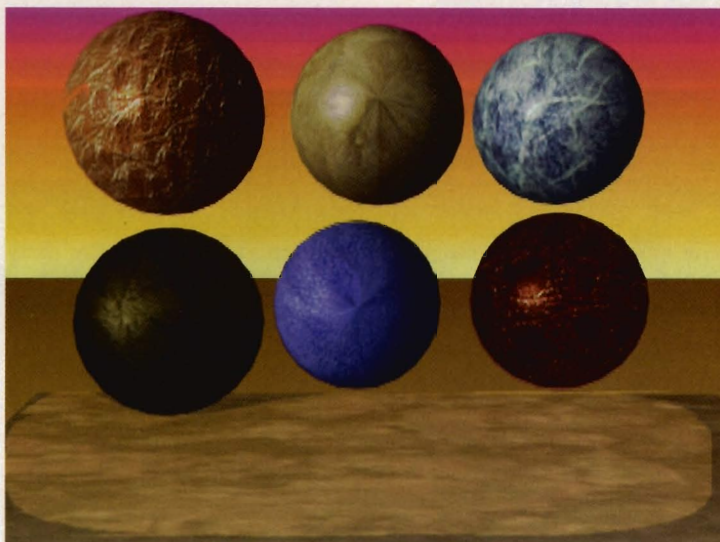
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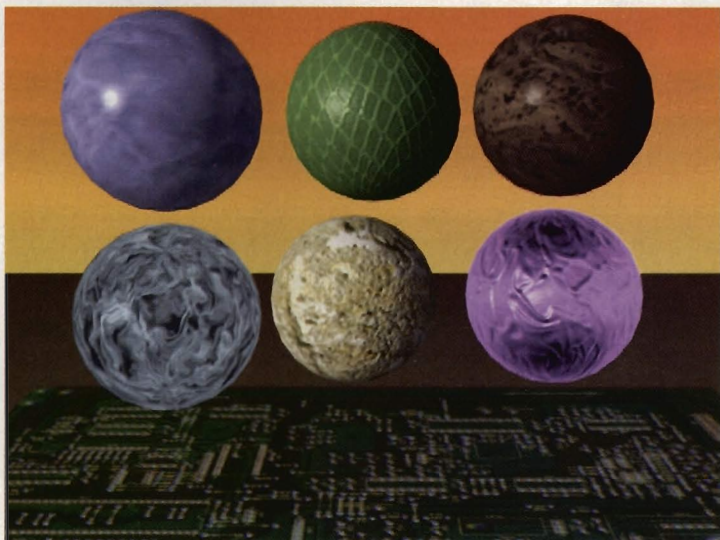
Infinite Solutions  
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\$119.95 for any three)  
14780 Osprey Drive, Ste. 240  
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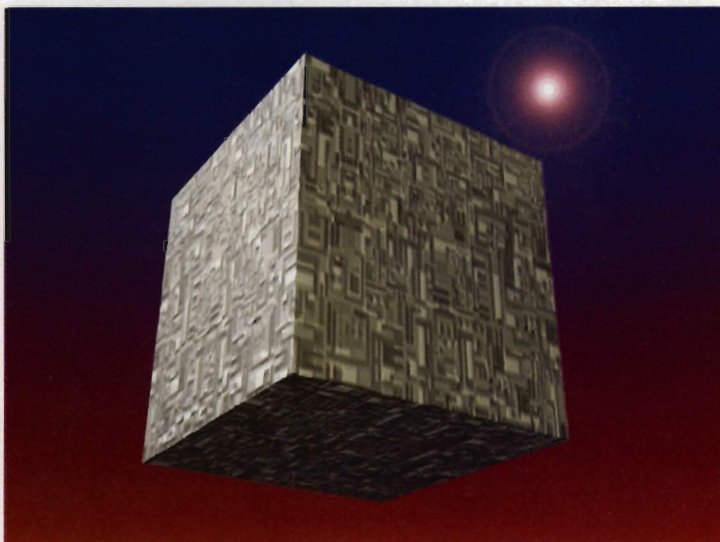
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FOR INFORMATION CIRCLE 59



The Natural Backdrop textures contain several types of fabric, stone, wood and paper.



This Circuit Board texture is shown as the ground plane.



The Surface Pro set consists of not only texture maps, but surfaces and objects.

## EDITORIAL EVALUATION

### Circle number on Reader Service Card

I found this article:

Very Useful  
Circle 048

Useful  
Circle 049

Not Useful  
Circle 050



# How to Avoid Modeling Problems

by Kyle Thatch

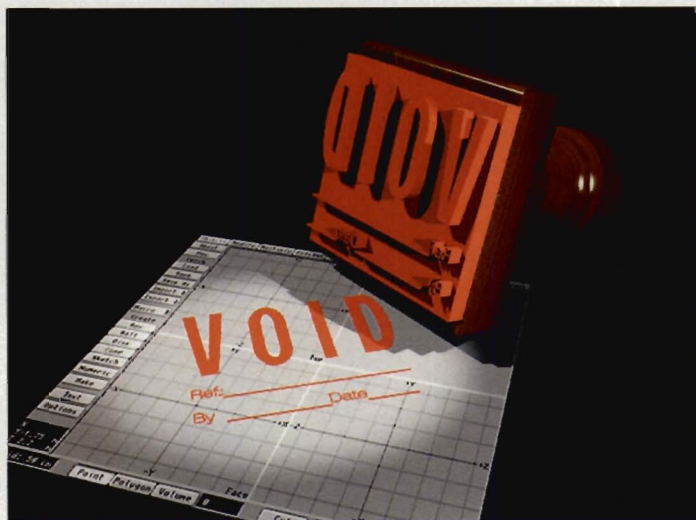
**Y**ou've just bought your Toaster System and hung your shingle out as a local animation house...but you can't model the letter "T," let alone spaceships from *Babylon 5* or the *seaQuest* submarine! Or perhaps you have an understanding of 3D, but your client gives you a real challenge. What do you do? Buy expensive models from a catalog? Turn the client away? You won't have to if you sharpen your skills and some modeling basics.

Before I get any irate phone calls, let me defend my statement above. There are times when data sets are needed, or perhaps the client does not have the budget to do the work. However, I find most people lack the necessary skills to do their own modeling of projects. That brings me to the topics of this article: geometric construction, accurate measurement and hierarchies.

## Breaking it all Down

Let's begin with geometric construction. Look at the shapes in Figure 1. From these basic geometric primitives we can build just about anything. All of these primitives can easily be made in Modeler, both from the Objects panel and by using Macros to create Torus or other complex primitives. If you survey your environment you will see many of these same primitives everywhere.

The key to good model-making is being able to break objects down into manageable primitives. From here you can add detail as needed. Another key is to look for symmetry in objects you plan to build. Simply put, if an object is the same on both sides or ends, use Symmetry to build it. For example, take a pencil or crayon. You could com-



"The key to good model-making is being able to break objects down into manageable primitives."

what happens when you are given a model or product? Then what? Try something called measuring. I find that having a metric or standard scale is best for measuring parts. Also, a caliper and micrometer work perfectly for better precision. You should be able to find most of the above-mentioned equipment at a local blueprint/drafting supply company. If not, try your local hardware store.

Whenever possible, try and obtain a blueprint or some type of schematic of the object you are planning to build. Some of you may be thinking, "Why use a scale and caliper when I could buy a 3D digitizer/laser digitizer, or an object from Viewpoint?" If you have the money to buy a digitizer, that's ideal. I find that they are still difficult to use if you don't have the necessary modeling skills, such as pre-planning.

When measuring, the key is to find the basic dimensions and build upon them. This is similar to what we did with geometric construction. For example, start with the overall

bine an elongated cylinder and cone to make these objects or you could define a profile of the object and easily Lathe the objects (Figure 2).

When you start a project, make a list of objects that you will need, then sketch them in their primitive forms. You will find that pre-planning will help with construction of any object you make, whether it is a cereal box or the *seaQuest* submarine.

## Calipers, Scales and the Environment

The scale of an object is probably the most overlooked aspect of most modelers. This depends, of course, on what you are modeling. If you are modeling a spaceship or something that does not exist, you can get away with an arbitrary scale factor. But



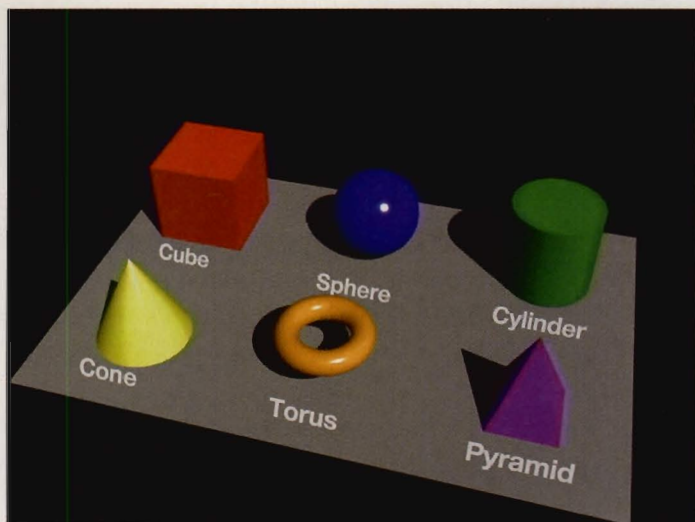


Figure 1

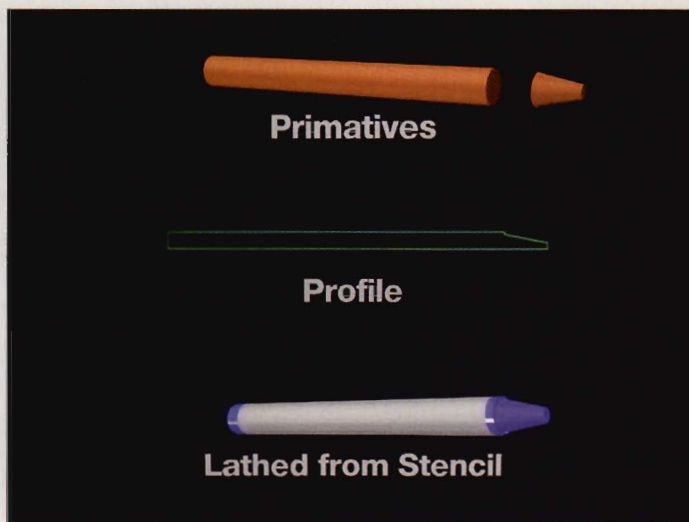


Figure 2

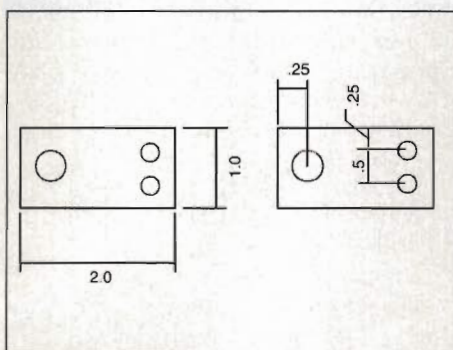


Figure 3

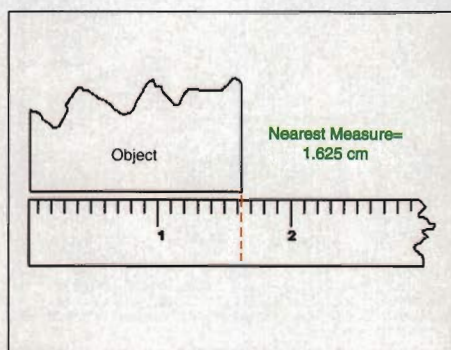


Figure 4

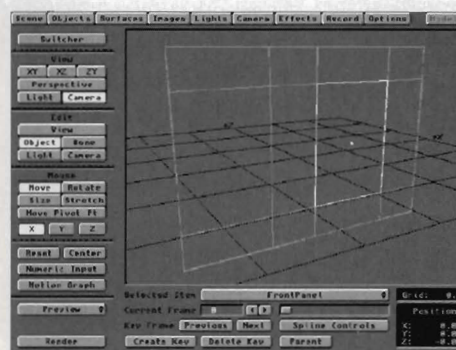


Figure 5

dimensions, then locate holes and other parts that give the object detail or special shape (Figure 3). It is a good idea to sketch the front, side and top views of your object so when you are measuring it you can place the dimensions in their corresponding places on your sketch.

You may even want to sketch and dimension the basic geometric shapes that you originally broke the object down into. From there you can piece them back together and merge points to complete the more complex shape.

I almost always work in metric unless I have a drawing or blueprint in standard measurements. You'll find that metric is easy to work with, especially when you have to round off a dimension to its nearest whole number (Figure 4). Let's say you're measuring an object and you're stuck in the middle of the scale. There are two options:

1. Round the dimension to the nearest whole number
2. Call the dimension out as close as possible to its real measurement (this is the preferred method)

You may ask, "Why are we doing all this?" Simply put, if you are creating a scene where you have a desk with several objects on top of it, you could encounter a problem with scale. I have seen people make a desk, then make a lamp, pencils, etc. What usually happens is that they are all created without taking scale into consideration. People find themselves scaling the objects to fit the scene. I don't have to tell you what a nightmare that can be.

When it comes to accurate representations of a structure, product or organic being, nothing replaces the use of accurate measurements to ensure the correct position, look and functionality of objects in your scene. How many times have you rendered a scene or object and thought something did not look quite right? Trust me, there won't be a problem if you measure and scale your objects.

### Putting it all Together

Now we come to the final part of this tutorial. Remember the cereal box from the October issue (VTU, page

84)? We attached the different panels of the box at their correct hinge points for use of animation. It's a good idea to consider this when you're pre-planning your objects. With the cereal box it was easy: I simply selected the points at the edge of one of the panels (Figure 5). Then, using the (i) info. key, I was able to get the numeric position for the corresponding panel to fit next to it. Think of a car door, or the tires and axles. These are both examples of hierarchies between objects. Your fingers, arms and legs fall into the same category. Make sure you find the positions of these critical areas during the pre-planning measuring phase of your objects.

I always position parts of a finished model in Modeler before I assemble the parts in Layout. Why? It is very difficult for most people to set the grid in Layout so they are able to easily position their parts. Yes, you could enter the numeric settings from Modeler in Layout. Though I find it much easier to assemble the object in Modeler using the layers, the choice is yours. Remember that once you assemble



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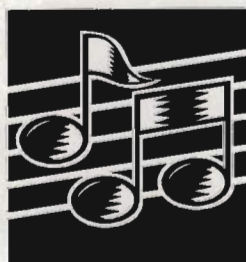


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FOR INFORMATION CIRCLE 120

your object in Layout and set its Surface attributes, you should save the complete object as a scene file, or at least save all objects in the Objects menu to keep each object's individual attributes.

## Patience is a Virtue

If you remember nothing else from this tutorial, remember this. People who are great model-makers pre-plan. They also take their time (if they have time) and do the job correctly. Modeling is not something that is usually done in one sitting. Practice is the best thing you can do. Whether you are experienced or new to 3D, make yourself model objects at least once a week.

I will sometimes make a list of things to model, then give myself a time limit. This does two things. It makes me model and improve my speed, and it also teaches me to plan. How? For instance, say you make a list that includes the following:

- paper clip
- pencil
- lamp
- desk
- chair

Do you see a pattern? I have a list that starts out easy and gradually works up to a challenge. And the fact that I can now use these objects isn't the only thing. That brings me to my closing statement. I have been doing both 3D and CAD work for almost nine years. One thing has stayed consistent throughout those years, and that is education. Learn as much as you can about 3D modeling and animation. Ask anyone who is successful at what they do and they will tell you the same thing: "You must stay current with your skills and never, never, never give up!"

Next time, look for an examination of the ins and outs of extruding and lathing.

