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JANUARY 1996

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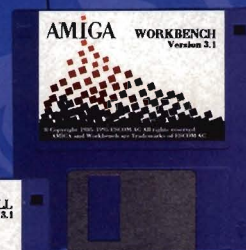
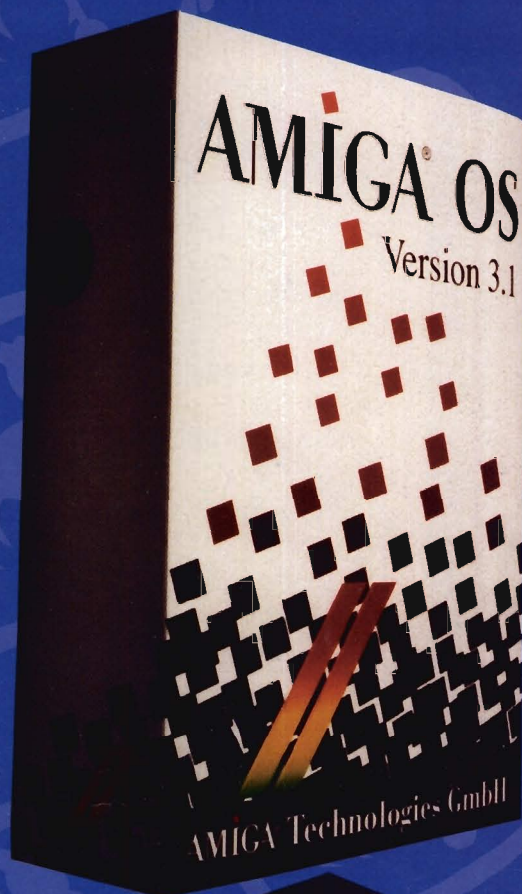
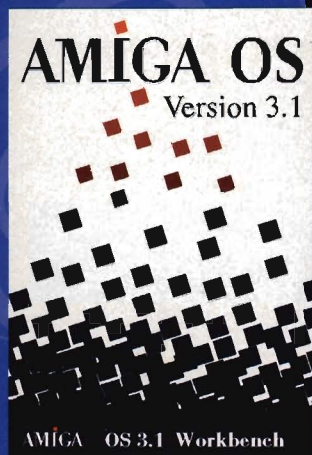
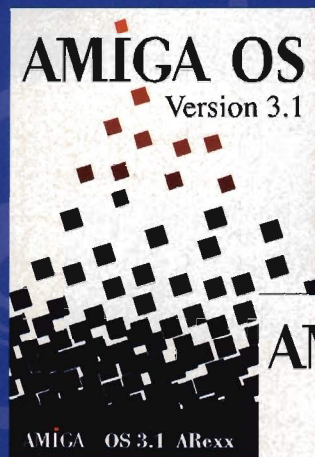
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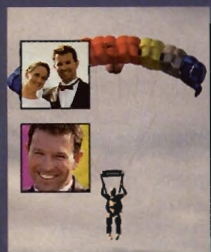
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**1995 VIDEO TOASTER EXPO GUIDE**

A list of exhibitors at the year's most exciting event for Toaster users.

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CAN THE AMIGA FLY AGAIN?**

by Tom McAuliffe

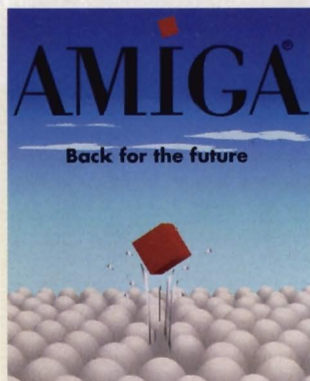
Nothing lasts forever—even death. See how Amiga Technologies is beating the odds with its reincarnated A4000 series. Also, check out our interview with AT General Manager Petro Tyschtschenko.

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**SWEET SECRETS:  
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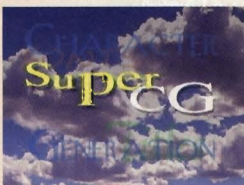
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# TOASTER TALK

## Expo Firsts

### The Amiga Lives!

by Tom Patrick McAuliffe



I stood at the end of the overseas customs area at Los Angeles International Airport, waiting and, quite frankly, feeling a little foolish. After all, I had never seen either of these guys before and had only spoken to them a few times. At the height of fashion in my "limited edition" VTU T-shirt, I stood holding a copy of the December issue and its Toaster 4.0 cover! I was proud to be your representative in meeting Flight 415 from Frankfurt, Germany, and welcoming the new owners of the Amiga to the U.S.A.

Have you ever met someone whom you immediately felt comfortable with? That's how I felt with Petro Tyschtschenko, general manager of Amiga Technologies (AT), and Gilles Bourdin, manager of public relations. As we loaded the luggage into Arnold, my truck, Petro noticed my "I Love My Amiga" bumper sticker and broke into a huge grin, asking, "Oh, so you've heard of this computer?!" We laughed. As we found our way through the maze that is L.A.'s freeway system, we began to talk. During the dash from the airport, Petro said that AT is committed to both supporting its past users with backwards compatibility and a growing worldwide market vision that includes the U.S. From the start I expressed my enthusiasm, concerns and doubts. Petro and Gilles answered my questions in a straightforward and good-natured manner. I could see that the Expo was going to be fun, interesting and possibly even historic. *Video Toaster User Expo '95* was the first U.S. exhibit of the new Amiga owners. Not bad for a computer that was supposedly dead, eh? Thousands of users visited the Expo, which featured over 30 developers in addition to large booths from both Amiga Technologies and NewTek.

### The Rebirth

At 3:41 p.m. PST on Nov. 1, 1995, I was privileged to watch NewTek consultant Dan Wolf and Service Management Group's (SMG) Jeff Frank and George Robbins install a Toaster/Flyer card into one of the first Amiga 4000 Towers produced in the U.S. Upon installing the software from an external CD-ROM drive, the Flyer (4.09) came up and played with no problems. Way cool!

This was not the only new beginning, however. Both visitors and developers crowded the Hilton's ballroom in great anticipation the next morning. I introduced Petro with a reminder that 18 months ago the computer industry declared the Amiga dead, and that you, the users, responded by telling them they could "have my Amiga when they pry it from my cold, dead hand." Amid thunderous applause, Petro unveiled what we had been waiting for:

- The first A1200 board produced on the new French production line with its snappy new packaging, complete

with an awesome software bundle.

- The new A4000 Tower with 1 GB hard drive, 8 MB of RAM and an 040 or 060 accelerator. Every 4000 will ship with Scala Multimedia and other software packages. AT plans to make both machines "Internet-ready" shortly.

But the most important news was yet to come. During his keynote address, Petro revealed plans for the new "Power Amiga" based on the pervasive PowerPC RISC chips (the PC being dropped for "aesthetic reasons," he joked). Another comment that I am not sure most people understood the significance of was that real progress is being made in porting the Amiga Operating System to the PC and Mac platforms, opening up vast new opportunities and alternatives for users. (In a later conversation, over breakfast, he told me that AT's goal is to have the Power Amiga project completed ASAP during 1996.)

NewTek President Tim Jenison then delivered a stirring speech on the Amiga's inventor, Jay Miner, and his early work with him on the Video Toaster. The audience was riveted by the stirring description of their friendship and collaboration. I, for one, was proud to own an Amiga!

I'd like to give a special thanks to NBC's Mac McAlpin, who gave me a great tour of *The Tonight Show* facilities (people who think the Toaster isn't up to the rigors of broadcasting haven't got a clue), and John Gross (who has gone from assistant manager at a pool company to one of Hollywood's top animators in less than five years!) for the tour of Amblin Imaging and Universal Studios. I'd also like to thank Ken Wilder, president of the L.A. Video Toaster Users Group, for giving me the opportunity to address the members of this dynamic organization. We *will* have full details and photos from the Expo in next month's issue. If you missed it, you missed out, so plan for next year. We are also exploring the possibility of having a VTU Expo on the East Coast in 1996!

### As We Go to Press

I also spoke with Tim (he was very accessible) about the new Fire Wire Digital Video technology (see the Sony DVC story on page 62). I was told that either NewTek or a third party *will* provide the technology to carry the digital video signal from the port on the back of DVC and DVC Pro camcorders directly into the Toaster Flyer. Very exciting! And please welcome Julie Sheikman, our new associate editor, who uncovers the secrets of the popular new M&M candy commercials (page 54). One more thing: this month we also teach you how to make your own space Wormholes, like those on *Babylon 5* or *Deep Space Nine* (page 72). Keep those letters, Toaster Gallery images, ideas and feedback coming in!



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★ Showcase directory features contributions from Lightwave artists around the world including Alan Chan, Jamie Cope, Erik Flom, Tim Nign and Dean Scott.

★ Every Lightwave object is represented in thumbnail renderings (IFF, TARGA & JPEG) for easy previews.

### ROM # 2

★ Collection of 3D objects in other formats including **Imagine** (175 megs), **3D Studio** (110 megs) and **Sculpt 3D** (30 megs).

★ 700 Textures in JPEG format complete with thumbnails.

★ Public Domain graphic programs and demos for the PC and Amiga.

★ Collection of 3D landscapes in Lightwave, 3D Studio and Imagine formats.

★ Video Toaster directory with wipes and CG fonts.

### ROM # 3

★ Bonus "DEM ROM" includes over 1000 DEMs (digital elevation maps) for use with VistaPro, World Construction Set and Scenery Animator on any platform.

★ Use DEM ROM (along with any of these programs) to create realistic backgrounds or flights through your favorite scenery to incorporate into Lightwave or other 3D programs as background sequences.

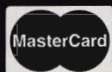
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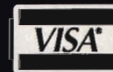
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# USER GROUPS

## East

### MAVTUG

Bill Sharer  
6629 Paxton Rd.  
Rockville, MD 20852-3659  
Voice/Fax (301) 230-2847  
BIX: bsharer  
CompuServe: 76426,112

### The Amiga Video Graphic Society

Roger L. Elowitz  
32 Duncan Dr.  
Morganville, NJ 07751-1649  
(908) 536-4786  
Meets on the second Friday of the month, 7:30 p.m.

### Pittsburgh Commodore Group No. 346

Robert W. Peach  
P.O. Box 16126  
Pittsburgh, PA 15242  
BBS: (412) 396-5483  
Meets on the third Sunday of each month at Duquesne University's Mellon Hall (except July and August).

### Amuse

151 First Ave., Ste. 182  
New York, NY 10003  
(212) 460-8067  
Fax (212) 290-6747  
BBS: (718) 539-3338  
Meets on the first Tuesday of the month at:  
NYU Main Building  
32 Waverly Pl., 8 p.m.

### Fine Art Productions User Group Society Network

Richie Suraci  
Fine Art Production  
67 Maple St.  
Newburgh, NY 12550  
Voice/Fax (914) 561-5866  
Call for information.

### MicroWave User Group

Art Baldwin  
3670 Delaware Ave.  
Buffalo, NY 14217  
(716) 873-1856  
BBS: (716) 873-9262  
Meets on the first Wednesday of the month, 7-9 p.m.

### Suffolk Video Club

Attn: William Pinto  
15 Columbus Ave.  
Brentwood, NY 11717-2506  
(516) 273-4876  
Meets on the second and fourth Thursday of the month (except July and August).

### Toasterholics Anonymous

Armato's Pro Video  
Chris Hendrick  
6716 Myrtle Ave.  
Glendale, NY 11385  
(718) 628-6800  
Meets on the second Thursday of the month, 7 p.m.

### LightWave User Group

System Eyes Computer Store  
650 Amherst St.  
Nashua, NH 03063  
(603) 889-1234  
Meets on the second Tuesday of the month, 7 p.m.

## South

### VA Toaster Forum

Tidewater (Norfolk, Virginia Beach, Hampton)  
George Triolet  
902 Tabb Lakes Dr.  
Yorktown, VA 23693  
(804) 867-9056  
Meets the first and third Wednesdays of the month, 7 p.m.

### WV Video Toaster Users Group

Destiny Images  
Jamie Cope  
P.O. Box 4631  
Charleston, WV 25364  
(304) 445-2368  
Meets on the second Tuesday of the month at Computers Plus in S. Charleston, 7 p.m.

### A-TUG Border States Amiga Group

Micro-Tronix  
1614 Towson Ave.  
Fort Smith, AR 72901  
(501) 782-4048  
Meets on the second Saturday of the month, 9 a.m.

### West Tennessee Video Toaster Users Group

Brian Churchill  
8886 Davies Plantation  
Memphis, TN 38133  
(901) 385-1711  
Meeting times vary.  
Call for more information.

### Club Toaster

St. Petersburg/Clearwater/Tampa  
Jeff Asbury, Michael Price  
9021 U.S. 19 North  
Pinellas Park, FL 34666  
(813) 576-5242  
BBS: (813) 554-7593  
Meets on the last Thursday of the month, 7 p.m.

### VLS Graphics Users

1533 Lakewood Rd.  
Jacksonville, FL 32207  
(904) 396-0746  
9600 V.42.bis  
6p-9a M-TH; 6p F-9a M  
Meets on BBS: (904) 396-0318.

### Southwest Florida Toaster Users Group

Jim Franke  
944 Country Club Blvd.  
Cape Coral, FL 33990  
(813) 574-2257  
Fax (813) 574-2469  
Call for information.

## Midwest

### Channel Z Toaster User Forum

Brian Plante  
492 Sheridan Rd.  
Evanston, IL 60202  
(708) 332-1710

### DMAAUG

Des Moines Amiga Group  
Arthur Szczygielski  
4046 Hubbell Ave., Ste. 155  
Des Moines, IA 50317-4434  
(515) 266-5098  
Meets on the last Tuesday of every month at the Christ Church, Ashworth and 74th Street, 7:30 p.m.

### Discover-Ring Desktop Video

Ring Video Systems, Inc.  
3250 S. Harlem Ave.  
Riverside, IL 60546  
(708) 442-0009  
Fax (708) 442-5290  
Meets first Wednesday of each month. Call for more details.

### Chicago LightWave Association

AGA, Digital Studios  
Dan Ablan  
680 Lake Shore Dr., Ste. 925  
Chicago, IL 60611  
(312) 649-9391

### Digital Arts Toaster User Forum

122 W. 6th St.  
Bloomington, IN 47404  
(800) 692-6442  
Call for more information.

### Toast of Tulsa

Stewart Gus  
Computer Consultants, Inc  
P.O. Box 691810  
Tulsa, OK 74169  
(918) 665-1589  
Meets second Sat. of the month at 2:30 p.m. at Hardesty S. Regional Library, 6737 S. 85th E. Ave.

### TUGSM

Toaster Users Group of Southeastern Michigan  
Michael A. Greer  
25109 Greenbrooke Park  
Southfield, MI 48034  
(810) 355-5916

### Video and Graphics SIG

Charles Meier  
P.O. Box 811  
Bridgeton, MO 63044  
(314) 739-5181  
Meets last Wednesday of the month. Call for details.

### Rocky Mountain Amiga Users Toasters SIG

Don James  
The Computer Room  
9625 E. Arapahoe Rd.  
Englewood, CO 80112  
(303) 696-8973  
Meets on the third Monday of each month at Virginia Village Public Library: 1500 Dahlia St., Denver, CO, 7-9 p.m.

## West

### A.A.A.A.

Arizona Assn. of Artists and Animators  
Richard Garrison  
Dave Thompson  
(602) 968-7922  
Meeting times are flexible; call for information.

### Inland Empire Toaster Users

Neil Abeynayake  
826 Brookside Ave., Ste. B  
Redlands, CA 92373  
(909) 335-1209  
e-mail: scanam@realm.net  
Meets on the first Thursday of the month, 6:30-9:30 p.m.

### LA Toaster User Group

Ken Wilder  
1818 W. Victory Blvd.  
Glendale, CA 91201  
(818) 552-5024  
Fax (818) 552-5025  
Meets on the second Saturday of the month from noon to 5 p.m. at 10844 Acama St., N. Hollywood.

### MACRO Graphics/Multimedia

Bill Graham  
P.O. Box 11681  
Phoenix, AZ 85061  
(602) 864-9183  
Meets first Thursday of every month.

### Orange County Toaster Users Group

Bruce Gleason  
Thumbs Up Video  
1206 W. Collins  
Orange, CA 92667  
(714) 633-3629  
Meets on the third Thursday of every other month, 6:30 p.m.

### Sacramento Video Toaster Society

Glen Cornish  
Applied Computer Systems  
6108 Watt Ave.  
North Highlands, CA 95660  
(916) 432-9358  
(916) 338-2000  
BBS: (916) 338-2543  
Meets on the third Wednesday of the month, 6:30 p.m.

### Amiga LightWave User Group

MG Software & Video  
Mark Miller  
6660 Reservoir Ln.  
San Diego, CA 92115  
(619) 463-0545  
Call for information.

### T.U.G. 98XXX

Larry Simpson  
Amiga Northwest Studio  
6335 NE 159th  
Bothell, WA 98011  
(206) 488-1129  
Quarterly general meetings; weekly special-interest meetings.

### Washington Area User Group

Wade Nelson  
Spectral Multi-Media  
10655 NE 4th St., Ste. 400  
Bellevue, WA 98004  
(206) 451-4075  
Meeting times vary.  
Call for more information.

## Pacific Rim

### OvenRange

Katutoshi Takahashi  
201 Sundear  
1-21-9 Kouenji-Kita  
Suginami-ku  
Tokyo 166, Japan  
BBS: (Orange-2)  
81-3-3733-9816

## New Listings

### Have a new group? Send your information to:

User Groups  
Video Toaster User  
1308 Orleans Drive  
Sunnyvale, CA 94089  
e-mail: avid@cup.portal.com

# TOASTER GALLERY

## Gallery Submissions:

Have your work on display before an international audience.

Send your submissions as IFF24, .FS or TIFF images on Amiga or Mac disks to: Avid Media Group, Attn: Toaster Gallery, 1308 Orleans Dr., Sunnyvale, CA 94089

## Breakfast by Byron Gudiel

*Tony the Tiger's undulating image is from a 20-second animation based on a tutorial in October 1994's VTU. Breakfast was completed using an A4000 with a Warp 40MHz engine and 23 MB of Fast RAM. Gudiel can be reached at (708) 323-6442.*



## Seasons Greetings by Sean Huxter

*Huxter's company, Advantage Productions, used this colorful creation for a 1995 holiday greeting card by rendering it at high-resolution and outputting it to a film recorder. Huxter can be reached at (709) 745-6001.*



## Dino by Hugh Gordon

*LightWave's tools—particularly Bones—helped give this distinctive dinosaur snazzy appeal and realistic motion. Fred and Barney couldn't be located for comment. Gordon's company, Laurelton, N.Y.-based Motion Effects, can be reached at (718) 978-5827.*



## Space Fighter by Jim Dziadulewicz

*Space Fighter is part of an animation built on an A4000 with a Warp engine. The fire flash used to be another ship. Dziadulewicz, owner of Camarillo, Calif.-based Jato Grfx (805-482-0700), specializes in making 3D objects for the Amiga, PC and SGI platforms.*

# TOASTER TIMES

## SAFE SEX PAYS OFF

### Toaster User Produces Award-Winning Video

Corey Cohen

Standing in a software store, dazzled by the promise of a LightWave display, animator Tom Eppley saw the makings of a future hobby. Something to help fill his spare time, and expand on the bit of computer programming he'd indulged in.

Sitting on the stage of Lifetime's *Late Date With Sari Locker* a year later, Eppley was both nervous

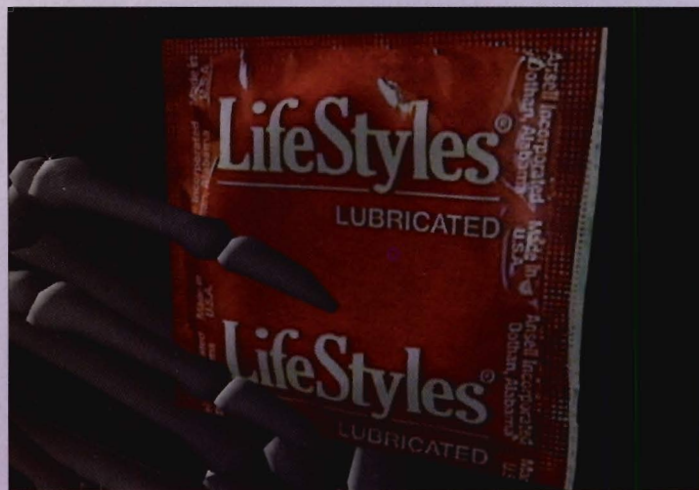
he'd never expected. One day he was responding to a newspaper ad calling for contest entries; the next, nabbing a sizable sum for an animation that would become part of LifeStyles commercials aired on MTV and Comedy Central. Not bad for someone with no video or animation experience before his 1994 Toaster/LightWave purchase.

corder, the animated short (700 frames) begins with a closeup of a LifeStyles condom packet. The camera draws back to reveal its owner, a realistic skeleton, standing before a stark black background. He looks up and says:

"You know, I've never used one of these because I was always too embarrassed to ask for them from behind the counter. And I know I'd feel awk-

it's too late."

Coming up with a concept that would beat the competition took some serious thought. Eppley's brainstorm came during his downtime. "I wracked my brain trying to figure out an idea, but couldn't find one until my wife and I went out to dinner one night," he revealed. "We shared some buffalo wings, and when we were done with them, there was a plate of bones



Eppley used an S-VHS camera to grab a picture of a LifeStyles condom packet, which he used as a brush to put over the condom object. After taking the digitized condom packet into TPaint to eliminate glare, he raised a circular set of points within an established point grid to form the illusion of a condom within the packet.

and ecstatic. A week earlier, the Red Bank, N.J., resident won \$10,000 and a first-place finish in the LifeStyles Condoms & Safer Sex in the '90s Video Contest held in mid-1995, receiving rewards and recognition

#### The Message

Eppley's winning entry, *Before It's Too Late*, is a brief but eerie glimpse of the consequences of unsafe sex. Produced with an Amiga 2000, Toaster 3.0, LightWave 3.0 and a Personal Animation Re-



The skeleton in *Before It's Too Late* is a stock object from Dedicated Digital Imagery. In Modeler, Eppley broke the skeleton into individual pieces for realistic movement, then added points that these bones would pivot around.

ward stopping in the middle of everything just to put this on. But then, lately, I don't feel a thing. Well, you know what they say [looks down]: better late than—nev—er." Cut to the printed words "Don't be a BoneHead. LifeStyles Condoms. Use them before

sitting there. And that's where I got the idea for the animation. It's weird how, sometimes, when you're not thinking about your projects, you are."

Though a first-place award was always his main goal, Eppley wanted to leave a message with a

strong impact. "I was very aware that there was more going on than winning a contest....To come up with

all aspects of the subject: AIDS, safe sex, the deadliness of the disease, trying to get the message out."



The inspiration for Eppley's lip-synching approach was a cartoon in *Mrs. Doubtfire*. The animator began by counting syllables and making the appropriate draw movements, and then attempted to synchronize his voice with the animation.

an idea for a project like this you have to internalize

Eppley's sent several messages, really. He's

helped promote the wisdom of prophylactics, an important task at any time. For the aspiring animator, though, he represents something empowering: using the Toaster to harness one's ability. In just a year's time, Eppley's become proficient with a tool that lets him create in a way he may have never known otherwise.

"Everybody has talents—in my case, I think I've found one of my own that didn't have an outlet until I got the Toaster," he said. "The Toaster taps talent."

### The Man

As his skills and equipment continue to grow, Eppley, 35, plans to segue into freelance animation. He's working on a demo reel, and says he'll enter

just about any contest he hears of. For the meantime, however, like many fledgling animators, he's keeping his full-time job, driving a truck on the graveyard shift. "It pays the rent, and allows me to do the things during the daytime that let me talk to publications like *VTU*," he said. "At nighttime, I do what I have to do; during the daytime, I do what I want to do."

Words to live by. And work to live by, for those who heed Eppley's award-winning message.

**VTU**

If you have access to the World Wide Web, travel to <http://www.lifestyles.com/lis/> to see clips from *Before It's Too Late* and other videos by LifeStyles Contest winners.

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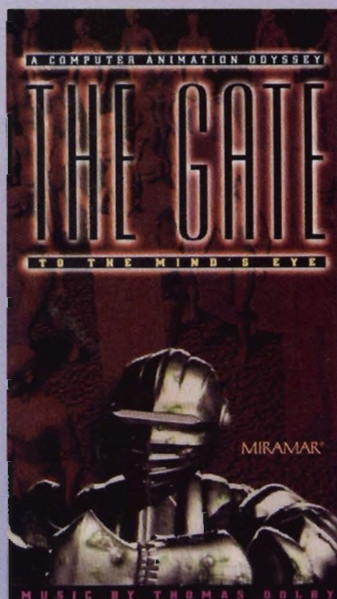
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## News & Notes

### Calling All Animators!

Stephen Churchill, producer of the popular *Mind's Eye* series of computer animation videos, is asking animators to send in copies of their work for consideration in a new series of computer video and CD-ROM titles. Churchill's company, Odyssey Productions, has announced plans to launch eight new video programs, including the fourth *Mind's Eye* video. As part of Odyssey's pursuit of content for these new videos, any style or type of high-end computer animation produced on all computer platforms of will be seriously considered. According to Churchill, "There are thousands of talented computer animators out there and we want to see their work. If it's good enough, we'll pay the artist a generous royalty and show his or her work to millions of computer animation fans around the world."



If you'd like to participate, send in your submission on VHS or 3/4-inch tape to Steven Churchill, Odyssey Productions, 4413 Ocean Valley Lane, San Diego, CA 92130. Phone: (619) 793-1900; Fax: (619) 793-1942; e-mail: [odyssey@cts.com](mailto:odyssey@cts.com).

### Network Yourself

Sign up with the Video Graphics Network (VG-NET). This association provides a networking environment for LightWave 3D animators, video graphic artists, and Video Toaster/Flyer owners and operators. VG-NET is a forum for exchanging ideas, providing project/job opportunities and serving as a resource for technical information and exchange. A BBS system is also planned to facilitate communication between members and provide further resources. To receive more information on VG-NET, contact the association at VG-NET, 11300 Hartand S., North Hollywood, CA 91605; (818) 506-6073.

### Toaster User Group Meetings—On-line!

Can't seem to make it to your monthly Toaster users' group meetings? No problem. Now you can attend on-line! MN Toaster User Group offers newsgroups pertaining to video, LightWave, 3D and 2D animation, and video equipment and computer sales, to name a few. Via the group's QWK mail technology, members can download e-mail and newsgroup info to read off-line, thereby avoiding costly long-distance charges. Other services include libraries containing LightWave textures, objects and surfaces, Toaster effects and CG fonts, and more, and there's also a wide selection of Windows-based business utilities to help you run your business. And users can also take advantage of the group's Business Resources area, which lets them advertise their services on the Internet. For more information about the MN Toaster User Group, contact The Business Guild, 6520 156th St., Hastings, MN 55033; (612) 437-3012; Fax: (612) 437-7330; e-mail: [sysop@token.com](mailto:sysop@token.com).

### The Perfect Holiday Gift: A New Library Addition

Avid Media Group is now accepting orders for a special publication, "The LIGHTWAVE-PRO Compilation Book." The book consists of 100 previously published articles written by top LightWave 3D animators, many of whom work for Amblin Imaging, Foundation Imaging and Area 51. "The LIGHTWAVEPRO Compilation Book" also includes a CD-ROM containing programs from the LIGHTWAVEPRO disks and public domain objects, surfaces and textures.

"The LIGHTWAVEPRO Compilation Book" will begin shipping the last week of 1995. The price is \$39.95 plus shipping charges of \$3 (U.S.)/\$7 (foreign). California residents add \$3.10 for sales tax. To order your copy with VISA or MasterCard, call Avid Media Group at (800) 322-2843 or (408) 743-9250, or send your check for the complete amount to Avid Media Group, Inc., Attn: LWPRO Compilation, 1308 Orleans Drive, Sunnyvale, CA 94089.

### Find What You Need

If you've been searching for that special something for your Amiga, then the National Amiga Exchange (NAEX) is right up your alley. The NAEX, sponsored by DC Computer, is a free publication that lists new and used Amiga hardware, software and professional video equipment, and a classified ad system that is available instantly by fax. To receive the NAEX, dial (703) 450-8119 and then press POLL on your fax machine. For more information regarding NAEX, call or write DC Computer, 10409 Main Street, Fairfax, VA 22030; (703) 591-4422.

### NewTek University for Animation and Video

NewTek, Inc. announced at the recent 1995 Video Toaster User Expo the creation of a Technology Center at Washburn University in Topeka, Kan. Early proposals include a two-year instructional certificate program in LightWave 3D animation and Video Toaster/Flyer production in conjunction with the university. The program will be designed to give prospective animators and videomakers extensive training and documented credentials in high-end production techniques. Although plans are in the preliminary stages, it is expected the center and program will commence in fall 1996.

Students will learn from top animators and guest lecturers and will be working on state-of-the-art animation workstations. They will receive a certificate of completion when finished with the required courses. Washburn University will also be pursuing accreditation of the program in the future so that students can transfer academic credits received. Shorter seminars and training sessions will also be offered.

Representatives from NewTek and Washburn University were in Southern California recently to work with professional animation and production facilities to determine the contents of the training. "The program will provide the very latest information on the growing fields of 3D animation and digital video production so graduates can go to any professional animation or post-production house in the country and have the skills necessary for employment," said Donetta Colboch, NewTek's director of marketing. "Professional animation and production houses have long sought such a program to ensure that applicants' skill levels match their demo tapes."

# LIGHTSPEED

The Video Magazine for the Light Wave Enthusiast

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If you're serious into Lightwave, then you've already seen or heard of Lightspeed; The Video magazine for the Lightwave Enthusiast. If by some chance you haven't heard of Lightspeed, here's a brief description of this great product: Lightspeed is a monthly video series (VHS), or video magazine which is 100% dedicated to Lightwave users. Each month, a new issue of Lightspeed is shipped out to subscribers containing 60-120 minutes of tutorials, reviews, animations, interviews and more. If you are not currently a subscriber, then you're missing out on some fantastic videos sent out every month. We are currently shipping the January Issue (96), but you can still order the first five videos for only \$19.95 each by calling our order line above. Here are some of the topics covered in previous issues:

► **#1 (August) • Cloaking Effects** - "Techniques on how to get that rippling cloaking effect as seen on shows such as Star Trek and Babylon 5" • **Talking Bones** - "A beginners look at making lips talk using bones" • **Projecting Reality** - "Compositing CG over a background image, but get the effect that the BG image is 3D and interactive" • **Camera Dollying** - "An in depth tutorial that shows you how to achieve camera dolly effects in Lightwave" • **REVIEW; Impact** - "A review on Dynamic Realities beta version software of Impact! for the Amiga"

► **#2 (September) • Making Bouncing Logos** - "This technique was used on a TV commercial to make squishy bouncing logos" • **Patching Splines** - "Create a book flipping through its pages using Splines" • **Realistic Lighting** - "Learn the key elements of real life lighting and how they can be applied in Lightwave" • **Tunneling in Lightwave** - "Create caves, tunnels and caverns in your objects and a perfect fly through on the 1st try" • **Treading Water** - "Follow along on a pool building tutorial that shows you how changing one element can effect the look of your water" • **Review: Winimages FX** - "A review on Black Belt Systems' powerful image processing program for the PC"

► **#3 (October) • Alphabet Ship** - "Use the fonts that come with Lightwave as a starting point to build complex looking ships and other objects" • **Motion Control** - "Part two of Camera Dollying, this segment takes you into the various techniques used to get camera movements to do what you want them to do, easily." • **It's Only 3D** - "A beginners look at modeler" • **Review: World Construction Set** - "Take a look at the amiga version of this powerful terrain creation program"

► **#4 (November) • Grassy Landscapes** - "You've all seen or read about how to create waving fields of grass or wheat on a flat surface, but what if you have hills and valleys? This tutorial will show you how to make the grass conform to the landscape" • **Creating Fire** - "Create Lightwave fire or learn how to use real flame sequences in your animation's" • **Review: MacroForm** - "A review of some new modeling tools available on the amiga and soon to be released for the PC"

► **#5 (December) • Shadow Ships** - "If you've seen the Babylon 5 objects on the Lightrom CD's, then you know the detail Dean Scott puts into his recreations, Now follow along as he builds his version of the shadow ship" • **Electrical Effects** - "Learn techniques needed to create various electrical effects in Lightwave" • **Review: Image CD's** - "A review on two popular moving texture CD's"

In addition to all of the above topics, each issue contains the animation showcase which features animation's and demo reels by Lightwave animators from around the world!

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FOR INFORMATION CIRCLE 144

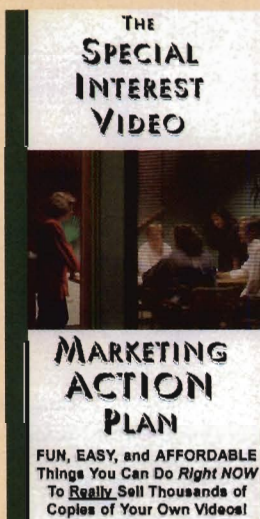
# NEW PRODUCTS

Compiled by Julie Sheikman

## Marketing Master

**Product:** The Special Interest Video Marketing ACTION Plan  
**Description:** Marketing video and manual  
**Price:** \$69.95  
**Special EFX Productions**  
 15155 Southwest 44th Street  
 Miramar, FL 33027  
**Phone:** (305) 430-5626  
**Fax:** (305) 430-7541

The *Special Interest Video Marketing ACTION Plan* will come in handy for anyone looking to follow up on the recent article about special-interest videos in the December 1995 issue of *Video Toaster User*. The video covers all types of traditional marketing, from how to place classified and display ads to using direct mail. Viewers will learn how to generate free publicity and advertising and develop qualified leads using the Internet and other on-line services.

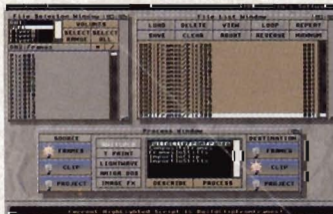


An SIV Marketing Procedures Manual also accompanies the video, and it has over 160 pages of sample letters, ads, outlines and guidelines that directly correspond to the information offered in the tape. Another useful item included in the package is the SIV Resource Directory of Contacts, which lists up-to-date addresses and phone numbers of hundreds of suppliers, from distributors to tape case designers. Viewers will also receive a free copy of *VIDEO FILE*, Marketing Journal of the Video Entrepreneur with purchase of the video.

**FOR INFORMATION CIRCLE 1**

## Cleared for Takeoff

**Product:** Control Tower  
**Description:** Flyer interface  
**Price:** \$249.95  
**Visual Inspirations**  
 809 W. Hollywood  
 Tampa, FL 33604  
**Phone/Fax:** (813) 935-6410  
**BBS:** (813) 935-6513  
 Visual Inspiration's newest product, *Control Tower*, is



designed to meet the needs of the growing number of Flyer users. Control Tower's macros and AReXX scripts work in conjunction with the Switcher, ImageFX, ToasterPaint, AmigaDOS and LightWave. The program will open requesters right on the Flyer screen; create loops, repeat-

ing frames and reverses; run multiple scripts through ImageFX and ToasterPaint at one time; and ignore crouton files and icons for faster directory loading. Control Tower also offers users such Flyer options as recording CG overlays directly to clips, building clips from frames, batching image-process clips and frames through ToasterPaint and ImageFX, joining multiple clips into one, batching process frames to clips and stills, creating custom images through ImageFX and copying LightWave scenes and all related files to another drive.

**FOR INFORMATION CIRCLE 2**

## Editing Gets Easier All the Time

**Product:** Radar  
**Description:** Flyer editing interface  
**Price:** \$399  
**Atomic Toaster**

P.O. Box 9201  
 Salt Lake City, UT 84109  
 (801) 466-7330

*Radar*, another new Flyer product from Atomic Toaster, includes four interfaces for the Flyer: Match Frame, Globals, Motion Sickness and Flite Path. The Match Frame interface shows each edit with visual in/out points or shows any event visually. It will create



an icon for the in/out points of audio edits. The Global interface allows users to set or change any Flyer edit parameters globally. The Motion Sickness interface will process batch clips from a simple interface.

Users can set clip in/out process times interactively and run the batch process at night, and then interactively place the processed clips in projects. And the Flite Path interface lets users see and position edits easily, using a bar graph time line. Users can change the positions of any element with instant feedback in the Flyer project.

**FOR INFORMATION CIRCLE 3**

## More Amplification

**Product:** DA-8  
**Description:** 8-channel video and audio distribution amp

**Price:** \$249  
**Studio 1 Productions**  
 1524 County Line Rd.  
 York Springs, PA 17372  
**Phone:** (717) 528-8374  
**Fax:** (717) 528-4462

The DA-8 distribution amp not only allows users to duplicate videotapes, but also to take output from a mixer, camera or VCR, feed it into the unit, and then send the output to multiple monitors. The DA-8 mea-



sures 5 inches x 3-1/2 inches x 1-1/2 inches and is designed to handle a NTSC, PAL or SECAM video signal with up to 860 lines of resolution and a video signal-to-noise ratio of better than 63 dB. The amp's audio capabilities will accommodate hi-fi audio signals with a frequency response of 7 Hz to 75,000 Hz and an audio signal-to-noise ratio of 100 dB. The DA-8 features Y/C and composite video signal inputs and separate right and left audio inputs. All of the connectors for the audio

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and composite signals are RCA-type, and the Y/C connection is a standard, 4-pin mini din jack. Another feature of the DA-8 is that users can connect more than one distribution amp together to create an even larger duplication system.

**FOR INFORMATION CIRCLE 4**

## Amiga Gets Windows

Product: PC Task

Description: Software 80286 emulation

Price: approx. \$100 (exact price not available)

Wonder Computers Inc.  
1827 Woodward Drive  
Ottawa, Ontario, Canada  
K2C 0P9

Phone: (613) 226-0000

Fax: (613) 226-9990

Now Amiga users can run Windows without additional hardware. *PC Task* is the only 80286 emulator for the



Amiga, and it runs on all Amigas with Kickstart 1.2 and up. The software supports MDA, CGA, EGA, VGA and SVGA, is compatible with graphics boards (e.g., Spectrum, Picasso), and supports up to 256 colors with AGA Amigas. *PC Task* can support multiple hard disk files and hard

disk partitions as well as CD-ROMs and high-density floppies.

**FOR INFORMATION CIRCLE 5**

## Drive Faster

Product: DLT2000XT

Description: Tape drive

Price: \$4,200

Quantum Corporation  
500 McCarthy Boulevard  
Milpitas, CA 95035

Phone: (408) 894-4000

Quantum Corporation's newest tape drive, the *DLT2000XT*, features a capacity of 30 GB compressed while providing a data transfer rate of 2.5 MB/second. A five- or

seven-cartridge tape autoloader is offered with the tape drive, allowing backup of up to 210 GB in less than 24 hours. The autoloaders feature an elevator mechanism that provides random or sequential cartridge access between the tape drive and the cartridge machine. The durability of the *DLT2000XT* is a real plus: the head life of the drive is 30,000 hours. It's also read- and write-compatible with all prior lower-capacity drives, including other Quantum drives.

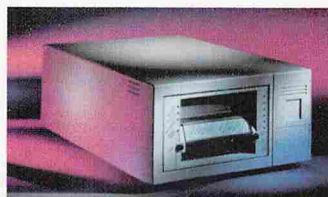
**FOR INFORMATION CIRCLE 6**

## More Monthly LightWave Tutorials

Product: Lightspeed: The Video Magazine for the

LightWave Enthusiast

Description: Monthly video series



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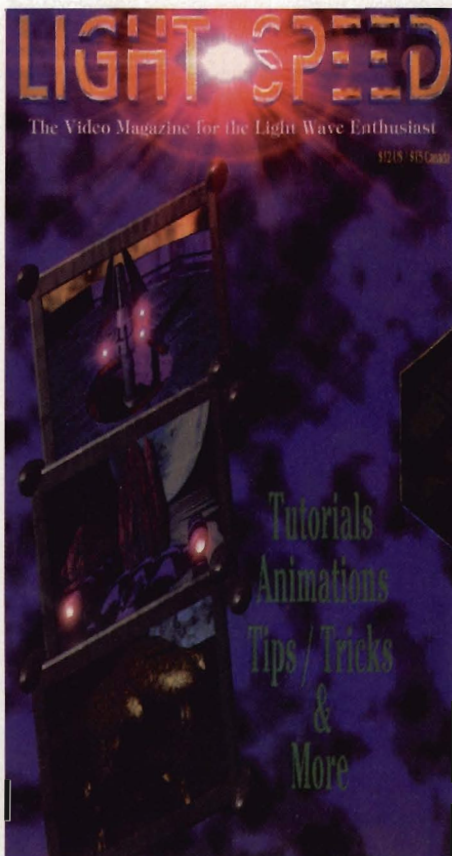
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 2763 West Ave. L, Suite 172  
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 Available in both NTSC and PAL formats, *Lightspeed* is a monthly, 60- to



120-minute video series geared toward LightWave professionals and beginners alike. Each month's installment features tutorials, reviews, interviews and animations. Some previous tutorials have covered topics such as projecting reality, cloaking effects, camera dolly-ing, electrical effects, image compositing, realistic lighting, tunneling, treading water, spline patching, bone influence and creating fire. The tutorials show how to create scenes from beginning to end, and their subjects will be of interest to all LightWave users. Lightspeed's video format allows users to review techniques easily and see the effects of new LightWave plug-ins. Back issues are available.

**FOR INFORMATION CIRCLE 7**

### Library Sale

Products: Eric Schwartz Productions  
 CD Archive, GoldFish Volume 3  
 Description: CD-ROM  
 Price: \$24.95, \$19.95  
 Amiga Library Services  
 610 N. Alma School Rd., Ste. 18  
 Chandler, AZ 85224  
 Phone: (602) 491-0442  
 Fax: (602) 491-0048  
 The *Eric Schwartz Productions CD-Archive*, recently released by Amiga

Library Services, contains all of the artist's previously available artwork and animations. It also includes several unreleased animations and dozens of unreleased pictures, plus Imagine and LightWave 3D objects used in making some of the animations. There are also three new animations created especially for the CD and material from other Amiga artists and cartoonists. *GoldFish Volume 3*, also offered by Amiga Library Services, will appeal

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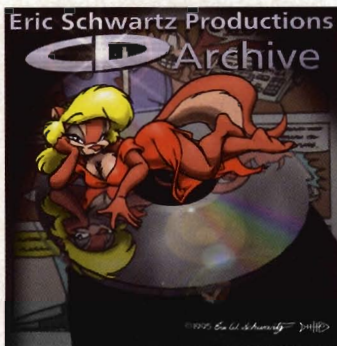
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Suggested Retail Price \$179.95. Requires Lightwave 3D version 4.0

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**FOR INFORMATION CIRCLE 106**



to Fred Fish aficionados. This CD-ROM contains updated material from the previous FreshFish Volumes 8-10. The series has been changed to an unarchived, single-CD format with a more user-friendly access system, allowing most programs to be reviewed and executed from a centralized interface. GoldFish Volume 3 is an effective way for users

to maintain their "fish library" in a more periodic manner.

**FOR INFORMATION CIRCLE 8**

### Get Digital

Product: 3000 Series Analog to Digital Converter 3011  
Description: Serial digital video interface card  
Price: about \$2,300  
Television Equipment Associates, Inc.  
P.O. Box 499  
South Salem, NY 10590-0499  
Phone: (914) 763-8893  
Fax: (914) 763-9158  
e-mail: SJT123@aol.com  
Television Equipment Associates, Inc., the distributor of Matthey Electronics products in the U.S., has announced the release of the 3000 Series Analog to Digital Converter 3011. The 3011 converts analog YUV component signals to

serial digital component video (270 MB/s). By using quality 10-bit converters and full-specification CCIR 601 filtering, the card's processing ability provides optimum broadcast performance. The 3011's two serial digital outputs will drive up to 300m of 75  $\Omega$  coax cable. Variable Y/C delay can be adjusted via the front edge of the card. Status LEDs



indicate power and both serial signal and H-lock. The signal inputs can be

AC- or DC-coupled as required. The 3011 can be bought as a standalone item or purchased in a box with the other items in the 3000 Series, a serial-izer and a distribution amplifier.

**FOR INFORMATION CIRCLE 9**

VTU

## PRODUCT ANNOUNCEMENTS

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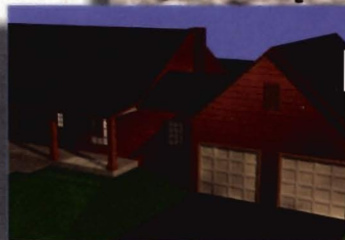
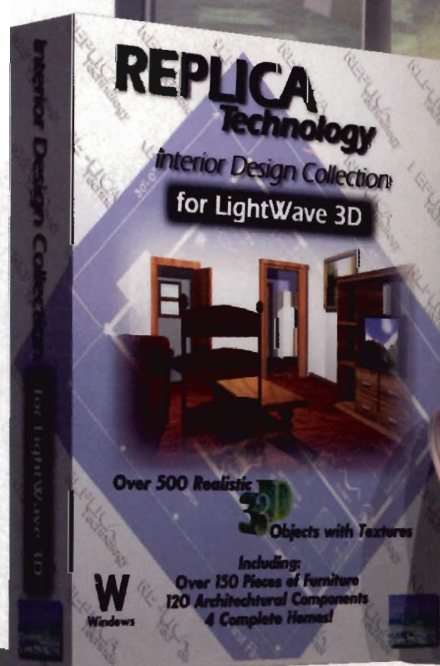
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FOR INFORMATION CIRCLE 139

# DEAR JOHN

## Be a LightWave Scribe

Lessons From the Master

by John Gross



**F**rom this month's in basket, writing in LightWave and a much-sought-after source for Tally Lights.

**Q:** *I am running the Video Toaster 2.0 on an Amiga 2000. My problem is with the luminance keyer in the Switcher. Whenever I use a black key and a digital video effect to bring in a keyed graphic (e.g., a nameplate, over-the-shoulder graphic, etc.), I have absolutely no problems. However, when I attempt the same thing using a white key graphic, the screen always goes to white and then the transition comes in. I once was able to use DVEs with a white key, but for some reason my Toaster will no longer let me do it. Any ideas?*

**Mike Kern**  
TV2 KLBC,  
Chelsea Street Video Prod., Inc.  
Laughlin, NV

**A:** Are you saying that this used to work under 2.0 but now it doesn't? Or did you upgrade to 2.0 at some point and now it doesn't work? There was an early version of the 2.0 Toaster software that contained a bug that caused just the problem you are referring to. This glitch was caught and corrected in a later 2.0 version. Did you have to reinstall the Toaster software and perhaps used an earlier version? I suggest you call NewTek tech support and ask them for the latest 2.0 version.

**Q:** *VTU is a great magazine every month. I also just picked up a LIGHTWAVEPRO issue and think I'll subscribe to that as well. But until I see a tutorial in one of the above, I need a question answered, please. Here it is:*

*How can one make a "curved reveal" in LightWave? By this I mean, How does one go about animating something like a person's signature being written on the screen? I would like to make a motion path for a null object, parent a point light with lens flare to the null, and animate the null along the scripty handwriting of a person's signature. Kind of like the signature is being burned onto the screen.*

*Your wisdom would be greatly appreciated. Thanks in advance.*

**Tom Westgate**  
Juris Corporation  
juris@oo.com

**A:** There are a couple of different ways of doing this, the easiest perhaps being an animated sequence of images used as a bump map, but I'll show you how to

do it entirely in LightWave with rail extrusion, morphing and clip mapping. This quick mini-tutorial will take you through all of the necessary steps:

- Start out by entering Modeler and using the Sketch tool to write out the text you wish to create. When finished, press Return to make a curve. Make sure you build a curve and not a polygon. (Use the Numeric option to be sure.)
- Select a new foreground layer and choose the text curve as the background layer. Create a disc that will act as a "cross section" of the text, and rotate and move it so the disc is located "perpendicular" to the beginning of



**Figure 1:** Make sure you align your flat disc to the start of the curve you'll use for Rail Extrude.

the curve. (The beginning of the curve has a little "diamond.") See Figure 1 for an example. For future use, copy this disc to another layer before proceeding.

- With the disc in the foreground layer and your curve in the background, select Rail Ext (Ctrl-r) and, in the Single Rail Extrude requester that appears (Figure 2), select Uniform Knots. (Uniform Lengths would work also, but that won't give you corners as smooth.) Enter in an appropriate value for Segments (you may have to try a few times, undoing and changing the segments value until you get text to your liking). Save the object when you're finished. It will be the target object in our morph.

- Create two points some distance apart in the X plane. (The distance doesn't really matter—I used a length equal to the width of the text object created above.) Make a curve (well, actually a "straight") out of them by hitting (Ctrl-p) or Make in the Tools panel.

- Select the layer with the copy of the disc as the fore-

ground layer (you did copy it to another layer, right?) and place it at the beginning of this new curve (put the curve in the background layer).

- Select Rail Ext (Ctrl-r) again and use the exact same settings to create a straight-line extruded disc. Save this object with a different name from that of the previous object. This will become our Source object for the morph.

You've just learned a valuable tip: The same object extruded with equal segments along two dissimilar curves will produce objects containing the same number of points and the same point order. If you've tried morphing before, you know that maintaining the same point order is imperative for your morph to work properly.

- Before exiting Modeler, create a flat polygon in the Face View mode that roughly matches the aspect ratio of the Camera view in Layout (something such as 1.5 m on X and 1 m on Y will work just fine). Save this object as well. You'll use it to create an image sequence to use for clip mapping.

The next part of this tutorial takes us into LightWave:

- Load the flat polygon that you last saved and create a keyframe at 0 so that it completely fills the Camera view. Give it a surface color of 255, 255, 255 and 100% Luminosity.

- Decide how many frames you wish your "writing" to take place in and then move the single plane along the X-axis (only) so it just moves off-camera. Create a keyframe for it at the decided frame count. For instance, if you want your writing to take place over 100 frames, create a keyframe for the single polygon just off camera at frame 100.

- Making sure the background is black, render this simple scene and save the images to a directory.

- When you are finished rendering, clear Layout and load up the two rail-extruded objects (our source and target objects). Also, go to the Images panel and load the sequence that you just saved out.

- In the Objects panel, select the straight object (source), then assign the text object as its Metamorph Target. Set the Metamorph Amount to 100%.

- Open the Clip Map panel for the source object by selecting the (T) button beside Clip Map. Select Planar

Image Map and choose the image sequence as the Texture Image, and then click on Automatic Size. Choose the appropriate axis. (For instance, if you built your objects in the Top or Front view, you could choose Y or Z. Click OK.

- Select the text object (the target) and give it a 100% Object Dissolve value.
- Save your scene file and render out the animation.

slightly to compensate.

Before I wrap up another column, I want to pass on a letter I received regarding Toaster Tally Lights...

*I am somewhat behind (three months) in my magazine reading, so I apologize for not responding to your article/inquiry from the August 1995 issue of VTU concerning a Tally Light device for the Video Toaster. I bought*



Figure 2: The Single Rail Extrude requester.

That's pretty much it. Here's what you've set up: You have applied a clip map to a straight object that will reveal it over time (from left to right). Since the straight object is 100% morphed into the text object, as it is revealed, the clip will "travel" along the text, appearing to write it onto the screen.

Getting the lens flare to lead along the text is a bit more difficult. You'll probably have to keyframe it to match the text being "written." If you happen to have a macro that can save a curve as a motion file, you could apply the motion file of the original text rail to the lens flare, which would line it up with the leading edge of the text.

To make the effect work better, you might try using Modeler's text functions to build your text, then use that as a template for drawing your curve. Better yet, cut points out of the font and select them in order to create your curves. Also, if clicking on Automatic Size when assigning the clip map texture size doesn't quite cover the entire target object, simply increase the width axis

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Sincerely,  
Bob Lightner  
TV Studio Manager  
Santa Fe Community College  
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VTU

John Gross is co-director of special projects for Amblin Imaging and editor of LIGHTWAVEPRO. Send questions to jgross@netcom.com or AMG (see mast-head for address).

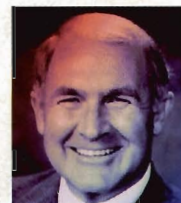
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# TOASTER POST

## Words of Wisdom

Produce Beautiful Flying Logos With LightWave 3D

by Burt Wilson



**T**his month I'd like to give you a very simple formula for doing a one-line 3D flying logo in LightWave 3D. I know that many of you who use the Toaster daily in post-production work have never even touched this program. Have no fear! All of the space stuff aside, LightWave is a really good and easy-to-use tool for post-production. Though it may appear intimidating at first, it's not that hard to learn.

Let's get started. To make a one-line flying logo, first go into the LightWave Modeler screen and click the Text button near the bottom of the col-



Here's how your extruded text object will appear in the Modeler Screen. You can extrude the text by activating the Multiply button and then clicking on Extrude. Simply set the cursor to the left of the text object and right-click. The object will automatically extrude to this size.

umn of buttons on the far left of the screen. This will bring up a requester for text. Click Load and you'll bring up the Font Bank, just as if you were in the CG. Go to Font Bank D-G and click on it, and then select the FrintHeavy font. This very simple, straightforward font will now load into the requester.

Next, type the words "TOASTER POST" into the requester slot and click OK. The requester will disappear, and you will see TOASTER POST appear in the lower left quarter of the screen. If you cannot see all of the letters, hit the (a) key and it will center the text in the quadrant.

Now we want to extrude the text, so we'll go up to the top row of buttons and click the Multiply button. To the left, near the top of the column of buttons, click the Extrude button. You will see

your cursor change to the Extrude mode. Next, place the cursor just to the left of the "T" in TOASTER and click the right mouse button. The text will now extrude to a predetermined depth. Use it, it works! Finally, click the Objects button at the top left of the screen, hit the Save As button and type in TOASTER POST in the file requester that comes up. Hit Return and, after the object has been saved, go back to the Layout screen.

Now we're going to import the text object we just created and saved into the Layout screen. First, click the Objects button in the top row of buttons. Click the Load Objects button in the requester that comes up. Find the TOASTER POST object in the list of files and click on it twice; it will now load into the Layout screen. When it is finished loading, click Continue and you will see it positioned in the center of the screen. To make sure you have the correct view, click the Camera button in the View group of buttons and then click the Object button in the Edit group of buttons. Clicking the Object button will highlight the TOASTER POST text object, meaning that it is now selected for altering.

We're going to give the text object a surface and color, so click the Surface button at the top of the screen. Select Orange Peel from the requester, which will give a nice texture to your text object. Next, click OK, followed by Surface Color. You will see that the default color is, quite naturally, orange. We'll change that to silver by putting all three sliders at 200. Click OK, hit Continue and then push F10 to render your text object so you can see what it will look like in all its 3D glory. When you're finished admiring your work, hit Esc to get back to the Layout screen.

### Tuck and Roll

Now we're going to make the text object come toward the screen from a far distance and then tumble over once before it lands in its present position. Don't panic—this motion is one of the easiest things to accomplish.

We'll make this a three-second move, so with 30 frames per second, we will have a 90-frame animation. Since the present position of the text object is where you want it to end up, click Create Key and type in a keyframe of 90. We want the text object to tumble over once during its trip, so click Rotate in the Mouse panel, and click and hold down the left mouse button with the cursor anywhere in the Layout screen, moving the mouse

forward. Your object will change to a highlighted box that revolves around its axis. Continue moving the mouse up until the object has completed one full rotation.

Click the Move button in the Mouse panel, and again, click and hold down the left mouse button and move the mouse up and forward. Your object will move away from the front of the screen on the Z-axis. Keep an eye on the numbers in the black box at the lower right-hand corner of the screen. When you reach about 60,000 on the Z-axis, move your mouse to the right so that the text object is between the middle of the screen and the right-hand edge. Release the mouse and create a keyframe at 30. Move the text object back to about 100,000 on the Z-axis, and then move it just off screen to the right. Make a keyframe at 1. (Remember, LightWave will not record a keyframe of 0.)

## Sneak Peek

It's time to make a wireframe preview of your work, so click on the Make Preview button in the left-hand column near the bottom. When the requester comes up,



What your text object will look like as a 3D object in the Layout screen. Make sure you have clicked on Camera in the View panel and Object in the Edit panel. You are now able to manipulate the object by using the Move and Rotate buttons in the Mouse panel.

enter 1, hit Return, enter 90, hit Return, and then hit 1 again. Click on the Wireframe button and hit Return or Enter. LightWave will

now make a wireframe preview of your text object tumbling in from the right of the screen and making a complete revolution as it flies up to the ending position. Look in the lower right-hand corner of the Layout screen to see the number of the frame being previewed.

When LightWave's finished making the wireframe preview, you can play it by hitting the "VCR-style" Play button. Wow! There it comes, tumbling over and settling into position. You can now render the text object as an Easy Anim if you have a Toaster 4000 with 18 MB of RAM, or you can render it off to a PAR or some other device.

Hey, you did it! Of course, if you're into motion paths and all that stuff, you can alter the speed that the text object takes to settle into its final position so it will look more realistic, but even without doing that, you've got a flying logo you can sell for a lot of money. Animating lines of text so they all

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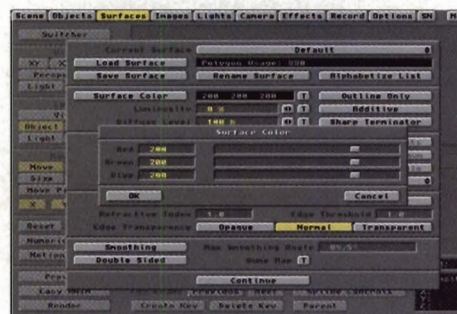
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fly in from different locations and at different angles looks pretty cool and is very easy to do. You can use this technique to make a profit, not to mention the satisfaction of producing eye-catching video.

## Bonus Hints

Here are a few more miscellaneous tips. Sometimes you'll find that certain ToasterCG fonts don't



The requester you will see when you click on the Surface Color button in the Surfaces drawer. By manipulating the sliders you can get any color you want. Here we will set each slider to 200 to get a nice silver color.



The Preview Control as it will look after you have made a wireframe preview of your object's motion. To play it, just click on the VCR-type arrow on the right. After you have approved your preview, you can render your animation.

have things like hyphens and apostrophes—you'll have to make them yourself. The best way to do this is to create your super or Framestore in CG and then take it into Toaster-Paint. Here's an example. Using the Straightline tool and the Cut-out mode, cut the middle bar out of a capital "A" for a hyphen. You can usually find an apostrophe at the end of an "S" or a "Y." Anyway, you get the idea. To use your new punctuation marks, just cut one out and paste it down where you need it. If you're using a drop shadow, be sure to make it part of your

cutout. You may have to build a section of drop shadow here and there. But it works!

If you are frustrated in trying to make TPaint do a top-to-bottom gradient spread, cease! It'll never happen. If you have to do a top-to-bottom gradient spread, do it in the CG first and then import it into TPaint. Hey, there it is!

Forget trying to make the No Background mode work for any color besides black. It won't. To make this mode work for a black background, hit F3 and then hit Pick. Click your mouse arrow on the black background and then select the No Background mode. An asterisk will show you it's selected. Now you can cut out an image on the screen and it will come away detached from the black background.

Try to develop a feel for the 3:4 aspect ratio of the TV screen. This ratio is particularly handy when you are texture-mapping images from a full-screen mode into smaller rectangles on another Framestore. If you don't draw the rectangle out in aspect ratio (coordinates will not help in all cases), you will find the information in the texture-mapped frame either stretched out or crammed together disproportionately. Take heed.

Lastly, if you're doing commercials, you know you have to put bars and tone on the front of your tape (at least 30 seconds worth). There's a nifty little shareware program called Bars 'n Tone that gives crummy bars but great tone. So if you find a copy of it, use it for tone only and use the bars from your Toaster. (The bars may work on your system. They don't on mine.)

See ya next month and a Happy New Year to all our Toaster friends out there!

VTU

Burt Wilson is the author of "Complete Post Production with the Video Toaster." He can be reached at [burtwilson@aol.com](mailto:burtwilson@aol.com).

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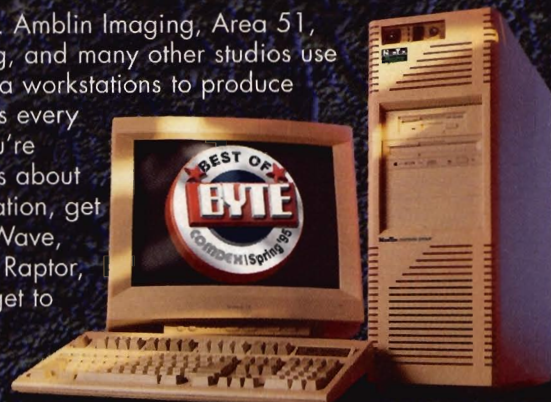
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Figure 4: The Superimpose panel shows the preloaded key page from ToasterCG (note the clipboard).

pose channel on the Toaster (e.g., Q for input 1, W for input 2, E for input 3, R for input 4, T for input DV1, Y for input DV2 and U for input BKG). By alternating the key presses between the framebuffer that contains your flashing text graphic and one of the other inputs not being used, you can create the "flash" effect. The rate at which the flashing occurs is controlled by your key presses up to a point. Though you can actually alternate between the keys quite quickly, when you reach the maximum rate at which the Toaster can respond, the rate will become even, and "buffered" key presses will accumulate and sub-

sequently play themselves back on their own. The exception to this rule is when you are superimposing over the other framebuffer. In this instance, the response time is absolutely instantaneous, and rapid key presses are not buffered whatsoever.

### Capturing Flyer Clips With Flashing Text

As of this writing, the Flyer locks out any keyboard input during digitizing other than the space bar. The only way I know to successfully capture



A foreground color of yellow and an outline or shadow of dark blue over a black background works quite well.

clips while still having access to the keyboard controls is by using Flite Gear. While digitizing Flyer clips under the control of Flite Gear, the Toaster's Switcher interface and the Amiga's keyboard are totally accessible, allowing you to select and deselect inputs and overlays at will. The resulting footage is then easily incorporated into your projects with only a slight degradation of the keyed image. Those not using Flite Gear who wish to use the "flashing" text effect will need to add another generation to their footage by taping the flashing sequence and then digitizing the resulting video.

Well, that's the latest from the Flyer Suite. Happy New Year and see you next month!

VTU

*Frank Kelly owns Spot Ad Productions in San Jose, Calif. Reach him on-line at 76527.723@compuserve.com.*

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# SLICES

## PlayClip

### Using DOpus and ARexx for Flyer Clip Play

by James Hebert



**Y**ou've been working on a video project and you need to go to the Workbench to perform some file maintenance when you wonder how much drive space you have on a particular Flyer drive. Perhaps you decide to delete a file, but which file, and from which hard drive?

If you have a Flyer and you use Directory Opus (DOpus) 5.0, you can rifle through the Flyer drives and play clips from the Flyer within DOpus itself. This feature may not seem too useful a until that fateful day when you find yourself in need of it.

Wouldn't it be useful to be able to play Flyer clips while you see them listed on screen in your favorite file management program? Now you can! Along the way, you'll learn a bit about how to configure a directory utility program—another useful skill, given the amount of computer work we and our children will be doing the rest of our lives.

Within the catacombs of the NewTek directory structure installed by the 4.0/4.1 software is a command called "PlayClip." It's full pathname location is Toaster:Programs/Flyer\_Support/c/PlayClip. (Note that I use the Toaster: assignment in place of the hard drive name and the NewTek directory.) If you open a CLI or Shell and change to this directory, you can enter the PlayClip command, followed by the correct parameters (a variety of mind-boggling switches), and the clip will play. This works for both audio and video clips.