VIM

Feel free to send questions, comments or suggestions to:

Kyle Thatch  
Synthetic Design Images Inc. (SDI)  
4328 Annshire Ave.  
Louisville, KY 40213  
(502) 459-8829

## EDITORIAL EVALUATION

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Circle 052

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Circle 053



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## Travel Information

Take advantage of the Avid Media Group, Inc. reserved block of rooms at the Universal City Hilton & Towers. Single or double occupancy rooms available for only \$109 per night. Just call 1-800-HILTONS and ask for a room in the Avid Media Group, Inc. block. After November 18, accommodations are on a space available basis only. The official airline for the Video Toaster Expo '94 is Delta. Call 1-800-241-6760 and refer to file # XR0631 for 5% - 10% off airfares.

Be sure to fly into Burbank airport, as it is much more convenient than LAX!





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10:00 am	-- James Grunder & Associates	TBC Synchronizer with Compression
11:00 am	-- DeskStation Technologies	Raptor 3
12:00 pm	-- Hester and Associates	Plug-In and Go - Modeling Macros for LightWave
1:00 pm	-- Synergy International	Hollywood FX software
2:00 pm	-- CD Solutions	CD-1401 and CD-2001
3:00 pm	-- SWS Corporation	RAID Storage Systems
4:00 pm	-- NoahJi's	VLab Motion System non-linear editor

### THURSDAY

10:00 am	_ InnoVision	Alpha Paint
11:00 am	_ Carrera Computers	Carrera Cobra AXP 275
12:00 pm	_ Blevins Enterprises, Inc.	VertiSketch 3D Digitizer
1:00 pm	_ Desktop Images	"Secrets of the Video Toaster" training tape
2:00 pm	_ Amiga Library Services	LIGHT-ROM
3:00 pm	_ Dynamic Realities	Impact!
4:00 pm	_ Nova Design	ImageFX 2.0

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**Beginner's Guide to LightWave and Modeler with Lee Stranahan**  
9 a.m.-11 a.m.

Heard about LightWave but haven't been able to break through the learning curve? In this class, Lee Stranahan will show you the basics of one of the world's most powerful and popular 3D programs. You'll learn the lay of the land, terminology, and hints for creating great-looking 3D graphics quickly and easily.

**Creating Great Graphics with the Video Toaster with Lee Stranahan**  
1 p.m.-3 p.m.

The Video Toaster has an entire toolbox of great graphic tools. In this class, you'll learn how to harness all of them. You'll learn how to make good-looking and practical graphics, including logos and title pages, using CG, ToasterPaint, the Framegrabber, LightWave and Modeler.

**Making Money with Video & Animation—Panel discussion with Mark Stross and Rex Olson**  
4 p.m.-6 p.m.

A frank discussion of the pitfalls and advantages of conducting business as a freelancer or small business. The discussion will focus on the broad issues, including time management, project acquisition, project planning, professionalism in the workplace, having a sense of humor, and knowing how not to burn bridges. The cliché still stands, you can only conduct business when you understand the waters you're swimming in. "Getting in over your head is easy, understanding how not to is the essential challenge."

**Commercial & Corporate Graphics with Glen Miller**  
4 p.m.-6 p.m.

In this class, Glen David Miller of Amblin Imaging will cover all the bases of good flying logo design, logo creation, coloring, and movement. Recurrent themes on the subject of better visual communication through text, font choices and special visual "effects" will be presented during the discourse. Bring your questions and non-compressed images!

## **WEDNESDAY**

**Killer Text: Titling with the Video Toaster with James Hebert**  
9 a.m.-11 a.m.

Learn the ins and outs of ToasterCG from James Hebert, Video Toaster User Slices columnist and former NewTek technical support manager. This class will focus on Toaster CG 3.0, 3.1, and the new 4.0 versions, and show you many "little-known facts" about quirks and tricks in ToasterCG. Bring your questions and find out the answers from NewTek's "CG guy."

**The Multi-Platform Video Toaster—Panel discussion with Lee Stranahan and Brad Peebler**  
9 a.m.-11 a.m.

Learn the best ways to integrate your Toaster system with the world of PCs, Macs and SGIs! In this class, our panel of experts will teach you about the different file formats the Toaster supports, how to transfer files, software to use, networking, and much more.

**ARexx and the Toaster with Arnie Cachelin**  
1 p.m.-3 p.m.

The galaxy's foremost authority on ARexx programming for the Video Toaster covers the basics of controlling the Switcher, Modeler and ToasterPaint through ARexx. Working examples will be dissected and certain deep mysteries will be revealed. Advanced topics may include LightWave scene file creation, Toaster CG and ARexx for C programmers, depending on class interest.

**Bones and Character Animation with Jason Lindhart**  
1 p.m.-3 p.m.

Learn the techniques that will bring your objects to life. This course features character animation and the use of bones in LightWave. Topics ranging from building the proper bone structure to using original character animation techniques in the 3D environment will be covered.

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- **Video Toaster User and LIGHTWAVEPRO writers panel (Thursday)**

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RGB Computer Video will be holding their **"Video 101: Video Standards Training Seminar"** Friday, December 16, from 9 a.m. - 5 p.m. at the Universal City Hilton & Towers.

The class will cover Tape Formats, Color Bars, Waveform Monitors, Time Base Correctors, Editing with Control Track, Video Signals, Setup of color monitors, Vectorscopes, Timing and Phasing Systems, Editing with Time Code, and certain third party products.

**The cost is \$195 for the all-day seminar. Please call RGB at 407-844-5348 for more information or stop by booth #105 Wednesday or Thursday to register on-site.**



### **Advanced LightWave 3D Tips, Tricks and Problem Solving with John Gross\***

**1 p.m.-6 p.m.**

This class is an open forum for advanced LightWave 3D users. Bring your questions and/or problems to be answered. This class will also cover some advanced LightWave/Modeler tips and tricks. Feel free to bring examples of your work demonstrating problems with which you need help.

### **Advanced Audio Techniques with the SunRize AD516 with Tony Shannon**

**4 p.m.-6 p.m.**

Tony Shannon from SunRize Industries will be giving a two-hour class on audio post-production for video, using Studio 16. Techniques covered in the class will include digital hard disk recording, SMPTE time code synchronization, non-destructive digital waveform editing, automatic fades and crossfades, adding Foley effects and lip-synching digital audio to video.

### **The Making of *Robo Jr.* with Dale K. Myers**

**4 p.m.-6 p.m.**

Emmy award-winning animator Dale K. Myers moderates an in-depth Q&A session on the creation of *Robo Jr.*, from concept to broadcast. Topics include production tips and techniques, finding markets for your projects, contract negotiations and more.



## **THURSDAY**

### **Forensic Animation and the JFK Case with LightWave 3D by Dale K. Myers**

**9 a.m.-11 a.m.**

Emmy award-winning animator Dale K. Myers moderates an in-depth Q&A session on producing forensic animations, with special emphasis on *Secrets of a Homicide*, a computer-generated documentary on the JFK assassination. Topics include production tips and techniques, marketing, contract negotiations and more.

### **Editing with the Video Toaster Flyer with Lee Stranahan**

**9 a.m.-11 a.m.**

The Flyer represents a real breakthrough in editing power, and this class shows you how to harness that power. You'll learn tips and tricks for digitizing footage, working effectively with the Flyer and integrating LightWave effects, and creative tricks for making your Flyer-produced videos look and sound great.

### **Power ToasterPaint Techniques with Bob Anderson**

**9 a.m.-11 a.m.**

Get inside ToasterPaint with one of NewTek's top instructors, Bob Anderson. Bob will teach you how to handle ToasterPaint like a pro - from transparency tricks and texture mapping, to the airbrush tool and the alpha channel, to stencil drawing and PostScript fonts. Bob's understanding of ToasterPaint will change your mind about the Toaster's versatile and powerful paint program. Bring your notepads for this class - you won't want to forget a thing!

### **Surviving in Video Production with Rex Olson**

**1 p.m.-3 p.m.**

Discover techniques to maximize your resources in field and studio production. Rex Olson, producer and director of the popular Desktop Images videotape series, offers professional shooting techniques developed through years of broadcast experience. Camera techniques, video troubleshooting, audio tips, lighting techniques and production etiquette are discussed in this information-packed session.

### **Toaster Editing and Post-Production with Burt Wilson**

**1 p.m.-3 p.m.**

Burt will show and explain real-world post-production and editing techniques using the Toaster in an integrated edit system. These are techniques you will be able to use immediately to produce more professional TV commercials, documentaries and special-interest videos. Bring a notebook to take down all the tutorials.

### **Advanced Surfacing Masters Class with Grant Boucher\***

**1 p.m.-6 p.m.**

Not for the LightWave initiate, this class is designed for LightWave animators who have gone beyond the tapes, previous seminars, and all of the LIGHTWAVEPRO articles (back issues included!) and STILL haven't had enough. Grant Boucher, supervising animator with Amblin Imaging, will cover the ultimate in surface esoterica, like parenting your entire universe to a null while scaling, spinning, and morphing those world coordinate procedurals and much, much more. Bring your nastiest problems to class.

### **LightWave 3D Compositing for Video with Ken Stranahan**

**4 p.m.-6 p.m.**

Some of the hottest effects on film and television today are composited—a combination of 3D and live action. LightWave's powerful features are capable of creating effects that are difficult on even the high end systems. Ken Stranahan, a digital effects supervisor for AREA 51, will show you useful time saving steps that he uses on such projects as *Star Trek*, *Unsolved Mysteries*, and Clive Barker's *Lord of Illusions*. These techniques can also be used to make the very coolest corporate videos and flying logos.

To register for seminar classes or for exhibits only, call 1-800-322-2843 or 408-774-6770.

Classes: \$70 each. Five-class mini-passport: \$250. All-access passport: \$400.

Passports include admittance to exhibits Wednesday and Thursday.

(\*Extended four-hour classes, specially priced at \$125 each, count as two classes in the mini-passport)



# EXHIBITORS...

(as of 11/9/94)

## AirWorks Media

Booth No. 317  
10173 109th St.  
Edmonton, Alberta  
Canada, T5J 3M4  
(403) 424-9922

## Amiga Library Services

Booth No. 120  
610 N. Alma School Rd., Ste. 18  
Chandler, AZ 85224-3687  
(602) 491-0048

The Amiga Library Services booth will be featuring LIGHT-ROM, a CD exclusively for LightWave artists, containing almost 650MB of LightWave objects and scene files, thumbnail renderings and a showcase directory for LightWave artists. The very latest CDs from the FreshFish and GoldFish series will also be available.

## Anti Gravity Products

Booth No. 200  
456 Lincoln Blvd.  
Santa Monica, CA 90402  
(310) 393-6650

Anti Gravity Products is at the frontier of Amiga technology with Rendosaurus rendering stations or rack-mounted herds running MITS and/or alpha processors. Also featuring the Toaster oven GT series, the essential nonlinear editing system for your Toaster/Flyer. Come see them to get these and other high-end peripherals.

## Aspen Systems

Booth No. 210  
4026 Youngfield St.  
Wheat Ridge, CO 80033-3862  
(303) 431-4606

Aspen Systems will display its desktop and rack-mount ALPINE 275XS workstations running LightWave on ScreamerNet. The ALPINE 275XS features Digital's 275 MHz Alpha AXP CPU and 128-bit RAM architecture for floating point performance (SPECfp) up to five times that of comparably priced systems. Features include 2MB secondary cache RAM, DRAM capacity of up to 1GB, FAST SCSI-2 interface, 3 PCI and 3 ISA slots, remote diagnostics port, serial/parallel ports and a high-speed ethernet network adapter.

## Black Belt Systems

Booth No. 312  
398 Johnson Rd.  
Glasgow, MT 59230  
(406) 367-5509

Black Belt Systems will be showing the Alpha Windows NT version of its WinImages 3.0 image and animation processing software. This package provides the most advanced morphing and warping software available for any platform, plus hundreds of eye-catching special effects and processes. Unbeatable price/performance, and it's available for all Windows NT and Windows platforms.

## Blevins Enterprises, Inc.

Booth No. 213  
121 Sweet Ave.  
Moscow, ID 83843  
(208) 885-3805

VertiSketch is a revolutionary product for LightWave modelers and animators. VertiSketch is a 3D Digitizer that interfaces directly within LightWave Modeler. Using VertiSketch, LightWave artists can produce models that were formerly impossible or, due to time constraints, impractical. Three systems are available, with digitizing area ranging from 21 inches to 8 feet.

## Carrera Computers, Inc.

Booth No. 310  
23181 Verdugo Dr., Ste. 105A  
Laguna Hills, CA 92653  
(714) 707-5051

Carrera Computers is showcasing the Cobra AXP275MHz workstation with ScreamerNet. You can connect directly with your Amiga or Toaster system with Carrera's built-in network card. Using the floating point power of the Alpha 275 MHz CPU to speed up your animation rendering requirements, the Cobra AXP 275 workstation's price and performance outperform everything else in its class.

## CD Solutions

Booth No. 508  
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CD Solutions will exhibit the CD-1401 and CD-2001 display monitors for the Amiga. These monitors were designed specifically for users of the Amiga and Video Toaster, and support all Amiga timings, including, but not limited to, NTSC, PAL and VGA. CD Solutions designs and manufactures the highest-quality color display monitors. Sizes include 14- and 20-inch models.

## Darius Technologies

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The Darius Central NTelligence are some of the fastest PCs in the world. Darius Technology is the first Canadian company utilizing the DECchip 21064 Alpha AXP 150 MHz processor. You get computing power typically associated with high-performance workstations. Utilizing Windows NT, the Central NTelligence family is fully compatible with ScreamerNet and LightWave 3D for the DEC Alpha.

## DeskStation Technology

Booth No. 215  
13256 West 98th St.  
Lenexa, KS 66215  
(913) 599-1900

The technology leader in Windows NT RISC-based systems will display its complete line of workstations and rendering engines for LightWave 3D. DeskStation will introduce its third-generation RISC system called UniFlex, an upgradeable, modular system that supports MIPS, Alpha and PowerPC RISC microprocessors.

## Desktop Images

Booth No. 204  
611 North Orchard Dr.  
Burbank, CA 91506  
(818) 841-8277

Desktop Images' Instructional Videotapes provide the fastest way to learn today's hot new computer software. The company's series for NewTek's Video Toaster is a runaway hit. Together with Lee Stranahan, "the world's smartest Toaster guy," Desktop Images has taught thousands how to create broadcast-quality graphics and animations. Our newest tapes feature Tony Stutterheim's Pro Flying Logos and SunRize Industries' Studio 16. Lee Stranahan's newest tape is titled Secrets of the Video Toaster. Be sure to check them out.

## Dimension Technologies

Booth No. 504  
2800 W. 21st St.  
Erie, PE 16506  
(800) 525-2203

Dimension Technologies will be showing its popular Composite Studio for ToasterPaint. A hands-on demonstration will allow visitors to see just how easy it is to create beautiful graphics in minutes. Other products to be shown include The Cathedral, Jurassic Collection, Odds and Ends, and the Music/Sports/Wedding collections.

## Dynamic Realities

Booth No. 212  
P.O. Box 13751  
Milwaukee, WI 53213-0751  
(800) 944-5520

Dynamic Realities demonstrates IMPACT!, a LightWave 3D tool that realistically and accurately simulates the motion of your objects as they would react in the real world. IMPACT! features physical motion, collision detection, automatic mass calculations, customizable interface, unlimited 3D view windows, custom "Engines" and "Materials," and LightWave 3D support, which includes object, scene and motion files. Also on display is Images in Motion's Tally Light Control System for controlling studio camera tally lights when used with the Toaster.

## Focus GbR

Booth No. 219  
20 River Rd., Ste. 9K  
New York, NY 10044  
(212) 826-1240

Focus GbR's graphicRECALL is a multimedia manager and browser for the Amiga. It creates visual databases of images, animations, sounds and video, and supports the Video Toaster and VLab. Source files can be viewed or heard with a simple mouse click, and a wide range of formats can be accessed via ADPro as the graphics engine. Focus GbR's display will also contain specials on hard drives and video hardware.