Using Directory Opus, you can configure a button to perform the same action. Furthermore, you can rig DOpus so that all you need to do is double-click on a Flyer clip and it will begin playing automatically. This arrangement comes in handy when you want to review the clips on a drive without entering the Flyer interface. The requirements for this to work are listed below.

(1) The Flyer must be up and running. If you're like me, you probably have it running often, and it's usually in the background while you go to Workbench to perform other tasks.

(2) Your directory program must be capable of handling a set of commands. I use Directory Opus 4.1.1. Any version of 4.0 or 4.1 should work fine. The older versions, and the newest release, 5.0, may also work. Also, the program may work with DiskMaster 2.0 or higher. (I don't have access to DiskMaster of DOpus 5.0 at this time so I can't tell. If anyone out there is adventuresome and wishes to customize one of these other programs, let me know if you succeed and I'll pass it on to others.)

(3) You need PlayClip from the NewTek folder.

(4) You need a pair of ARexx scripts (see sidebars) written by Bob Caron of NewTek. You may type the scripts in and save them from a text editor to create them yourself, or download them from NewTek's BBS (913) 271-9299 or ftp site on the Internet if you're not comfortable with your typing.

(5) ARexx must be active (RexxMast must be running and you can do that by putting it in your WBStartup drawer).

First, let's set up the scripts. Check the sidebars for instructions on entering and saving these scripts for use by ARexx. Since ARexx is a script language, any text editor that can save a straight ASCII text file will work fine. If you prefer to download these scripts from NewTek, go ahead and do so. Save (or copy) them into the Toaster:ARexx/Editor directory.

The PlayClip script will play the selected clip from beginning to end, whether it is an audio-only clip or a video clip with audio. In order to send the output to the Flyer and ensure that you actually see it on the main output, the command to switch to the alternate Flyer source is also sent. In this way you



Figure 1

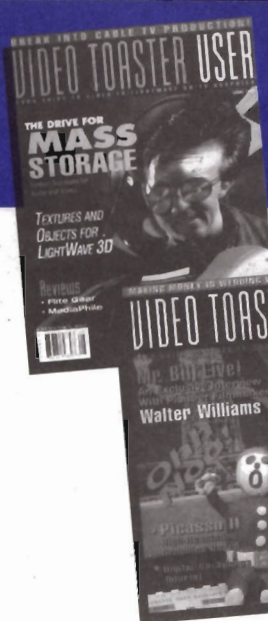
will always see the current clip on the Toaster's main output.

The StopClip script sends a stop command to the Flyer. For your information, due to the nature of sending commands via ARexx through the Amiga to the Flyer, StopClip often requires three to five seconds before the clip is halted (or another begins playing, if you double-click on another clip instead). So be careful not to double-click on files too quickly! It may take the Amiga a while to process all the work it has to perform.

The next step is configuring DOpus:

(1) Start DOpus and enter its configuration program. (The pulldown Project menu has a Configure option. Or, if you have the mini-button bar active at the bottom right corner of the screen, you can click on the (C) button there.)

continued on page 36



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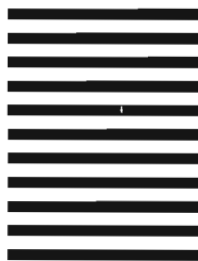
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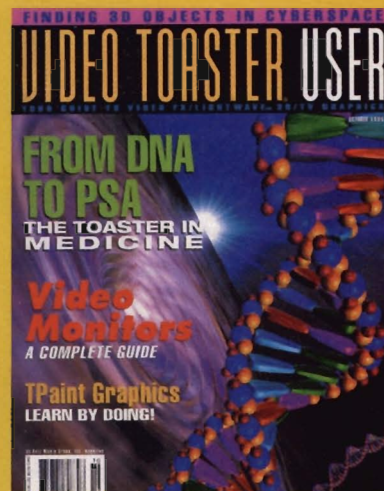
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(2) Select the Buttons option to enter the Button Bank configuration panel. Click on an empty button to display its setup options (Figure 1).

(3) Name this button "Play Clip".

(4) Click on the button labeled New Entry (this will activate some other controls on the screen).

(5) Locate a cycle button that says "Command," and click on it until it shows AmigaDOS.

(6) In the text field just to the right of the button reading AmigaDOS, enter the following text: rx toaster:arexx/editor/playclip.rexx {F}. Press Return. (Again, refer to Figure 1.)

(7) At the bottom left of the screen there is a box labeled Flags. Turn on the three flags that you see checkmarked in Figure 1. They are "Directory Opus to Front," "Do All Files" and "No Filename Quote."

(8) Click the OK button to exit and confirm the setup of this new button. You will find yourself back at the Button Selection screen.

(9) Select a blank button to set up the Stop button.

(10) Name this button "Stop Clip".

(11) Click the button labeled New Entry.

(12) Locate a cycle button that says Command and click on it until



Figure 2

it shows ARexx.

(13) In the test field just to the right of the button reading ARexx, enter the following text: toaster:arexx/editor/stopclip.rexx. Press Return. See Figure 2 if you have any questions.

(14) Turn all of the Flags off. (You won't need any.)

(15) Click OK to exit and confirm the setup of the Stop Clip button.

(16) Click OK to exit the button bank selection screen.

(17) Hit Save at the main configuration screen. Finally, click OK to return to DOpus.

That's it. You've set up DOpus so

that it can send both play and stop commands to the Flyer. Now you can read the directory for a Flyer drive, select a clip, click on the Play Clip button to see if it piped out of your Toaster, and click on Stop Clip to halt the playback.

### A Couple of Notes...

If you've configured DOpus before, you may wonder why we selected some of the options that we did. They were, in fact, somewhat odd (nothing dangerous to your system, however). All I can say is that after a great deal of experimentation, I've found that these are the only settings that work!

DOpus has the ability to call up ARexx scripts internally, so you do not have to invoke the rx command first. Usually. However, for the PlayClip command to work, you must invoke rx yourself as part of the full command line (which we did). Therefore, the play script is called by AmigaDOS (which executes the ARexx script) while the stop script is called by rx internally through DOpus. Yes, it's weird. But it's reliable and repeatable, so I went with it.

When the program executes, the play script will cause your interface screen to jump around a bit. You'll see the Flyer screen, then the Workbench, then Opus again. The script actually jumps to the Flyer to switch sources, then to the Workbench to exit the Flyer. Then the "Directory Opus to Front" flag kicks in and jumps back to DOpus. You'll get used to it.

### Advanced Tweaking

If the preceding example of lightweight hacking is insufficient for your tastes, there is a way you can set up DOpus to auto-play clips when you merely double-click on them. Here's how:

(1) Start DOpus and enter the Configuration screen.

(2) Select the Filetypes button to enter the Filetype Configuration screen.

(3) You need to define a new class of files before you can set up the auto-play relationship. Do not use the New button on this screen. (It's the wrong one.) Pull down the

Classes menu from the top of the screen and select New to go to the File Class Edit screen. It will look like the one shown in Figure 3.

(4) In the center of the screen, beside File Class, enter "Clip, Flyer A/V". Press Return.

(5) The Class ID field will now highlight. Enter CLIP (all capitals) and press Return.

(6) Click the New Entry button in the lower left corner. The word Match should appear just above, and a text field will highlight. (If Match does not appear, tap the magnifying glass button and select Match from the window that appears.) Again, see Figure 3.

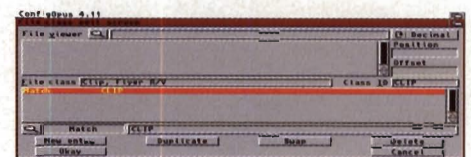


Figure 3

(7) Enter "CLIP" (all capital letters) and press Return.

(8) Click the OK button to exit this screen and return to the File Class Edit screen.

(9) Hit the New button. You will see a list of defined classes. Click on the Clip, Flyer A/V class. This will take you to the FileType Class: Clip, Flyer A/V screen. Here you will tell Opus what to do when you double-click on this file. This screen is a lot like the one from Figure 1, with one important difference (the Event box that triggers the action to be taken).

(10) From the Event box at the top of the screen, select Action and double-click on it.

(11) For the Event Description, type "Playing Flyer Clip".

(12) Click the New Entry button.

(13) Click on the cycle button that says Command. It shows AmigaDOS.

(14) In the text field just to the right of the button reading AmigaDOS, enter the following text: rx toaster:arexx/editor/playclip.rexx {F}. Press Return. This line reads as it did in Figure 1.

(15) In the box labeled Flags, turn on the three flags that you see checkmarked in Figure 1. They are "Directory Opus to Front," "Do All Files" and "No Filename Quote."

(16) Click the OK button to exit

and confirm the setup of this new button. You will find yourself back at the Filetype Configuration screen. You should also see your newly defined filetype in the large list box on this screen.

(17) Click OK to return to the main configuration screen. Click Save to save your changes, then click OK to return to DOpus.

Congratulations! You've just configured Directory Opus to play both audio and video clips through the Flyer! You'll find this feature handy at the most unexpected of times, as I have. Let me know how this setup works for you.

I'd like to thank Bob Caron of NewTek for writing the PlayClip and StopClip scripts, and for putting up with all my ideas. (You see, Bob, some of them *are* useful!)

### More ToasterCG Tips

Recently (i.e., late last night), I became aware of an unusual ToasterCG bug that has not yet been fully fixed. On the surface, it appears particularly nasty since it looks as though you can't reload old work. However, there is a painless workaround for it. If you have the 4.1 Flyer software and a collection of pre-4.0 ToasterCG book files (specifically, 3.0, 3.1 or 3.5 versions), you'll be interested in this one.

ToasterCG 4.0 can be confused somehow by lengthy directory structures. For example, if you attempt to load an older ToasterCG book that's deeply buried in directories and double-click on its filename in ToasterCG, the system will return the pointer to you almost immediately and nothing happens. In other words, long pathnames that contain numerous embedded subdirectories somehow throw the program for a loop.

Try this solution. Create a directory at the root level of one of your hard drives and call it "CGBooks". Copy each of these older books into that directory. Now start up ToasterCG and try to load these books from that location instead. You should find, as I did, that they will suddenly load without difficulty. This problem will be taken care of before the final release, or fixed soon thereafter.



### Script 1: PlayClip.Rexx

Enter these lines into a new file created within a text editor. The indentation is a visual aid only, so it's easier to break up the lines and read the subroutines. When you've finished, save the script as an ASCII text file.

```
/* Play a clip */
/* (c) 1995 by Bob Caron, NewTek */
parse arg file
TOASTERLIB="ToasterARexx.port"
call remlib('ToasterARexx.port')
call remlib
('PROJECT_REXX_PORT')
call addlib(TOASTERLIB,0)
call addlib
('PROJECT_REXX_PORT',0)
call CROUTONSTOPO
if lastpos('/',file,length(file)-1)~=0
then do
filenam=right(file,(length(file)-last
pos('/',file,length(file)-1)))
```

```
path=left(file,(lastpos('/',file,length
(file))-1))
end
else do
filenam=right(file,(length(file)-last
pos(':',file,length(file)-1)))
```

```
path=left(file,(lastpos(':',file,length
(file))))
end
address command "c:cd "path
call pragma("D",path)
path=pragma("D","RAM:")
if right(path,1)~=":"
then clip=path||filenam
else clip=path||"/"||filenam
```

```
Switcher(TOSW)
Switcher(M004)
Switcher(TOWB)
address command "c:run
toaster:programs/flyer_support/c/
playclip 0 1 1 "||clip||" 0 0 1 2"
call remlib('ToasterARexx.port')
call remlib
('PROJECT_REXX_PORT')
```

### Script 2: StopClip.Rexx

```
/* Stop a clip */
/* (c) 1995 by Bob Caron, NewTek */

call remlib('PROJECT_REXX_PORT')
call addlib('PROJECT_REXX_PORT',0)
call CROUTONSTOPO
call remlib('PROJECT_REXX_PORT')
```

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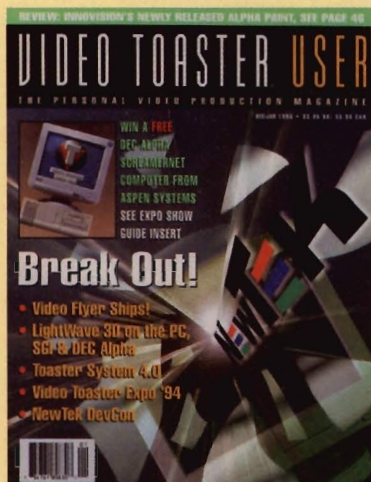
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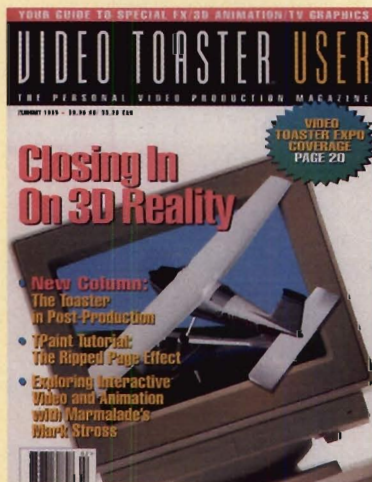
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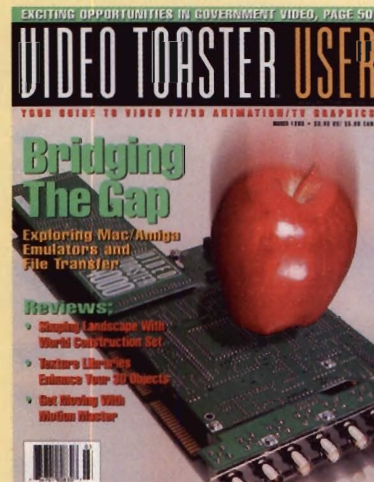
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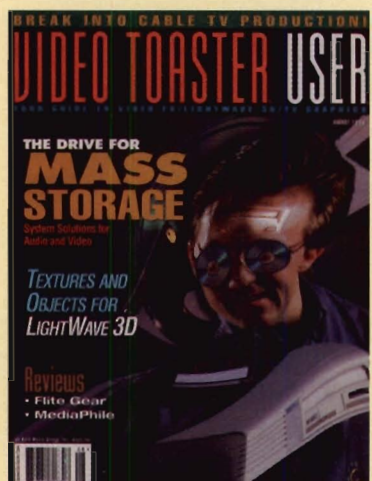
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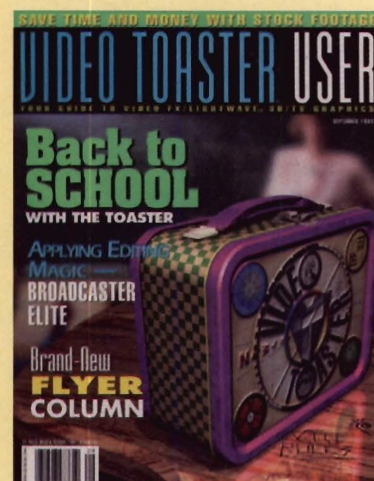
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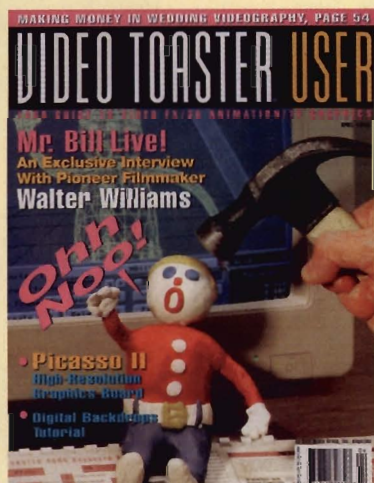
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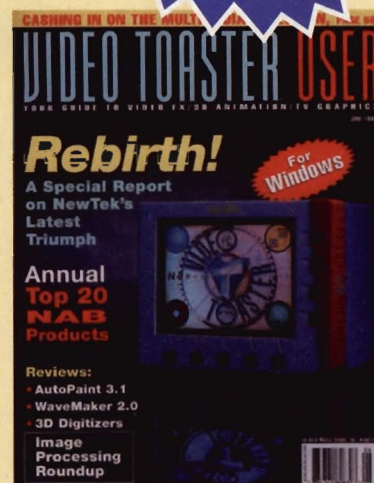
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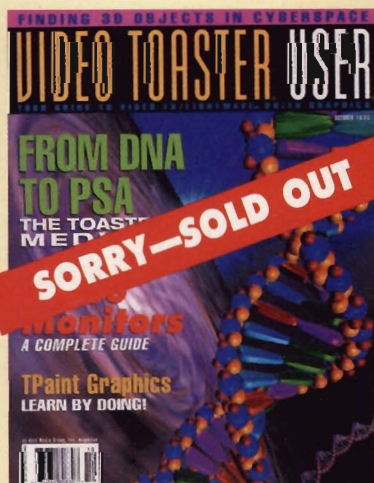
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# CYBERSPACE

## Amiga User's Guide to the Galaxy

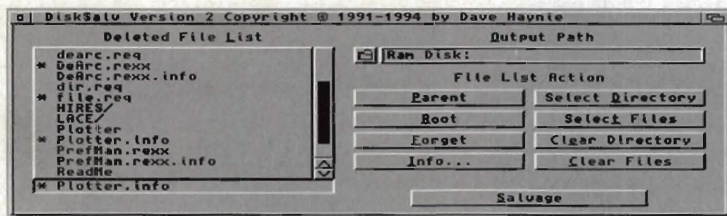
Diagnose Your Problems—Then Solve Them!

by Geoffrey Williams



**T**here are a number of general, non-graphics, non-video-specific utilities that can be very helpful in the use of your computer, especially those utilities designed to help fix, analyze or work around problems. While I have room to cover only a few of these utilities, I have also created a handy little Amiga Guide file. It'll help you actually solve many problems by linking you to included software.

I have recently uploaded the guide as GIDG.lha to the Internet on Wuarchive.Wustl.edu, so it should soon spread to the various mirror sites. The full name is Geoff's Interactive Diagnostic Guide, and what it does is ask you a series of questions about your problem. For example, the first screen lets you choose one of the following: keyboard is not responding properly, mouse is unresponsive, monitor is displaying oddly, disk and file problems, system crashes, system refuses to boot occasionally, system evaluation, software program refuses to run, possible virus infection or tips for more efficient computing.



DiskSalv 2.0 recovers deleted files and salvages corrupt disks.

If you clicked on disk and file problems, the next screen would let you select from problems with the hard drive, problems with floppy disks, or file and corrupt disk recovery. If you clicked on the floppy disk section, further options let you know about dealing with high-density disks and the problems associated with them, such as the fact that an HD disk formatted in a lower density (as by a standard Amiga drive) can only be read in a 4000 high-density drive if you cover the left hole. If disks seem slow, the diagnostic guide tells you about disk reorganization and points you to the proper tools. If you have frequent disk corruption, it teaches you how to clean your drives and what tools you'll need.

The best part about the guide is that it includes 17 public domain (PD) utilities that you can run directly from the text. To run any of the programs, all you need to do is click on a button in the text, and the program will be launched automatically for you, making it very easy to use even programs that normally run only from the CLI. You get SCSI testing, virus protection, system diagnostic software, safer system patches, software to

make older programs run on newer machines, and tons more.

I tried to make the guide easy to use and a fast way to get to the solution of your problem. I have also included some safety and efficiency tips. There is a lot of information that most users are simply unaware of, which will hopefully lead to some quick solutions. I think you will find it worth the download.

All of the PD programs included in my diagnostic guide can be found separately. Here are a couple that are worth looking at just by themselves:

Have you ever had a file on your hard drive and had absolutely no idea what it was? It can be a bit frustrating, which is why Roger Hagensen wrote the utility Marshall. Marshall is able to identify over 326 different types of files. It knows about images, sound files, text files, icons, source code, and lots of strange odds and ends. Once Marshall identifies a file, it brings up a display with a lot of additional information, such as the size and color depth of an image, and the number of frames if it is an animation. For a music file, the utility will tell you the type and name of the song, or it will tell you the sample rate of a digitized sound file. Marshall's a handy tool to have. It even offers you the opportunity to rename that pesky file (once it has been identified) something that makes a little more sense, such as adding a three-letter extension to identify it. The one disappointment is that, while Marshall even knows about some files on the PC, Mac and Atari, it does not know very much about the Toaster. It was unable to identify Toaster Framestores, projects or LightWave scene files. The program did, however, correctly identify LightWave object files. The author seems very current on adding new types of files to identify. All you have to do is send him several examples. Marshall can be run from the CLI or through Workbench with a standard file requester.

### Info Salvage

As you go through your hard drive, desperately trying to get rid of enough unwanted files so you can get back to work creating new ones, you suddenly realize that you just deleted a file you intended to keep. Instead of smacking your head against your monitor (which can be rather dangerous), you might consider using Dave Haynie's DiskSalv 2.0. This is the last version released before his commercial version and has been available for quite awhile. It is certainly worth knowing about.

Fortunately, it is possible and quite easy to recover a deleted file. When a file is deleted, only the pointers to that file are removed. The most important thing is to

not write anything onto your disk after a file has been mistakenly deleted. You may wind up writing over the file, and if you do that, it's lost forever.

Immediately after deleting the file and realizing your error, load up DiskSalv. From the main interface, choose Undelete from the mode options. Choose the device (floppy or hard drive) to undelete from, and DiskSalv will grind away for a minute or so, searching for all the deleted files.

The software then brings up a requester similar to a file requester that lets you select all of the files you want to undelete, even those from different directories. Tell DiskSalv where to save the files to, click the Salvage button, and your deleted files are back. What a relief!

There is an even more horrifying way to lose files. You try to access a disk and you get the "Disk Corrupt" message. DiskSalv will try to recover everything possible onto another disk or into RAM. It can even keep track of loose blocks (separated pieces of a file). DiskSalv will recover everything that is possible to restore. You can also selectively restore just a few files. The program can recover an entire hard drive onto floppies, as it will prompt you to put in a new disk when each floppy is filled.

DiskSalv also has a fix-in-place function that lets you try to repair a storage device (floppy, HD or Zip) without having to save files off of it. I have used this feature on several occasions and found it to be a real lifesaver. Overall, I could not imagine using a computer without a utility like this. Call me unadventurous, but I'm just not that much of a thrill-seeker.

Besides my little guide, I have come across a number of others of interest. Peter Bagnato recently sent me DosMan, his complete on-line DOS manual. I don't want to think about how much time I've wasted flipping through the AmigaDOS manual, wishing that I had something on my computer for looking things up quickly. DosMan is not just a keying in of the existing 1.3, 2.0 and 3.0 manuals, but an actual *guide* written by the author that is much more succinct, easier to understand, and even has a sense of humor.

With DosMan, you have a choice of three interfaces. You can use the

AmigaGuide format or the Magic User Interface (MUI) format if you have MUI installed, and there is also an ARExx script that lets you use it interactively directly from a CLI shell. It's obvious that Peter spent a huge amount of time developing this guide. Thanks!

### Internet Users

There has been a LightWave channel on the Internet Relay Channel (IRC) for over a year now. I found out about it in a message from Ronnie Norwood that read, "I know you must already know all about this..." Well, actually I didn't, and I am sure many of you are in the same position. (Ronnie is also the co-creator of Power Tips Pro, which I'll be writing about soon.)

Besides those of you who had no idea that there was a LightWave channel, I'm sure there are even more of you who may have no clue what I'm even talking about. IRC is a service that anyone with Internet access can take advantage of. It's a live, interactive way to chat with others on the Internet. The people you are speaking with can be anywhere in the world. You join a channel that is of particular interest to you and there are many different topics to choose from.

To get on, all you have to do is go to IRC and type `/JOIN #Lightwave`. You will be instantly transported to the LightWave chat section, and a list of all of the people currently on will be displayed. IRC was created by Sumaleth, Schizo and Lisa (their on-line names) and is now maintained by Keith Christopher (who runs the Tomahawk LightWave FTP site listed in this month's "Geoff's Favorite Stops in Cyberspace"). The IRC has grown from just one or two users to an average of 10 to 15 users around the clock, and is still growing.

When I logged on at 10 p.m., there were a dozen people listed, though shortly thereafter there was a server communication problem and most of the users were temporarily bumped off. I didn't know about the "technical difficulty" at the time, and wondered why everyone appeared to log off at the same time. I'm glad it wasn't something I said!

You never know who you might meet. Some of the more notable individuals who appear on the LightWave

channel include Steve Worley, Dr. Gandalf and a few NewTek employees. Most of the people who do join in use LightWave professionally.

It is an open round table, pretty much free of the flame wars and other types of nonsense you might find in a newsgroup or mail list. Recent hot topics have included the shipping of LightWave's Alpha version and discussions about the differences between varying hardware platforms.

Some people just leave it on while they are typing, glancing up every so often to see what new interesting things others have been typing in. The users seem pretty enthusiastic, and I know I will visit it again. As Ronnie Norwood says, "It's really amazing!" I have to concur. Where else can you chat with fellow LightWave professionals from all over the world?

I always like to cover shareware authors' success stories. Some write for the love of it, some write in the hope of making a little money from shareware fees, and some hope that a big company will snap them up and put their talents to work. I am happy to report that Fori Owurowa, the author of FreeForm 3D, has been hired by NewTek to do development work. FreeForm 3D is a great shareware program with many impressive features. Hopefully, we will see many of them incorporated into future versions of LightWave.

As usual, if you don't want to hunt these programs down, I have put them all on a disk, including the complete Geoff's Interactive Diagnostic Guide with all of the linked utilities. You can get a copy by sending \$5 to Geoffrey Williams, Utility Disk Offer, P.O. Box 10095, Glendale, CA 91209.

VTU

### Geoff's Favorite Stops in Cyberspace

Almost everything I write about can be found in one of the following locations with a little digging:

FTP Internet sites:

ftp.net.netnet  
tomahawk.welch.jhu.edu

Mike's Video House (818) 240-1593  
LightWaved BBS (510) 228-0886

# TAMING THE WAVE

## Night, Day and Screams

Animation Solutions Are on the Horizon

by David Hopkins



**H**ow often do you use the horizon color settings in LightWave's Effects panel? Probably not very often, because they only make horizon lines, right? Well, that's not entirely true. These settings can be used for a vast number of effects. Let's take a look at one that's especially useful.

LightWave's backdrop color options are really divided into two types: single color (or image) or color gradient. For the newbies in the group, a color gradient is a smooth progression from one

ground in the distance. These two settings, Zenith and Sky, will be gradated between each other when you render the image.

Ground Color, then, is the color that you'll see as the farthest ground on the horizon where the ground meets the sky. No gradation occurs between the Sky and Ground colors, so a hard edge will always result. Finally, the Nadir Color is what you would see if you looked straight down within the LightWave environment. Ground and Nadir gradate into one another. What you end up with is a "shaded" ground meeting a "shaded" sky. Isn't this fun?

Now, we know how to make a "horizon" using these controls, but what if you don't want a visible horizon? Set the Sky and Ground colors to the same value. Though the hard edge still technically exists between the two, the colors are identical, so you won't see the edge. This allows you to create some beautiful, three-key color gradients (Zenith is color 1, Sky and Ground are color 2, and Nadir is color 3), which are perfect for title backgrounds or LightWave image mapping. If you wish to use a gradient as a LightWave image map, simply render and save the desired gradient and load it back into LightWave.

The question becomes "So how useful is a horizontal gradient?" A gradient doesn't have to be horizontal! (This is LightWave, after all.) Rotate your camera's bank to the desired angle of gradation (remembering to create a key, of course) and let 'er rip.

But these are all stills, and there isn't a great call for just plain old still color gradients in LightWave, is there? Well, try this one on for size. Set the Zenith color to a very dark blue/black, the Sky and Ground colors to a mid-dark blue and the Nadir color to a light blue. In Layout, Pitch your camera straight up (90 degrees) and create a key. Now Pitch it straight down (-90 degrees) and create a key for frame 30 (or 60, or whatever you wish). When you render this animation, you will get a fair (but *very* fast) re-creation of night turning to day. Figures 1, 2 and 3 show this effect in action. Add some pink or light purple, or another color that appeals to you, and you can produce some truly striking results. Make the shot much slower for more realism, save it as an image sequence and use it as a backdrop image in your animations.

A nice cloud cover object and an actual poly-



Figure 1

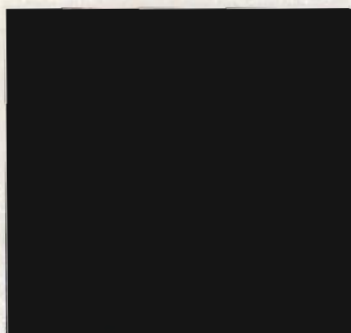


Figure 2



Figure 3

color to another to another. Since a single color or image background is pretty self-explanatory, we'll examine the gradient.

The first color in the gradient, Zenith, actually defines the color that will be visible if you look straight up in the LightWave environment. In LightWave, this color defaults to a dark blue. The next color, Sky Color, defines the color that will be visible as the base of sky where the sky meets

So... what's your idea going to look like when it grows up?

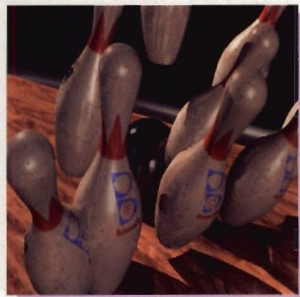
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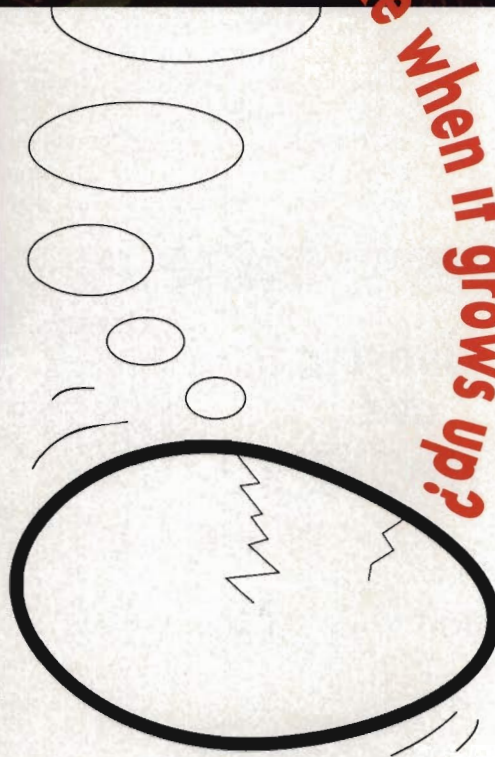
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FOR INFORMATION CIRCLE 152

**RAPID TURN AROUND!**

gon-based ground can be added to enhance the effect. Add a sun object (or lens flare) and create an envelope for your Ambient Light, and you can get a really nice animation out of a simple color gradient! But here's where a problem occurs. If the camera is Pitching over the course of the animation, you can't keep it pointed at objects in your scene, right? This is where our friend NullObject comes in. Parent *everything* in your scene to a NullObject. This means all of the objects, lights and camera. Now, instead of Pitching the camera, Pitch the NullObject. Every element in your scene will actually be spinning madly, but since *every* element is spinning, you won't see any movement. Think about it for a minute and you'll get it.

### Multitasking

Did you know that you can speed up your rendering process

and increase the multitasking abilities of the Amiga while you render? In the Record panel, you'll find a pop-up gadget labeled "Render Display." By choosing this option, you can tell LightWave to display the finished image on the Toaster, Picasso II, Amiga HAM modes or none. Selecting None results in LightWave rendering the image and saving it normally, but not showing it to you. If you're like me, you usually render a final low-resolution test prior to high-resolution rendering so you know you've got what you want. You don't need to see every frame of the final rendering process, and you can see a speed increase of a few seconds per frame. The time saved may not seem like much, but a few seconds can pile up into a lot of minutes before long. The added advantage is that if you are using the Amiga's multitasking capabilities to do something else while you render (such as writing

articles, downloading files, etc.), you'll no longer experience the interruption of the framebuffers being updated. (You know, the "blink, blink, blink" affair that puts the image on the screen?) This is a *real* advantage for ScreamerNet (SN) users, who can clear all of the objects and any non-sequenced images from the Amiga's RAM, freeing up the majority of the machine for other uses.