## Hester and Associates

Booth No. 321  
13032 Copenhill Rd.  
Dallas, TX 75240-5302  
(214) 991-7584

Hester and Associates will be demonstrating the following at the Video Toaster Expo: Modeling Macros and more for NewTek's LightWave; over 50 macros for \$99.95 to aid in 3D modeling and rendering. Create, Modify and Calculate; Objects, Motions and Scenes.

## InnoVision Technology

Booth No. 122  
1933 Davis St., Ste. 238  
San Leandro, CA 94577  
(510) 638-0800

InnoVision Technology, creator of Montage for the Video Toaster, presents Alpha Paint, the first 36-bit professional paint program for the Video Toaster. With a wide variety of tools unavailable elsewhere, Alpha Paint gives users real-time painting in 24 bits directly on the Toaster output with an exclusive 12-bit Alpha Channel. Produce network-caliber video graphics quickly and easily. Finally, high-end paint box performance for the Toaster.

## Interworks

Booth No. 208  
43191 Camino Casillas  
Temecula, CA 92592-3714  
(909) 699-8120

Interworks will be presenting professional networking solutions. These solutions will cover all aspects of interplatform connectivity. T-Net, the first professional distributive render farm software package for LightWave, will be featured, demonstrating how to increase productivity through networking. Products to be shown include ENLANS version 2.0, T-Net and TCP/IP.

## James Grunder & Associates, Inc.

Booth No. 110  
9204 Bond St.  
Overland Park, KS 66214  
(913) 492-4666



## Media 4 Productions

Booth No. 216  
2800 University, Suite 11b-101  
West Des Moines, IA 50266  
(515) 225-7409

## MegageM

Booth No. 315  
1903 Adria Ave.  
Santa Maria, CA 93454  
(805) 349-1104

MegageM will be presenting the FractalPro Image Library, Vol. 1, and Amiga CD-ROM with more than 350 fractal art images and several VistaPro DEM files of fractal objects. This CD-ROM features easy access to all IFF images via drawer and direct view icons. Besides fractals, the library also includes stereoscopic 3D fractal-wrapped spheres, landscape images, video overlays and even human faces.

## New Era Press

Booth No. 206  
23120 W. Lyons Ave. #5252  
Santa Clarita, CA 91321  
(805) 259-9720

New Era Press will be unveiling its new technical reference, "LightWave on Location," an in-depth tutorial and production manual for NewTek's LightWave 3D. This complete reference for LightWave is geared for all LightWave enthusiasts, from beginner to advanced.

## NewTek, Inc.

Booth No. 203  
1200 S.W. Executive Dr.  
Topeka, KS 66615  
(800) 847-6111

NewTek's Video Toaster is a four-input production switcher, digital video effects unit, character generator, dual frame buffer, paint system, 3D animation and modeler program. LightWave, the 3D animation program, is now available on PC and SGI platforms, and the Video Toaster Flyer, NewTek's nonlinear editor, produces lossless broadcast-quality video.

## Noahji's

Booth No. 500  
3591 Nyland Way  
Lafayette, CO 80026  
(303) 499-1975

Noahji's will be displaying the VLab Motion System, the affordable nonlinear editor for the Amiga. They will also be showing the other award-winning products manufactured by MacroSystem GmbH of Germany: the Retina BIT Z3 Graphics Board, XI Paint version 3.0 and the VLab Y/C 24-Bit Digitizer.

## Nova Design

Booth No. 309  
1910 Byrd Ave., Suite 214  
Richmond, VA 23230  
(804) 282-5868

## OAO Software

Booth No. 121  
267 Montclair Ave.  
Vauxhall, NJ 07088  
(908) 964-4546

MacroForm is a set of 10 powerful modeling macros for LightWave 3D. Performing modifications on existing data, MacroForm provides excellent tools for morph and organic object creation. With tools like ExoForm, which allows for "digital clay" modeling; Combine Curve, which will combine curve data from 2 curves to create one; and Railform & Rubberize, which allows users to do object distortions, MacroForm has tools to satisfy the artist, industrial designer and 3D producer alike.

## PreVue Technologies

Booth No. 313  
P.O. Box 2617  
Grass Valley, CA 95945  
(800) 356-8863

PreVue Technologies will be showing its line of Video Toaster ancillary products, including the BreadBoard, Toast Timer, DejaVue and Sync Strainer. PreVue Technologies' signal processing products make systems integrations simple, which is important due to Toasters being tied into larger systems. PreVue Technologies' control panel products make video manipulations easier, with remote panels extending your reach.

## Prime Image

Booth No. 113  
19943 Via Escuela  
Saratoga, CA 95070  
(408) 867-6519

Prime Image digital desktop video products have a three-year warranty covering parts, labor, product updating and shipping charges roundtrip. The product line will provide quality timing and stabilizing of video signals at an affordable price. Prime Image designs and manufactures a complete line of easy-to-use time base corrector/synchronizers and standards converters in all world standards.

## Questar Productions

Booth No. 506  
1058 Weld County Road 23.5  
Brighton, CO 80601  
(303) 659-4028

Questar's World Construction Set is the ultimate terrain modeling and animation program. It features LightWave motion support, versatile color-mapping and complete ecosystem configurability. Animate colors, ecosystems, lighting and 24 other parameters. A memory conservation feature permits unlimited scene size. Zoom from whole earth to detailed closeups. Interactive, non-modal operation. Unbelievable realism—a perfect LightWave companion.

## RealSoft International

Booth No. 314  
380 Queen St., Unit 2  
Chatham, ON  
Canada, N7M 2H6  
(519) 436-0988

Real 3D V2.4 offers advanced tools for power users. An extensive set of B-Spline and CSG modeling tools, selectable ray tracing, high-end ani-

mation/simulation featuring particle, behavioral, procedural, collision detection, skeletal control and inverse kinematics, open architecture, cross-platform file compatibility and network rendering capabilities. Amiga, Windows, Windows NT.

## RGB Computer & Video, Inc.

Booth No. 105  
4152 W. Blue Heron Blvd., #118  
Riviera Beach, FL 33404  
(407) 844-3348

RGB Computer and Video's AmiLink Editor controls both linear and nonlinear systems. AmiLink was the first to control the Video Toaster and is the first to control the Flyer without additional hardware. AmiLink allows mixing prosumer and professional decks for either offline or online systems. RGB is sponsoring a Video 101—Video Standards seminar Friday from 9 to 5. The cost is \$195. Stop at booth to register.

## ShaBLAMM!

Booth No. 202  
1040 Homestead Rd., Ste. 201  
Cupertino, CA 95014-0238  
(800) 742-2526

The ShaBLAMM! aNimaTor Booster unleashes the render power of NewTek's ScreamerNet. Plug the aNimaTor into your VL-Bus PC, interconnect with ScreamerNet, and your toughest rendering tasks are done seven to 10 times faster. The aNimaTor comes with a 100 or 133 MHz MIPS RISC processor, 16-32MB of RAM and the Windows NTM O.S.

## Silent Paw Productions

Booth No. 307  
11300 Kessler Place  
Manassas, VA 22110  
(703) 330-7290 (Voice/Fax)

The PAWS (Portable Amiga WorkStation) is a kit that allows anyone with an Amiga 1200, 3000 or 4000 to convert their desktop system into a laptop Amiga. This kit uses the existing motherboard, daughterboard, drives, keyboard and any expansion boards (such as the Video Toaster). The kit includes a laptop case, color or monochrome display, power supply, transformer, battery and trackball interface. Detailed instructions will be included to assist in disassembling and reassembling the Amiga into a PAWS.

## SunRize Industries

Booth No. 218  
2959 S. Winchester Blvd., Ste. 204  
Campbell, CA 95008  
(408) 374-4962

SunRize Industries is displaying its industry-standard Studio 16/AD516 digital audio hard disk recording system. Studio 16's advanced timeline interface provides users with the powerful and easy-to-use digital audio tools they need to produce professional-quality audio. Also on display is SoundSwitch, the new award-winning audio-follow-video switcher designed specifically for the Video Toaster. SoundSwitch seamlessly performs audio transitions while your Toaster performs video transitions.

## SWS Corporation

Booth No. 316  
917 Lawrence Dr.  
Newbury Park, CA 91320  
(805) 498-6727

Storagepath, a division of SWS Corporations, offers a complete line of Fault Tolerant RAID (Redundant Array of Independent Disks) mass storage products. Storagepath offers a 9-bay tower enclosure, 9-bay Rackmount enclosure, 18-bay tower enclosure, and redundant 250- or 300-watt hot swappable power supplies. The products use hardware-based RAID controls and removable drive sleeves.

## Synergy International

Booth No. 502  
77 West 200 South, Ste. 240  
American Plaza 1  
Salt Lake City, UT 84101  
(801) 532-0604

The high-end 3D ADO transition rendering software Hollywood FX will be Synergy's main event. Premiering are Mac- and PC-platform versions. Upcoming versions are being produced to work with Autodesk 3DStudio, StradaPRO, LightWavePC and others. New effects and special Expo pricing will be available. Don't miss this important display—it will change your mind about transition rendering software.

## Token Video Productions

Booth No. 311  
10980 180th St.  
Hastings, MN 55033  
(612) 437-1708

## T.S. Computers

Booth No. 109  
11300 Hartland St.  
N. Hollywood, CA 91605  
(818) 760-4445

T.S. Computers is the only exclusively Amiga dealer in Southern California specializing in NewTek Video Toaster Workstations. As the No. 1 Partners Plus dealer for all NewTek-related hardware and software, T.S. Computers is a full-service retail store catering to the broadcast and industrial needs of its customers, and is an authorized DPS and RGB-AmiLink dealer.

## Viewpoint Datalabs

Booth No. 319  
625 South State St.  
Orem, UT 84058  
(801) 229-3000



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Dale K. Myers (see seminar listing), the Video Toaster Expo '94 Seminar Passport will prove to be the most valuable resource of the season for animators, producers and videographers alike.



## SEMINAR PASSPORT

### Two passports are available:

#### Mini-Passport—\$250

The mini-passport will get you into five training seminars (\$350 value) and both days of exhibits (\$30 value), in addition to the keynote address by Tim Jenison, panel discussions with LightWave 3D creators Allen Hastings and Stuart Ferguson and other *Video Toaster User* writers and experts, special product demonstrations, the Toaster Theater, and a drawing to win a DEC Alpha ALPINE Workstation from Aspen Systems, Inc.

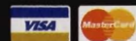
#### All-access Passport—\$400

The all-access passport will get you into an unlimited number of training seminars (\$630 value) and both days of exhibits (\$30 value), and every special bonus listed above.

### Pre-register by calling Avid

Media Group, Inc. at

800-322-2843 or  
408-774-6770



### TOASTER TALK continued from page 6

lation. The CD-ROM drive will be directly supported from one of the Flyer's built-in SCSI interfaces. NewTek recently sent a list of supported CD-ROM drives to dealers. This list (subject to change without notice; contact your dealer for order and installation information) includes these drives:

- NEC 3xi, 3xe, 3xp
- NEC CDR 7x, 8x, 36, 37, 74, 84, 38, 210, 25, MV-2
- Chinon 535, 435, 431
- Toshiba 4101, 3401, 3301, 3201
- Pioneer 600, 601, 501
- Texel 5024, 3024, 5028, 3028
- Sony 561, 541
- Hitachi 3750
- Matsushita CR-532
- Apple PowerCD

### LightWave 3D Upgrades

For those of you who are primarily interested in LightWave 3D, NewTek expects the multi-platform version of LightWave 4.0 to begin shipping sometime in the late-December/early-January time frame, with a list price of \$995. If you are currently a registered owner of the unbundled Amiga version of LightWave (version 3.5), you can upgrade to LightWave 4.0 (on any platform) for only \$149. Recently, NewTek has been discussing the possibility of offering a competitive upgrade to LightWave 4.0 for users of other 3D programs. The competitive upgrade price would be in the neighborhood of \$695. No further details were available as we went to press. Contact NewTek at (800) 847-6111 for additional information

regarding upgrades to Toaster System 4.0 or the 4.0 version of LightWave 3D.

### Time Shifting

You may have noticed that the cover date of this issue of VTU is December/January 1995 (go ahead, take a quick peek). We are undergoing a production cycle change that will allow us to get the February issue in your mailbox by the middle of January, as well as extend our shelf life for longer newsstand exposure. If you are a subscriber, this will not affect your subscription in any way. You will still receive 12, 24 or however many issues you have signed up for. We appreciate your patience as we make this production cycle adjustment.

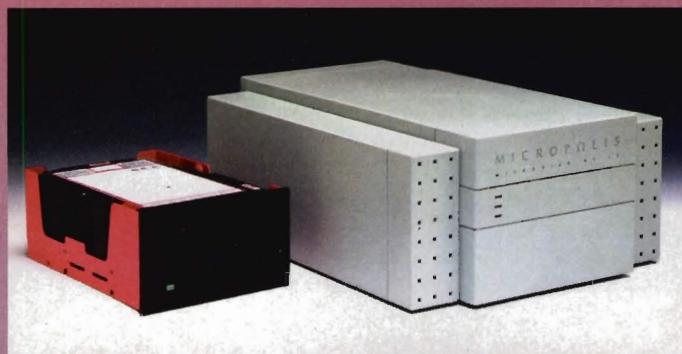


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1700MB	MC2217AV	10ms	5400	256KB	3 1/2"	\$999	\$1069	\$1369 <sub>1</sub>
2000MB	MC4221AV	8.5ms	5400	512KB	3 1/2"	\$1449	\$1519	\$1799 <sub>1</sub>
3000MB	MC1936AV	11ms	5400	256KB	5 1/4"	\$1739	\$1839	\$2099 <sub>2</sub>
4200MB	MC3243AV	8ms	7200	512KB	3 1/2"	\$2319	\$2389	\$2699 <sub>1</sub>
8900MB	MC1991AV	12ms	5400	256KB	5 1/4"	\$3439	\$3539	\$3749 <sub>2</sub>



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- Individual drive modules can be removed from the stack without disconnecting power or data cables for convenient access and easy transport.
- Five year drive warranty, 1 year on other components.
- <sup>1</sup> LT series, and <sup>2</sup> LS series stack only with like series.

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# Making Titles Fly

## Using the Toaster's Luminance Keyer to Create Digital Text Effects

by David Hibsher

In the Toaster Training Seminars, I often meet people who use the Toaster mostly as a character generator. Because it is so necessary and useful, CG is the most common use of the Toaster in production video. Most often these titles or other text are keyed using a ToasterCG's Key page. But the Toaster has another keyer on the Superimpose panel, called the "Luminance keyer," and there are a number of things it can do that the CG's keyer can't. I'd like to suggest you explore the possibilities of the Luminance keyer, and I hope this article makes you rethink your method of keying text.

This is not to say the CG's keyer is useless. On the contrary, the CG's keyer gives a perfect, clean key. It's reliable, dependable, and easy to use. It just has one problem: it's boring. You don't have any choice about the way your titles key. They fade up, they fade down and that's it. And you can't even control the fade rate, which looks more like a cut than a fade in my opinion.

If you use the Switcher's Luminance keyer, you have a lot more control. You can fade graphics up and down at any speed you choose, you can cut straight from one keyed title to the next, and you can even fly text in and out or pull it on or off screen. In fact, any of the Toaster's digital effects can be used while keying.

There are, however, some problems associated with using the Luminance keyer. It doesn't key as cleanly as the CG's keyer and often leaves some artifacts to the immediate right of what is being keyed. These artifacts are black and look like shadows. (I'll refer to them as the "artifact shadow"). These obstacles can be worked around, though, if you make the text properly.

I'll take you through the steps for making text for Luminance keying and provide some examples of keying using these text Framesores. To get text to key well with the Luminance keyer, letter spacing, shadows and borders are the settings to pay attention to.

### Enter the Text

Begin by entering ToasterCG. The Main menu is the long, thin bar across the top (Figure 1). The first thing to



Figure 1: Main Menu bar



Figure 2: Palette Menu

set is the page type. The far left button brings you to the Page menu. Here you select the type of the current page. The default is a Key page, the button on the left, and the others, from left to right, are Color, Scroll and Crawl. Select Color as the page type and you'll pop back to the Main menu. Now put your text where you want it on the page.

Click where you want it to be and type. Depending on the font you choose, you may find the letter spacing too tight for the best keying. To kern the letters, put the cursor under the letter, hold down Alt, and use the left and right arrow keys.

Finally, make sure to select all the text, or the attributes you set will only affect the chosen letters. The easiest way to select an entire word is to double-click on any letter. To select the whole page, hold down shift and double click.

### Shadow and Borders

Now you're ready to set the all-important shadow and border options.

The three buttons on the Main menu with an "S" control the shadow options. Going from left to right, the buttons are Shadow Type, Shadow Direction and Shadow Length.

The Shadow Type button has three positions: none, drop and cast. Clicking repeatedly on the button moves through these options. Select the one with the shadow touching the "S" (cast), not the one that looks like a second, gray copy of it behind the black one (drop). The shadow must touch the text or you'll have two copies of the artifact shadows, one on the text itself and one on the true shadow.

Now set the shadow direction. Of all the default settings to change, this and shadow color are the "key" ones for



getting the key to work properly. Because the Luminance keyer puts the artifact shadow straight out to the right, you want your shadow straight down. When these two shadows combine, you'll have a nice, even shadow that goes down and to the right.

The shadow for the selected text points away from the little sun on the button. Clicking on the button moves the sun one-eighth of a "day" clockwise. Click until the sun is directly above the "s."

The last shadow option to set on the Main menu is shadow length. As with the other shadow buttons, clicking on the button moves through the five options from a very short to a very long shadow. I think the second or third from the shortest work best. You want the real shadow to match the size of the artifact shadow as closely as possible.

The last two things on the Main menu to set are for the text border. The first is the button with the letter "B," which sets border size. The four choices are none, thin, medium and thick. Set this to thin or medium.

The "T" next to Border Size is a toggle button that determines whether the border goes around the text only or around both the text and shadow. I always put the border around both, though it often doesn't seem to make much difference.

### The Palette Menu

Finally, click on the button that looks like a painter's palette. This brings up the Palette menu (Figure 2). From left to right, the four buttons on the top-left of this menu control color for the background, text, shadow and border.

First select the background button, the one with the paintbrush on it. Three buttons appear below it and the Palette controls are now adjusting the background behind the text. The first of these buttons sets a one-color background, the second a gradient, and the one labeled "paint" uses whatever is currently in ToasterPaint. Choose a one-color background, but remember that paint button, because we'll come back to that very useful function later.

Now click in the pop-up menu labeled "Presets" and drag down to black. The background must be 0, 0, 0 black on the RGB sliders so it will

be keyed out. Next, click on the "T" to set the color of the text. Select single color or gradient text and choose a color using the sliders. Yellows or whites are your best bets. The bottom slider, labeled "A," is the alpha channel. "Alpha" simply means transparency, and unfortunately, transparent text can't be keyed with the Luminance keyer; this is one of its limitations. Set the alpha channel to 255 for the text, shadow and border.

### The Critical Step

Setting the shadow color is the other critical step to get text to key well. Click on the "S" button and drag the RGB sliders to 35, 35, 35 and the alpha to 255. If you miss 35 with the mouse, clicking on either side of the slider moves it one increment. Click on the "B" button and do the same for the border color, then click Continue.

Why 35, 35, 35, you ask? The only answer is "that's what works." It does



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Dealer inquiries welcome



not, as people often suppose, have anything to do with the clip level set on the Superimpose bus. The default values for shadow and border color are 0, 0, 0. This color will be keyed away along with the background, leaving nothing but the artifact shadow and your text looking anemic and sad. Bringing the values up to 35 gives them enough brightness not to be keyed out, yet they still look like black shadows and borders.

We are now done setting up the text. That's a lot of attributes to set, and I'll offer a time-saving tip to cut down on your work on the next page. Rather than going through this rigmarole for every page you want to make, set all these attributes for one letter on one page. Use this as a template. When you copy it to another page, using the copy page function, all the settings will go with it. Just delete the template letter and type the text you want for that page. I keep my template letter on page 99 of my "Luma-keyer Text" project. The Copy Page button is on the Book Operations menu. To get to it, click on the button on the Main menu with the "F" and the pages on it next to the Palette button. The Copy Page button has a page with an arrow pointing to a page on it. (Don't you wish these buttons were labeled in English? It's not like "copy page" wouldn't fit on the button.)

### The Last Step

The last step is to hit the F-9 key to render your page to a DV buffer on the Preview bus. Move to the Switcher and save the page as a Framestore. Pages to be keyed must be saved as Framestores because only Framestores can be keyed with the Luminance keyer and flown around with digital effects.

Now we're ready to see our work in action. Put a video source on Input 1 on the Main bus and load the Framestore to be keyed in DV1 if it's not already there. Whenever you exit ToasterCG, it keeps control of the Luminance keyer. To get control back, select any effect. Click on the black button in the Superimpose Panel to turn on the keyer. Select DV1 on the Superimpose bus and the page will pop on screen. Click in the clip level control box, the one with the numbers in it, and drag up and down to set the clip level. The higher the number, the more of the page selected on Superimpose is keyed out. When

black is the clip color, the darker portions of the page go first; when white is selected, the lighter portions go first. Try a clip level of 30 to 50. Notice that as you move through this range, the size of the artifact shadow can be affected. Once you get near a good level with the mouse, the up and down arrow keys move the clip level one number at a time. You're now keying text over video with the Luminance keyer.

### The Real Fun

Now for the real fun. You can use any of the Switcher's digital video effects (the ones with black dots and

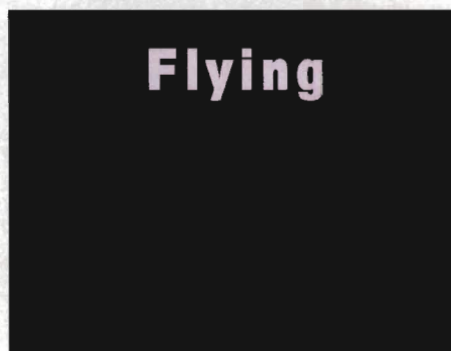


Figure 3: First page of text morph.

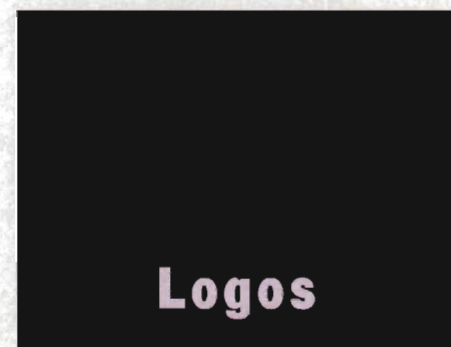


Figure 4: Second page of text morph.

arrows on the croutons) or the Smooth Fade to bring on or off a Luma-keyed page. I'll give some examples of things you can do with these effects.

### Smooth Fades and Quick Cuts

Let's do a smooth fade first. With text keyed over video, run the Smooth Fade effect (the lower right effect on any bank). The text fades out smoothly and stays off screen. Notice that the T-bar stays at the bottom. Run the effect again and the text fades in smoothly.

With the Luminance keyer, you have complete control of the fade rate.

How about something a bit more exciting? Turn off the keyer to clear the Superimpose bus, then turn it back on, but don't select either buffer. Select the Spiral Fly In effect. (It has a little box with a dot and an arrow coming toward you.) To see the name of the currently selected effect, press the right parenthesis key ")" on the numeric keypad. Select the DV buffer with your title on the Preview bus and run the effect. In flies your title. Now run the Spiral Fly Out (or any other Digital effect that take video off screen) and the title flies off.

Another popular trick is cutting through a sequence of keyed titles. It is best to set up for this technique by saving all your title Framestores with sequential numbers. Put the first one in DV1, the second in DV2. Turn on the Luma-keyer to black, and set the clip level. When you're ready to start, press the "t" key. This is the keyboard equivalent to clicking on DV1 on the Superimpose bus. ("y" is the equivalent for DV2.) When the title has been up long enough, press "y" and the first title cuts straight to the second. Now press the plus key on the numeric keypad to advance the Framestore number by one to the third title. (The minus key goes backward.) Press Enter and title three loads into DV1. Press "t" again, and title three replaces title two. Press plus and Enter again. Now title four loads into DV2. Press "y," plus, Enter, "t," plus, Enter, "y," etc. You can keep going this way until you run out of titles. This works because the Toaster automatically loads Framestores into whichever buffer is not being keyed at the moment.

### Text Morphing

Here's a nice effect using keyed text and the row of special Background effects on the H bank on the 4000, the G bank on a 2000 running System 3.1, and on the E bank on System 2.0. They're the croutons with the slightly grayed background. These effects are special because rather than just flying the keying page on or off screen, they switch between what's on Superimpose and what's on Preview at the midpoint of the transition, leaving what was on Preview in the Superimpose bus at the end of the effect.

Make a page of text for keying with the word "Flying" at the top and one



with the word "Logos" at the bottom. (Figures 3 and 4). Load Flying into DV1 and Logos into DV2. Turn on the keyer to black, select DV1 on Superimpose, and set an appropriate clip level for the page. Select DV2 on the Preview bus and run the Flip Horizontal effect, the first in the row. The word "Flying" falls forward and, at the midpoint of the transition, morphs into the word "Logos," which falls to the bottom of the screen. This is quite a nice-looking effect. Try the other effects in this bank, especially the Squeeze to Bkg, and you'll have hours of fun.

### Sliding Lower Third

Here's one final idea that can give a real professional polish to your work any time a lower third is needed. This effect starts with a lower third bar sliding in from the right keyed over live video. The bar has CG text for keying over it as it slides in. I'll use the faithful reporter Gilbert Bates in my example. After the bar is on screen, the words "reporting live" pop onto the left of the bar. Then the bar and all the text slide off to the right together.

Start by entering ToasterPaint. Choose a color that will complement

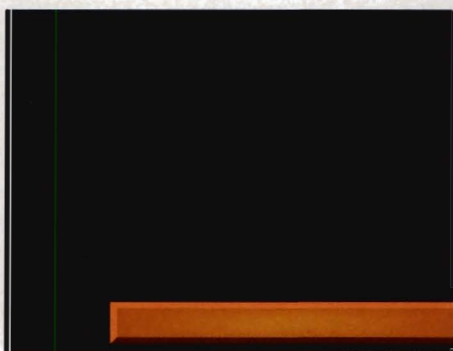


Figure 5: Lower third, step 1




Figure 6: Lower third, step 2

your text. If you want to be really sharp, choose a color gradient. Don't use any transparency, though, since the luminance keyer can't key transparencies. Press Shift-R to select the filled rectangle tool, select the square brush tip, and draw a long thin rectangle across the bottom of the screen. Start a fourth to a third of the way in from the left and go all the way to the right. Vertically, start about four-fifths of the way down from the top and draw down about halfway (Figure 5). You may have to try this a few times to get the box the right distance from

the bottom of the screen. The important thing is that the text fit on the bar and the bar be just above the bottom of the underscan area. I'll add a bit of spice by lightening the top and left sides and darkening the bottom of the bar to give it a beveled look. Render to check the appearance and placement of the bar (Figure 6).

When you're happy with the bar, exit but don't quit ToasterPaint, leaving the bar in place. Choose Switcher from the lefthand pull-down menu. Enter ToasterCG. Choose an appropriate font and font size, and type your

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reporter's name on the lower right part of the screen. Select all the letters and set all the attributes as before. (This wasn't necessary if you used a template page.) Now go to the Palette menu and change the background color option to the paint button I pointed out before. This makes whatever is in ToasterPaint the background of the page. Click F-9 and then F-10 to see how the text lined up on the bar.

If you're like me, you always miss the first time. Here's a tip for easily lining up the text and the bar. Go to

two monitor mode by pressing the Alt and Help keys. Doing this puts a ghosted ToasterCG interface over the Preview bus on the Preview monitor. If you don't have a Preview monitor hooked up, switch the BNC from the Main output to Preview while lining up the text. You will see the ToasterPaint bar and an outline of the text. You may have to click F-9 again. Drag the text to where it needs to be and render again. If the text needs one last little nudge, hold down Shift and use the arrow keys to move it a small amount.



Figure 7: Lower third, step 3

Render one last time, then go out to the Switcher and save this Framestore. Go back into CG and add another bit of text to the page, something like "reporting live" (Figure 7). Now render and save again as before.

Here's the grand finale of keying text with the Luminance keyer: Put a video source on Input 1, load the Gilbert Bates Framestore in DV1 and the reporting live Framestore in DV2. Select the Push On Left effect (try the D bank) and turn on the keyer to black. Set an appropriate clip level and select DV1 on the Preview bus. Run the effect, and the bar with Gil's name slides in from the right. Notice how the artifact shadow is avoided on the right of the bar by making it bleed off the side of the screen.

Now, in the Superimpose bus, click on DV2. The words "reporting live" pop on screen above the bar. Actually, the whole bar and Gilbert's name were replaced, too, but because they were in the same place on the page, "reporting live" seems to be the only change. Select the Pull Off Right effect, next to Push On Left, and run it. The bar, name and "reporting live" all pull off to the right together.

The possibilities for keying text with the Luminance keyer and the digital effects are endless. Try looking at the Toaster's digital effects with keying in mind, and I'm sure you'll come up with many ideas of your own. And don't forget that CG brushes, ToasterPaint graphics and LightWave-generated Framestores can be Luma-keyed as well.

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## Panasonic

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### AG-3 3-CCD S-VHS-C Camcorder

The AG-3 is an industrial 3-CCD camcorder. Don't be fooled by its size. It delivers extra precise color reproduction in addition to its excellent mobility making it ideal for almost any professional application. The AG-3 utilizes technology and engineering used in Panasonic broadcast cameras. A few examples: the capstan motor is coated with evaporated diamond-like carbon to provide the optimum smoothness/friction balance for positive traction and uniform tape tension. The AG-3 features high performance laminated amorphous pro heads which are far superior to those of conventional ferrite heads. The AG-3 uses a newly-developed 8-group 10-piece lens system that includes two double-sided aspherical lenses (4 sides). It is highly resistant to aberrations caused by flare, color fringing and other distortions that diminish contrast.



- Three 1/3" CCD image sensor system delivers over 530 lines of horizontal resolution
- New 10:1 2-speed zoom lens (see above) 6-60mm F1.6 with automatic and manual zoom. Also features 20:1 digital zoom.
- High resolution color viewfinder lets you preview and shoot scenes exactly as they are
- Built-in digital TBC (Time Base Corrector) eliminates jitter and skew and assures stable, distortion-free playback
- **Digital Mix** – for soft fade-over between memorized still and moving images
- **Digital Still** – lets you freeze a particular scene for as long as you like, without interrupting sound recording
- **Digital Gain-Up** – delivers clear, distinct images in low-light levels, even down to 1 lux!
- **Digital Strobe & Digital Wipe** – add professional effects to your shooting.