### Render, Dammit!

Here's another tip for SN users: Have you ever been rendering away on your SN CPUs, only to find that one of the CPUs doesn't respond to the order to start rendering a new frame? In this situation, the SN panel will usually show the message "Waiting for CPU [X] to begin rendering." As you know, if this situation is left uncorrected, the images (which are still rendering) from any other CPUs will stack up in RAM. Odds are you'll reboot the machine(s) and start them off from the last frame number, right? Of course, the other CPUs that have been rendering properly have probably returned their image(s), which are waiting in RAM for the bottleneck to clear, so you'll lose them, too. Rather than rebooting or hitting Esc to stop LightWave, try this useful solution:

If you take a look in the RAM disk (using a directory utility such as DiskMaster or Directory Opus), you'll find that there are files named "AckX" and "JobX" (where "X" is a number). These files represent the SN CPU responses and instructions, respectively. You'll probably notice that one of the Job files is larger than the others. This file is the problem. View the Job file and you'll find some interesting info, including the frame number to render, resolution and some other stuff. Make a note of the frame number that this Job is trying to render.

Now, go to an Amiga shell and type "ED SYS:AckX" (where SYS: could be any drive you choose but *not* RAM: and X is the number

http://www.portal.com/~amg



## Video Toaster User and LIGHTWAVEPRO



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causing the problem). In this file, type "Rendering Frame X", where X is the problem CPU number. Save the file, making sure it is in ASCII format if you used something other than ED. Finally, move this new AckX file into RAM so it can overwrite the old one.

This procedure fools LightWave into thinking that the CPU has responded to the Job instructions. Depending on your situation, one of three things may happen: (1) If the problem CPU actually received the original Job order but the response was lost in a bout of multitasking, then that CPU should continue to render its frame and the system will proceed normally; (2) If the problem CPU really crashed for some reason, the other CPUs (if any) should continue rendering the rest of the frames. The frame allocated to the problem CPU will never be returned, and you'll have to render it alone later, but at least LightWave will ignore

it and continue; (3) When one of the CPUs returns to its next frame, the Amiga will crash. This last option happens every now and then, but not often enough to cause you to avoid trying this solution. After all, you would have rebooted anyway, right?

You should note that the CPU numbers shown in the SN panel and those files in RAM: are not necessarily the same numbers. *Make sure* that you are working with the numbers provided in RAM:, not the numbers in the panel. If you edit the wrong file, you can really confuse LightWave. Finally, don't bother to try to load (or delete) any of the images that other CPUs had parked in RAM:. You'll find them named "outX" (again, where X is the CPU number). For some reason that only NewTekies understand, the image format of these files is unreadable by anything *except* LightWave, and you can't even

load them into the software yourself. SN has to do it.

Once the operation outlined above is performed, those files will be saved, and the rendering will continue normally.

That's it for this month, but keep striving to develop your LightWave skills! It takes practice—lots of practice. If you come up with some interesting imagery, send it to me, care of the magazine, and we'll show the world your brilliance. See you next month!

VTD

*David Hopkins is the founder of Mach Universe, a Southern California-based animation house. He is currently working on DarkDrive, his third feature film.*

#### EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful  
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Useful  
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Not Useful  
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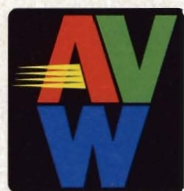
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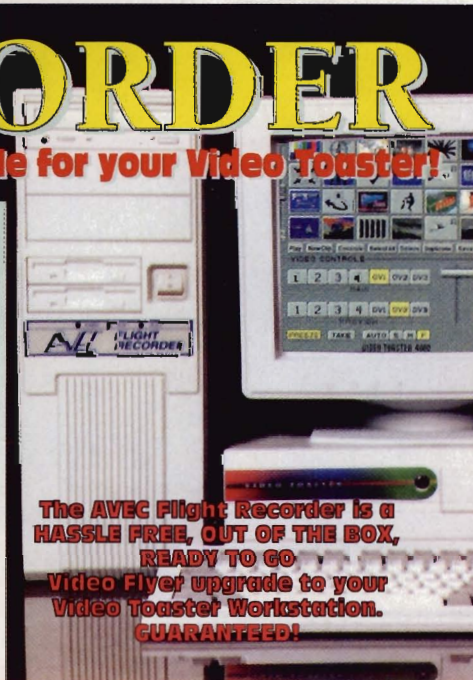
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# VIDEO TOASTER USER EXPO '95

## Exhibitors' Guide



Thousands of Video Toaster and LightWave owners from around the world came to the 1995 *Video Toaster User Expo* to see the exhibits and attend the training seminars. Held at the Universal City Hilton and Towers in North Hollywood, Calif., the show also featured Amiga Technologies from Germany unleashing the new Amiga 4000 Tower, the A1200 and the company's plan for the future of the Amiga in the U.S. (see page 52).

NewTek, Inc. and over 30 software and hardware developers also unveiled the very latest in Video

Toaster and LightWave 3D products and technology. Keynote addresses were delivered by both Petro Tytschenko of Amiga Technologies and NewTek President Tim Jenison to enthusiastic audiences. Attendance at the Video Toaster and LightWave classes was solid, with leading video and animation professionals providing valuable, timely instruction.

Among the highlights of the Expo was the sneak preview of Walter Williams' *Mr. Bill's 20th Anniversary Special*. Look for full details next month!

### AirWorks Media

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403-424-9922  
ARPEGGIO with Tune-Builder—the World's Fastest Music.  
Arpeggio with Tune-Builder is a CD-ROM music library combined with simple, high-performance software that runs on your Amiga and will instantly turn you into a professional music editor. Now, using music is so simple, your projects will sound like a studio pro sweated for hours over them.

### AMIGA Technologies GmbH

Berliner Ring 89  
D-64625 Bensheim

### Germany

49-6251-802110

For its first appearance at a show in the U.S., Amiga Technologies is proud to demonstrate its brand new multimedia machine—the A4000 Tower. The A1200 entry-level model with its full featured software bundle was also presented.

### Anti Gravity Products

456 Lincoln Blvd.  
Santa Monica, CA 90402  
310-393-9747  
Anti Gravity Products is your solution provider for high-end desktop video, computer animation and multimedia turn-key systems. Our knowledgeable staff actually uses the software and hardware Anti Gravity sells. Setting up a computer system to do

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### Asimware Innovations Inc.

600 Upper Wellington St.,  
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AsimCDFS: The leading CD-ROM file system for the Amiga platform.  
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new Kodak PhotoCD viewing and slide-show program.

Texture Heaven: A CD-ROM disc crammed full of 383 24-bit color IFF textures and images.

Texture Heaven II: a CD-ROM containing 164 24-bit color abstract images stored in IFF, Framestore, JPEG, HAM-8, BMP and PAL formats.

### Atomic Toaster

P.O. Box 9201  
Salt Lake City, UT 84109  
801-466-7330  
Flite Gear—Tape logging, batch digitizing, project restore, Flyer library and cataloging, EDB Flyer interface and output.  
Flite VTR—Flyer VTR transport control. Software control of VCR and Flyer

operations. Interfacing for most VCRs.

Radar—Professional editing Flyer interface. "Match-frame" and "time line" interfacing!

Flite POD—Flyer remote control editor!

#### **B & H Photo-Video**

119 West 17th Street  
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212-206-1010

B & H Photo-Video once again had their ever popular "shoot-out" among 10 of today's best S-VHS, HIP and BetacamSP 1/2-inch and 2/3-inch 3-CCD cameras and camcorders. Each camera was mounted on its own tripod and had a dedicated monitor to view the output. Also on hand were the latest in S-VHS and BetacamSP editing.

#### **Burt Wilson Co.**

1143 Tivoli Lane #107  
Simi Valley, CA 93065

#### **Bushey Virtual Construction**

951 S. Cypress St.,  
Suite F

La Habra, CA 90631  
714-447-3587

Bushey Virtual Construction is the manufacturer of the Teraclipse Alpha Workstation line. The competitively priced turn-key Teraclipse Workstation uses the DEC Alpha CPU motherboard; available processor speeds are 166MHz, 233MHz and 275-MHz. System upgrades and turn-key solutions are also available.

#### **Carrera Computers, Inc.**

23181 Verdugo Dr.,  
Ste. 101  
Laguna Hills, CA 92653  
714-707-5051

Carrera Computers, Inc., the leader in RISC-based workstations for the Windows NT/LightWave market, proudly announces two very exciting products complementing the popular Cobra line. The Cobra EV5-333 is a 333MHz Alpha EV5 256-bit-based workstation and server running LightWave.



Thousands of Toaster/LightWave addicts attended last year's Expo.

The Road Runner AXP is an Alpha workstation that is the industry's first non-linear video editing portable!

#### **Computer Display Solutions**

1001 Pecten Ct.  
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Computer Display Solutions features a full line of fully compatible Amiga monitors that automatical-

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#### **Desktop Images**

611 North Orchard Dr.  
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Desktop Images offers a complete line of instructional videotapes for the Video Toaster and LightWave 3D. Our tapes fea-

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#### **Desktop Video Systems**

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Lenexa, KS 66215  
913-782-8888

The DRIVE-IN is a hard drive expansion system for the Flyer and other non-

linear editing systems. Several desktop and rack-mount models are now available. The rear panel's six Centronics connectors and pass-thru SCSI cabling provide power users with the best Flyer connectivity solution available. Hundreds of units have already been sold.

#### **Digital Imaging Systems, Inc.**

1440 S. State college Blvd.,  
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310-348-8165

Digital Imaging Systems, Inc. is an authorized SGI workstation dealer. We are also an authorized dealer for NewTek's LightWave for SGI workstations. Our specialty is integrated film/ video, 3D animation and multimedia solutions based on the SGI workstation. We also carry DEC Alpha, Mac and PC computers, SoftImage, Alias/Wavefront, Xaos Tools, Accom and much more. Please call for your specific requirements.

#### **Dynamic Realities**

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### **International Software Engineering**

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ISE's Logo Wizard quickly creates complex logo and background band, ellipse, fireworks, explosion, and vortex animations for LightWave. Ease of use ranges from adding a logo to a prefabricated scene to deciding how much gravity to apply to an explosion. PathFinder converts LightWave files from Amiga to PC or PC to Amiga.

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Legendary Design Technologies is a leading hardware and software manufacturing firm. We sell Link It! (which connects your Amiga to a PC) and many CD-ROMs. We are also NewTek's distributor for Canada.

### **Lightspeed**

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*Lightspeed: The Video Magazine for the LightWave Enthusiast* is a monthly video (VHS) series that LightWave users can subscribe to just like a newsstand magazine.

“The FX Kit for Lightwave” is an exciting new tutorial book for LightWave users written by Alan Chan of Amblin Imaging.

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### **Los Angeles Video Toaster Users Group**

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The Los Angeles Video Toaster Group, headed by a team of working professionals, brings together a

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### **NewTek, Inc.**

1200 SW Executive Dr.

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### **Nova Design, Inc.**

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Nova Design, Inc. is selling version 2.1 of its best selling special effects package: ImageFX. Hailed worldwide as the Amiga's absolute best image processor, ImageFX gives users unparalleled interaction with NewTek's Video Toaster for everything from painting to advanced special effects like Lightning and Blue-/Greenscreen compositing.

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#### **Questar Productions**

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#### **Silent Paw Productions, Inc.**

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SPP's new product line includes the PAWS (Portable Amiga Workstation) and the Gecko Converter. The PAWS is the first kit for the Amiga that will allow users to enjoy the power of a laptop. The Gecko is an external unit that allows the Amiga to utilize any VGA monitor in most modes to include PAL.

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#### **Token Video Productions**

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T.S. Computers specializes in computer-based video and animation solutions. As one of the world's largest and most successful NewTek dealers, we have been serving the professional video industry since the Video Toaster's inception. We provide our clients with the most knowledgeable staff and quality products. Visit T.S. Computers for the Video Toaster, Flyer, and DPS' Perception. We service and provide Amiga computers and carry a large selection of Amiga software and peripherals. When you require quality, expertise and professional service before and after the sale, see T.S. Computers.

#### **Video Toaster User LIGHTWAVEPRO**

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Avid Media Group is the leading provider of information for professionals in the personal video production and 3D animation markets, with a focus on the Video Toaster and LightWave 3D. Our expansive product line includes magazines, newsletters, custom publishing, trade shows and seminars.

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ToasterPaint Driver: Lets the famous ToasterPaint run on your Picasso in full resolution 24-bit.

MacPicasso: Graphics card for the Apple Mac supporting Amiga Genlocks with PowerPC performance for animation and video effects.

**VTU**

# AMIGA TECHNOLOGIES:

In the movie *Back to the Future*, Dr. Emmett Brown, creator of the first time machine, told Marty McFly, "If you put your mind to it, you can accomplish just about anything!" Well, while we're not exactly talking about Flux-Capacitors here, fans of the recently reclaimed Amiga computer, and the NewTek Video Toaster that operates on it, are hoping Dr. Brown's statement holds true for more than just plutonium-powered DeLoreans.

The cost-effective Amiga achieved a number of firsts in the computer industry, including preemptive multitasking, a 32-bit operating system and full audio/video compatibility. It is this video "friendliness" that made the Amiga a logical and popular choice as the platform to support the NewTek Video Toaster and launch the personal video production revolution. This video production ability has also allowed the computer to assist in the creation of such movie classics as *Jurassic Park* and *Honey, I Blew Up the Kids* and the hit TV shows *seaQuest* and *Babylon 5*. The Amiga/Toaster combination has developed a rabid following that has everyone, from NASA and Disney to Mr. Bill and Dick Van Dyke, singing its praises.

Still, a lot has happened since the heady days of 1985, when pacemaker inventor Jay Miner's new computer, the Amiga 1000, was introduced with TV commercials and the likes of B.B. King and Andy Warhol as users. The past few years have been hard for the millions of zealous users of what is arguably the most popular personal multimedia computer in history. Mismanagement (some even claim conspiracy), slow research and development and a lack of advertising have threatened the Amiga's future while other platforms have been gaining on its unique set of features. Luckily, some innovative, young

## CAN THE AMIGA

## FLY AGAIN?

by Tom McAuliffe

computer visionaries in Germany have taken a gamble and stepped forward to say that the Amiga is back!

On April 21 of this year, ESCOM AG, Europe's second-largest PC manufacturer, purchased the remains of Commodore Business Machines (CBM), which had gone bankrupt in the spring of 1994. Created in 1958 as a typewriter company, CBM owned the legendary Amiga technology and had been in trouble for some time. A series of market blunders, increasing red ink and dwindling sales worldwide (in 1993 more than half of the units went to Europe) led to its demise. The subsequent roller-coaster ride of rumors and disappointments left followers worried and emotionally spent. Amiga loyalists ("They can take my Amiga when they pry it from my cold, dead hand!"), arguably the most enthusiastic computer users in the world, have been on the edge of their collective hard drives over the past two years wondering if their favorite computer, and their investment in it, can rise from the ashes.

The Amiga's new owner, founded in 1985 by Manfred Schmitt, has offices in over 10 countries with sales of \$1.5 billion in 1994 from its retail outlets, mail-order and PC manufacturing endeavors. It will use the Commodore name, a well-known brand name outside the U.S., to market a line of PC computers. This name recognition and the Amiga's licensing, multimedia and interactive television prospects are seen by industry watchers as the predominant reasons for the acquisition. "The Amiga technology brings us all we need in an elegant way. We see the Amiga as the key to multimedia technologies of the future," said Schmitt in a press conference launching the new ESCOM subsidiary, Amiga Technologies GmbH. "A new company has seen the light of day! This is an Amiga company;



The new A4000 Tower offers excellent graphics, animation, video and sound. Initial versions come with the 040 accelerator.

our people know what they have to do because they have a deep knowledge and passion for the system they are working for. They won't repeat the errors that have been made in the past."

Wasting no time, an outstanding group of professionals was handpicked to resurrect the Amiga. Heading the new team at Amiga Technologies, based in Bensheim, Germany, is General Manager Petro Tyschtschenko, a former Commodore executive and one of many who think the patient will live. In the opinion of some, while we can rejoice that the Amiga technology has survived, the patient may *never* make a full recovery.

As any emergency room doctor can attest, reviving a dead patient is no easy task, and by all accounts that's how the 1994 Amiga situation is viewed—a death experience. According to Tyschtschenko, the long and difficult takeover of CBM and the 18 months of inactivity hurt the Amiga market. The difficult business of getting back into full-scale production with the three main product lines (CD-32, A1200 and A4000 Tower), while straightening out the financial and logistical mess left by the former owners, seems to be well underway. The success of the Amiga, in Europe at least, is probable.

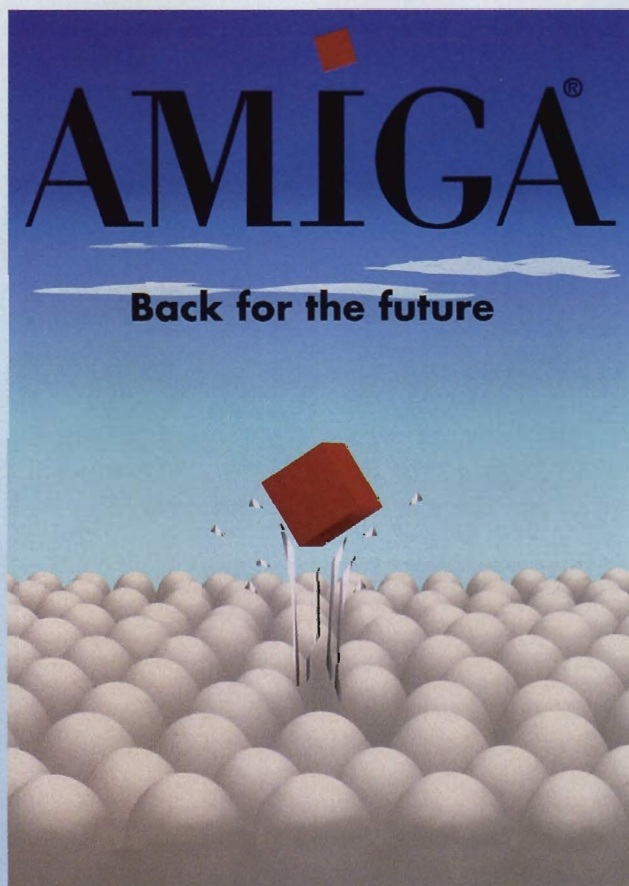
"Without the support of our mother company, ESCOM AG, nothing would have been possible," said Tyschtschenko. The Amiga Technologies' organization has grown to over 40 people who are attempting to do what has never been done—resurrect a dead computer platform. They appear to be a flexible, aggressive, motivated and dynamic team.

"We can react very quickly to new situations; we make our strategic decisions faster than the competition does," he said.

## Up and Running

The rebuilding of the Amiga empire will take time, but the first steps have been made. "We actually revived the Amiga in two important steps: First, by acquiring the assets of the former Commodore for more than \$10 million, and second, by starting it [production] up again, which required several times the initial investment," explained Tysch-

tschenko. "Other main difficulties we encountered were getting specific parts and components for production. D-RAMs, Amiga keyboards, floppies and SCSI hard drives have long lead times. Tailor-made parts are difficult to get and they cost more than in the old Commodore times."



A logo for Amiga Technologies' products.

To achieve the goal of getting back into production quickly, Amiga Technologies decided to build the A1200 and A4000 Tower without any further modifications. Expected future enhancements include the bundling of Scala Multimedia and other major software titles, the introduction of the new Motorola 68060 accelerator chip, CD-ROM support for the A4000 and upgrading the A1200. The new Amiga Operating System 3.1 is in the process of being supported, but developer preparation may take some months. The A4000 Tower is being manufactured in the U.S. while the A1200 is being made in France.

As for the future? Exactly which technology will be chosen as the basis for the new Amiga is under intense investigation. (See this month's "Toaster Talk.") Time is of the essence in more

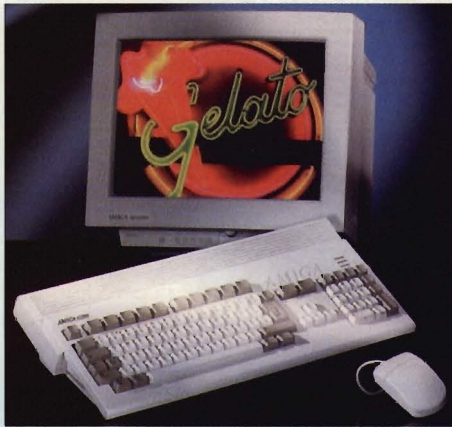
ways than one. RISC-based (Reduced Instruction Set Computer-based) computers are faster, are becoming more mainstream and offer easy port (adaptation) of software programs. Reportedly, the PowerPC and HP PA RISC chips are some of several options being considered. An announcement is expected by the time you read this story.

The aggressive new computer manufacturer has also been busy introducing the M1438S (a new high-end, multi-sync color, stereo, video monitor) and acquiring the German company Virtual Products GmbH, which produces I-glasses, a cutting-edge, virtual reality headset and computer interface. Distribution plans include selling the Amiga in ESCOM and other retail stores worldwide, and through Service Management Group (SMG) and other dealers or distributors here in the U.S. In addition, plans are underway to expand into the huge markets of China and Eastern Europe.

The concept of using the CD-32, an A1200 CD-ROM-based computer, in set-top boxes for interactive TV is also being explored. "Set-top boxes will open new markets for Amiga products," said Tyschtschenko. "Set-top boxes could be produced in variants for cable-TV, satellite-TV and telephone line communication (video dialtone), and also be used for home-shopping and home-banking. I'm convinced that this market is

tremendous and will push the Amiga technology into millions of households." Software publishers and accessory hardware manufacturers would be very interested in restarting production for such a popular computer. Amiga Technologies hasn't been shy about getting the word out, premiering at the huge trade show IFA Berlin with 500,000 visitors, and for the first time in the U.S. at the 1995 Video Toaster User Expo in Hollywood. The company and SMG also had a booth at the enormous COMDEX show held in Las Vegas, Nev., in November.

All of this activity hasn't gone unnoticed in Topeka, and talks between NewTek and Amiga Technologies have been ongoing. This can only be seen as a positive sign. "During a recent visit to Germany, the principals of ESCOM and Amiga Technologies



The A1200 has been the No. 1 home computer in Europe for the last seven years.

shared with us the plans they have established for the Amiga in the U.S.," said Dwight Parscale, NewTek's CEO. "We are very enthusiastic about the future of the Amiga and believe Amiga Technologies' participation in the *Video Toaster User Expo* is a strong sign of their commitment to this mar-



Virtual Products' I-glasses offer unparalleled interactivity for Amiga users.

ket. We are excited about the potential to make these creative tools available again."

"Frankly, I'm amazed at how painless getting the Amiga back into production has been," added Tim Jenison, creator of the *Video Toaster*. "Thousands of things could have gone wrong, but they didn't. It really says a lot about Amiga Technologies as a company. The talks are proceeding in a positive direction. Indeed, more has happened with the new owners of the Amiga and NewTek in the last 30 days

than in all the time Commodore was in charge."

Can the Amiga rise from the ashes? That remains to be seen. Like it or not, the bottom line is not just survival, but profitability—whether it's a niche or mass-market product in the U.S. or Europe. Competition for the computer dollar is fierce these days and the rapid development of technologies yet unseen is inevitable. Still, after speaking with the people at Amiga Technologies, one gets the feeling that they can steer a steady course in even

the roughest waters. As in the scene in *Back to the Future* where Doc, Marty and the DeLorean take off for the sky, you get the feeling that these folks are serious about blazing a few trails of their own. It didn't take a 1.21-gigawatt bolt of lightning to re-fly the Amiga after all. Perhaps it was the power of love: the cultish love of users for their computer platform of choice. Two things are sure: there's no slackers in this group, and the Amiga is back—for the future!

VTU

## An Interview With Petro Tyschtschenko, General Manager of Amiga Technologies

**Thank you for taking the time to visit with me. What are your plans for the USA?**

We have great plans for a great country! The U.S. is a special market that should not be handled like Europe. We would like to develop the U.S. market in a professional way. The first step was to install a partnership with a company for distribution, service and parts. That is why we've chosen SMG. They fulfill all these requirements and they know the Amiga dealers very well. The second step is to find a bigger partner who would like to invest money and work together with SMG or other potential distributors. We want to do aggressive marketing for the U.S.

**What is your perception of the U.S. market?**

We know that the U.S. market is very strong in the professional area. There were thousands of *Video Toasters* just in the Amiga world. I also think that if we develop the professional market, the entry-level A1200 will easily establish itself.

**How important is the *Toaster/LightWave* user to your success here?**

Crucial. As I already mentioned, those *Toasters* represent a big market. We have already spoken with NewTek to get a similar solution for the European market.

**We've heard about your work with Scala and other European companies. Do you have plans to work with NewTek and other companies here in the U.S.?**

Of course! We can only handle the U.S. market if we rely on competent people in the U.S. There are many companies in the U.S. that are interested in licensing the Amiga technology and we want to go that way.

**You touched on your marketing plan. Will it be targeted or more general in approach?**

First, we want to consolidate the markets where we are already strong. Of course, we need to convince users of other platforms that the Amiga is the better solution. To achieve this, a more general approach is necessary. This should also be a plan we share with our future strategic partner in the U.S.

**What will you do to revive the dealer network? Will you sell through large chain stores or mail order?**

We want to use all possible ways to bring the Amiga to the user in an easy and simple way. We do not want to create price wars between mail order, department stores and Amiga dealers, whom I would like to thank for their loyalty. We want this market to be a fair market; therefore, we are being very careful

continued on page 77

# Powerful Resources

AT POWERFULLY LOW RATES

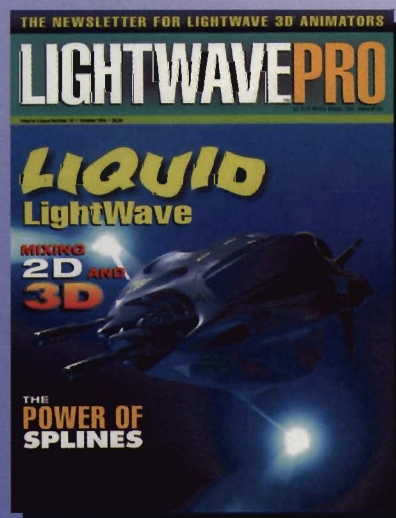
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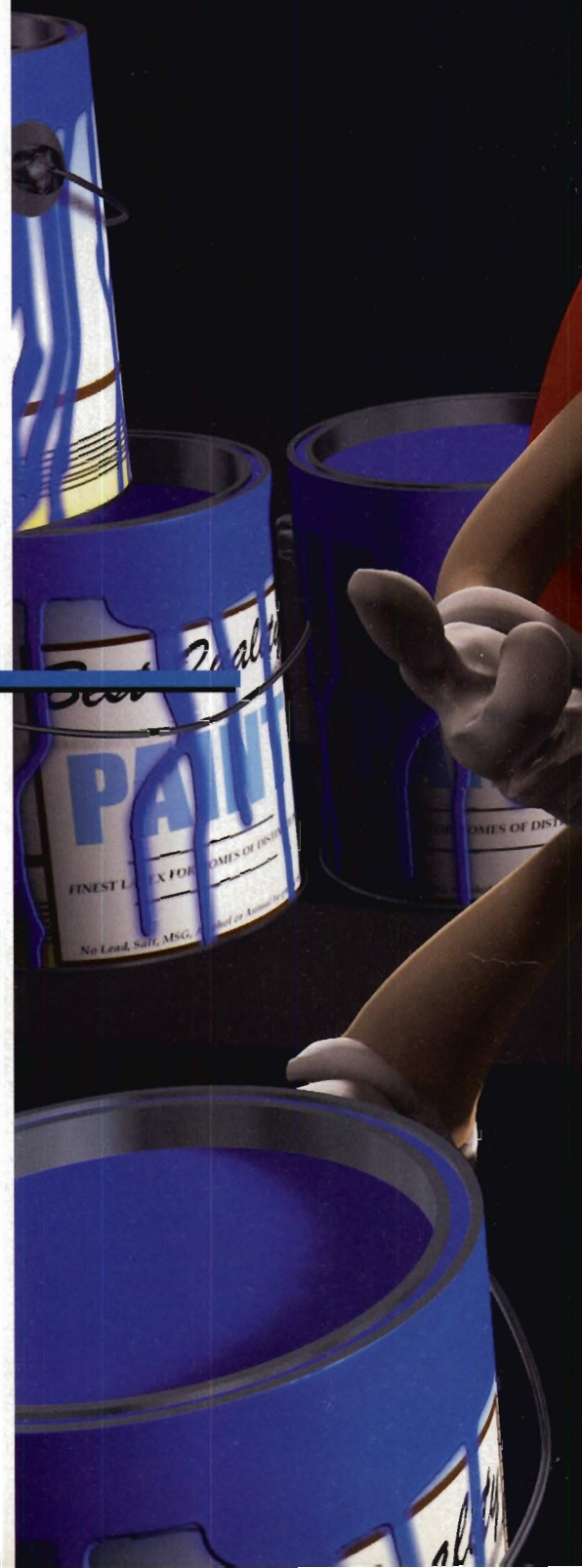
**A:** *Call  
Will Vinton Studios.*

**Sweet Secrets:**  
**THE BIRTH OF  
AN ICON**

*by Julie Sheikman*

**b**lue M&Ms. You've seen 'em on TV. Everyone's eating them. But, more importantly, everyone's talking about them. *How'd they do those animations?* When advertising giant BBDO needed to get its M&M campaign off the ground, it turned to the pros at Will Vinton Studios to create the little blue guys who have taken the animation community by storm. The first two commercials—"Pool," in which "Wings" star Steve Weber chats with one of the blue M&Ms, and "Blue, Blue, Blue," which features four M&Ms and jazz great B.B. King—have been highly praised for the quality of the animation as well as vehemently debated. *Just how were those effects actually accomplished? Were they created in Alias?* No way. We're talking *LightWave* here.

All images © 1995 Will Vinton Productions, Inc.





So how did Will Vinton Studios achieve this coup? As David Daniels, director of animation at Will Vinton, explained: "M&M was looking for a different approach. What the agency [BBDO in New York] saw in our work was the ability to give life and characterization to animated creatures." The concept was to have three distinct character types corresponding with the three colors—blue, red and yellow—and for those personalities to come across in

cool and aloof, very snappy, kind of beatnik, almost. The red plain—I guess we [were] sort of thinking...of the 'Master Thespian'.... And the yellow peanut guy was the 'companion' kind of guy, just sort of shuffling his way through the scenes."

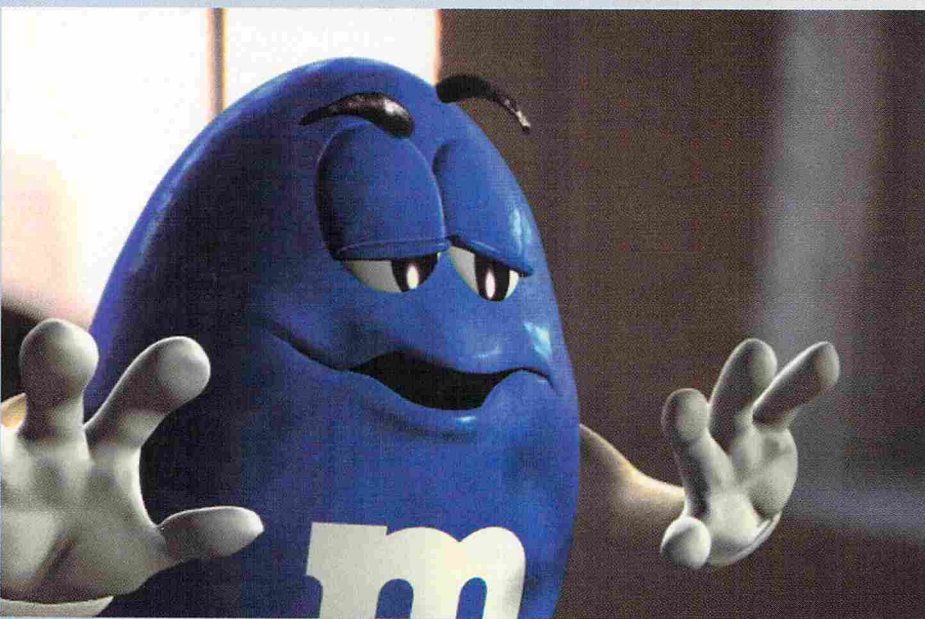
But this type of 3D animation is a break from what Will Vinton Studios was best known for previously—the California Raisins®, created in Claymation®. On this point, Daniels said: "The company wasn't known

we had been slowly and surely trying to build a good computer department, based primarily on LightWave and Alias."