### AG-455 2-Hour S-VHS Camcorder

- S-VHS system – records and plays back over 400 lines horizontal resolution
- Laminated amorphous heads assure exceptional picture quality, high resolution, superb color reproduction, and high signal-to-noise ratio
- 12:1 power zoom lens with continuously variable speed zoom
- Hi-Fi stereo and linear track for recording. Also has "Audio Out" select switch for Hi-Fi/Normal/Mix combinations
- High performance stereo zoom microphone features three different settings: Wide, Telephone or automatic zoom.
- Built-in VITC (Vertical Interval Time Code) time code generator gives absolute address to each frame of video for frame accurate editing
- Audio/Video Fade-In and Fade-Out for smooth, professional scene transitions
- Automatic iris plus manual control for fine adjustment
- Variable high-speed shutter from 1/50 to 1/8000 second.
- **Digital Mix** – for soft fade-over between memorized still and moving images
- **Digital Tracer** – to add an after-image effect to moving subjects
- **Digital Still** – lets you freeze a particular scene for as long as you like, without interrupting sound recording
- **Digital Zoom** – Thanks to digital processing, you can enjoy shots with ultra-high magnifications of up to 100:1
- **Digital Gain-Up** – delivers clear, distinct images in low-light levels, even down to 1 lux!
- **Digital Strobe & Digital Wipe** – add professional effects to your shooting.



### AG-DP800 SUPERCAM

#### S-VHS FIT 3-CCD Digital Signal Processing Camcorder



- Three high-density 380,000 pixel CCDs with half-pitch pixel offset to achieve over 700 lines of horizontal resolution, a S/N ratio exceeding 60dB and remarkable sensitivity of f8 at 2000 lux result in simply extraordinary image quality. Additionally the Frame Interline Transfer (FIT) CCDs minimize vertical smear, so you maintain impressive picture quality even in very bright illumination.
- Uses advanced digital signal processing circuitry which provides four valuable benefits.
  - 1) Consistently reliable up-to-spec performance.
  - 2) Fine adjustment of a wide range of parameters.
  - 3) Memory storage and instant recall of specific settings.
  - 4) More flexible and higher quality image processing, as well as easier maintenance.

- Some of the DSP circuits and their functions:
  - **CHROMA DETAIL** – This function compensates for poor resolution in the high chroma areas of the picture.
  - **DARK DETAIL** – Determines optimum degree of contour enhancement in dark areas to deliver crisp, natural-looking images
  - **HIGHLIGHT COMPRESSION** – Expands the dynamic range of the highlighted areas and prevents halation. The highlight compression circuit allows a wide dynamic range producing detailed images even against bright backlight or daylight.
  - **FLARE CORRECTION CIRCUIT** – Compensates for steady black caused by light or by a subject's movements.
- Six Scene File modes. There are two user modes for custom digital parameter settings including Horizontal Detail, Vertical Detail, Chroma and Dark Detail, and Color Correction. The four preset modes are normal, fluorescent, special and sparkling.
- In addition to regular AGC (Automatic Gain Control), Supercam has a Super High Gain mode. At F1.4 this enables shooting under illumination as low as 2 lux while retaining detail and color balance.
- **Synchro Scan** function allows flicker-free shooting of computer monitors. Electronic shutter increments from 1/4 sec. to 1/80 sec.
- Built-in internal time code generator lets you record with SMPTE LTC/VITC (Longitudinal/Vertical Interval) time code
- 26-pin connector for direct signal output from camera section for easy backups using 2nd VCR.
- 2 hi-fi stereo audio channels with a dynamic range of 80 dB, and 2 linear audio channels with Dolby NR. Normal/Hi-Fi recording is selectable and levels of all 4 channels are controllable. Uses XLR connectors to further ensure high-quality sound.
- Phantom power can be supplied to optional microphone. Power can be switched off to prevent battery drain when not in use.



### JVC GY-X2

#### 3-CCD S-VHS CAMCORDER

- Three 1/2" CCD image sensor delivers 650 lines of horizontal resolution
- New micro-lens technology provides exceptional sensitivity of F7.0 at 2000 lux and new LOLLUX mode lets you shoot with almost no light! Now you can shoot superb footage with excellent color balanced at a mere 3 lux illumination
- Variable Scan View allows flicker-free shooting of a computer monitor.
- **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 EEL 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.
- Genlock input allows synchronization with other cameras.
- Dual output system allows camera output to be connected directly to an external recorder
- The GY-X2 features JVC's extraordinary Hi-Fi VHS sound system. Using 2 separate rotary FM audio heads the GY-X2 provides 2 channels of near CD-quality audio with a dynamic range of more than 80 dB. In addition, there are 2 linear audio channels. XLR connectors are provided for up to 2 external microphones. The GY-X2 also features a built-in microphone.
- Built-in speaker provides monitoring of audio and warning signals during recording.

## Canon L2 Hi-8 Camcorder

- 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 connect 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.
- 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.
- 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.
- 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
  - **Slow shutter** – four slow shutter speeds allow recording in light levels as low as 0.5 lux or adds artistic after-images to selected scenes.
  - **Overlap** – (dissolve) Slowly dissolve from the last frame of the preceding scene to the action being recorded.
  - **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.

## SONY

### EVW-300 3-CCD Hi-8 Camcorder

- Equipped with three high density 1/2" IT Hyper HAD image sensors. Has an excellent sensitivity of F8.0 at 2,000 lux, high S/N of 60 dB, and delivers over 700 lines of horizontal resolution.
- Provides high quality PCM digital stereo and single channel AFM Hi-Fi recording. Has XLR balanced audio connectors.
- Quick start 1.5" viewfinder with 550 lines of resolution plus Zebra pattern video level indicator and color bar generator. Also, quick-start recording – takes only 0.5 seconds to go from REC PAUSE to REC MODE for immediate recording in the field.
- Built-in 8mm Time Code generator records absolute addresses. (Either non-drop frame or drop frame mode may be selected). Furthermore the EVW-300 incorporates a variety of time code features such as Time Code PRESET/RESET, REC RUN/FREE RUN and User Bits.
- A variety of automatic adjustment functions for different lighting conditions are incorporated into the EVW-300:
  - **ATW** (Auto Trace White Balance) – when ATW is turned on optimum white balance is always ensured during recording, even for changes in color temperature. Conventional white balance adjustment is still provided with the Auto White Balance.
  - **AGC** (Automatic Gain Control) – in addition to manual Gain Up AGC provides linear gain up in the range of 0 dB to 18 dB.
  - **Intelligent Auto Iris** – for situations where the lighting between subject and background is different (subject is underexposed) the Intelligent Auto Iris automatically examines the scene and adjusts the lens iris for proper exposure.
- Selectable Gain-up from 1 dB to 18 dB in 1 dB steps for Mid and High positions.
- **Clear Scan** function – provides a variety of selection of shutter speeds ranging from 60-200 Hz allowing recording of almost any computer display without flicker.
- Compact, lightweight (12 lbs with NP-18) ergonomic design provides well balanced and extremely comfortable operation.



EVW-300 with Canon 13:1 Servo Zoom Lens, VCT-12 Tripod Mounting Plate and Thermodyne LC-422TH Shipping/Carrying Case ..... \$5495<sup>00</sup>

## TOSHIBA

### TSC-200

#### 3 CCD Hi-8 Camcorder

- Three 1/2" CCD chips mounted with spatial offset technology deliver resolution of 700 horizontal lines
- Low noise design provides extreme sensitivity of F8.0 at 2000 lux. Min. illumination 7.5 lux with excellent color reproduction
- New LNA (low noise amplifier) delivers a S/N (signal-to-noise) ratio of 62dB – the highest achieved for this type of camera
- 26-pin connector outputs Y/C or component video signal allowing hook up to a portable S-VHS, Hi-Fi or Betacam recorder and simultaneously record with Hi-8.
- Quick-start 1.5" viewfinder needs no warm up time so you never miss a shot. Zebra pattern in the viewfinder alerts operator to excessive video levels.
- Genlock capability allows synchronization with other cameras. Also full calibration functions are built-in as well as color bar generator.
- Variable high speed shutter from 1/60 to 1/2000 second
- Built-in 8mm time code generator records an absolute address to every frame.
- High-performance back electrical condenser mic records to all three audio tracks. Low cut filter eliminates wind noise.
- Very low power consumption. Draws only 16 watts per hour allowing 100 minutes of recording time with 1 NP-18 battery.
- Body made of magnesium alloy previously found only on broadcast cameras. Still only 13 lbs. in standard configuration.



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- 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.



### NEW! GVR-S955

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 auto/video editing. As a result of this "audio/video breakaway" feature, time code can be added to tapes with existing 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 SMPTC time code operation there is the optional SA-R50U VITC/LTC Time Code Reader/Generator card.

#### 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 to assure greater edit consistency.
- 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.

### BR-S622U/BR-S822U S-VHS Feeder Recorder/S-VHS Editing Recorder



The BR-S622U and BR-S822U meet the most sophisticated broadcast level requirements.

- They are equipped with flying pre-rec amp, digital DDC, digital Y/C separator, high precision CNR, improved chroma enhancer, and more.
- Their "Open-Ended System Architecture" lets you choose from a variety of optional circuit boards and plug-in modules, including a time-code reader/generator, TBC with component out, and several remote control interfaces. They also have a full range of advanced editing functions, including direct player control, precision search/jogging dials, RS-422 interface, high-speed search at up to 32x, and a titlable control panel.
- Built-in digital Dropout Compensator (DDC) performs dropout compensation for the luminance signal on an all-digital basis. With chroma dropout compensation also being performed you get a stable, high-quality picture.
- An SC leak canceler detects and removes very low-level chroma signals on leaked carriers without interfering with overall signal quality. This helps eliminate much of the deterioration often noticed in repeated dubbing.
- Equipped with high-precision Chroma Noise Reducer (CNR). It conducts chroma noise detection on a pixel-by-pixel basis, allowing it to completely eliminate the color streaking normally caused by lags in CNR phase adjustment. This ensures a much-improved chroma signal-to-noise ratio in playback.
- Luminance Signal Enhancer allows you to select frequency responses of 0 dB, +2 dB, and +4 dB with the luminance signal at 2.5 MHz. High resolution is maintained even in multi-generational dubbing. Automatic equalizer prevents deterioration of the luminance signal frequency response when using overplayed tapes.
- A Capstan Bump Function operates during preroll. This assures precise synchronization of the player and recorder during editing. This function can be set to operate at either the player or recorder.
- Features a built-in black burst signal generator. Preparing a black master tape for insert editing is now a simple matter of inserting a blank tape and pressing a button.

#### 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-S800U 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.

- Two Hi-Fi stereo audio channels with a wide frequency response and dynamic range of more than 80 dB. Two linear tracks with Dolby NR (Noise Reduction) are also provided. Audio output is selectable between Hi-Fi and the linear tracks while an audio monitor select switch allows independent monitoring of the Hi-Fi or the linear track. Separate or combined L/R channel monitoring is also possible. Four recording level controls permit separate adjustment of all audio channels in recording.
- On-Screen Menu system with built-in memory which allows simple dial setting and switching of most basic functions while referring to the counter or on-screen display. Mode selection and initialization are all possible via the menu display. Over 70 items are selectable including frame servo, TBC mode, Hi-Fi recording, audio limiter, and preroll times. On-screen warning indications are also provided.
- The BR-S822U has a comprehensive set of editing functions including automatic or manual insert and assemble editing. Editing features include Go-to, Pre-roll, Preview, and Review, providing high-performance edit-only editing even without a controller.
- The BR-S822U features built-in machine-to-machine editing control capability. This permits control of any deck with RS-422 control directly from the BR-S822U. Player/Recorder select buttons are provided, and time code or CTL readings from the controlled player are displayed on the BR-S822U's control display. You control all operations including search, FF, REW, edit point entry, and more.

## Panasonic



### AG-1290 VHS Video Cassette Recorder

- Four head system provides jitter-free play in Double Super Fine Slow mode. Also offers noise-free Double Speed Playback and Frame Advance.
- Quasi S-VHS playback — playback S-VHS tapes at standard VHS resolution.
- Digital Tracking enhances quality of on-screen picture by automatically adjusting tracking during playback.
- The Quick-Play mechanism keeps the tape fully loaded around the head cylinder and maintains the rotation speed of the head cylinder while in Stop mode. As a result, it only takes about 2 seconds for the picture to appear when going from Stop to Play/Rec mode.
- Bovien head cleaner automatically cleans the video heads as soon as a tape is inserted or ejected.
- On-Screen Display of useful information, such as operating mode, date calendar, instructions for setting the 1-month, 4 program calendar/timer, the initial channel setting, and Standby DTH programming.
- Also features: 181-channel tuner, full digital quartz timing, real-time counter, Auto repeat/Auto playback, Standby OTR.



### AG-5700 S-VHS Hi-Fi RS-232 Editing VCR

- The AG-5700 is an easy to use S-VHS Hi-Fi Editing VCR flexible enough to be used in a wide range of applications from video production to educational, medical and business. It delivers exceptional recording and playback images, plus high quality audio sound. With its platform independent RS-232 interface you can choose from a myriad of software packages to suit your applications.
- Uses amorphous video heads which are clearly superior to conventional ferrite heads. They are better because their magnetizing strength is much greater, yielding a higher signal-to-noise ratio.
- Incredibly accurate with optional AG-A570 Edit Controller, an accuracy of ± 3 frames can be achieved.
- Built-in Digital Time Base Corrector effectively eliminates jitter and distortion.
- 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. Currently supported by Amlin, FutureVideo, VideoMedia, TAO, and Matrox.
- Auto Repeat function continuously replays a tape which can be used for tape's end or when recorded material ends. Allows the AG-5700 to be used in showrooms, lobbies, or any in-store video display.
- 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.
- If you need to do a presentation with video the AG-5700 is ready to go. It weighs less than 13 lbs., is extremely compact and has a built-in carrying handle.
- User friendly design features record, play, and stop switches that are well illuminated during operation.



### AG-1970 S-VHS Hi-Fi Editing VCR

- Uses Amorphous video heads which are superior to conventional ferrite heads and deliver rich, vibrant color reproduction and a high S/N ratio.
- Built-in Digital Time Base Corrector effectively eliminates jitter and distortion.
- Playback is high quality, stable and with natural colors.
- Two Hi-Fi stereo tracks with a frequency response from 20Hz to 20,000 Hz and a 90 dB dynamic range. (Has one linear audio track.) Also has stereo recording level control, headphone monitor terminal and mic input terminal.
- Does assembly, video insert and editing. Flying erase head for smooth, clean, seamless edits.
- 5-pin edit terminal makes it easy to set up an editing system.
- Jog/shuttle Dial for varied playback from slow motion to high-speed search (shuttle) and frame-by-frame picture control in forward and reverse (Jog).
- Outputs the audio track during search operations for cueing and quick confirmation of audio recording.
- What makes the AG-1970 the perfect editing VCR? The advanced dual-loading mechanism features a quick response time, exceptional tape protection, remarkable tape control accuracy — all make for outstanding editing precision and ease.
- Automatic head cleaner removes dust and other particles from the heads to help maintain optimum performance.



### AG-DS840/AG-DS850

#### S-VHS DIGITAL Slow-Motion Editing System

- They provide clear, noise-free, high quality slow playback. Playback speed, including Digital Still is selectable in 10 steps (1/4, 1/2, 3/4, 1, 1 1/4, 1 1/2, 1 3/4, 2, 2 1/4, 2 1/2).
- 3-dimensional digital TBC with a correction range of one field. With the VCRs continuously retaining one held 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. A Chroma Aperture Compensation (CAC) circuit eliminates color bleeding and expansion of chroma bandwidth. Other digital processing circuits include: Dig. Noise Reduct. (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.
- Switching Noise Mask Circuit: Eliminates noise caused by head switching during slow-mo playback.
- 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/VTC (Longitudinal/Vertical Interval) time code readers/generators for absolute frame accurate editing.
- Equipped with component outputs allowing easy connection to other component video equipment. This allows high quality transfer of S-VHS source material to Betacam or MII.
- 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.
- 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 full AG-DS850 only and output with individual channel-level setting capability and uses 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.