And a good computer department it is. Software-wise, they have LightWave, Alias, Animation Master, several paint programs and compositing software running on a variety of platforms, including Barnstormers, Pentiums and SGIs. Daniels brought LightWave to the company about 2-1/2 years ago: "During the course of Chips Ahoy [another Will Vinton commercial], it became evident that LightWave was a very stable package, very versatile, and especially had a really good rendering look. The look of the style of the renders was actually excellent."

The studio's production schedule for the commercials was more than just a little hectic. Even though the live footage was shot on June 19, most of the work was done in the four weeks before the spots finished in August and September. Will Vinton's computer department only had three people initially, and the company had to bring on several team members who were experienced with LightWave and teach the program to everybody else who was operating it. According to Daniels, "The first few weeks were completely dedicated to designing things and teaching people, and the next few weeks were spent figuring out what the problems were and getting people used to working with LightWave." Production took another hit in that the characters were still being developed when the studio needed to be animating. "We were awarded the job and actually had to immediately start animating, but we didn't have characters. One of the most difficult things was, as we were developing the characters and making changes, we had to bring that new character into animation that people were already working on."

The animation team faced several problems in the course of the production, all of which had to be resolved as quickly as possible. One example was that the skeleton of the M&Ms was difficult to manipulate: The polygons in the hands were distorting, as were other parts of the shoes, and it appeared that there was no way to de-influence them. So the bone structure had to



One of our snappy blue friends spends some time with Steve Weber in "Pool."

every shot that they appear in. Senior animator Dale Myers described the thinking behind the characters: "Each one had its own personality. The blue guys—very

for computer animation. We had been developing it for several years....It's just a matter of perception. The capabilities and the talent were here, it just wasn't known. And

be cloned. This process involved cutting the objects off (e.g., separating the hands from the arms). Now the animators were working with up to six sets of bones (multiplied by 200!), with each set controlling a dif-



Color me blue: the red and yellow M&Ms come up with a cunning plan in "Blue, Blue, Blue."

ferent object in the body. As Myers explained the situation: "There're all these technical challenges in terms of getting them to walk and make that look natural. We have a lot of bones in the architecture—21 bones

in each arm, over 200 bones in the entire skeletal structure. Just in terms of moving the hand, each finger has three or four bones in each finger, so to do the little finger snap or to have the hand spread open, there're a lot of bones to move as you set up your keyframes." A great deal of tweaking or adjustments were required to get any little gesture. "Once you had an initial move down, there was a lot to deal with—a lot of mental things to keep in your head sort of, a lot of plates in the air spinning."

Lead animator Steve Carpenter is proud of the way the lip syncing was accomplished. The animation team came up with a way to create morph targets that allowed them to use spline cages in Modeler and still keep the point order the same so that the faces would morph properly. A similar technique was used with the eyeballs and the eyelids. "They're made out of splines [the eyeball and the top eyelid], and they're brought in as morph targets," described senior animator Stephen Bailey. "What we do is clone the skeleton of the body, and then we place the clones with the eye objects. That way the eyes track with the body, and then we just apply the regular standard morphing to it. And then the pupils are created by basically just rendering a texture map, and we have a little pupil object that we move around and we create an image sequence that's then mapped onto the eyeball." This technique allowed the animators to control the way the eyes deformed separately from the mouth, providing them with the ability to create a greater range of expressions.

Does all of this sound tricky? Well, read on. To combine the animations with the live footage, the animators started out by matching the camera. In LightWave, they reproduced the room that the footage was shot in and noted the positions of the lights during the live-action shoot. Then, the team started piecing the different elements together. Layering the textures on the surfaces of the objects so that they weren't just flat colors was accomplished by playing with the different layers of the surface. In the case of the blue M&M, for instance, the animators made a texture map that is defined to the color

of the object (basically a blue that has speckles in it to give it some changes in color). That color texture map has a diffuse map on it, which further changes the total range of the color.

Another difficult step was matching the shadows, and then putting the different reflections in. This simulation was particularly challenging in "Pool," where the set had almost all ambient light because of a window on one side. "The light was directional, but there was an amazing amount of bouncing light in that room," said Kirk Kelley, technical director, "and it's very difficult to achieve that look with the traditional lights that we had in the scene." The realistic reflections were created by a reflection map, a procedural map that changes the specular highlight so the light breaks up a bit and doesn't look like a hot spot.

So after the crash courses in LightWave, the 16-hour days, the mountains of M&Ms consumed, was it all worth it? The animation team seems to think so—they've learned many lessons from this experience and have incorporated what they now know into streamlining their animation processes for future projects. And, just as important, the animators feel they have achieved the results everyone was looking for. As Kelley adds: "They [the M&Ms] look like they're in the scene and they have a real personality. You can look at them and they feel like they're people—they don't feel like these little CGI blobs stuck in there. Using all these different techniques and matching them in gave them *life*. To me, that's what animation's all about."

And Mars, Inc. would have to agree with that sentiment. The team is already hard at work on the next series of commercials, which will air this spring. There'll be some new M&M personalities to look forward to—a Kelsey Grammer-type, an Ellen DeGeneris-type and a Kathleen Turner-type—that will help to create, as David Daniels so affectionately put it, "a universe in a bag." But what's the feather in the cap? Daniels: "A lot of people (since we're known for clay) have asked, 'What part of it is clay?'. They're trying to figure it out—they can't believe that it's all CG. And that's the ultimate compliment. We did trick the masters."

# Seeing Is Believing

by Stephen Bailey

One of the most important elements in character animation is the communication of emotion. A character's inner life and motivations can be expressed through a variety of techniques, including body language and the manipulation of facial expressions. Most importantly, a character's eyes play a vital role in defining the character's inner wishes, desires and frustrations. As we set out to design and animate the M&Ms, it was immediately apparent that subsets of the total anatomy, including the eyes, had to be manipulated separately from the characters' main body. We knew that in order to control the eyes—either to underscore or contrast another part of the expression—they had to be simul-

avoiding the deformation of the body. Recently, plug-ins have emerged on the market that help to solve the problem of parenting an object or bone to another bone belonging to a separate object. Facing a deadline, we needed to figure out our own solution. We designed the body's skeleton so that it contained dormant bones at the precise locations where the eyes would sit on the face (Figure 1). By cloning the body object and replacing it with eye objects, we were able to position the eyes on the body, activate their respective bones, and voila: instant tracking with the face.

## And Now for Something Completely Confusing...

The process is a bit convoluted, so bear with me. We modeled the eyes and their morph targets and saved them out at origin (0, 0) for reasons I'll elaborate on in a moment; basically, it's easier to make changes to them at the origin than if they're displaced and rotated. Each target represents a different lid position. The fully closed

The source eye object is used to replace the cloned body in Layout by clicking Load Replacement Object in the Objects panel. The bones in the body carry over with the clone, and then it's a matter of lining up the main spine bone (the parent of the skeletal hierarchy) of our eye object with that of the body.

Wait, aren't these spine bones already aligned by virtue of the cloning process, you ask? Well, yes, but not for long. Because we model the eyes at origin, we need to do a few more tricks. The eye does not load into the scene in the correct position (Figure 2), and moving it means moving its skeleton and taking it out of alignment with the body's skeleton.

First, deactivate any active body bones in the eye object. Move the eye to its correct position on the face and set a keyframe at 0. Selecting the main spine bone of the eye, realign it to that of the body and create a keyframe at 0. Hit (r) to activate it, enter the Bones panel and deactivate it. Remember, we don't activate the

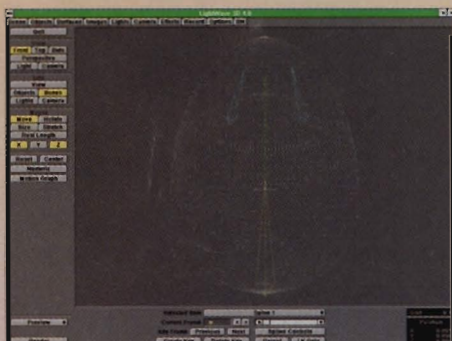


Figure 1: The body object with spine and dormant eye bones in place.

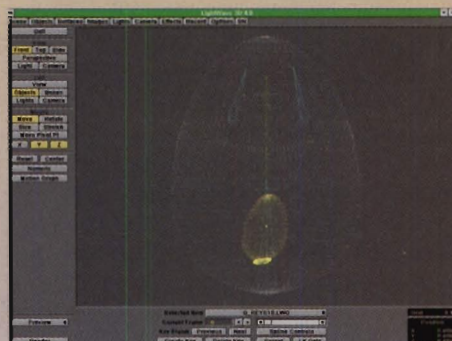


Figure 2: The cloned body replaced with an eye object.

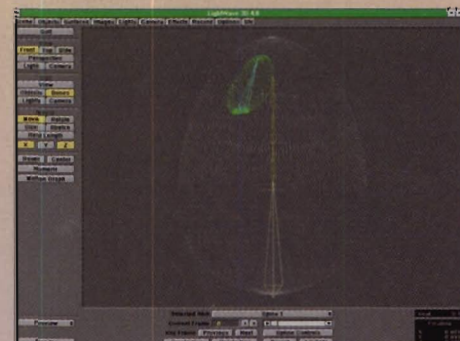


Figure 3: Positioned eye on face with spine aligned to body skeleton.

taneously autonomous and linked to the rest of the body structure. This, however, presented a new set of problems.

For instance, the body object had a bone structure through its center that allowed us to create body-specific effects such as inhaling and exhaling using Squash and Stretch. Parenting the eyes to the body worked well, until we tried to manipulate the body's spine. Suddenly, the face was expanding and contracting while the eyes remained locked in their respective home positions. As you can imagine, it wasn't pretty. The eyes had to track with every positional change of the body's skeleton, meaning that the eyes had to contain the same spinal structure with the same motion paths while

position is used as the source object (i.e., the one from which the morphs begin) so that the lid's body-matching surface doesn't stretch inappropriately during the morph.

After creating two child bones from the main spine bone in Layout, move them into position, set rest lengths and positions, activate them with the (r) key and then make them inactive by toggling their active status in the Bones Panel. We gave them names such as "RIGHT EYE BONE" and "LEFT EYE BONE"; we didn't get real wacky until the last few heated days, when names like "no damn good reason" popped up in the Lights panel. You'll get the joke if you give that name to a light and then watch LightWave compute a shadow map.

rest of the skeleton for the eye object because we don't need the deformational information, just the positional data. Choosing the eye bone, create a zero keyframe for it as well and then reactivate it by hitting (r). The bone should be centered on the eye and should be the only active bone for that object (Figure 3).

So why else should you model the eyes at origin? Well, for efficiency's sake, it's easier to create a left set of targets by simply stretching the right set by -1.0 along the X-axis and flipping their polygons. Because they're morph targets, we can't use the Mirror tool in Modeler because it creates its own point order. Also, having the eyes at origin gives us the option of squashing and stretching the eyes

from their centers without having to adjust pivot points. And for surfacing it's always easier to deal with an object whose texture center is at or around 0, 0, 0. In this case, it's especially helpful because the pupils are rendered using a Planar Image Map sequence mapped along the Z-axis with Automatic Sizing.

## Pupils, or How to Avoid That Zombie Look

Speaking of pupils, we'll use a simple replacement technique so that we can work with pupils on our characters in Layout—matching eyelines with live-action plates. Once we've keyframed our pupil positions, their motion paths are saved and imported into another scene specifically designed to render image map sequences. We don't want to render these objects themselves in the scene because tracking the pupil on the surface of the complex 3D curve of the eye is a nightmare, not to mention keeping it beneath the eyelid during morphs.

First, in our main character scene each eye object is cloned—again, to maintain tracking with the body. Each clone is then replaced by a pupil-sized and shaped object that has been built to load in at center along the X- and Y-axes, with a slight negative adjustment along the Z-axis to bring it in front of the eye. To clear the new pupil objects' motion paths, click the Clear Motion Path button in their respective Motion Graph Panels (m) in Layout. Finally, parent the pupils to their respective eye objects. The result is a set of pupils that track with the eyes, have initial X and Y coordinates of 0 and can be viewed in Layout and easily manipulated (Figure 4).

And, once keyframed, their motion paths can be quickly imported into a new scene for rendering pupil image maps (Figure 5). Note the vertical border delineating the camera view boundaries and how they match the height and width of the eyeball. When rendering, the eyeball is dissolved to 100% to give a completely flat background. Based on our character designs, we render dark pupils on white, lit from an angle with 400% specularity at Medium to get the desired pupil glint out of the surface's hot spot. The light in this pupil-rendering scene can be moved and keyframed to match pupil moves, giving the hot spot its own life, if neces-

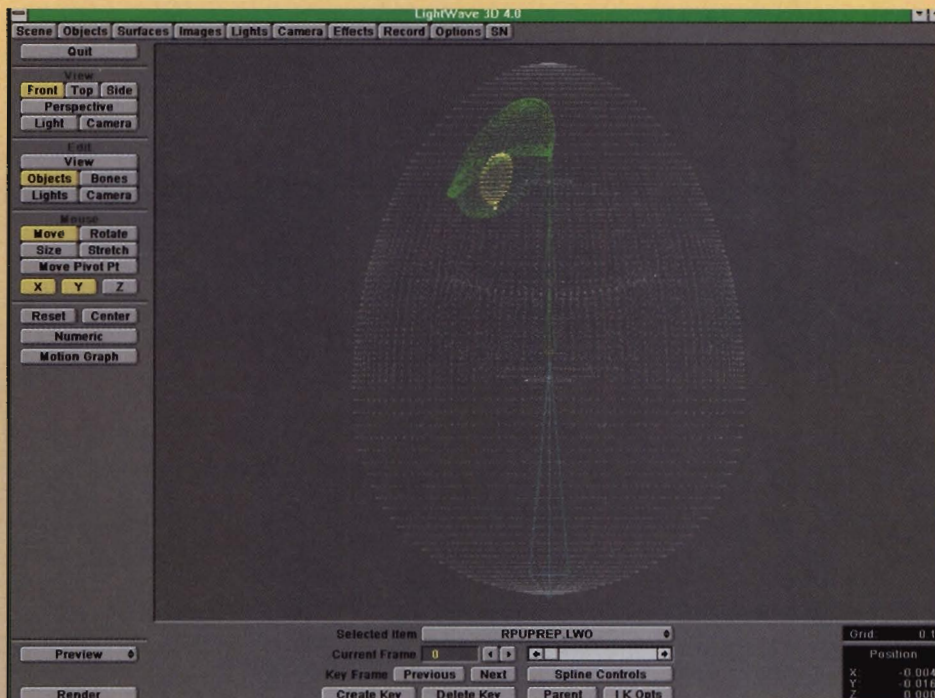


Figure 4: Pupil object placed in scene.

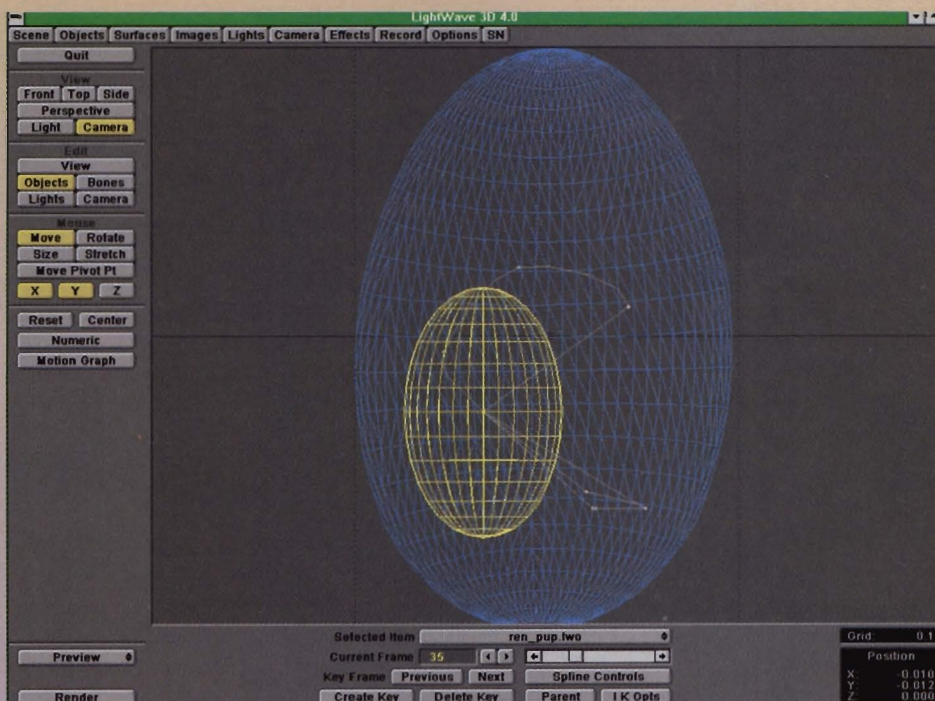


Figure 5: Example pupil rendering scene with visible motion path.

sary. Back in the main scene, the image maps are imported for use on the surface of the eyeball, and the pupil objects are either removed or dissolved to 100%.

These are just a few of the many little tricks we use to breathe life into our characters using LightWave. They can, in general, be applied to any character to create expressive eyes. Aside from issues surrounding com-

positing, lighting and raytracing, lively eye animation helps to connect characters to one another and sell the illusion that we're watching believable entities. They look, they blink, they see, and they become alive.

VTU

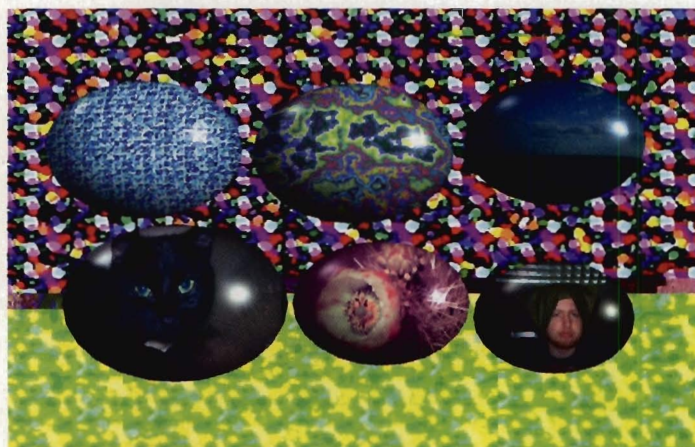
*Stephen Bailey is a senior animator at Will Vinton Studios. He can be reached via e-mail at [sbailey@vinton.com](mailto:sbailey@vinton.com).*

# CD-ROM Parade

## Follow the Leaders!

by R. Shamms Mortier

**G**reat news: The number of quality CD-ROM titles applicable to LightWave animation creation and the Video Toaster has continued to boom over the past year. Some titles, from sources and vendors not quite as visible as we might be used to, will require a little more digging, but all CDs are accessible with a bit of determination. Each is different in its content and the way that it might be used for specific LightWave animations. There's also a great difference in the cost of each volume, which ranges from tens to hundreds of dollars. Let's look at the current crop of CD-ROM offerings.



Almathera's Image CD, part of a 10-disc set, is replete with loads of great new textures and background images.

### Almathera

Almathera is a European company based in England that, for obvious geographical reasons, has grown very close to Amiga Technologies, the new German firm that now captains the Amiga. Photogenics, Almathera's flagship painting and image manipulation software, is very good and keeps getting better with each revision. The company markets a number of CD-ROMs with every sort of data. Perhaps its best deal is a special 10-pack offer, which sells for about \$40. This collection of 10 CD-ROMs contains more data than you will probably ever have time to access. LightWave and ToasterCG users will find the image compilation of PhotoCD files very useful as backdrops and textures. One particular disc comes with its own PhotoCD reader, so graphics are easily downloaded (I used Nova Design's ImageFX). Once you download them, you can save the pictures out in whatever format your painting/animation software permits for use in LightWave or a post-LightWave editing program.

The GIF images are less qualitative than the PhotoCDs, having the standard GIF look of being recently downloaded from some bloated CompuServe site or an arcane BBS. The GIFs are in odd sizes and often have unappealing captions that block out image areas (though if you like an image, you can crop them out). In addition to the GIFs and PCDs, the Almathera CDs contain graphic files in JPEG, IFF, Deep (for Amiga TVPaint users), TARGA and TIFF. The best CD-ROM in this pack for Toaster applications is called Image CD, a collection of dozens of useful graphic images grouped in categories like "science fiction" and "sea life," to name a couple.



Also from Almathera is 3D Arena, a disc with 3D objects in many formats and textures and data as added goodies.

Amiga enthusiasts will enjoy Image CD's NewIcon module, which can be saved to your Amiga system. The next time you boot up, your Workbench screen will have a remodeled look with new icons. This CD assortment is a huge bargain. Even if you only use 10 percent of it, you'll still come out ahead. And many of the discs in this collection are bulging with sound file data, also in a diverse collection of useful formats.

Another one of Almathera's CD-ROMs (not in the 10-disc offer), 3D-Arena, is absolutely stuffed with 3D models in a host of formats, including LightWave. Most of these are new items not duplicated anywhere else. Especially worth checking out are the loads of cars. Since the 10-pack is a limited time offer, I would suggest jumping on it immediately, and browsing 3D Arena as well.

### Aris Entertainment

Everyone that markets CD-ROMs with textures for use as backgrounds in print or video is out to overwhelm the compe-

tition with a "more unique than thou" offering. Aris Entertainment, I must admit, has come up with a disc that does indeed stand out as both unique and useful, and LightWave users will have a gas applying these textures. The CD is called Batiks, and the images are photos

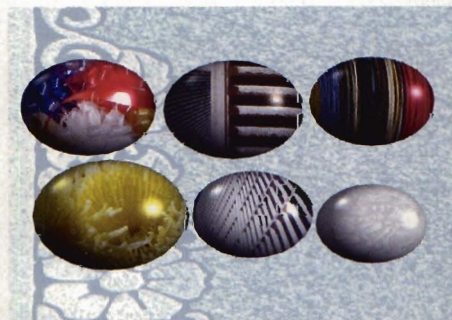


In the category of "just plain beautiful" are the Batik images found on the Aris Entertainment CD-ROM.

of dozens and dozens of Batik fabric designs, which one usually associates with either the cultures of the South Seas or Southern California art communes. These locales inspire images of colorful tropical designs—exactly what this CD-ROM contains in abundance. Formats include large and small BMPs, PCX, TIFF and WAV files. The CD is Windows- and Mac-compatible, and is also available for Amiga users with a suitable translation package. For real Windows or Mac users (or Amiga EMPLANT owners), there is a slideshow sequencer and an image browser included.

### Aztech New Media Corporation

Many of you will recognize this company's name as one VTU has already touched upon. Aztech New Media Corporation has so many CD-ROMs, we just had to include them again. Three of its most interesting offerings are Watermarks and Ghosted Backgrounds by artist David Hushion, Visual Rhythms 2 by photographer Paul Smith and Fashion



Aztech New Media's Watermarks backgrounds are some of the finest available for text and graphics.

2 by photographer Joaquin Compta. Each of these CD-ROMs gives Toaster artists and LightWave animators different data to weave in their work. The Watermarks CD is great for adding high-quality backgrounds for text applications (and ToasterCG effects). The 25 backgrounds come in three TIFF flavors: CMYK 32-bit for DTP, 24-bit for RGB video and 8-bit grayscale (great for bump maps!). The second volume of the Visual Rhythms set has 100 original photos by photographer Paul Smith in a variety of formats. Most are suitable as LightWave backgrounds, though some might also serve for texture-mapping purposes. The third Aztech CD-ROM, Fashion 2, consists of fashion models in various poses. For LightWave users, these would be great tuck-in-the-corner shots or, in some cases, might serve as actual product-related backgrounds. However you decide to apply them,



Aztech produces high-quality fashion model images that can be composited to create video backdrops.

you'll be working with absolutely first-rate image quality. A further word about Aztech New Media: the company's service is exceptional.

### Digital Wisdom

Mountain High Maps GlobeShots is the name of a two-disc collection produced by Digital Wisdom. The CDs are both IBM- and Mac-compatible, and contain over 250 colored bitmaps in high relief of global terrain shots. Included are 60 high-resolution globes on a white background and another 21 images on colored backgrounds, all in 24-bit TIFF format. There's a variety of pictures here, including clouds, starburst hi-lites and saturated ocean floors. This item will definitely please the LightWave user who demands high-quality mapping for globes or backgrounds. And the images can be resized to fit your needs, especially for those "pull-back" animations of the Earth. Version two of Mountain High

Maps is due for release in the autumn of 1995. If you want to animate globes with these superlative 3D relief maps, you should consider Mountain High Maps as an investment. If your globe is just going to sit there, however, here's a trick you can use with the less-expensive GlobeShots collection. Cut out a selected



Digital Wisdom's GlobeShots has pictures rendered from its extensive Mountain High Maps double-CD set.

globe with a rectangular brush, getting as close to the edges of the globe picture as possible. Then select a 3D globe and use a frontal planar map for projection. The extraneous background picked up with the globe's rectangular picture will disappear, and you'll have a nice 3D globe (as long as you don't intend to animate it). This is sometimes easier than cutting out a perfect circular brush, and works just as well.

### Image Club

These folks advertise just about everywhere and market a zillion CD-ROMs packed with images ("Photogear"), textures and EPS format objects ("Objectgear"). The objects can be cut out within any paint program that has a "magic wand" tool, separating them cleanly from their white backgrounds. The objects also come with a file of drop and cast shadows for each image, further adding to their appreciated 3D realism. LightWave users might want to experi-

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Image Club's CD-ROMs are known for their quality and variety.

# The VX1000

## I Have Seen the Future, and It's Digital

by Frank Kelly

**P**icture it—no more dropouts! Video quality off the tape that's practically indistinguishable from the camera's live feed. Multi-generation dubbing without any perceptible loss, over 500 lines of resolution and output "off-tape" so stable that it can be fed into your Toaster/Flyer without a TBC! The format is called DVC (Digital Video Cassette), and believe me, it's the format of the future. We've heard rumblings of a possible digital tape format for consumers for a few years. There were bitter battles over which cassette, tape formulation and electronic format would become the "standard." Now, thanks to Sony, you can buy a piece of the future today. The company's new flagship camcorder, the VX1000, is now available in stores and sports the new DVC format. Its hefty price tag (\$4,200 retail) breaks new

That's not too surprising, because both S-VHS and Hi8 are hybrids of consumer formats. These two formats have had the obvious advantages of light-weight design, long recording times and affordability, but the trade-offs of image quality (or lack thereof compared to Betacam) and tape-handling issues (Hi8's particular sensitivity to dropouts after multiple passes) were difficult to justify for professional use. Now, for the first time, there is a consumer format that approaches professional Betacam's performance in a compact, light-weight design. The very first units are a bit too pricy for the average consumer, but for the "prosumer" who can't afford Betacam, they're an affordable way to achieve near-Betacam performance on a relatively small budget. The industrial-level BetacamSP camcorder (UVW-100) is about \$14,000, and you'll still need to purchase either an expensive playback adaptor or another Betacam VTR to view tapes. Pro model S-VHS and Hi8 camcorders now cost \$6,000 or more but still deliver a picture that is quite visibly inferior to Betacam despite improvements in optics, chips and image processing. So, judged solely on the basis of picture quality vs. cost, the VX1000 is actually quite a bargain when compared to professional Hi8 and S-VHS offerings. There are many applications where Hi8 and S-VHS will continue to be more appropriate than DVC (because of DVC's 60-minute tape length), but I predict that the vast majority of industrial producers (especially those with non-linear editing systems) will opt for the quality of DVC over Hi8 and S-VHS. The switch-over will accelerate when DVC units with more professional features become available.



Sony's VX1000 is the first camcorder available to consumers that uses Y, R-Y, B-Y encoding—as does professional Betacam—to deliver picture quality (in excess of 500 lines of resolution) rivaling that of broadcast units. At a price less than a third of an entry-level BetacamSP camcorder, and features such as Steadyshot, multispeed zoom and manual or auto white balance, it's sure to become a popular camera for the prosumer market.

barriers in the size-to-price ratio. By way of example, this little jewel costs more per pound than a new Mercedes, and it outprices the nearest competitor (the Panasonic 3-Chip digital) by nearly \$500. But is it really worth it? The answer to that question is subjective, depending a great deal on your situation. For me, the answer is a resounding yes.

I have been forever spoiled by using Betacam in professional applications. No matter how many image-sensing chips, lenses or other professional features were added to industrial or pro-S-VHS and Hi8 camcorders, the resulting picture could never rival Betacam's quality.

### Why Am I Reading About DVC Here?

I know there are those of you reading this who are wondering why there's an article about a camcorder in a magazine dedicated to the Video Toaster. I'm glad you're curious. No matter how impressive the picture quality, there's bound to be several video-specific magazines with reviews and shoot-outs with other models, so what's so special about this unit relative to the Toaster? The most immediate advantage is the VX1000's ability to play taped material directly into the Toaster or Toaster/Flyer without using a time-base corrector. Though it's true that DVC uses a tape to store audio/video information, it does so digitally. The digital information is converted to analog for off-tape playback and then momentarily stored in a TBC circuit within the camcorder before final output. The resulting video signal is completely devoid of time-base error and can be fed into the Toaster or Toaster/Flyer just the same as a laser disc player or live camera.

Another less obvious advantage, but noteworthy to those with present and future Flyer systems, is the VX1000's digital in/out port. This port conforms to a standard accepted by a consortium of over 55 different video and computer manufacturers and software developers. It won't be long before either NewTek or a third-party developer provides an option to transport data directly to and from the Flyer and the VX1000 with some sort of VTASC conversion, allowing users to store and retrieve audio/video while maintaining the highest quality, and using DVC as a medium for data backup. Each 60-minute digital video cassette stores approximately 11 MB of data and costs about \$20. So, if you take the cost of the average TBC and a high-density tape backup device, then subtract that figure from the price of the VX1000, suddenly it doesn't seem all that expensive. All of this future capability, along with a picture quality that rivals broadcast formats, seems like a dream come true.

Though NewTek's portable PC Flyer concept is certainly viable, a shotgun wedding between the DVC format and the Flyer may be necessary to offset the impact of other platforms that will be *directly* supporting this type of alliance with their own NLE systems. Another more obvious advantage is that the image quality you get with DVC when combined with the Toaster/Flyer gives your productions the look of Betacam on a relatively meager budget. By way of personal observation, it should be noted that Tim Jenison (founder of NewTek and inventor of the Toaster and Flyer) is a serious gadget freak and bound to have one of these camcorders (or similar, more advanced units) in hand as we read this. I feel that Tim is a visionary and will recognize this emerging format's significance and encourage development that would support it.

### Extra Flyer Benefits When Using DVC

Those planning to capture DVC footage to the Flyer will find an interesting side benefit—using the “standard” setting as opposed to HQ-5 for the majority of your footage without suffering from the “focus shift” effect.

This effect is actually NewTek's VTASC compression algorithm kicking into high gear (adding more compression) in reaction to picture noise. It's most noticeable when your footage is shot in bright lighting and there's a lot of image detail. When you use S-VHS or Hi8 footage, the inherent picture noise induced by “off-tape” playback from these formats will cause this annoying effect to occur more often. Using the “standard” mode during digitizing requires approximately half the storage necessary for HQ-5 captures and is less demanding of the hard drive with respect to how much of the drive's surface area is available for contiguous storage and retrieval.