### MII "W-Series" AU-W32H/W33H/W35H

- For years, Panasonic's MII VCRs have consistently brought professionals the superior broadcast quality of component recording. Now the "W-Series" brings the power of component recording to an ever wider range of users. They are equipped with 3-D type TBC for exceptional playback stability and excellent dropout compensation and they each feature color framing — essential for animation and editing.
- Uses true component recording technology, with separate tracks for the luminance (Y) and chrominance (C) signals. Delivers vivid colors and super sharp details — thanks to the full 4.5 MHz luminance bandwidth.
- Each is equipped with a digital 3-dimensional type TBC boasting a correction range of one full field (262.5 H lines). Continuously retains an entire video field of information in memory, and is used for 3-D processing, providing excellent dropout compensation and eliminating horizontal and vertical jitter.
- All models have 4 high-quality audio channels — 2 Hi-Fi channels, with dynamic range of 85 dB and 2 linear channels with Dolby NR.
- "W-Series" models offer high precision time code editing, with a 0 frame accuracy. Both players include a SMPTC time code reader, while the AU-W35H has a time code reader/generator. The AU-W35H records VITC and LTC separately, and MII VCRs automatically switch between them during playback, according to tape speed, for consistent, reliable time code identification. User bits are recorded in either LTC or VITC (or both), with the capability of making either one (or both) an internally generated time of day clock.
- AT (Auto Tracking) is a standard feature on the AU-W33H player. When used with an edit controller or the AG-A300 Slow Motion Controller, the AU-W33H provides noiseless still, slow-motion and quick-motion playback with a range of 1x to 2x normal speed. It also allows fine control over playback speed — highly effective for situations where "fit and fill" capability is required.
- They allow TBC adjustment on the VCRs itself. Conveniently located adjustment knobs for all TBC controls, including video level, chroma level, chroma phase, setup level sync and subcarrier phase. A 15-pin terminal allows external TBC remote control.



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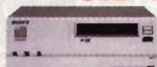
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## SONY

### CVD-1000 Vdeck Hi-8 Computer VCR



Computer-controlled Hi-8 player/recorder. You connect the Vdeck to the serial port of your computer and then, using software that incorporates Sony's VISCA Protocol you will enter a new age of machine control. With the Vdeck and VISCA software you can seamlessly integrate audio, video, text, and graphics to create polished in-house video for training, product demonstrations, and corporate communications.

- Records Sony RC Time Code to any 8mm or Hi-8 tape plus it can dub RC Time Code to any existing tape. Also reads Sony Professional 8mm Time Code.
- With RC Time Code you can search for specific frames of video. The Vdeck reads RC Time Code even in fast forward or reverse so you can't have to switch to playback mode to read the Time Code.
- Has AFM Hi-Fi stereo plus a PCM digital audio track. You can use the PCM track to dub digital audio background music or high fidelity narration.
- Has 3 video inputs (S-Video, 2-composite) and 2 stereo audio inputs. The Vdeck features a built-in switcher for transparent integration of multiple audio and video sources.

- Built-in microphone minijack allows connection of a mic to the Vdeck letting you add narration to your presentations.
- Microphone/Audio Mixer - The Vdeck lets you mix your audio and microphone sources onto the AFM and/or PCM tracks while recording.
- Built-in fader lets you fade audio, video or colors during playback to give your presentations a more professional look. You can also fade live video. Create special effects by fading color to black & white (or vice versa). Fades can be preserved by recording onto a second VCR.
- The Vdeck can read and write data code, allowing date and time information to be stored on the tape as data. Lets you search for a specific date and time on your tape.

### PROFESSIONAL S-VHS SYSTEM

#### SVP-9000 Player



#### SVP-9600 Player/Recorder



The SVP-9000 S-VHS and SVP-9600 are designed as multi-purpose machines with the use of various optional interface boards. By selecting one or more of a particular board, they become dedicated machines for satellite recording, office viewing, video library, sports analysis and editing. At the same time, they adhere to Sony's professional VTR concept of reliable mechanism, rigid construction and easy operation, ensuring reliable and reliable operation in the industrial and professional environment.

- SYNC IN for synchronizing with other video sources
- Picture search from -10 to +10 times normal speed.
- Four channel audio system - Two Hi-Fi with a dynamic range of 90dB and two linear channels with Dolby NR.
- The SVP-9600 (only) features sensor recording. When video signals are input, it automatically starts recording.

- Automatic repeat and automatic rewind operation.
- 19" EIA rack mountable plus adjustable front controls.
- There is a TIMER switch for either REC or PLAY (SVP-9000 PLAY only) when selected automatically executes the selected mode when the power is turned on. This is very useful for unattended operation such as satellite recording.

#### OPTIONAL INTERFACE BOARDS

- SVBK-100** 33-pin interface board provides a 33-pin parallel remote interface capability to allow remote control of basic VCR functions. **279.00**
- SVBK-120** RS-232 interface board provides an RS-232 interface allowing either VCR to be directly connected and controlled by external computer. **389.00**
- SVBK-140** RS-422 interface board provides a professional 9-pin interface allowing either machine to be configured into a professional system. **629.50**

- SVBK-150** Digital noise reducer board has separate YNR (Luminance Noise Reducer) and CNR (Chrominance Noise Reducer) delivering superior picture quality. Included in the circuitry is a field memory which removes jitter and Y/C delay providing stable, sharp images or clear, crisp still frames. **559.00**
- SVBK-160** Time Code interface board attaches to the SVBK-140 RS-422 board, it allows reading and generating of SMPTE LTC time code. **409.00**

### EVO-9720 Hi8 Dual Desktop Editing Machine



#### BUILT-IN EDITING CAPABILITIES

- The EVO-9720 provides two ways for assembling editing when using the supplied RM-E 9720:
- Quick-Edit - By simply pressing the EDIT button at the desired point on the source tape, pressing END at the output and repeating the process, a program is easily assembled, segment-by-segment on the master tape.
- Program Edit - assemble video segments that are not adjacent to one another on the original source tape. The EVO-9720 can memorize up to 99 program events and realizes automatic sequential editing of pre-assigned scenes. To change a certain event in the program, simply recall the event and modify as desired.
- Insert Editing - The EVO-9720 provides separate editing of the video and audio signals.
- Using the video insertion function, video and AFM audio segments can be edited into an existing PCM digital sound track. A simulated edit can be monitored by pressing the PREVIEW button before the edit is actually done.
- The EVO-9720 allows audio dubbing on the PCM tracks. Background music or commentary can be added or inserted. During editing, audio from an external microphone can be mixed with the original audio from a player or from LINE IN and recorded on both the PCM and AFM audio tracks.
- Incorporates a digital field memory, allowing noiseless 1/5 normal speed slow motion pictures and a clear freeze picture to be played back during editing. This makes it possible to create a program with special effects.
- Built-in 8mm time code generator and reader. When using a tape without time code, you can stripe time code. (Post stripping of 8mm time code will not affect any of the video and audio signals.) Also reads RC time code.

#### SUPERIOR PICTURE QUALITY

- The player portion employs a digital noise reducer for luminance and chrominance signals, providing superior picture quality. Noise reduction levels are selectable in accordance with picture conditions. CNR (Chrominance Noise Reduction) offers High, Middle, Low, and Off positions. YNR (Luminance Noise Reducer) offers High, Middle, Low, Very Low and Off positions. Jitter and skew are eliminated at the same time to give clear, stable pictures.

#### A/B ROLL EXPANSION CAPABILITY

- When you've outgrown the cuts-only functionality of the machine, the EVO-9720 lends itself to A/B roll expansion capability. Both the player and recorder have RS-232 serial ports that allow for external control. They can be directly connected as Source A and B to an external computer and/or the Sony FXE-100 Video Editing System.
- To further allow configuration into an A/B roll system there are external sync input terminals for both the player and recorder. When the external sync mode is set to Auto, the EVO-9720 synchronizes itself with the incoming reference signal.

#### ADDITIONAL FEATURES

- To provide for smoother transitions from scene to scene, the EVO-9720 has a video fader. Black or white fading can be selected as well as a duration time of 0.5 or 2 seconds.
- There is a GPI (General Purpose Interface) output with timing adjustment for controlling external devices. External devices like the Video Toaster or Character Generators can be controlled. GPI timing of between 00 and 60 frames is selectable.

### EVO-9650 Hi-8 Single Frame Recording VCR



- Facilitates fast and accurate single frame recording which is indispensable for animation creation. With a short 3-second pre-roll the EVO-9650 is twice as fast as any other machine.
- Built-in RS-232 interface directly connects the EVO-9650 to an external computer, allowing all of the VCR operation commands to be directly communicated to the computer. The RS-232 baud rate can be selected from 9600/4800/2400/1200 bps.
- There is separate DNR circuitry for both the Y (luminance) and C (chrominance) signals providing playback of superior images.
- Fully compatible with the Video Toaster 4000, no single frame controller required. Most animation programs work directly without a controller. They include Autodesk 3-D Studio, Crystal Graphics Topaz, BYTE-by-BYTE Sculpt 4-D etc.
- Provides a variety of digital effects like 3x3 matrix display, 2x zoom and 1/30, 1/10, 1/5, 1/3 times normal speed in a noiseless slow motion playback.
- Incorporates a memory device for frame/field storage to provide an accurate frame image in recording and playback. This memory can be used in either the BUFFER or the DNR mode.
- DNR (Digital Noise Reducer) A clear and stable picture is played back with no guard band noise and no picture movement. Field or frame can be selected. DNR mode is great for image analysis and medical applications.
- BUFFER for last recording of sequential frames. Stores a frame in its buffer thus freeing up the computer to proceed immediately to the next frame. During this time the EVO-9650 performs its pre-roll and edit functions. This effectively cuts in half the time needed for single frame recording.

- Built-in 8mm time code generator records an absolute address on every frame allowing absolute frame accuracy.
- Additional audio, such as music or commentary, can be dubbed to existing video. Audio is recorded on the PCM sound track.
- Optional EVBK-65 RGB encoder board allows the EVO-9650 to accept RGB signals, ensuring optimum picture quality recording.
- Optional EVBK-65 VISCA interface board allows communication with VISCA control signals. The EVBK-65 translates VISCA control signals into the Sony standard RS-232C protocol.
- Supplied RM-9650 Remote Control covers not only basic functions, but also provides digital special effects, assemble/in editing and jog/shuttle picture search up to 19x normal speeds.

## COLOR MONITORS

### PVM-1350

#### 13" Presentation Monitor

- Employs a P-22 phosphor line pitch CRT to deliver stunning horizontal resolution of 460 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.
- Under scan and H/V delay capability. With under scan, 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 800 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.

### 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 RM-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 response mechanism and 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.
- To minimize picture deterioration during the editing process, the EVO-9850 incorporates Dub In/Out (7-pin) connectors.
- With the optional RM-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.

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- V-Station 3300 for Toaster is an integrated software and hardware solution for precise A/B Roll editing on your Amiga/Toaster system. The advanced multi-tasking, multi-event A/B Roll editing software provides you with direct communication and control over your Video Toaster. The three VTR controller unit provides the necessary machine control and computer interface.
- The V-Station 3300 for Toaster system fully integrates the power of A/B Roll multi-event edit control with the versatility of the Video Toaster's effects, framestores, and character generation. You'll appreciate the easy-to-read software screens and the comprehensive online help system.
- Provides true A/B Roll editing even with low-end industrial and prosumer VCRs. Various VCRs using Panasonic's S-pin or Sony Control-L editing protocol can be used.
- Optional VTR Driver kits provide compatibility with VCRs using VHS-C, RS-232 and RS-422 serial control protocols.
- Reads RC time code and with optional SMPTE LTC option can read SMPTE time code for frame accurate editing.

## The KitchenSync<sup>®</sup> Dual Channel TBC

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- Compatible with S-VHS, Hi-8 and U-Matic SP equipment.
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- 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 DDC (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)

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- **LightWave Layout lets you design the perfect scene.** You can load and position objects, edit surfaces, and design dramatic lighting effects and camera moves. You can even include spectacular effects like lens flare, fog, or depth of field. Bring 3D characters to life simply by using the object parenting and bones features. Check your scenes by creating wire frame preview animations that you can play back in real time. Render still images or entire animations in up to 16.8 million colors.

## Toaster FLYER TAPELESS EDITOR

No editing system in the world compares to the quality, price, and ease of use of NewTek's revolutionary new Video Toaster Flyer. The Flyer is a D2, broadcast-quality, tapeless nonlinear edit system that costs under \$5,900. Forget the hassle of hooking up a complicated A-B Roll editing system. Forget the expense of buying an edit controller and three VTRs. Forget waiting for sluggish tape access in an offline studio. With the Video Toaster Flyer, all that is history. Now you can record your video direct-to-disk, make edit decisions with the Flyer's drag and drop controls, and enjoy the finished program all in the same afternoon. Don't like the way a sequence looks? Drag the video clips into a new order, insert a new scene, or drop in background music with the click of a mouse. The choice is yours. Best of all, every change is immediate. There's no re-recording, no tape generation loss, and there are no botched edits. For a fraction of the cost, the Video Toaster Flyer provides the quality you expect from a \$50,000 digital video deck. Plus, the Flyer seamlessly integrates into the Video Toaster system.

### AFFORDABLE ONLINE EDITING

- For under \$5,000, the Video Toaster Flyer provides the same D2 quality image you expect from a \$50,000 digital video deck. The Flyer integrates so seamlessly with the Video Toaster that you'll be able to experiment with effects, try out different titles, or add animations with ease.
- NewTek's exciting new video compression standard, VTASC, gives you the quality you want without the artifacts associated with JPEG, MPEG, Wavelet and other compression techniques. Your final productions look better with the Flyer since there's no tape generation loss.
- Add a Video Toaster Flyer and a couple of hard drives to the Video Toaster 4000 to form a complete audio and video production suite that fits on your desk.

### SEAMLESS INTEGRATION WITH THE VIDEO TAOSTER

- Since the Flyer has been designed as a component of the Video Toaster system, it seamlessly integrates with your Toaster-based studio. Harness all of the effects, graphics and animation features that have made the Toaster one of the most popular video tools ever. Use recorded video clips as easily as video still frames. You can even insert video clips into your LightWave animations. This feature, called rotoscoping, allows you to place live video segments - as many as you want - inside your LightWave animations. You have unlimited control over moving images.

### EDITS AUDIO

- With the Flyer, your Video Toaster system edits audio as well as video. Its audio capabilities allow you to use it as a sophisticated sound mixer featuring multiple tracks of CD-quality digital audio. Add background music, perform audio sweetening, or bring up the volume of a quiet passage.

### SIMPLE, FAST EDITING

- With the Flyer, editing is an exciting process of experimentation and creativity. You start by recording clips into the Flyer (a clip is a segment of video along with stereo audio).
- Each clip is represented by a color picture taken from one of its video frames called a crouton. You fine-tune each crouton - select in and out points, and adjust audio characteristics - until the clips are perfect.
- Next, simply drag a video crouton into position, place an effect crouton after it, then drag another video crouton after the effect. You've just created a transition from one video clip to another. To add a graphic or overlay CG text, drag and drop a graphic crouton. With the Flyer it's easy to build a storyboard where every scene, sound, graphic, and animation appears in the order you want.
- Finally, press the Play button. Watch the entire production roll as each of your clips, effects and graphics plays back in real-time. Record your finished production directly to another Flyer-controlled hard drive or to any video format.

## RGB COMPUTER

## AmiLink

### AmiLink CIP

AmiLink CIP is an Amiga-based A/B roll edit controller. It is a combination of hardware and software that provides flawless control of three VCRs. It is also the most complete personal video editor for the Video Toaster. It controls low-cost industrial VCRs like the Panasonic AG-1970 or with Control-L protocol like Sony EVS-3000 and SLV-R1000. You can use three of the same or in any combination. Best of all, AmiLink CIP is upgradeable for professional machine control. To upgrade, you buy an upgrade kit that includes new software and professional level control cards. The system includes a new version of AmiLink software designed especially for the Toaster 4000. With the new AmiLink VT-4000 software, the Video Toaster is seamlessly integrated into your editing suite.