### Comparisons to Betacam?

The VX1000's features (see the “VX1000 Hits and Misses” section) are



The DVC tape format is compatible with other DVC camcorders and VTRs. The on-board 4K memory chip preserves index listings and camera settings. Slightly smaller than an audio DAT tape, it can store approximately 11 MB of digital data, which translates into 60 minutes of digital audio and video.

impressive, but I would have to say that there is more than enough justification to wait for the next generation of this product for many buyers. The picture quality is far superior to Hi8 and S-VHS, but the VX1000's CCD image sensors are still of the consumer variety and begin to show their limitations under close scrutiny when compared to professional Betacam. That's not to say that the VX1000's picture quality is by any means poor—it's the very best “off-tape” performer in the prosumer arena. I have made test shots using the VX1000 and a industrial-grade, three-chip camera/BetacamSP VTR combination (a Sony DXC3000 camera and a BVW-35 portable), and though there is a noticeable differ-

ence in the overall “smoothness” of saturated colors and a bit of luma “grit” in the DVC's picture in low light, it comes extremely close to a match when the same material is copied from both sources directly to VHS. Even when viewing directly from camera originals, there was surprisingly little difference in most circumstances. When shooting well-lit scenes and paying careful attention to white balance, I was able to “mix” footage from the VX1000 with the BetacamSP in many instances without any detectable difference.

The dynamic range was quite impressive, showing rich, smooth blacks and pure whites without “blooming” on high luma peaks. Color performance was excellent and faithful to the original subject matter. Though not quite as accurate as the BetacamSP footage when it comes to subtle color variances, the VX1000 is more than acceptable for most tasks and could be mistaken for Betacam in a side-by-side comparison with Hi8 or S-VHS.

The fundamental reason for DVC's standout performance in comparison to Hi8 and S-VHS, and its comparable quality to that of Betacam, has to do with DVC's Betacam heritage. The professional Betacam format utilizes a three-component signal format (Y, R-y, B-y), which yields incredibly accurate dynamic range and color reproduction. By analyzing the “differences” between certain signals and then “summing” those differences using a mathematical formula, the picture content can be restored with very little, if any, loss when compared to the original. DVC also uses the Y, R-y, B-y component format, but with a different mathematical method (Discreet Cosine Transform) to reassemble the component parts into a representation of the original picture. So it's no wonder that DVC images look like they were shot with Betacam. Hi8 and S-VHS use the same “color under” video recording method originally developed for the 3/4-inch Umatic format over 30 years ago. The same method is used in all VHS and 8 mm formats worldwide. Though it has undergone some minor improvement over the years, the color under method of

*continued on page 69*

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video recording is far less accurate than the "sum difference" method used by professional Betacam (as well as M-II). Deterioration in the picture quality when using "color under" recording is acceptable for certain types of production and will continue to be the "standard" for the majority of consumers for years to come, but its days are numbered in professional ranks.

### VX1000 Hits and Misses

I was impressed with many of the VX1000's features, such as Sony's "Steadyshot" optical image stabilization, which made a significant difference in hand-held shots. Although it's possible to defeat the feature, I found Steadyshot to be indispensable and won't buy another small camcorder without it. The zoom range is 10x1 without the aid of the digital zoom feature, which adds an additional 10x for a total of 20x. Zoom speeds are fluid over an eight-speed range; however, there is no manual zoom control.

As expected from a top-of-the-line camcorder, there are the usual shutter-, digital freeze- and overlap-type functions, but the "photo" still feature uses a new frame interpolation technique for absolutely rock-solid stills. They're quite stunning, especially useful for those with video printers. The three-chip image sensor and prism optics are similar but improved over the Sony VX-3.

The 180,000-pixel color viewfinder is extremely clear and bright, giving accurate reproduction ideal for checking white balance and playback. The data display is also displayed in the viewfinder and is easy to read, but the overall size of the viewfinder is small. Its true size is about 1-inch square, and with the magnifying eyepiece it appears about twice that size. A zebra setting allows you to see peak white levels in the viewfinder, especially useful when using manual exposure settings outdoors.

Audio performance is more than adequate: the DVC format allows for a total of four audio tracks when using 12-bit mode (a feature that will be fully implemented on DVC-format VTRs), and this camcorder records 16-bit stereo PCM with great dynamic range and absolutely no hiss or

demodulation artifacts. The on-camera mics (there are four embedded in the mic capsule) perform very well without picking up any transport noise whatsoever. Audio levels can be manually set, but the controls are not convenient to use while shooting.

There are controls for a neutral density filter, digital shutter, auto white balance and digital effects (including digital zoom), all of which have manual settings or can be defeated entirely. I didn't care much for the artifacting of the digital zoom or the "hunting" of the auto focus and usually left them disabled. Initially, I found that the auto white setting in certain lighting conditions would deliver colors that were slightly biased toward the red spectrum. By using the VX1000's custom setup option, I was able to shift the record preferences to a more natural hue setting. Another easy fix is to carry a pale blue card and do a manual white balance, using the card as a reference. (I found such a card at Wal-Mart in the paint sample display—the paint color title is "Blue Vision.")

The VX1000 uses a lithium ion battery that will last approximately 70 minutes depending on your use of zoom and the VTR transport controls. The unit features drop-frame time code that is fully compatible with Sony's RC time code, but is not SMPTE-compatible. The camcorder can function under remote control as a source machine, using LANC protocol, and the IR remote that comes with the unit is typical of Sony engineering: well-thought-out and compact.

The tape cassette is just slightly smaller than a DAT and comes in both 30- and 60-minute lengths. Some of the Sony cassettes also have an optional 4K memory chip that is accessed by four metal terminals on its edge. This memory is used to record both date/time information and individual camera settings for each indexed segment. It functions like the table of contents on audio and data CDs and is expected to have more capabilities as development of the DVC format progresses.

Sony's version of the tape within the cassette is an Evaporated Metal

formulation called DLC (Diamond-Like Carbon) that is seven microns thick and is specifically designed for the rigors of repeated use. I found that with over 70 record/play passes and multiple re-threadings (unloading/loading tape), absolutely no dropouts were observed. This lack of dropouts (a problem that has always plagued small tape formats) is due, in part, to Sony's digital error-correction technology. This feature, along with the startlingly good image quality, is probably the strongest motivating factor in my purchase decision.

The feature I would have desired the most—audio video inputs—is replaced by the proprietary Sony digital interface, little consolation for those who can only afford one of these units or don't plan on purchasing a digital VTR. It's worth noting that the Panasonic consumer digital camcorder doesn't have a digital port of any kind, as the company is waiting for a standard hardware interface to emerge. Though Sony's digital camcorders and the tapes they use are play/record compatible with Panasonic's consumer digital camcorder, the DVC PRO line that Panasonic offers will only play the consumer DVC tapes.

All things considered, the best way to evaluate this technology is to actually view the quality close up. Once you've seen it, you may decide, as I have, that it's very difficult to justify a future purchase of either a Hi8 or S-VHS camcorder. This technology will change forever the way we all perceive small format acquisition. Better start saving your pennies now—you'll want to be an owner.



*Frank Kelly owns Spot Ad Productions in San Jose, Calif. Reach him on-line at 76527.723@compuserve.com.*

### Company mentioned:

Sony Electronics Inc.  
(VX1000—\$4,200)

1 Sony Dr.  
Park Ridge, NJ 07656  
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FOR INFORMATION CIRCLE 61

# LightWave Startup Tips, Part II

by Wayne M. Cole

**L**ast month, VTU featured the first part of "LightWave Startup Tips," covering a tips and tricks notebook, LightWave tutorials, calibration objects and project organization rules. This segment will complete the list, with helpful suggestions for all LightWave users.

## Lights

Proper lighting is as essential to a successful animation as it is to any film, video or stage production, yet it is the element that novice animators most often treat as an afterthought.

### (5) Create a generic "Lights" scene to use as the starting point for all your layouts

You can save time by having a generic three-point lighting scene in which to do your final layout. It is quicker to delete a light or two than it is to set one up. So, let's set up a generic three-point lighting "stage" sized for a "parlor" shot.

Start LightWave, and in the Lights panel, rename the default light KeyLight. Change the Light Type to Spot and click the Add Light button (which will have a default intensity of 50%). Change the name of this light to FillLight and leave its Light Type set to Distant. Select Add Light again, rename this one BackLight and leave its intensity at 50%, but set its Light Type to Spot. Close the Light Panel. Now you can use the Layout window to set up a basic three-point lighting scene like the one in Figure 1.

We are going to bring the KeyLight back three meters and give it an azimuth of 30 degrees from the camera's line of sight and an elevation of 40 degrees. (These would normally be "eyeballed" values created by dragging the light with the mouse and viewing its position in the top and side views, but to ensure there is no confusion about the light setup I'm describing, I'll provide exact positions for each light.) With Move highlighted in the Mouse section of the Layout screen, hit (n) and enter X, Y and Z values of 1.73, 2.91 and -3.0, respectively. Now, so we don't lose this initial Key Light position, make a keyframe for it at frame 0. Set a key at 0 for FillLight to have an azimuth of -15 degrees and an elevation of 20 degrees. It should also be three meters back. The numbers for the X, Y, and Z coordinates will be -0.8, 1.13 and -3.0, respectively. Set

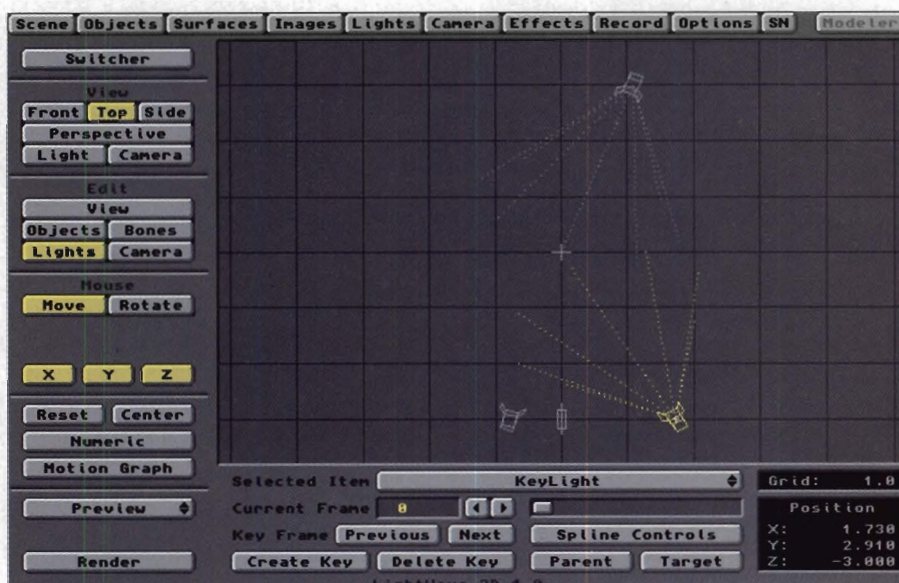


Figure 1

BackLight's key to X, Y and Z coordinates of 1.09, 1.85 and 3.0, respectively. (These coordinates are roughly equivalent to an azimuth of 20 degrees and an elevation of 30 degrees set three meters toward the back of the stage.) Then move the camera to 0, 1.5, 8.0, which places the camera about five feet off the ground plane (about right for a camera on a tripod, eight meters from center stage).

You've probably noticed that the lights are pointing randomly off into space. To fix this positioning we'll give them targets to aim at. In the Objects panel, click the Add Null Object button and then the Clone Object button. In the requester for number of clones, enter 2. Now your Current Object button shows "NullObject (1)." Select the Save Object button, and in the requester that pops up, enter KeyTarget. Use the Current Object pull-down to select NullObject (1) again and this time save it as FillTarget. And once more, select NullObject from the pull-down and save it as BackTarget.

Select Lights in the Edit section. Select KeyLight in the Selected Item pull-down menus under the Layout window. Click Target, and from the Target Object pull-down menu that appears, select KeyTarget. Close with OK or the return key. Repeat the operation, this time setting the FillLight and BackLight to their respective targets. At this point, if you've been following along in LightWave, you may want to save the scene. This is your "generic lights scene."

The addition of the light target objects provides great flexibility at virtually no cost if the flexibility is not applied to the final scene. Most scenes that I create fit into one of two categories: those where the lights do not move and point at the same spot for the duration of the scene; and scenes where the lights' targets move independently of the objects' motion. In either case, having the targets in the scene is not a drawback, since it is easy to point a light by moving the target while viewing the scene from the light's perspective, and then setting keyframes for the target. This works even in scenes where both the light and its target move. And if you do want the light to track an object, it is a simple matter to select the object to be tracked as the light target's parent. One final note on targets: If your style of animation involves lots of camera movement or aim point changes, you might want to add a nullobject to your scene. Call it "AimPoint" and set it as the camera's target. All the same arguments that apply to using nulls for light targets also apply to the camera's aim point.

"But," you say, "I will be working with spaceships/football stadiums/city streets—a parlor-sized setup does me no good at all." Well, simply select each light, hit (n) and multiply the values of X, Y and Z by the scale factor required to scale the parlor-sized scene to your planned stage size. It is easy to build a generic scene and change its scale. Or, if you have more than one scale that you work in frequently, you could build several generic scenes with different scaling and save them to the hard drive once, so the scaling operations are done only one time.

## (6) Experiment with your lights

Armed with a generic light scene and calibration objects, it's time to experiment with lights to see how they work. To do this, I used a scene with the sphere on top of the box and the pyramid rotated 45 degrees on top of the sphere. I placed the cylinder next to the box, along a diagonal of the box and toward the camera so that I could see shadows it would throw on the stack. I added an object to this scene that is not in our calibration set (but one that you may want to add). The object is a ground plane. In Modeler, I created a 1.33-meter-by-1-meter rectangle in the X-Z plane (top view). I then loaded it into Layout and, based on my camera placement at 0, 1.5, -7.88, I found

that scaling the ground plane to 15 times its normal size placed the horizon line pleasingly in accordance with the rule of thirds. I colored the plane gray (R, G, B of 100, 100, 100) and now had a scene that rendered quickly, and one that I could use to perform lighting experiments to see what various settings would do for the scene.

A detailed tutorial of the types of experiments you should undertake with this scene is a subject for another time. But one thing you should not ignore is

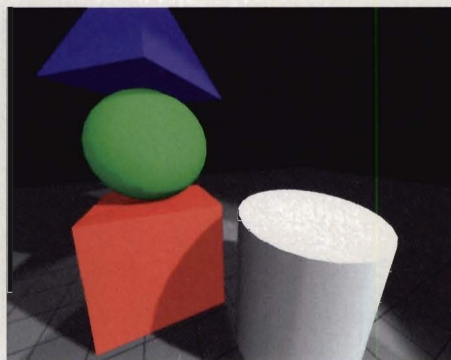


Figure 2

how ambient light affects a scene, particularly if you have concerns about keeping animations broadcast-quality. Ambient light is like a brightness level control. Reducing it is often the quickest way to bring a "hot" scene down to acceptable levels.

Getting to know your lights also includes getting to know your shadows. In experimenting with lights, you should include a set of tests with the various shadow types and parameters with the key light set as a spot light. Then re-run the same tests with the key light set as a distant light. And don't forget that when you are testing ray-traced shadows, you'll need to set the Trace Shadows button in the Camera panel as well.

## Camera

Oliver Stone once commented that a good director considers the camera an actor in the scene. That statement applies equally to animation. You don't rely solely on plot and characters to impart an idea or a feeling. You also use viewpoint, and the camera obviously plays a very important role in that respect, through camera angle, position and motion.

## (7) Experiment with your lenses

Well, that sounds obvious—at least it would if you were talking to a videogra-

pher or photographer. But many LightWave users have never changed the default lens settings. They only move the camera forward, backward or to one side and focus all their energies on other elements of the animation. LightWave provides a wonderful set of tools for imitating lens characteristics, from wide-angle, near-edge distortion (Figure 2) to depth of field, and these effects can be animated through the use of envelopes.

## (8) Learn to render efficiently

There are other features of the "virtual camera" for which there are no direct counterparts on a physical camera. Investigating their effects will require the creation of a few seconds of animation. But, by using the calibration objects, you can reasonably generate five-second animations to see just when the "look" really justifies the overhead of, for example, motion blur or field rendering. Many beginning animators only turn these features on as a matter of principle, or only because a still from the middle of a sequence looks better. Yet, if they had done some tests up front, they might have found that, with an animation running at full speed, the human eye cannot tell the difference between field- or frame-rendered versions of the same sequence. Only experimentation will give you a sense of when the rendering penalty is worth the quality improvement in the final animation. But it helps to have such experiments under your belt before you are forced to do them on paying projects with tight deadlines.

## Action

Now that you've completed the basic explorations in lighting and camera control, it's time to put it all together in an animated sequence. Many animators, especially those who do lots of flying logos and product "reveals," visualize most clearly the final frame of the animation.

## (9) Practice working backward

As dumb as this sounds, it can be a very effective timesaver. Usually, when I start an animation, my client is firm about how it has to end up but quite vague about how long it has to run and how everything arrives at its final arrangement. So, rather than waste time trying to capture the vague, I set up the certain. During the production process, the

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# Wondering About Wormholes?

## Discussions With a 9-Year-Old by Michael McBride

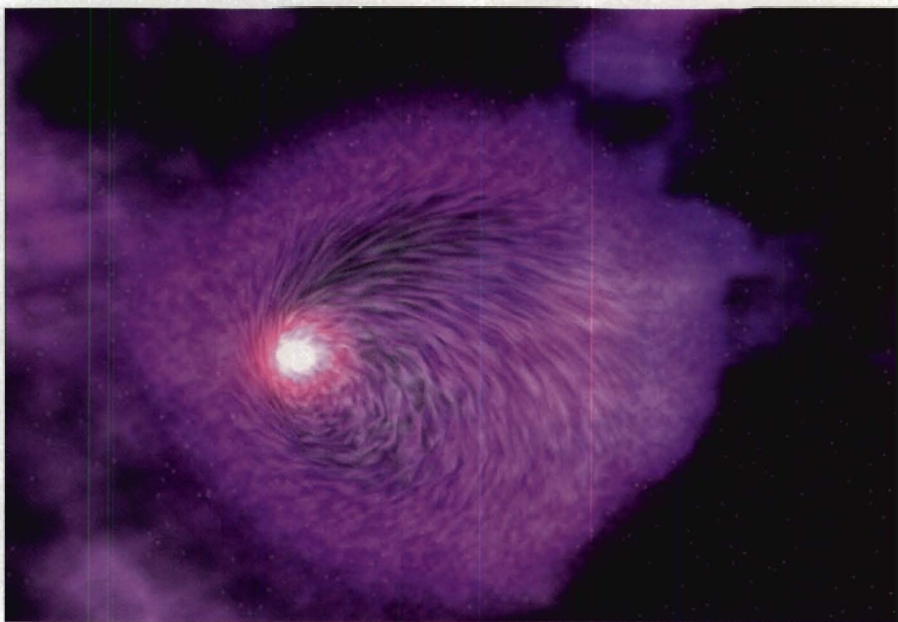
**U**nCLE Michael, what does a wormhole really look like?" my 9-year-old niece asked one day. Now, this was a question I knew I could answer. I'm still fascinated by the animal kingdom, and I can spend an hour just watching ants try to stuff a 10-centimeter-long grasshopper carcass down a hole one centimeter deep. I felt uniquely qualified to offer a response. "Well," I began confidently, "you know those little holes in the garden—the ones with little mounds of dirt around them?" It was a masterful beginning to a well-crafted moment of learning.

But the moment was not to be. The exasperated look on her face more appropriately belonged to a perturbed parent, not an innocent child. "That's not what I meant!" she exclaimed. I was abashed! She was pointing at the stars. I finally realized that she was referring to wormholes in space, not in the ground, and that she probably had a greater understanding of them than I did. "Well," I started again, humbly this time, "no one really knows for sure. We think we know, we draw them and make models of them, but we really. . ."

"...don't know. I heard you the first time!" she said. (My niece abhors condescension.) "Why don't you have one on that video of yours?" She was speaking of my demo reel. She'd seen the tape and had noticed that I hadn't included a wormhole. This was becoming more than a little scary. I didn't have an answer for her, and I resolved that night to create one. But what *does* a wormhole look like?

### A Picture Is Worth a Thousand Theories

Finding an illustration of an actual wormhole proved quite difficult. There were plenty of printed theories on black holes and white holes, but no wormholes. None with illustrations, anyway. So I turned to my favorite medium: television. The only two shows I knew of that featured wormholes were *Babylon 5* and *Star Trek: Deep Space Nine*. *Babylon 5*'s was tunnel-like, while *DS9*'s looked more like a hurricane in space. Both were great, but not exactly how I wanted mine to look. Then I remembered



those little wormholes in the dirt. Yeah, that was the ticket! I spent an hour in the garden examining the little doorways into the Earth before sitting down to build one on my computer. Here's how I finally did it!

### An Opening

First, I had to create the hole. Not just any hole, though. It had to look gnarled and torn, as if something had burrowed its way through space. In LightWave, I tried attaching a cone to a flat plane, but it looked too smooth, and attaching the two objects created problems when I applied textures. I could see the seam where I'd united the two objects. The answer came from a friend, who's also an animator in New York. It was so simple that, of course, I'd missed it.

In Modeler's Face View mode, create a flat polygon with the Box tool. (Size doesn't matter as long as it's square.) With Box still selected, press (N) for the Numeric requester. Give the polygon 10 segments on the X- and Y-axes and leave Z at 0, since the polygon has no depth. Press Return to create your segmented polygon (Figure 1).

Go to the Polygon menu and click on Triple, followed by Subdivide (smooth 89.5%). If you don't do this, the next step will create non-planar polygons, which will render incorrectly. Save this object as "Wormholeplane.LWO".

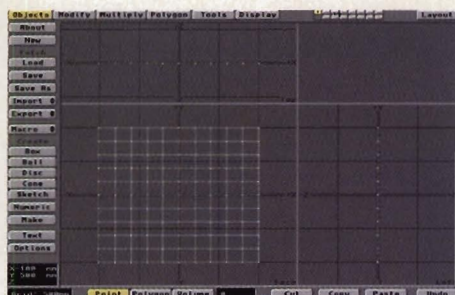


Figure 1: Center your segmented plane on all three dimensions using Modeller's Center macro.

Next, select Magnet from the Modify menu. Using your left mouse button, highlight a square in the center of your polygon that encloses about 60 percent of the segments. Now pull the bounding box in both the +Z and -Z directions. Switching to your right mouse button (which activates the magnet tool), drag the enclosed segments along the +Z axis as far as you like. The result should look something like Figure 2. The reason for using the Magnet tool instead of just dragging a portion of the polygons is the marvelous way the Magnet creates a smooth, arcing surface as it moves the polygons.

If you've done everything correctly, your object's polygons should all be facing either toward -Z or inward. If they're not, use Align and Flip from the Polygon menu to orient them correctly. Now, using the Polygon Statistics requester again, select all the polygons. Under the Polygon menu, select Surface, enter the name "Wormhole.surf", and then save your wormhole object as "Wormhole.LWO". Voilà—you've got a wormhole!

If you render the wormhole as it is now it will look like a smooth hole. I wanted it to look like a corkscrew had been used to drill into space. Merely twisting the object would affect a static texture map, but I wanted the texture to move.

Copy and paste the wormhole object into another layer. Use the Volume selector (at the bottom of the Modeller screen), set for Include, to enclose just the cone section of the wormhole (not the flat face). Next, select Twist from the Modify menu and place the cursor in the exact center of the wormhole in the Face View mode. Hold down either mouse button and drag the mouse to the right along the X-axis. This procedure will

twist the cone uniformly (Figure 3), creating a nice corkscrew pattern when we apply the texture. And since we tripled and subdivided the polygons, we won't have any that are non-planar. (If the flat face of your object is laying directly on the X-axis, it's not necessary to first enclose the cone in with the Volume tool. The face will remain fixed even as the cone is twisting.)

Save this object as "Wormhole.LWOMorph" and export it into Layout. The next operation is very important: Center Wormhole.LWO using the Center macro and rotate the object 180 degrees on its Y-axis, so the face of the wormhole is pointed toward +Z (Figure 4). This step is necessary for

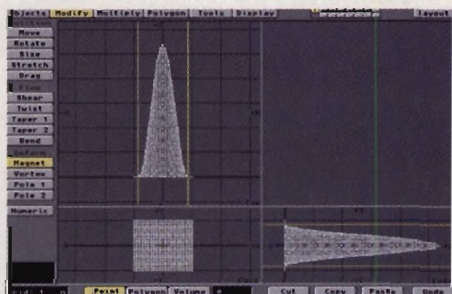


Figure 2: Use the Magnet tool to drag out the center of your polygon.

the textures to map properly on the object. Now save the object over your previously saved version.

### Coloring the Hole

The next step is to create the texture maps. First, you'll need to make a transparency map so the edges of the wormhole's face will be invisible.

I used DeluxePaint IV to construct mine. Regardless of what program you use, you need to make a circular brush with a gradient ranging from pure black at the center to pure white at the outside edges. Why? Because of the way LightWave uses transparency maps. The black areas will render solid while the white areas will render transparent. Each gradient in-between will vary the amount of transparency. Experiment to get the amount of graduated transparency you desire. Use the Fill tool to fill the background with pure white, then cut out the brush with a square cutter (Figure 5) and save the brush. If you have Art Department Professional or ImageFX, it's best to import the brush into your

program's Crop Visual tool and crop the image. The pure white must go all the way to the edge of the map image. Then save it as "Wormhole.TranspMap". This map can be saved very small to conserve memory. My map is 320x200, which only takes up 192K when loaded.

Now it's time to lay out your scene. Enter Layout and load both the Wormhole.LWO and Wormhole.LWOMorph. In the Object menu, make Wormhole.LWO your selected object, and use Wormhole.LWOMorph as your morph target. Remember to set Wormhole.LWOMorph's Object Dissolve value at 100% so it'll render invisible. Also, set Wormhole.LWO's Metamorph value as 100%.

Next, enter the Images menu and load the Wormhole.TranspMap. Enter the Surfaces menu, open the Transparency envelope, and select a Planar Map for your Texture Type and Wormhole.TranspMap for your Texture Image. Make sure Antialiasing and Pixel Blend are on, otherwise the inner surface will render badly. Select the Z-axis and Automatic Sizing, and then click on Use Texture to exit the envelope.

Enter the Surface Color envelope. Select Fractal Noise for your Texture Type. For now, leave everything else at its default. Later you may want to vary Texture Size, Frequency and Contrast to get different types of fractals.

Rotate your wormhole 180 degrees so it faces the camera. Lock it down by creating a keyframe at its new position, throw some stars in the back-

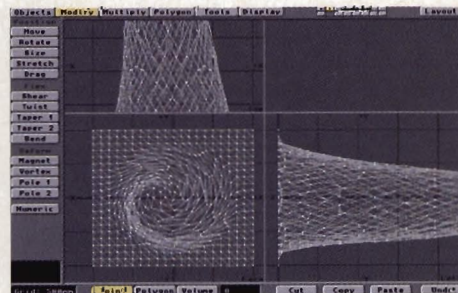


Figure 3: Twist the wormhole object to create your morph object.

ground and render. That's it! You now have your very own wormhole, which you can add to any of your space scenes.

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# Super CG

## Making Topnotch Titles With ToasterCG

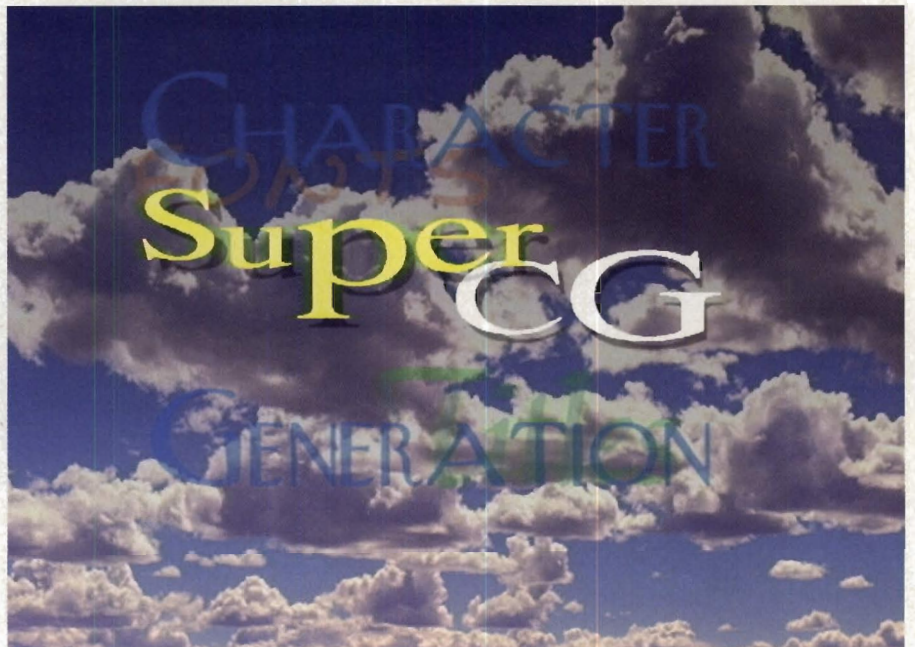
by Dan Ablan

**Y**ou've seen them a thousand times. Their makers blame it on a lack of sophistication. Couldn't be lack of knowledge—could it?

I'm talking about really bad titles. Titles that are overdone, too colorful, too hard to read. Titles with borders that bleed like there's no tomorrow. This has got to stop. Read on, and I'll show you how to do your part.

It's amazing that the worst public access channel and NBC's *The Tonight Show* can use the same machine for titling, and yet have titles that are worlds apart. As corny as it may sound, ToasterCG and I go way back. The Toaster's CG played a large part in where I am today with the Toaster and LightWave. In 1989, I was hired as the program director for a small, typically run local access channel in Valparaiso, Ind. Since I didn't get that job in the major TV market like I'd hoped, I thought, "Why not make the local channel as much of a real channel as possible?" I had received all kinds of information about broadcast-quality titlers, expensive Chyron units and the like. Now, remember, the Toaster was just about to be released in 1990, and no one had heard of this new machine, including myself. A regional video dealer had scheduled a demo of this new device, and like everyone else at the time, I was blown away with what users got for the price. So, when budgeting time came around, I was able to convince the upper echelons of the company that we needed a new CG.

I was thinking practically, and knew how much nice titles would improve the look of our programs. (Animation came later.) The price for the whole Video Toaster system was the same as a bottom-of-the-line character generator, which, by the way, was always all the money available for such a purchase. So we opted for the Toaster, because the titling was so sharp (35 nanoseconds) and you got all the other goodies, including a new switcher. For a cable station using cuts and dissolves, and a *really* bad character generator for titles, Toaster 1.0 was a life-saver. But why, then, do titles from some places look worse than others when they're made on the same equipment? There are three factors to consider: color, shadows and borders.



### Color

The most important thing to understand when creating CG pages is color. Whether you're building full pages of text or titles to be keyed over video, color is extremely important. And you need to consider it for more than one reason. Color not only helps the visibility of the text, it can create a mood. Red, for instance, is usually not a good color to use in video. In a corporate setting, it symbolizes "in the red," and that's not a good thing. And while younger, more up-and-coming companies have adopted red as a "power" color, it bleeds terribly in video. By saying that red text "bleeds," I mean that the color gets somewhat muddy and blurred. Blue, on the other hand, represents "cool" to many, and doesn't bleed.

There are ways around bleeding colors, if you must use a strong color value. Always remember to keep the color's RGB values under 200 (an RGB value of 180 is even better). Another rule to go by is to stick with earth tones for your text. Very subtle colors will never let you down—pale whites, off-whites, yellows, tans, grays, sky blues, pinks, light magentas, cyan, etc.