- **Machine Control**
  - Choice of joystick, mouse, keyboard and trackball, plus an optional jog/shuttle editing keyboard
  - Industry standard keypad layout (CMX/GVG)
  - Auto calculated GPI, plus 48 additional GPI triggers per edit with optional hardware
  - Controls industry standard audio mixers

### Edit List Management

- Sophisticated search list by edit comment, content or number
- Import/Export CMX 3600 edit list on MS-DOS & Amiga-DOS
- Automatic edit list back-up
- Edit list cleaning, list ripping, multi-field sorting
- Optimized edit list auto assembly with special integration

### Editing Control

- Preview, Perform, Review and Auto review functions
- Multi-step, Multi-trim - Reverse play and auto review
- Pre-Roll, Post-Roll and Preview select

### Edit Modes

- Provides for multiple audio/video splits per edit event
- Open ended immediate/delayed transition edits
- Performs all edit modes plus "Music Video Mode" for easily synchronizing edits to music.
- Integrate graphics, animation and character generation
- Scene-based editing with advanced park and perform features
- Cut and Paste EDL management

### AmiLink AL-3Ni Professional

AmiLink AL-3Ni is the professional version of AmiLink. It is designed exclusively for machines equipped with RS-422 9-pin serial interfaces. AmiLink AL-3Ni is actually 2 edit systems in one, including both Windows and Amiga software.

### Machine Control

- Controls up to (Sync-rol) to 16 source VTRs and 4 record VTRs
- Choice of joystick, mouse, keyboard and trackball, plus an optional jog/shuttle editing keyboard
- Controls industry standard audio mixers
- Auto calculated GPI, plus 48 additional GPI triggers per edit with optional hardware
- Single frame animation module included
- Dynamic motion control/auto tracking support
- Controls industry standard audio mixers
- Reads VITC and LTC time code, plus fully supports SMPTE Drop-Framing and non Drop-Framing, mixed and PAL/EBU

### Edit List

- Sophisticated search list by edit comment, content or number
- Import/Export CMX 3600 edit list on MS-DOS & Amiga-DOS
- Automatic edit list back-up
- Edit list cleaning, list ripping, multi-field sorting
- Optimized edit list auto assembly with special integration

### Editing Control

- Preview, Perform, Review and Auto review functions
- Multi-step, Multi-trim - Reverse play and auto review
- Pre-Roll, Post-Roll and Preview select

### Edit Modes

- Provides for multiple audio/video splits per edit event
- Open ended immediate/delayed transition edits
- Performs all edit modes plus "Music Video Mode" for easily synchronizing edits to music.
- Recorder only edits for recording graphics/audio
- Integrate graphics, animation and character generation
- Scene-based editing with advanced park and perform features
- Six forms of Match-Framing edits
- Cut and Paste EDL management
- Multiple time-code and edit clip-board registers

CIP w/VT-4000 Software .....\$1499<sup>00</sup>

AL-3Ni w/VT-4000 Software .....\$2499<sup>00</sup>

### VT-4000 Software (Toaster Control)

- AmiLink/VT gives you total control over the Video Toaster as a fully integrated post-production switcher.
- AmiLink/VT remembers all of the Frame Stores, CG Titles, and DVES used for your production in the AmiLink edit list. You never lose any of the information you need to recreate your production.
- All of the Video Toaster post-production functions are easily accessed from the AmiLink/VT interface screen. Toaster Digital Effects, Character Generator pages and the Digital Video Frame Stores, as well as standard wipes and dissolves, can all be called up automatically during edits, and are stored in the edit list for later auto-assembly.

## SUNRISE INDUSTRIES AD 516 and Studio 16



### The Complete Digital Audio Solution

The AD 516 is a professional quality 16-bit high fidelity sound board and hard disk recording system for the Amiga. It includes the feature packed Studio 16 software that allows you to perform all traditional audio post-production tasks. You can create sound effects, edit and replace dialog, and build multi-channel soundtracks in the digital domain.

- Record, edit and playback directly off hard disk
- Play up to 8 simultaneous tracks off one or multiple hard disks in real time.
- Use a mouse to slice up and rearrange sound quickly
- Mix tracks with no generation loss
- Synchronize background music with your productions
- Fade, cross fade, or eliminate sections of audio
- Create unlimited variations of echoes, flanges, and choruses
- Optional Video Toaster hardware expansion module lets you play audio

## DIGITAL PROCESSING SYSTEMS DC-2350

### Personal Component Adapter

The DC-2350 Personal Component Adapter is a combination 3-line Adaptive Digital Comb Filter Decoder and Y/C encoder designed for use with the Video Toaster.

- Has two S-video outputs plus switchable Betacam/MII component output which allows the Video Toaster to be connected to Y/C monitors, S-VHS, Hi8, Betacam and MII recorders.
- Equipped with three S-video inputs which are converted to Video Toaster input feeds. This allows devices such as TBCs and VCRs with S-video output to be connected directly to the Video Toaster.
- Its 3-line Adaptive Digital Comb Filter provides superior diagonal luminance resolution compared to products using two-line comb filter designs.

DC-2350 .....\$299.95

### VT-2600 Personal TBC IV

- Combines digital timebase correction, 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 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 CVC (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 retoscoping 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 IC's 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 from 10 to 15 minutes of high quality playback from a dedicated 540 MB hard drive.
- 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.
- 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.
- Supports direct rendering of all common image formats including 24-bit IFF and Video Toaster frame store files and is fully compatible with all popular animation packages including Morph, VHS, Lightwave 3-D, Fractal Pro, Imagine, Vista Pro, and Quenorm.
- Real-time video capture for retoscoping and other video capture applications is possible when used in combination with a DPS TBC IV card.



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## SAMSON

### MR-1 Wireless System

- The MR-1 micro receiver is a professional VHF wireless receiver measuring less than 4" long and 2" wide.
- FCC licensed in 14 channels from 174 MHz to 213 MHz.
- Truly switchable balanced mic level (600 ohms) to unbalanced (-10 dBm) output.
- dbx noise reduction to simultaneously increase dynamic range and eliminate noise.
- Receiver squelch, level & headphone level output controls.
- Can be powered by a 9V battery for 10 hours.
- SH-2 hand-held transmitter can be used with mic elements like Shure SM 58 dynamic mic or Audio Technica Pro 4.
- ST-2 (L) body pack transmitter can be used with leading lavalier mics like Sony ECM-144 or Audio Technica 831.

### Lavalier (clip mic) Systems

- ST-2(L)ECM-144 Transmitter with Sony mic & MR-1 Receiver ..... 367.95
- ST-2(L)ECM-44 Transmitter with Sony mic & MR-1 Receiver ..... 419.95
- ST-2(L)AT 831 Transmitter with Audio Technica unidirectional mic & MR-1 Receiver ..... 419.95

### Hand-Held Systems

- SH-2/PR4 Audio Technica Dynamic mic element & MR-1 Receiver ..... 360.95
- SH-2/58 Shure SM58 Dynamic mic element & MR-1 Receiver ..... 434.95
- SH-2/58 Shure SM-55 condenser mic element & MR-1 Receiver ..... 592.95

### SUPER TD SERIES TRANSMITTERS

For the serious professional who wants true step-up quality features. Lavalier (clip mic) systems each includes:

### MR-1 Micro Receiver, TX-3 Body-Pack Transmitter, Lavalier Mic with Multi Pin Plug

- Sony ECM-144 ..... 507.95 Sony ECM-44 ..... 544.95
- Sony ECM-55 ..... 653.95 Sony ECM-77 ..... 724.95
- Senheiser MKE-2 ..... 747.95



### MKE-300 Short Shotgun

- Lightweight electret condenser mic to support the excellent video capabilities of most camcorders with the superior audio they deserve.
- 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 camcorder's already limited power supply. .... 189.95

### 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 battery roll off switch and on/off switch with LED indicator for battery condition. .... 194.95

#### 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 obtrusive theater sound reinforcement and as a podium mic. Frequency response: 50-20KHz ± 2.5 dB. .... 204.95

ME66 with K6 Powering Module ..... 397.95

#### 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. .... 144.95

ME64 with K6 Powering Module ..... 334.95

#### 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. .... 119.95

ME62 with K6 Powering Module ..... 309.95

## WACKIE



### MicroSeries 1202

Ultra-compact 12 channel audio mixer featuring the same specs and performance as the proven CR-1604. In less than 1 sq. ft. of work space it provides 4 low-noise/high headroom mic inputs with +48V phantom power, 4 bal/unbal. mono inputs, 4 stereo inputs, 2 AUX sends per channel, 2 stereo effects returns, 4 channel access inserts, tape in/out, 2 band EQ, headphone monitor w/level control, 12 LED peak meter display, sealed potentiometers, rugged steel construction and built-in power supply.

### CR-1604

Sixteen-channel audio mixer designed to deliver exceptional performance in a wide range of situations, including studio recording, live recording, live music PA systems, broadcasting studios, and high quality installed systems. Exclusive mix amp technology delivers 2X more headroom than ordinary mixers, along with the lowest distortion and highest possible S/N ratio. Convertible design allows physical format to be changed between tabletop, jacks-to-top and rack mount with jack pad rotated 90° to back. Rack mount brackets included.

## TASCAM



### 688 Midistudio

The 688 MIDISTUDIO is a compact, 20 input audio mixer combined with an 8 track cassette recorder system. Designed for the MIDI-based studio, this unit will work well for both the production facility and the individual artist. In the MIDI environment, sources can be selected, destinations assigned and routing designated, all from the remote MIDI controller. With its wide input range and ability to be remotely synchronized, the 688 can be the heart of a high tech, compact 8 track studio.

- Full featured 20 input mixer (10 balanced XLR inputs)
- 8 x 2 cue monitor mixer
- Built-in dbx noise reduction system (defeatable)
- Unique "Scene Display" system to monitor MIDI-controlled setups
- Gapless auto punch in/out and rehearsal modes
- Serial interface for external synchronization

## NRG

### CAMPAK

### 12 Volt Power Packs

If you are tired of short camcorder run times and stacks of batteries try NRG's powerful solution - the Campak. The lightweight Campak attaches easily to your waistband, pocket, powerbelt or optional Campak belt and uses ultra-high capacity nicad cells to deliver 3-5 hours of continuous camcorder run time.

### CAMPAK 12-Volt

- 12 V DC (cigarette lighter) output, adapts to any camcorder.
- Ultra-light weight (only 38 oz.) and compact palm size.
- Highest-density Nicad cells provide 4 amps of power.
- 2500 charge/discharge cycles for years of service.
- Spring steel clip securely fastens Campak on waistband, pocket or belt. .... Includes soft case and charger.

### CAMPAK PRO 12-Volt

- Has all the features of the CAMPAK 12-Volt, except uses 4-pin XLR output connector for more reliable connection.

### CAMPAK PRO 13.2-Volt

- Has all the features of CAMPAK 12-Volt Pro except it uses 13.2 volt pack which offers 15-20% longer runtimes.

### Versalite Pro

### Professional AC/DC On-Camera Light

efficiency  
AC/DC light at an affordable price. Proportioned for mid-to full-size camcorders, it's well-suited for the serious videographer.

- Unique dispersion grid eliminates hot spots.
- Dichroic-coated bulbs assure accurate color.
- Front housing snaps open for instant bulb exchange.
- AC/DC capable in unregulated bulb voltage ranges (20W, 35W, 50W, 75W, 100W, 150W, 200W, 250W).

### Professional DC On-Camera Light

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. Instantly adjust light output to exactly meet changing light requirements. Best of all, it virtually eliminates color shift.

- Accommodates bulbs from 20W to 100W DC.
- Prismatic dispersion grid provides smooth even light output 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 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 user.

### 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.
- 5-snap multi-color power indicator display.
- Belt with cellpack weighs only 4.9 lbs for all day comfort.
- Dual outputs for 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".

### 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-draw 12-volt equipment set 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 13.2V configuration, overnight charger, comprehensive manual. Fits waist size 29"-44".
- Also available in 13.2-volt 14-amp version. The 13.2-volt version offers 15-20% longer run times.



### POWER STATION SERIES

Worldwide AC Power Adapters  
Replaces expensive original-manufacture AC power supplies, delivering precisely-regulated 12-volt DC power from AC sources worldwide. High-current capability allows for powering not only large camcorders, but lights, monitors, and other high draw 12-volt equipment as well. They provide up to 9 amps of precisely regulated DC power.

- Different configurations: The 12560 features a single cigarette or 4-pin output and the up to 5 amps of output current. The 129100 features dual outputs in any combination of

### PROFESSIONAL VIDEO TAPE



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P6120HMP	9.69	E6120HME	15.79

## maxell.

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BQ Certified Hi-8 Metal Cassettes			
P6-60 HM B0	5.89	P6-120 HM B0	7.89
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T-30 Plus	1.69	T-60 Plus	1.99
T-90 Plus	2.09	T-120 Plus	2.19
MGX-PLUS Expitaxial VHS (Box)			
HGXT-60 Plus	2.69	HGXT-120 Plus	2.99
BQ Broadcast Quality Expitaxial VHS (Box)			
T-30 B0	4.39	T-60 B0	4.99
T-120 B0			5.89
BQ Certified Professional S-VHS (In Box)			
ST-31 B0	8.09	ST-62 B0	5.69
ST-126 B0	7.39	ST-182 B0	13.59

## SONY

Hi-8 Professional Metal Video Cassettes			
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P6-60 HMPX	8.19	P6-60 HMEK	11.49
P6-120HMPX	11.09	P6-120HMEK	15.49
PR Series Professional Grade VHS			
T-30PR	2.39	T-60PR	2.59
T-120PR			2.79
PM Series Premier Grade Professional VHS			
T-30PM	3.49	T-60PM	3.99
T-120PM			4.79
BA Series Premier Hi-Grade Broadcast VHS (In Box)			
T-30BA	3.59	T-60BA	4.09
T-120BA			4.89
MQ Master Quality S-VHS (In Box)			
MOST-60	7.99	MOST-120	8.39
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KCA-10 BRS	8.19	KCA-20 BRS	8.69
KCA-30 BRS	9.69	KCA-60 BRS	13.49
XBR 3/4" U-matic Broadcast Master (In Box)			
KCS-10 XBR (mini)	8.79	KCS-20 XBR (mini)	10.19
KCA-10 XBR	9.29	KCA-20 XBR	10.69
KCA-30 XBR	11.99	KCA-60 XBR	15.99
KSP 3/4" U-matic SP Broadcast (In Box)			
KSP-S10 (mini)	9.59	KSP-S20 (mini)	11.09
KSP-10	10.09	KSP-20	11.59
KSP-30	12.99	KSP-60	16.99
BCT Metal Betacam SP Broadcast Master (Box)			
BCT-5M (small)	16.39	BCT-10M (small)	17.39
BCT-20M (small)	21.29	BCT-30M (small)	23.29
BCT-60M	33.19	BCT-90M	51.99

## FARGO

### PRIMERA

### Dye-Sublimation and Wax Thermal Transfer Color Printer



The Primera is the most inexpensive yet effective way to produce professional quality proofs, comps, layouts, photos, illustrations, scientific and architectural renderings, 3D models, video captures, fabric transfers and even final artwork. The Primera's output is so good it exceeds printers costing thousands of dollars more. Capable of picture-perfect dye-sublimation prints or fast, inexpensive wax thermal proofs, the Primera is ideal for graphs, diagrams, charts and illustrations. It prints on A and A4 size paper, transparency film and even T-shirt transfer sheets from Amiga.

- High-resolution thermal transfer color or photo-realistic dye-sublimation printing—both in one printer.
- Delivers thermal transfer printer quality at the price of inexpensive inkjet printers and is a third of the price of the next lowest-priced thermal transfer printer.
- Requires no drying time and prints up to four times faster than inkjet. There is no wrinkling and smearing.
- Accepts letter (8.5 x 11"), letter-long (8.5 x 13"), A4 (210 x 297mm) and A4 long (210 x 349mm) paper sizes.
- Includes Amiga and Windows 3.11 driver.