Your background, or video, will generally be darker, and the contrast between the two will help bring out the text. There are occasions where you will reverse the color

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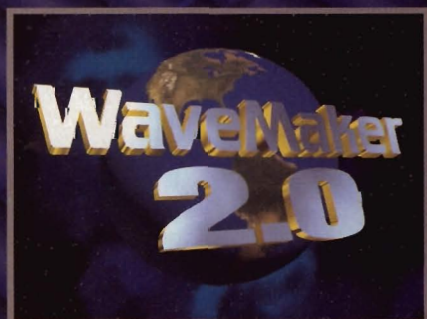
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scheme and use dark colors—like burgundy, black, or brown—against a white background. Whatever colors you choose, remember to think of a strong contrast. Contrast is the key to clean, visible text.

## Shadows

With title pages, your shadowing can vary depending on the situation. Most of the time, shadowing becomes a matter of taste, yet there are some pitfalls to avoid. Text that



Figure 1: An example of a bad CG title page.

has strong, black drop shadows generally does not make a good-looking title page. The shadow and border aspect of text is where a real difference is seen between high- and low-end titling. Shadows that are attached, rather than cast, can look bulky and amateurish. And too much shadow can look awkward. To shadow properly, try positioning a transparent cast shadow slightly off to the bottom right of the text. In this case, less is more. The shadow pushes the text away from the background and helps separate the text. Most of the time, I end up using text with a small cast shadow, white or off-white, and no border. Casting a shadow up or to the left often looks awkward, and should usually be avoided.

## Borders

Here's where most people get into trouble. When I began using ToasterCG five years ago, I realized that the best way to make my title pages look professional was to make them look like they *weren't* done with a Toaster. By this I mean that I always changed the default values, something most ToasterCG users don't do. The default CG setup includes a fairly large drop shadow and a hefty bor-

der. Turn off the border! There are very few situations where you'll need to use a border. When you add one, you increase the chances of your text looking sloppy and muddy. You should only use a border when you must use a particular color and it is too close in color to the background, because you can then use the border to offset the text from background. If you remember the contrast rule, you shouldn't have to use a border.

## Forget What I Just Said

If, however, you want to create some stunningly different, non-conformist titles, ignore what I just said. Many times, you'll want to create text that has a gradient color or uses an image in the text. Or maybe you'd like to bevel or extrude the text. All of these things are possible with ToasterCG. Making gradient spreads in text is as simple as pushing a button. Under the Palette menu in CG, select the gradient (T) button. Once it's selected, simply set the top color, and then the bottom. Click Continue and your text will have a nice gradient from top to bottom. (It's always a good idea to use a darker color at the bottom of the text and a lighter top color. There's no particular reason for this, other than aesthetic appeal.)

Let's say you want to take your text one step further—to include an image within your text. Or you want your text to be a "window" to an image. This is an easy but effective process. You'll need to use ToasterPaint or a similar program to complete it, however. In CG, create a page with some text. Make the text fairly large. With the line of text selected, go to the Palette menu and set the color to solid white, at 255, 255, 255. Click Continue. Render that page and save the frame. In TPaint, load the frame. If you are short on RAM, you can use TPaint's GrabDV1 or GrabDV2 under the Options panel. Once the frame is loaded, use the (j) key to jump to a blank page. Load an image of your favorite person. Using the (j) key, go back to the original page. Under the Mode panel, choose RubThru. Select the Flood Fill button from TPaint's main menu. Now, click on each white letter, and the image on

the other page will rub through just in the shape of the letter (Figure 2). You can rub through one letter at a time, jump back to the second screen and load a new image. Go back to the CG text page, rub through a different letter and so on. You don't need to use the same image for the entire set of text. This is a great way to add different textures to your titles, too.

But maybe you don't have a favorite person to RubThru onto your text. Whaddaya do? I know—you can bevel the text!

Go back to CG and get to a clean page. Make a Framestore page and select some text. In ToasterCG, beveling works by using lights and darks. By selecting a large border, making it transparent and casting a dark but transparent shadow, you can simulate a beveled look. You can also get a little more control in the level of bevels by using TPaint. To do this, type out some words in CG. Make them all white, without shadows or borders, and render out

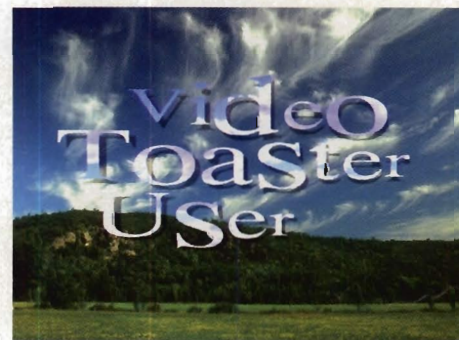


Figure 2: Using an Image RubThru function gives text a completely different look.

the words on a black frame. Save that image. Load it into TPaint, and under the Brush menu, select No Background. This will let you cut out the fonts without the black background and use the title as a brush. (Note: In TPaint 4.0, you can directly load fonts as a brush.)

Now, select the Rectangle tool and cut out the set of words that you typed and brought in as a Framestore. You should now have the set of fonts as a brush. Load a background for the final text page. Select Darken and click once with the mouse to lay down a darkened, transparent portion of the font. Now, select Lighten, and by moving

slightly up and to the left and clicking, you'll see that the set of fonts in your title now looks beveled. By increasing or decreasing the areas of light and dark, you can make your bevel appear larger or smaller at will. If you reverse the light and dark, you can also achieve an embossed look (Figure 3).

### One More Thing

With ToasterCG, always remember to kern your text. With characters such as V, A, etc., you'll sometimes notice what looks like an extra space between the letters. There's really not extra spacing. Each letter is represented with a sort of invisible "bounding box." Because of these letters' steep angles, the letters appear farther apart. To start, move your mouse to the particular letter and select it. By holding down the (Alt) key and using the left or right arrows, you can kern the text so you have visibly even spacing between the letters.

Also, fonts play a significant role

in the look of a CG page. Find fonts that represent the topic of the page—avoid basic, plain fonts and overdone, tacky fonts. Some fonts look better in video than others.



Figure 3: Beveling text is subtle but effective.

Even more importantly, don't try to use too many different fonts on the same page. By using no more than three fonts (two is better), you can convey a clean, understandable, easy-to-read message.

Remember, nothing is original. Every idea is a variation of an exist-

ing concept or design. Watch network television and larger cable channels and you'll see what they're doing. Get ideas from the big boys. Don't be a purist and think that your titles and graphics have to be completely unique. If you want to look professional and sell your work to professionals, you need to *create* like the professionals. From there, you add your own personality and style, and soon, people will be turning to *your* work for ideas.

VTU

Dan Ablan is president of AGA Digital Studios in Chicago, Ill. AGA uses ToasterCG and LightWave to create graphics for broadcast, cable and corporate television productions. Ablan can be reached by e-mail at [dma@mcs.com](mailto:dma@mcs.com) or by phone at (312) 649-9391.

#### EDITORIAL EVALUATION

##### Circle number on Reader Service Card

I found this article:

Very Useful  
Circle 071

Useful  
Circle 072

Not Useful  
Circle 073

### Amiga Technologies continued from page 52

in what we do. The Amiga will be available through dealer channels, large chain stores and mail order.

### What about the rumored high price of the A4000 Tower? How is it configured and what are the prices envisioned?

First of all, to make things clear, the estimated street price in the U.S. should not be more than \$2,700 with 6 MB of RAM and a 1 GB hard drive. I know that this price point may be set on a high level, but we had to choose between two possibilities: the A4000T at this price, or no A4000T at all and only an A1200 for Europe. We said yes to the A4000 Tower, and we took the risk because we know that people want this computer. Also, had we not made the A4000T, it would have killed the U.S. market. I think no one would have been happy with that!

### What are the other specs and when can we expect to see delivery?

I'm glad to tell you that our representative in the U.S. told me that we are close to completion on the A4000T project and that machines will be available by the time VTU readers read this. The specifications include an 040 processor at 25MHz, 6 MB of RAM, 1 GB hard drive and a strong software bundle: Scala MM300, Wordworth/Print Manger, Data Store, Turbo Calc, Photogenics, Personal Paint and two games.

### What are your plans for the future in developing the technology?

We are taking a strong look at RISC technology, and we will have more info on that in the near future. [Editor's note: See this month's "Toaster Talk."]

### What is the relationship between Amiga Technologies and ESCOM?

ESCOM AG is our mother company and one of the biggest sellers of Intel-based personal computers. Last year, ESCOM sold more than 500,000 units in Europe. We are a 100 percent subsidiary company yet completely separate.

### Has there been any thought about a Toaster/LightWave bundle or discount program?

We are currently in negotiations with NewTek. We have the intention of buying a large amount of Amiga Towers to fit them with special hardware, so there should indeed be these kinds of bundles available soon.

### What's your response to people who say the Amiga is a dead computer platform?

Are you kidding? Do you think ESCOM would set up a 40-person organization to work on a dead platform? I like to be underestimated. But keep in mind: The phoenix flies better than common birds!

VTU

vagaries of how to get to the goal often become clear on their own. Other times you just have to wait for your clients to make up their mind. But at least you have been productive in the meantime.

There are two ways to work backward. The first is to rig your animation to play backward. That is, set the animation so that, in frame 1, everything is in its final position. Then, once you've decided how long the animation will be and how the starting positions for the actors, lights and camera have been set up in the scene, merely set LightWave to render backward in the Scene panel. You do this by setting the Start Frame to the highest frame number in the animation and End Frame to the lowest with a frame step of -1.

The second method is to set the animation up in "forward" order but to work on the last frame first. This technique is a little less certain because, if you're not careful, the frame counter may end up back at zero and some of your elements' ending positions will be keyed at the beginning and some at the end of the sequence.

Once you have a feel for basic light-

ing and camera control in LightWave, it's time to start creating some animations. Ideas may present themselves too quickly for you to execute them all.

### (10) Build a clip file

Chances are you see things that look like "possibles" for future projects all over the place. I used to think to myself, "Oh, neat, I'll have to remember this picture in this magazine." Then, a few months later, when it was time to begin the project, I remembered seeing the picture, but had absolutely no idea where I'd seen it. So I finally bit the bullet and created a clip file.

This is nothing more than a file folder used to compile artwork or references to artwork from various sources. If you see an image that is in a source from which it cannot be clipped, jot down the subject and source and put that in the clip file.

And finally, the unspoken 11th item: practice, experiment and play. From experiments with camera and lighting, you may want to move on to the Surfaces panel. Use your calibration objects to investigate surface

properties such as luminosity, diffuseness, specularly and transparency and their interactions with each other and with lighting. Get to know these parameters without the use of any of the mapping options. Remember, when it comes to animation, time is your most precious commodity. And, if you have a good command of the basic properties, you may be able to get a very nice-looking animation in an acceptable time frame using just basic parameters rather than running your rendering times through the roof with layer upon layer of complexity.

So there you have it: a list of activities that can help you become both more efficient and more creative with LightWave 3D. I hope you've noticed that I am suggesting a calculated, step-wise method of investigating all of the software's features. The knowledge you gain this way cannot be found in the manual. And such efforts will reward you with the confidence, knowledge and efficiency to be able to bring your vision from your mind's eye to the monitor screen without compromise.

VTU

### Jazz It Up!

One of the really neat things about fractals is that you can vary their color by bouncing colored light off of them. This way, instead of being a uniform color, your wormhole can shine like a rainbow, simply by blending different-colored lights together on its surface!

Also, if you plan on using the wormhole in an animation, you'll probably want the thing to move in some way—perhaps rotate—so it doesn't just sit there! Rotating (and possibly dissolving) the whole object over a series of frames is a fairly straightforward process. But to make the wormhole look really scary, have the Fractal Texture corkscrew inward toward the center, as if it were being sucked in! Here's how to do it:

After you've selected Fractals as your Texture Type, open the Texture Size window. Elongate the texture, equally in both directions, on the Z-axis only. Ideally, it should be about three times longer than the wormhole object itself. Next, open the Texture Velocity window, set X and Y to zero and set Z to -10. (Remember, our object was saved in

Modeler facing +Z, so you must give the texture a negative setting for it to move *into* the wormhole, rather

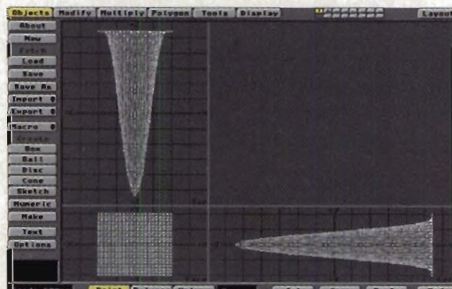


Figure 4: Center the wormhole object using the Center macro, then rotate it 180 degrees.

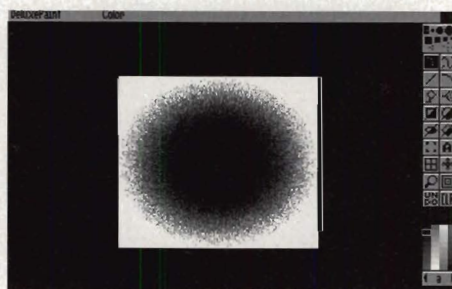


Figure 5: The white will render transparent while the black will render solid.

than out.) You can fiddle with the amount of velocity to obtain your

preferred speed of movement. Now, when you render the wormhole over a series of frames, the fractals will spiral inward, giving the wormhole the effect of sucking inward while in space. If the fractals stop moving before the end of your animation, simply elongate the Texture Size until the desired effect is achieved.

As I re-created the wormhole project for this tutorial, I discovered several ways I could improve it: lower polygon counts, better texture and transparency maps. Don't be afraid to experiment. There are dozens of ways to do things better—possibly hundreds! Learn your tools so well that you don't have to think about them. Then your work will become intuitive and fun!

Now I've got to go find my niece so I can show her my new wormhole. She's probably off studying quantum physics or something!

VTU

Michael McBride heads Caldor Corp.'s video/graphic department and runs CyberGrafx.3D, a Connecticut-based LightWave modeling/animation company. Call him at (203) 849-2150.



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### AG-456

#### 2-Hour S-VHS Camcorder

- S-VHS system - records and plays over 400 lines horizontal resolution
- Now includes manual zoom control
- 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, Telephoto 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 (with specific edit systems)



**NEW! PV-DV1000**  
3-CCD Digital Videocassette Camcorder

Heralding a new era in video, the PV-DV1000 is the world's first camcorder to incorporate 6mm DVC (Digital Video Cassette) technology. The biggest leap in video since S-VHS and Hi8 were introduced six years ago, DVC is a revolutionary video format that delivers such high quality—it literally rivals broadcast cameras. Utilizing DVC the PV-DV1000 records an extraordinary 500 lines of horizontal resolution—nearly 25 percent more than S-VHS, Hi8 or laserdisc, and 50 percent better than a live television broadcast. And because it's digital, picture quality is not only sharper but unbelievably clean. Audio is also recorded digitally, resulting in quality equal to that of CDs. In addition to its digital capabilities, the PV-DV1000 also features a 3-CCD pickup system, 180,000 pixel color viewfinder, 10:1 power and 20:1 digital zoom, full automatic and manual controls and a large LCD panel.



- Three CCDs with 270,000 pixels each are horizontally staggered for optimum resolution.
- Digital recording system delivers incredible 500 lines of horizontal resolution and virtually no noise. The signal-to-noise ratio is 54dB, an improvement of 6-9 dB over conventional analog systems. This actually represents a S/N ratio 2-3 times better than existing camcorders.
- Audio is also recorded digitally using PCM (Pulse Code Modulation) for quality that rivals CDs. You can choose between two-channel 16-bit recording or two sets of 12-bit stereo, with the second set reserved for uses such as narration.
- Includes a huge 1.5" 180,000 pixel color viewfinder. More pixels than any other camcorder to date, the viewfinder provides a remarkably clear, accurate image with 400 lines of resolution and displays all automatic and manual features on demand. The viewfinder also tilts 120 degrees vertically for shooting subjects from high or low angles, & its professional size means you don't have to press it against your eye to see the picture.
- Variable high speed shutter goes from 1/60—1/8000 of a second in 14 increments.
- Built-in Digital Electronic Image Stabilizer (DEIS) compensates for jittery video and is particularly effective when the digital zoom is employed.

- Equipped with 10:1 power and 20:1 digital zoom lens. Both zooms are adjustable in four speeds (3.5 seconds—15 seconds) based on how hard or soft the zoom toggle is pressed. To set up a shot quickly, a Turbo Zoom function moves from tight to wide angle, or vice versa, in under two seconds. For extreme close-ups the lens can focus up to 1/4" from the subject.
- 3 features for finding previously recorded scenes easily:
  - TopScan plays back the first few seconds of each segment, providing a handy way to review an entire tape.
  - Record/Review rewinds the camcorder and plays the last 10 seconds of the last recorded scene, ideal for making sure you got that important shot.
  - Indexing function encodes the first scene shot on a given day, so you can quickly find the starting point of each day's shooting.
- Digital Photo-Shot lets you record a still-frame for about six seconds, while audio continues as normal. This feature is great for creating video photo albums or insurance tapes, as 290 still pictures can be recorded on a single 30-minute tape and 580 photos on a 60-minute tape. Using the TopScan feature any shot can be found easily.
- Large LCD panel on the side of the camera displays camcorder status and operating modes.

## Canon L2

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

- 1/2" CCD with 410,000 pixels delivers over 450 lines of horizontal resolution
- Manual level control. To match the audio with video the L2 has a high performance stereo/zoom microphone which lets you select the stereo angle and recording sensitivity.
- High speed Piezo autofocus allows focusing through glass or water. Also provides focus lock and manual focusing.
- Provides two different grips with independent start/stop and zoom controls. Built-in sports finder lets you view the viewfinder from arm's length away.
- Built-in character generator lets you superimpose two lines of up to 16 characters on your recordings. There is also a choice of three date and time displays.
- Variable high-speed shutter from 1/100 to 1/10,000 of a sec.
- Includes a wireless controller which makes it a highly sophisticated edit deck. Includes a full-function shuttle dial allowing easy selection of a range of forward and reverse playback speeds for swift, precise scene location.



- Automatic exposure plus manual control lets you lock the aperture at any setting from fully stopped down to fully open.
- The L2 has a variety of special effects. Add an extra dimension to your video productions with digital image manipulation and striking scene transitions.

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

## JVC

### GY-X2B 3-CCD S-VHS Camcorder



- Newly designed three 1/2" CCD image sensors deliver 750 lines of horizontal resolution and superb signal-to-noise ratio of 62dB
- New micro-lens technology provides exceptional sensitivity of F8.0 at 2000 lux and LOLUX mode lets you shoot with almost no light! Shoot superb footage with excellent color balance at a mere 1.5 lux
- Variable Scan 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 EEI Extended Electronic Iris which provides both variable gain and variable shutter. Now you can shoot continuously from dark room to bright outdoors without having to adjust gain, iris or ND filter.

- Full Time Auto White circuit lets you move from incandescent to outdoor lighting without changing white balance or the filter wheel.
- Genlock input allow synchronization with other cameras.
- Dual output system allows camera output to be connected directly to an external recorder

## 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.
- PCM digital stereo and single channel AFM Hi-Fi recording. 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 & 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-1B) ergonomic design provides well balanced and extremely comfortable operation.



## Panasonic

### AG-DP800 SUPERCAM

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



- Three high-density 380,000 pixel CCDs with half-pitch pixel offset achieve over 700 lines of horizontal resolution, a S/N ratio of 60dB and remarkable sensitivity of 18 at 2000 lux. Additionally the Frame Interline Transfer (FIT) CCDs minimize vertical smear, so you maintain impressive picture quality even in very bright illumination.
- Digital Signal Processing circuitry 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 unsightly 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 can be set variably from 1/61 seconds to 1/253 of a second.
- Built-in internal time code generator lets you record with SMPTE LTC/VITC (Longitudinal/Vertical Interval) time code
- Two hi-fi stereo audio channels with a dynamic range of 80 dB, as well as two linear audio channels with Dolby NR. Normal/Hi-Fi recording is selectable. Uses XLR connectors to further ensure high-quality sound.
- Phantom power can be supplied to an optional microphone. Power can be switched off to prevent battery drain when not in use.

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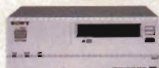
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## SONY

### 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 don'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.

### EVO-9720 Hi8 Dual Desktop Editing Machine

**BUILT-IN EDITING CAPABILITIES**

- The EVO-9720 provides two ways for assemble 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. Memorizes 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 - Provides separate editing of 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 striping 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 Reduction) 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-9800A Hi-8 Player/Recorder/ Edit Feeder

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



### EVO-9850 Hi8 Editing Recorder

- For enhanced picture quality, there is a built-in digital noise reducer for both the chrominance and luminance signals. In the CNR (Chrominance Noise Reducer) mode you can select low or high level of noise reduction according to picture conditions.
- Equipped with four channels of audio. Two AFM Hi-Fi stereo tracks plus two PCM digital stereo tracks. Each channel has balanced XLR inputs and outputs, plus there is individual level volumes for each track.
- Assemble and insert editing modes. In the insert mode there is independent editing of video, PCM-1, PCM-2 and time code.
- Built-in TBC (Time Base Corrector). With TBC the EVO-9850 outputs highly stable video signals. A digital drop-out compensator is also built-in. TBC adjustments can also be remotely controlled with the optional BVR-55 TBC Remote Control Unit.
- Absolute frame accuracy for video editing and single frame recording. Accuracy of ±0 frames is achieved with advanced servo system, quick response mechanism 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.
- SMPTC time code through the RS-422 connection to the edit controller. The edit controller can be connected to the EVO-9850 via BNC connectors. According to the EVO-9850 can feed time code to another VCR or can lock to an external time code.
- The Jog/Shuttle mode provides high speed picture search from -17 to 17 times normal speed.
- With the optional RMM-980, the EVO-9850 can be installed into a 19-inch EIA standard rack.
- External sync input to lock onto external reference video signals. This allows for synchronization with other video equipment.
- For customized operation there is a Dial Menu. You can set VCR operation modes like time code preset, time code superimpose, self-diagnostics display, with the search dial.



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## SONY

### SVO-2000 S-VHS Hi-Fi Editing VCR

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

**Superb Video and Audio Performance**

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

**Editing Features:**

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



**Convenient Functions**

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

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

**SVP-5600 and SVO-5800 features:**

- By combining the high resolution (400 horizontal lines) of S-VHS with high quality signal processing techniques like DNR, Digital Field DDC and Chroma Process improvement, they deliver the consistent picture quality so essential to editing. They also incorporate a wide video head gap and track width (58mm) for stable and faithful picture reproduction.
- Each has a built-in TBC plus an advanced Digital Noise Reducer (DNR) for both the chrominance and luminance signals to eliminate noise during playback. At the same time, a field memory incorporated in the noise reducer removes jitter to provide sharp, stable pictures.
- They also incorporate Chroma Process Improvement circuitry for excellent color picture quality in the playback mode. This advanced circuitry greatly improves the chroma bandwidth, thus enabling sharper and clearer color picture reproduction.
- ADVANCED EDITING FUNCTIONS
- For frame accurate editing, both machines employ a sophisticated servo system, an improved quick response mechanism and built-in LTC/VTC time code capability.
- They are equipped with industry standard RS-422 9-pin serial interface. The 9-pin connector carries edit commands and time code data between the VCR and the edit controller.
- When connected to an RS-422 equipped edit controller, the SVO-5800 functions as an editing recorder. It performs assemble and insert functions and also provided audio split editing of normal audio tracks 1 and 2. In the insert mode, video, audio and time code can be inserted independently.

**FOUR CHANNEL AUDIO SYSTEM**

- They each incorporate four channels of high quality video. There are two channels with Hi-Fi (AFM) tracks and two with longitudinal (normal) tracks. The Hi-Fi tracks provide a wide frequency response from 20Hz to 20kHz and a superb dynamic range of 90dB. The normal tracks incorporate Dolby B noise reduction for high quality sound.
- MULTIPLE INPUTS AND OUTPUTS
- Both machines employ composite and S-Video connectors. With optional SVBK-170 Component Output Board, they provide component signal output through BNC connectors. With the board, the VCRs can be integrated into Betacam SP editing systems.
- USER FRIENDLY OPERATION
- They have a built-in character generator which superimposes characters on the "video monitor output" signal. This allows time code data, control menu setup and VCR function status to be shown on a monitor.
- For more efficient operation they have an on-screen setup menu which allows a variety of customized VCR mode operations. Programmed in the form of a layer structure, you simply go through the menu and initialize VCR operation.
- All parameters of the TBC, such as luminance level, chroma level, setup, hue, Y/C delay, sync phase and SC phase are easily controlled from the front panel, and can be remotely controlled from the optional UVR-60 TBC Remote Control.
- Quick and smooth picture search can be performed by either using an RS-422 equipped edit controller or the optional SYRM-100 Remote Control. Recognizable color pictures are provided at up to 10x normal speed in forward or reverse.



## COLOR MONITORS

**PVM-1350**

**13" Presentation Monitor**

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



**PVM-1351Q**

**13" Production Monitor**

- Has all the features of the PVM-1350 PLUS -
- Is also a multisystem monitor. It accepts NTSC, PAL and NTSC video signals. NTSC 4:4:3 can also be reproduced.
- Equipped with a SMPTE 250M 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 250M 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-), analog RGB, S-video, 2 composite video (BNC) and 4 audio terminals for complete flexibility.
- Aspect ratio is switchable between 4:3 and 16:9 simply by pressing a button.
- Underscan and H/V delay capability. With underscan, entire active picture area is displayed. Allows you to view entire image and check the picture edges. H/V delay allows viewing of the blanking area and sync/burst timing by displaying the horizontal and vertical intervals in the center of the screen.
- Color temperature switchable between 6500K/3200K/User preset. 6500K is factory preset. 3200K is for a more pleasing picture. User preset is 3200K to 10,000K.

### PVM-1354Q/PVM-1954Q 13" and 19" Production Monitors

**All the features of the PVM-1351Q PLUS:**

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

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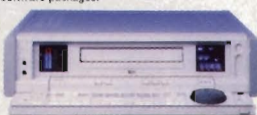
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## SANYO

### GVR-S950 S-VHS Single Frame Recording VCR

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



### GVR-S955 S-VHS Single Frame Recording VCR

All features of the GVR-S950 PLUS — The GVR-S955 contains an on board two input audio/video switcher. Unlike the GVR-S950, the GVR-S955 can be programmed via the RS-422 bus for complete audio/video breakaway editing. As a result of this "audio/video breakaway" feature, time code can be added to tapes with 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/Recorder, 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-K28U RS-422 board. Other boards include the SA-K28UA 45-pin board for connection to older JVC editing systems, the SA-K50U DNR board with time base stabilizer, and the SA-R50U VITC/LTC time code generator/reader.

#### CONTROL TRACK TIME CODE SYSTEM

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

#### 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 control indicates all edit data in either the TC or CTL mode. Switchable between player and recorder.
- The RM-G800U's Jog control is precise and responsive, making it easy to locate any frame on the tape. You can enter the Jog mode directly and switch between the player or recorder at the touch of a button. The Jog dial can also be used to enter and trim edit points and pulse timing from the GPI ports.

## TAO

### EDITIZER 3.0 A/B Roll Edit Controller for PC or Macintosh

#### Hardware Features:

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

#### Software Features:

- VCR Control — up to three VCR controllers on-screen simultaneously. Jog and shuttle control. You can use either your mouse or keyboard.
- Tape Logging — Multi-event search, copy directly into edit list, multiple log windows may be opened simultaneously, log files or selected events may be printed to a window.

- Includes non-linear editing support
- Time code generator in Drop/Non-Drop frame.
- Multi-event controller can handle up to 16,000 events. Interactive graphical "Time Line" window. Two audio-video splits per event, cut/copy/paste events.
- Preview, Perform, Review. Automatic and manual EDL ripple.
- Optional support for Autodesk 3D Studio, Lightwave 3D.



### NEW! EDITIZER-DTC

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

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

## Panasonic



### AG-1300 Industrial 4-Head VHS VCR

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



### AG-2540 Industrial 4-Head VHS Hi-Fi VCR

- Same exact features as the AG-1300 plus—
- Super jog/shuttle puts 19-step control over playback speed at your fingertips, giving you greater control while searching for scenes.
- Hi-Fi stereo sound system with a dynamic range of more than 90 dB.

### AG-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.
- Incrementally accurate with optional AG-570 Edit Controller, an accuracy of  $\pm 3$  frames can be achieved.
- 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 Amilink, FutureVideo, VideoMedia, TAO, and Matrox.
- Auto Repeat function continuously replays a tape which can be cued 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.
- Portable — 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.



### NEW! AG-1980 S-VHS Hi-Fi Editing VCR

- Significantly higher picture quality due to digital signal processing
- Third generation picture quality has never been at this price level
- 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.
- Independent input and output for the linear audio track
- Does assemble edit, video insert and audio dub. Flying erase head for smooth, clean, seamless edits.
- Jog/edit terminal makes it easy to set up an editing system.
- 5-pin 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-1980 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 field in memory, the data is used for 3-D type processing thereby providing excellent dropout compensation.
- Digital Signal Processing for improved picture quality, and for maintaining uniform picture quality during editing. A Chroma Aperture Compensation (CAC) circuit eliminates color blurring and expands 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-motion 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 reader/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 at 80dB as well as 2 linear channels with Dolby NR. Each audio channel has its own input (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.



### NEW! AG-DS540/AG-DS550 S-VHS Source Player/ S-VHS Edit Recorder

The new AG-DS540 and AG-DS550 are identical to the AG-DS840 and AG-DS850 in every respect except they have no Digital Slow-Motion capability and no component output. Otherwise they are exactly the same! They are built for the budget conscience and for those who have no need for slow-motion playback. Or at the very least, for those who require slow-motion playback but certainly not on the record side. They can now purchase just a recorder without paying for capabilities not needed (eg. AG-DS840 & AG-DS550).

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## MICROPOLIS



### AV SERIES DISK DRIVES

- Specifically designed for enhanced digital video and audio performance in applications such as multimedia, digital video editing and video servers.
- Using Advanced Thermal Calibration (ATC) technology, the AV series provides a continuous data stream. You get none of the data stream gaps that occur when ordinary drives are engaged in internal housekeeping tasks.
- They provide minimum sustained data rate of 3.0 MBs and a maximum uninterrupted data rate of 2.9 MBs, ensuring smooth and continuous data flow for AV reproduction.
- Worst case data access of 30 ms makes sure there are no more frozen frames or audio drop outs.
- Multi-segmented, Read-Ahead Caching (internal memory) improves read performance by eliminating extra seeks.
- They provide the super capacity required for serious audio/video applications:

Model 4221AV 3.5 in. 2.0 GB Drive  
Model 1936AV 5.25 in. 3.0 GB Drive  
Model 3243AV 5.25 in. 4.2 GB Drive  
Model 1991AV 5.25 in. 9.1 GB Drive

## HOTRONIC AP41

STAND ALONE TBC/  
FRAME SYNCHRONIZER

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

### AP41-SF

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

### AP41-SP

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

## HORITA

### BSG-50

### Blackburst/Sync/Tone Generator

- The BSG-50 provides an economical means for generating the most common RS-170A video timing signals used to operate various video switchers, effects generators, TBCs, VCRs, cameras and video edit controllers.
- 6 BNC video/pulse outputs
- Now available: 6 blackburst, 4 sync, 2 subcarrier
- Each sync output individually settable for composite sync, composite blanking, H-drive, or V-drive.
- Separate buffer for each output-maximum signal isolation
- 1 KHz, 0dB sinewave audio tone output, locked to video
- Outputs can easily be configured to meet specific user and equipment needs

\$269

### CSG-50

### Color Bar/Sync/Tone Generator

- Generates full SMPTE color bars, blackburst and composite sync signals.
- Built-in timer can automatically switch video output from color bars to color black after 30 or 60 seconds. Easy and convenient for producing tape leaders and stripping tapes with color bars and black.
- Front panel selection of full-field or SMPTE color bar patterns or color/black (blackburst) video output.
- Includes crystal-controlled, 1 KHz, 0dB audio tone output.
- Outputs: video, sync, ref frame, 1 KHz, 0dB
- Audio tone switches to silence and color bars change to black when using 30/60 second timer
- Fully RS-170A/SC-14 phased and always correct.
- No adjustment required.