\$1099<sup>95</sup>

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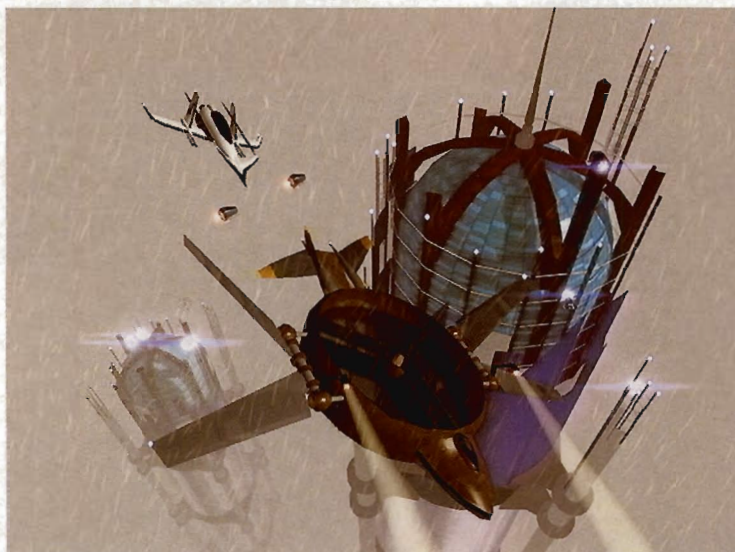


# TOASTER GALLERY

## Gallery Submissions:

Have your work on display before an international audience.

Send your submissions to:  
AVID Publications, Attn: Toaster Gallery  
273 N. Mathilda Ave., Sunnyvale, CA 94086

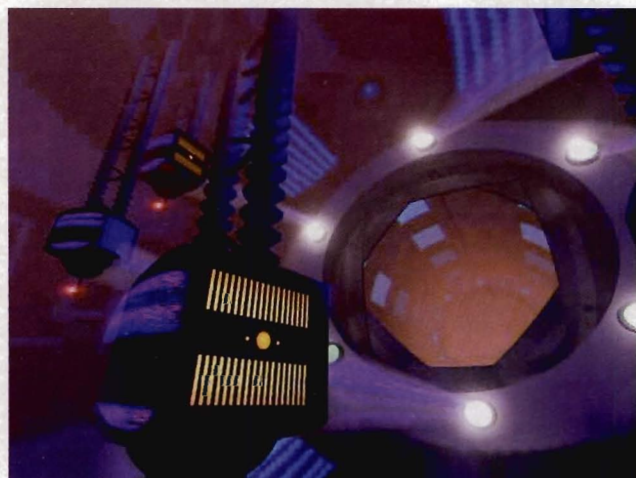
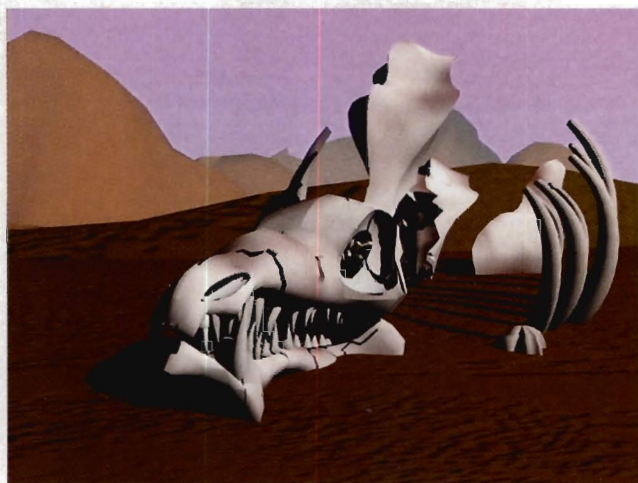


## ▲ **Babel,** by Christian Moreton

*Babel* was created with an accelerated T2000 with 3.0 software and 18MB of RAM. An 18-year-old freelance animator, Moreton can be reached at (613) 729-1207.

## ▼ **Bones,** by Mark Brown

The letterbox image, *Bones*, was created on an Amiga 4000 and LightWave 3D. Brown is an assistant animator for Pacific Data Images. He can be contacted at (714) 847-8628.

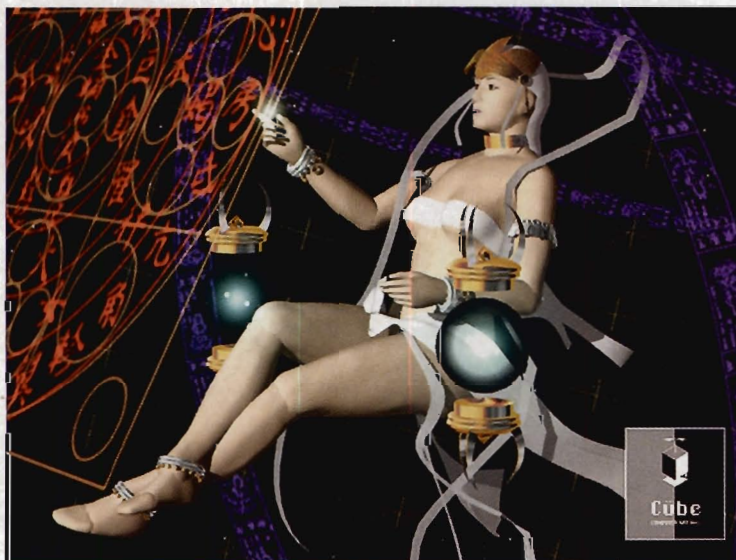


## ▲ **Digital Presentation,** by Casper McElwee

*Digital Presentation* was created on an Amiga 2000 in high resolution using LightWave 3D, 16MB of RAM and a Personal Animation Recorder.

## ▼ **Lotus Lady,** by Kim Young Baek

*Lotus Lady* was modeled and rendered with Toaster 3.1. The female object is Crestline's Humanoid. Baek is the president of Cube Computer Art, Inc., based in Kangnam-Ku, Seoul, Korea. He can be reached at (82)-2-501-4632/4633.





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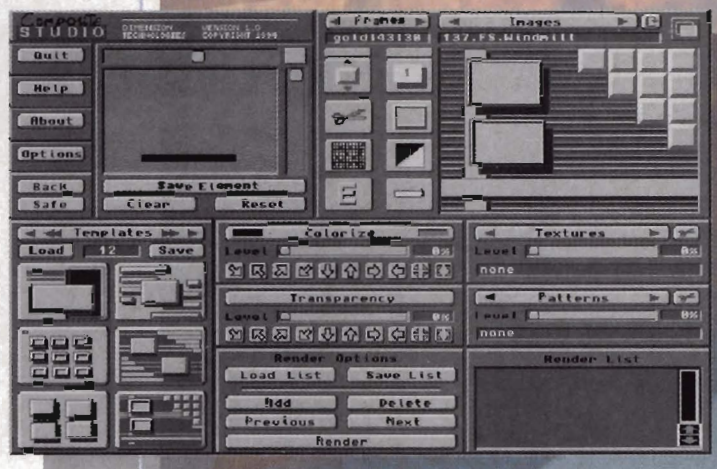
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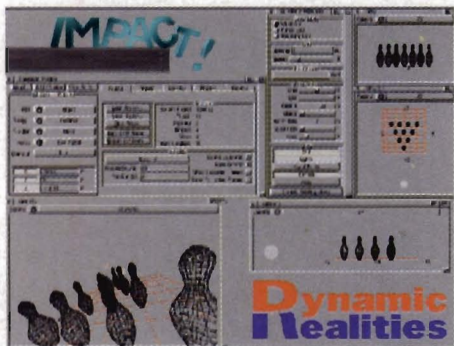
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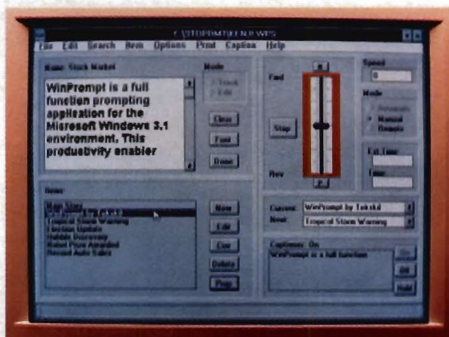
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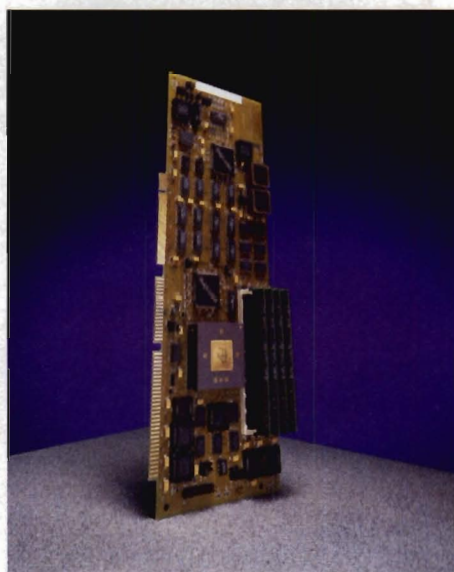


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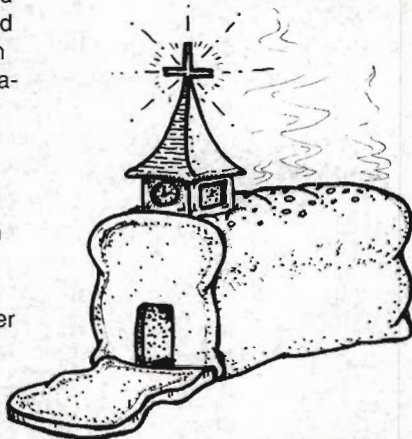
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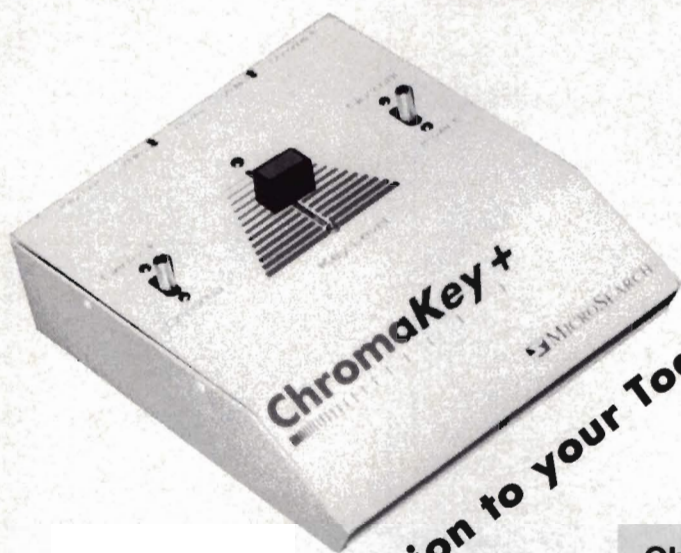
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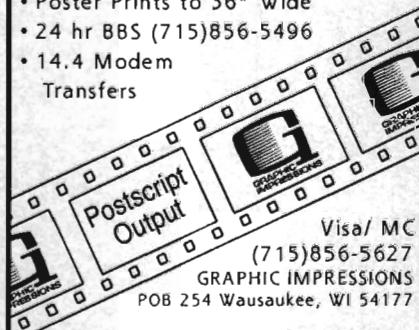
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# LAST WORD

## Sleep or Money?

### The Downside of Being a Freelance Animator



by Mojo

W

hen I'm not writing for *VTU*, I work for Foundation Imaging, a special effects company that uses Video Toasters to animate scenes for the television show *Babylon 5*. I get up at 8 a.m. every day, drive 20 minutes to the office and for nine hours make spaceships fly around and explode. I get an hour for lunch, weekends off and a pretty good paycheck for doing what I (usually) enjoy.

Meanwhile, freelance animator Jeffery Lancer gets up whenever he pleases. He walks a few feet to his living room, boots up his computer and turns on enough extra equipment to power Bolivia. After checking the previous night's rendering, he flips on the tube and watches MTV all day while he leisurely puts the finishing touches on a flying logo animation for his newest client. In a couple of days, he'll get a check for a ridiculously large amount of money, so he takes his slippers off, puts his feet up and orders out for Chinese food, happy to be doing his own thing.

Which if these two scenarios seems more appealing?

If you're anything like me, the life of the freelancer definitely holds more charm. I swore I would never work 9 to 5 for anyone, sweating it out for The Man so he could get rich. I'd much rather sit at home and sip Piña Colodas while I churn out brainless logos for copious amounts of cash.

Or so I thought.

As those who have gone that route will attest, freelancing is not all it's cracked up to be. First of all, nobody hands jobs to you on a silver platter. Several people are now clued in to how cheap and easy it is to churn out Toaster animations, so you're competing with every two-bit Logos-R-Us operation out there.

And few of those assignments are any fun.

The work is fairly unrewarding, and any good and creative gigs will probably accompany wannabe producers with pockets about as deep as a wading pool. Of course, since you've sunk countless thousands into your equipment just to keep up with the guy across the street (who just bought a Raptor), you can't afford to take on any "fun" work.

OK, so the animation you do isn't going to get you any dates, but you're still your own boss, free to spend the money you make whenever you like, however you like.

That is, free to spend what's left after you buy the latest software updates, more RAM and a bigger hard drive, and put a little away for an '060 when it comes out (remember that Raptor).

Well, you still have your personal freedom. No 9 to 5 for you! Sleep late every day like an old dog. Of course, you have to sleep late since you were up until 4 a.m. trying to figure out why your machine wouldn't boot. Or why a certain polygon is flipped. Or re-orchestrating your

scene because you don't have enough memory. Or solving any of the zillion other problems that creep up when you least expect it.

In the end, you might make a nice chunk of money, but it does have its price. And you won't get a lot of extra sleep.

The alternative has its own pros and cons. Working in an animation shop means doing the work the boss tells you to do. The upside of this is that most high-profile jobs (like movies and TV shows) go to these places, so you'll have a much better chance of working on something rewarding and—let's be honest—impressive.

Compared to freelancing, most shops have very strict hours. Admittedly, it's not very enjoyable getting up so early, but it's far less attractive to be working until 3 a.m. and waking up at 8 to meet a client, only to find out the changes they want will require you to work all weekend. Most animation houses keep overtime to a minimum because they have to pay you for it.

Money becomes a big issue to many people trying to decide which way to go. A standard salary for a decent animator is about \$1,000 each week, while a good logo job could bring in \$10,000 for a month's work (or less). Of course, the employee animator has no extra expenses, usually gets health insurance, and has none of the stress and headaches that require expensive medical attention.

Perhaps the most important monetary issue comes down to regularity. Unless you screw up and get fired, as an employee, you can count on that check every week. You can have a life. The freelancer, with the exception of a lucky few, has no idea when or where his next job is coming from. You'll probably go through periods with more work than you can handle, and then months with no gigs in sight. Sure, you could make a lot more money on your own, but you can never count on it.

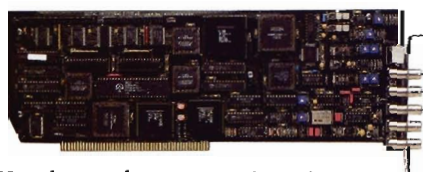
Anyone who has a strong desire to be a good animator (or videographer, editor, etc.) and not just a profitable one should spend some time working for a company. With so many other talented people around, it's simply the best way to learn and get paid for it, hassle-free. After a while, some people still yearn to work for themselves and move on. Many of them start their own companies. However, they are now seasoned professionals, have acquired a keen insight into the world of real production work and know what they're capable of. These are the people who wind up in a position to make their own movies and TV shows—a position they were led to by following the slow dirt road of creativity rather than the shiny highway of easy money.

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