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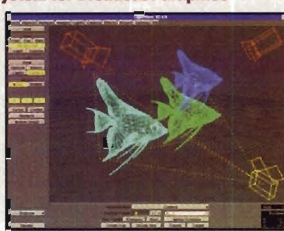
### WE STOCK THE FULL LINE OF HORITA PRODUCTS INCLUDING:

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- TG-50 Generator/Inserter
- TRG-50 Generator/Inserter/Search Speed Reader
- TRG-50-PC Has all of the above plus RS-232 control.
- VG-50 VITC Generator, LTC-VITC Translator
- VLT-50 VITC-to-LTC Translator
- VLT-50-PC VITC-to-LTC Translator / RS-232 Control
- RLT-50 Hi8 (EVO-9800/850TC) to LTC Translator
- TSG-50 NTSC Test Signal Generator
- SCT-50 Serial Control Titrer "Industrial" CG, Time-Date Stamp, Time-Date Captioning
- SAG-50 Safe Area, Convergence Pattern and Oscilloscope Line Trigger and Generator

## NEWTek LIGHTWAVE 3D

The Ultimate 3D Rendering and Animation System for Broadcast Graphics

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



### FEATURES:

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

## DIGITAL PROCESSING SYSTEMS INC.

### VT-2600 Personal TBC IV

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

### DR-2150 Personal Animation Recorder

- Offers multiple outputs: Can output animation as composite, S-Video and component (Betacam or MII). Also includes a genlock input which enables it to be easily integrated with virtually any video production system.
- Variable speed playback lets you play back 24-bit (16.7 million colors) animation in real-time 30 frames per second, or you can choose a lower frame rate to play back animations in slow motion.
- Supports direct rendering of all common image formats including 24-bit IFF and Video Toaster frame store files and is fully compatible with all popular animation packages including Morph Plus, Lightwave 3-D, Fractal Pro, Imagine, Vista Pro, and CinemaPro.
- Real-time video capture for roto-scoping and other video capture applications is possible when used in combination with a DPS TBC IV card.
- The DPS DR-2150 Personal Animation Recorder is designed to record computer animation sequences directly to a hard drive and then play them back in real time. The DR-2150 is a card that plugs directly into an Amiga expansion slot and replaces both the single frame record VCR and the single frame controller. Bad edits, missed frames, tape dropouts and other mechanical glitches common to traditional VCRs are a thing of the past.
- Combines custom ICs and a proprietary implementation of the LSI chip set enabling computer 4:2:2 digital recording to a dedicated hard drive.
- The hardware adaptively samples each new video image to determine optimum quality. Although standard compression ratios don't apply you can expect four to five minutes of high quality playback from a dedicated 540 MB hard drive.
- Has composite, S-Video and component (Betacam/MII) outputs. Also has a genlock input enabling it to be easily integrated with virtually any video production system.

### DPS PVR-2500 Perception Video Recorder

A successor to the immensely popular PAR (Personal Animation Recorder) the PVR-2500 adds powerful features for awesome animation, morphing and rotoscoping capabilities. With features like PCI bus interface, 720x480 resolution, 10-bit 2x oversampled video encoding, better than D1 scaling, component and S-Video outputs, multi-processor support and FAST SCSI-2 hard drive controller, Perception empowers your computer to rival the finest professional production studios.

- The PVR-2500 is a full-length PCI card with a SCSI-II interface which connects to one or up to seven dedicated hard drives. Because the SCSI controller is integrated with the PVR-2500, video data never has to move over the PCI bus during playback. This avoids the bottlenecks found in systems which use the computer's hard drive for video storage.
- Perception is designed to run under Windows NT 3.5 on computers employing 486 (DX2-66 or higher) Pentium, DEL ALPHA or MIPS processors. Perception's software utilizes Windows NT's native support for multitasking and multiple processors, allowing use with the most powerful computers available today.
- Perception lets animations out of your computer quicker and easier. Its exclusive multi-format virtual file system ensures complete integration with your existing Windows NT applications. Any acquired video or computer generated Perception video clips appear simultaneously in many different file formats including TARGA, SGI, BMP and IFF. Perception is compatible with all of the new NT versions of Lightwave 3D, Autodesk 3D Studio, Crystal Graphics TOPAS 3.1 Professional, Microsoft SoftImage, Elastic Reality and others.
- Video output section utilizes 10-bit 2x oversampled encoding and provides broadcast quality CCIR-601 (720x480) resolution. Perception's dynamic range is in excess of D1 scaling so that images are brighter, have more color and greater spatial resolution than ever before. Component, composite and S-Video outputs are provided via the included breakout cables.
- Coupled with the optional AD-2500 video capture daughter-card, Perception becomes a digital video recorder. It has component, composite and S-Video inputs for real-time recording. It delivers unsurpassed picture quality and storage capacity is limited only by the size and number of attached SCSI hard drives. Captured video can also be exported as sequential RGB files for rotoscoping and other compositing applications.



NEW!

- The AD-2500 incorporates a sophisticated automatic entropy prediction circuit that analyzes the content of incoming video and dynamically calculates the optimum amount of compression on a field-by-field basis—even during real-time recording. You also have complete manual control over compression level/quality settings.
- Perception can also control BVU protocol VCRs for video acquisition. VCR-like controls on the Perception's GVI simplifies the task of batch digitizing and recording. In this mode, the PVR-2500 can read SMPTE time code from the source deck.
- Can be used with any Windows NT compatible sound card. Synchronization of audio and video is maintained by the PVR software. Some sound cards, such as those made by Turtle Beach, provide accurate system timing and consistently maintain synchronization during long video clips. Captured audio is stored on the computer's system hard drive, not on the dedicated drives. This approach provides maximum flexibility for manipulating audio and video during editing.
- Perception can perform real-time interpolation of 30 fps video to 24 fps film rates or convert vice versa. This means that it is also at home on the Hollywood movie set as well.
- Software for Windows 3.1 is supplied as well. Third party editing software such as Adobe Premier or InSync RAZOR can be used. In fact, a system equipped with the PVR-2500 and the AD-2500 capture card, a sound card, editing software and one or more SCSI hard drives becomes a non-linear editor of unparalleled performance at an unbeatable price.

## PROFESSIONAL VIDEO TAPE



H471S S-VHS Double Coated	
ST-30.....7.69	ST-60.....8.49
ST-120.....	ST-180.....8.99

M221 Hi 8 Double Coated	
Metal Particles	Metal Evaporated
P630HMP.....4.99	E630HME.....8.79
P660HMP.....6.99	E660HME.....11.89
P6120HMP.....9.49	E6120HME.....15.49

## maxell.

BQ Certified 8mm High-Grade	
P6-60 HG BQ.....5.09	P6-120 HG BQ.....6.69

BQ Certified Hi-8 Metal Cassettes	
P6-60 HM BQ.....6.09	P6-120 HM BQ.....7.99

P/PLUS Expilaxial VHS	
T-30 Plus.....1.69	T-60 Plus.....1.99
T-90 Plus.....2.09	T-120 Plus.....2.19

HGX-PLUS Expilaxial VHS (Box)	
HGXT-60 Plus.....2.69	HGXT-120 Plus.....2.99

BQ Broadcast Quality Expilaxial VHS (Box)	
T-30 BQ.....5.49	T-60 BQ.....6.19
T-120 BQ.....	T-180 BQ.....7.39

BQ Certified Professional S-VHS (In Box)	
ST-31 BQ.....7.19	ST-62 BQ.....8.09
ST-126 BQ.....8.39	ST-182 BQ.....14.99

## SONY

Hi-8 Professional Metal Video Cassettes	
P6-30 HMPX.....4.59	P6-30 HMEX.....7.99
P6-60 HMPX.....5.59	P6-60 HMEX.....11.49
P6-120HMPX.....8.89	P6-120HMEX.....15.49

NEW! Hi8 Metal Evaporated Editor (HMEAD)	
E6-30 HMEAD.....10.49	E6-60 HMEAD.....14.89
E6-120 HMEAD.....	E6-180 HMEAD.....20.19

PR Series Professional Grade VHS	
T-30PR.....2.39	T-60PR.....2.59
T-120PR.....	T-180PR.....2.79

PM Series Premier Grade Professional VHS	
T-30PM.....3.49	T-60PM.....3.99
T-120PM.....	T-180PM.....4.79

BA Series Premier Hi-Grade Broadcast VHS (In Box)	
T-30BA.....3.59	T-60BA.....3.99
T-120BA.....	T-180BA.....4.79

MQ Master Quality S-VHS (In Box)	
MOST-60.....7.99	MOST-120.....8.39

BRS 3/4" U-matic Broadcast Standard (In Box)	
KCS-10 BRS (mini).....8.29	KCS-20 BRS (mini).....8.99
KCA-10 BRS.....8.29	KCA-20 BRS.....8.69
KCA-30 BRS.....9.69	KCA-60 BRS.....11.99

B&H SPECIAL! KCA-60 BRS.....	11.99
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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.....15.69

KSP 31/4" 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).....16.29	BCT-10M (small).....17.39
BCT-20M (small).....21.29	BCT-30M (small).....23.29
BCT-60ML.....31.19	BCT-90ML.....51.99

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## B & H AUDIO-VIDEO

### 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 ..... **369.95**
- SH-2/58 Shure SM58 Dynamic mic element & MR-1 Receiver ..... **434.95**
- SH-2/85 Shure SM 85 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 ..... **553.95** Sony ECM-77 ..... **724.95**
- Senheiser MKE-2 ..... **747.95**

### SENNHEISER



#### 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 camcorders already limited power supply ..... **179.95**

#### K6 MODULAR ELECTRET MULTIMIKE SYSTEM

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

#### K6

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

#### ME 66

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

#### ME64

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

#### ME62

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

### VIP Video Lighting System

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



#### i-light

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

- Multi-use halogen source
- 55 or 100 watt, DC powered light (12 or 14 volts)
- Includes cigarette lighter connector or optional 4-pin XLR

Optional controls include expandable barndoors, scrims, diffuser, dichroic filter, snoot, umbrella, gel-frame, flags.

### V-light

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

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

### Pro-light

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

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

### MACKIE



#### Micro Series 1202 12-Channel Ultra-Compact Mic/Line Mixer

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

#### CR-1604

#### 16-Channel Mic-Line Mixer

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



### SONY TCD-D7 DAT Walkman Player/Recorder



- High-quality Standard Play (SP) mode provides up to two hours recording of 16-bit digital audio on a DT-120 DAT cassette. The SP mode is ideal for recording live music.
- Long Play (LP) mode allows up to 4 hours of record/playback on a single DAT cassette. The LP mode is ideal for meetings, conferences or other voice recordings.
- Equipped with digital coaxial and optical input connector. Maintains the highest signal purity for recording and playback of digital sources with all information retained in the digital domain.
- Also has analog Mic and Line inputs for recording from analog sources without external adapters.
- High-speed Automatic Music Sensor (AMS) search function finds and plays tracks, skips forward or back up to 99 tracks, all at 100x normal speed.
- Has a Digital Volume Limiter System (DVL) that increases listening comfort and sound quality by automatically adjusting for sudden level changes of the recording. It also helps prevent sound leaks through headphones.
- Two-speed cue-review lets you hear sound while player is in fast-wind modes, up to 3x or 25x normal speed.
- Compact and portable, it has an anti-shock mechanism that permits accurate recording and playback even while in motion.
- LCD display with backlit windows clearly shows recording level, track number, operating status and 4-segment battery indicator, even in low ambient light conditions.
- Optional RM-D3K System Adapter Kit for complete digital interface. The kit is equipped with the input/output connectors for both the optical cable and the coaxial cable. Therefore you can use it as a relay between the TCD-D7 and other digital equipment. Also includes a wireless remote control.

### AZDEN

#### PRO SERIES VHF WIRELESS MICS

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

#### They All Feature:

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

#### COMPLETE SYSTEMS WMS-PRO

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

#### WLX-PRO

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

#### WHX-PRO

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

#### PRO SERIES COMPONENTS WL/T-PRO

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

#### WM/T-PRO

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

#### WR2-PRO

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

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FOR INFORMATION CIRCLE 129

### NRG

#### POWER BELT SERIES

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



#### 880 Power-Pro +

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

#### 970 Power-MAX

- Same features as 880 Power-Pro + Belt Plus-
- Highest capacity quick-charge capable 12 volt 14-AMP sintered nicad power pack (removable).
- Rugged high-grade, black leather belt case; chassis assembly with dual 3-pin XLR inputs for pack interchange without shutdown.
- Belt with cellpack weighs a comfortable 7.5 lbs.
- Includes Power-MAX belt and power chassis, 14-amp cell pack in 12V or 13.2 volt configuration, model 600 overnight charger, comprehensive owner's manual. Fits waist size 29"-44".
- Also available in 13.2-Volt 14-amp version. The 13.2-Volt version offers 15-20% longer runtimes because industrial VCRs shut off at higher voltage levels. By not shutting off the Power-MAX is allowed to fully discharge, thus the longer running time.

#### VARA-LITE PRO Professional DC On-Camera Light

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



- 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 STATION-2 SERIES

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



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

## CD-Rom Parade continued from page 61

ment by placing objects on 3D surfaces in a post-production painting process. If you're a Windows or Mac user, Photoshop is the best place to use the wand to composite the objects into backgrounds. The CDs are Windows- and Mac-compatible, and they work well within a suitable Amiga environment. More CD-ROMs are in the works for both Photogear and Objectgear.

### Legendary Design Technologies

Here's another set of bargain CD-ROMs. Legendary Technologies is known for its Amiga CD-ROM libraries, and now the company's branched out to include other platforms as well. Until recently, the ProPics volumes could only be obtained on disk. ProPics are extremely well-done photo images in video resolutions and reference a wide variety of subject matter. The DataMix



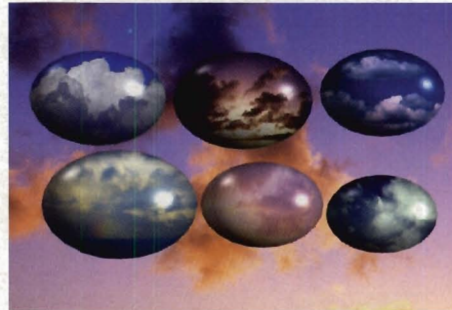
The rockets are from Legendary Technologies' DataMix CD; the background is from the company's ProPics CD.

CD is an assortment of items, ranging from graphics to sound. Not shown here but widely appreciated are the 24-bit paintings (most of them LightWave-rendered) included on this disc. The 3D objects in the object library are not in LightWave format, so you'll have to translate them. (I used PixPro from Axiom.) Once translated, they can be imported into LightWave and rendered for an animation. There are over 50 objects on the disc, plus textures, backgrounds, sounds and other data.

### Mary and Michael Photography

Question: What is the most useful backdrop that all LightWave animators lust for? Answer: Clouds, of course. Cloud Gallery contains 32 astounding and excruciatingly beautiful images (750x490 TIFF). When you see these photos in your LightWave animations, you will absolutely faint! Each of them is like a painting with a

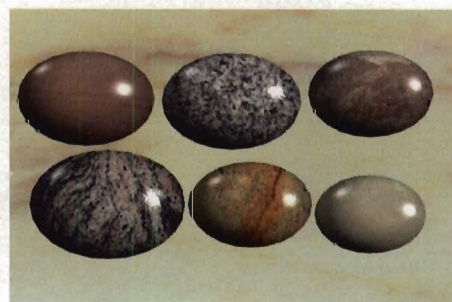
personality, and the personalities vary from light to dark. Clouds give an artwork a distinctive mood, allowing us to dream and believe. To top it all off, the disc includes a demo version of Fractal Design Painter for Windows. Other CD-ROMs are expected from Mary and Michael Photography in the future.



The images on the Cloud Gallery CD-ROM are some of the most beautiful I have seen.

### Accents Images

You may not like to roll, but if you like to rock (textures, that is), you'll love the 115 stone images in both Windows and Mac (PhotoCD or "PCD") format on this CD. PCDs can be easily read by Nova Design's ImageFX if you're using an Amiga. These stone images are very high-quality photos. Use one of the higher resolutions if you want to take advantage of extreme close-ups in your LightWave animation.



Accents in Stone provides the LightWave animator with 115 high-quality PhotoCD stone textures.

### BeachWare

Ah, nature! The smell of cows in a spring field. The January wind slapping at your face. The Nature Collection has 100 photos of the natural world ready for your LightWave applications. These pictures come in two flavors, DOS and Mac. The DOS images are presented in both 8- and 24-bit formats. In addition, many of the images are in a vertical or

"portrait" format. They need to be cropped for standard video or "landscape" use unless, of course, you want to composite several of them in a background. Included as an extra is a powerful browser utility that shows both the name of an image file and a visual thumbnail of the picture. The 24-bit files are large, with a resolution more suited to print media, and should be reduced before use as a background image or a texture map (in most instances). All imagery is original, sharp and highly detailed.

### Index Stock Photography

Good luck when it comes time to load the directory that accesses these "Photos To Go" pictures. They are all lumped in one drawer with no groupings, so that all 500-plus JPEG'd image names have to be read at once. There is no printed visual documentation either, though a browser is provided for



BeachWare's Nature Collection Volume 1 has very high-quality natural photos for LightWave applications.

Windows users. Other than these somewhat minor problems, however, the images themselves are excellent as both backdrops and textures. If you don't have a Windows platform, I would suggest going through them and jotting down the numbers (they don't have descriptive names) of those you like for later retrieval. You'll also have to call the company to get clearance if you want to use any of these images in a production for which you receive payment.

### Cascom, Inc.

This next selection is mainly for Mac users or those who have a Mac EMPLANT system in their Amigas, though with the new PowerPC machines, moving images back and forth has been a breeze. The name of the CD-ROM is 5000Plus, and yes, it holds over 5,000 image files and more goodies. Thankfully, the images are separated into 30 separate folders, each with its own descriptive heading (Aerials,

Foods, Mountains, etc.). All are quarter-screen sized (320x200), so DTP use is limited. Video, however, is much more forgiving when it comes to size and resolution. Something can always be



Though its images are only quarter-screen sized, the 5000Plus CD-ROM addresses video quite well.

resized and still look good, especially with NTSC. Although the image sizes are small, they are excellent in both variety and content, containing adequate material for both backgrounds and object texture maps. Amiga users will have to wade through them without the help of a visual browsing option, so the categories help to narrow the search. There's also a browser on-

board, and you can even copy the database (24 MB) to your hard drive if you have the room. Cascom is one of the largest suppliers of professional stock footage to the broadcast industry, so this CD-ROM is of very high quality. There are other non-graphic files on the disc as well, and of special importance is the inclusion of a selection of multimedia effects files. Cascom has a three-volume set of multimedia effects in Quicktime and Video For Windows formats that we will look at next time.

### A la Carte Digital Stock

Great photography is great photography, no matter what the subject matter. The topic of the Food Elements CD, of course, is food, and this stuff is definitely good enough to eat. All of the super-sharp images are on white backgrounds, which means that they can be cut out as a brush on the Amiga or "magic wanded" into existence with Photoshop on a Windows or Mac platform. The images sit on a pure white background, so that when they are cut out, no extraneous outlines are present. This means you can

perform very quality-oriented compositing, with the food elements sitting in the same plane as a background graphic. Richard Embry, the photographer responsible for this collection, is



Yummy! A spread fit for royalty, all provided by compositing (via Photoshop) images from Digital Stock's Food Elements CD with a LightWave-rendered background.

a nationally known photographer in the cookbook arena, with loads of national credits. His images are very classy as far as clarity and lighting effects, and LightWave artists and animators should find a wealth of uses for them. (How about morphing one food element to another, just for effect?)

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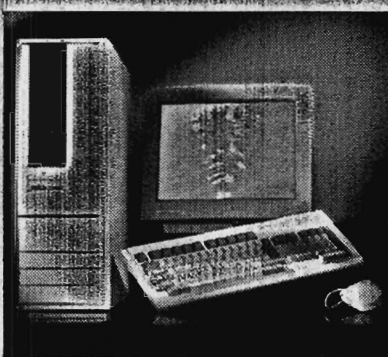
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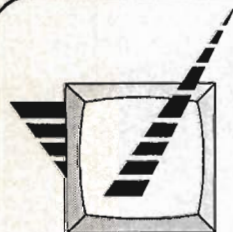
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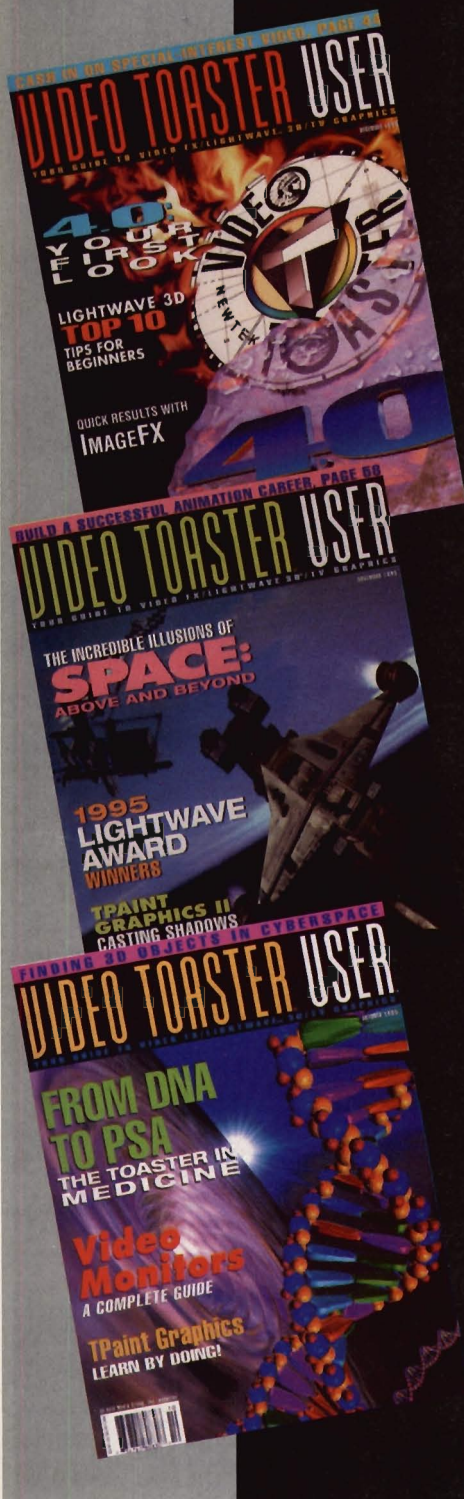
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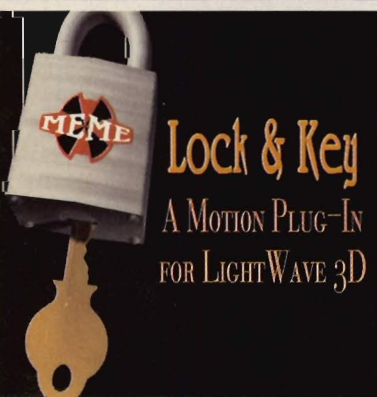
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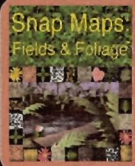
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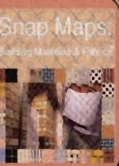


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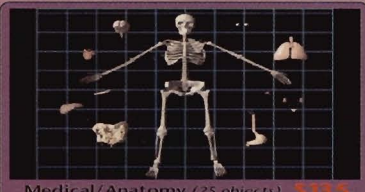
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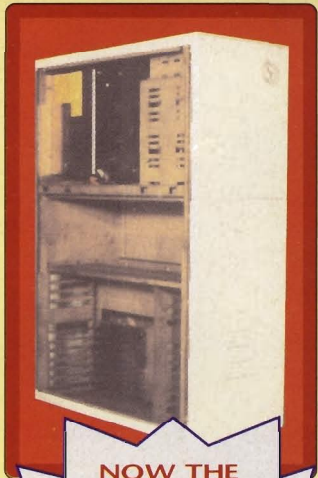
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# LAST WORD

## Swatting at TIEs

Our Guest Columnist: *Star Wars* Contest Winner Patrik Beck

by Mojo



**A** few months ago, I spoke my mind concerning George Lucas' efforts to "enhance" the original *Star Wars* with new footage and "improved" special effects. I feel this is a pointless effort and a dangerous precedent that may lead to Hollywood's further manipulation of old films via digital technology. I announced a contest asking readers to do their own tinkering with *Star Wars* footage, just to show the world how easy it is.

Many of you worked hard on your submissions and I thank everyone who entered—the number of tapes I received far exceeded my expectations! Unfortunately, there can only be one winner, and oddly enough, he did exactly the opposite of what I asked.

Patrik Beck's *King Kong vs. The Empire* was technically proficient and hysterical. Using scenes from the 1930s

classic, Patrik added a few TIE Fighters to the squadron of biplanes that attacks Kong in the final confrontation atop the Empire State Building. Patrik did a perfect job of replacing biplanes with spaceships and having them interact with the big ape as if they were actually in the film—first-rate work that has put everyone who has seen it in stitches!



A ruthless Imperial warrior stalks our favorite ape in this frame from Beck's contest-winning animation.

Although we cannot shower Patrik with the prizes he deserves (for legal reasons), the remainder of this column is hereby turned over to him to address his fellow Toaster Users, as promised.

Everyone remembers their first time. For me, it was when I turned on my Amiga 500 and ran the Juggler demo. I knew nothing about biplanes, ChipRAM or multitasking, but I did know that this machine was going to open a world of possibilities for me.

And I wasn't the only one. As my world expanded, I realized that of all the people I knew who had personal computers, a disproportionate number of Amiga owners were using their machines to make money. Not just in video, but in desktop publishing, music sequencing, writing and still art. It may be hard to imagine, but even before the release of the Toaster, the Amiga was an awesome creative force. Though I could possibly have copied *Kong vs. Empire* on my new 120 MHz Pentium, I doubt that, without my first A500, I ever would have created it.

Being a musician, I am prone to a bit of animism when it comes to machines. Some devices just seem to inspire. There's more to a computer than just rendering speed. I would have never become an artist without that first Amiga mouse; I would never have become a writer without the keypad and spell-checker. And without the Amiga's animation capabilities, I would have never discovered the career that I was meant to have.

Even with that first incredible Amiga, things did not really come together for me until the birth of my daughter, Mariah. Magazines started publishing my articles. I created and marketed my own line of animated clip art. Now I've finally become a full-time animator working with clients like Harley Davidson, Speed Queen and Motorola. Not bad for some yahoo in his basement!

My other "first time" occurred when I was 18 and had just graduated from high school, not realizing that most of those friends and acquaintances I had spent the last 12 years with were people I would never see again. That summer was make-or-break for the relationships that would stand. It was the summer that my former classmates and I were to make decisions that would determine the direction our lives would take. Various combinations of jobs, marriages and college were either chosen or thrust upon all of us that year. Yet, among all these momentous decisions, the event that I remember most clearly and fondly was the opening night of *Star Wars*.

I remember the theater in which I first saw it; I remember my friend Roy, who sat next to me; I remember experiencing my first truly grown-up insight, when I realized halfway through the movie that this wonderful piece of cinema was something that was going to be part of me for the rest of my life.

All of this has led me to my message to George Lucas: Go ahead and update the original if you feel it's necessary—you have the right and this is America. But a word of warning: Of all my heroes—Jim Henson, Robert Heinlein, Chuck Jones and you—you are the only one that is still alive. (Well, so is Chuck Jones, but I'm ignoring that to make a point.) In light of this, I ask you to turn over your notes to someone else and get to work on the sequels we've all been waiting for while there is still time.

If Mr. Lucas wants to update his classic, it's up to him. However, I'll be the first in line to offer my services as an animator in order to help preserve the magic of the film. And, should he ask me which finger holds the magic, I'll tell him it's the ones typing on this keyboard, of course.

VTU

*Patrik Beck is the president of Milwaukee, Wis.-based Electric Crayon Studios. He can be reached at (414) 444-2330 or zippie@execpc.com.*

# CD Problems? Meet the solutions:

## AsimCDFS v 3.0

The AsimCDFS CD-ROM control package, which consists of AsimCDFS, AsimTunes, CDTV and CD<sup>32</sup> emulation modules, FishMarket CD-ROM disc and a Preferences editor, allows the user to access CD-ROM discs with an Amiga computer and a supported CD-ROM drive.

AsimTunes provides advanced playback control over standard audio compact discs. Librarian features, such as track/disc naming and disc identification are also provided.

Direct reading of 16-bit audio samples from standard audio CDs is possible with AsimCDFS!

Full support for Kodak and Corel PhotoCD discs is integrated into AsimCDFS, including colour Workbench icons, transparent conversion to 24-bit IFF and support for resolutions up to 3072 x 2048.

AsimCDFS is able to read ISO-9660, HighSierra, Rock Ridge and Macintosh formatted discs.



### CD-ROM READING

## MasterISO



The MasterISO software allows a user to control a CD-R writer to create custom CD-ROM and CD-Audio compact discs.

CD-ROM discs are formatted in the universal ISO 9660 format, compatible with Amiga, IBM, Macintosh and virtually any other CD-ROM equipped platform.

CD-Audio discs are formatted to the Red Book standard and offer universal compatibility with standard CD players.

MasterISO currently supports Yamaha, Sony, Philips and Pinnacle CD-R writers.

Each CD-R disc has a capacity of 650MB; over 14 times greater than a standard 44MB SyQuest cartridge.

With CD-R media costs currently less than 1¢/MB, a CD-R writer may be the solution to your Toaster and Flyer storage problems!

### CD-R WRITING

## PhotoCD Manager

Tired of struggling with complicated IFF viewers, PhotoCD converters and screen mode conflicts? End your hassles with PhotoCD Manager; a point and click solution to PhotoCD images.

It is easy to pick the pictures you want to see with the full-colour thumbnail images displayed in 4096 or 256 000 brilliant colours (HAM or HAM-8).

Interested in viewing a single picture? Simply click and watch. Or, click on multiple pictures to define your own personal slide show. PhotoCD Manager will display only the pictures you want, in the order you want.

PhotoCD Manager works with any Amiga equipped with a CD-ROM drive or a CD<sup>32</sup>.



### PhotoCD Viewing & Slide Show

## Texture Heaven

Texture Heaven is a CD-ROM disc filled with 24-bit colour IFF textures and images. Included are 245 woods, 53 marbles, 59 abstract designs, 8 tiles and 18 wilderness sceneries.



## Texture Heaven 2

Texture Heaven 2 is our latest CD-ROM texture disc. On this disc, you will find 164 abstract and computer-generated full colour textures. Images are stored in multiple formats.



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### Asimware Innovations Inc.

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T A P E L E S S

# EDITOR

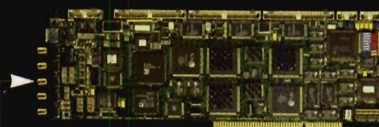
The next big leap forward in video production technology, a non-linear editing system for everyone. Not only is the Flyer the easiest-to-use non-linear editor, but it also has the same capabilities and quality you expect from a production suite with \$50,000 video tape decks.

Not JPEG. Not MPEG. The Flyer utilizes a breakthrough technology called VTASC, which was designed from the ground up to put broadcast quality video onto a hard drive.

The Flyer is a powerful tapeless editing system. Record video and audio segments as clips, which you arrange using a simple drag and drop interface. Using the Video Toaster System 4.0 software, add real-time video effects, graphics or text. Press the play button and your video plays back, real-time in broadcast quality. You can even use the Flyer as an animation recorder with LightWave 3D.

Of course, great video requires great audio. A powerful DSP chip provides up to eight tracks of 16-bit, CD quality audio for music, sound effects and voice overs.

*"The technology of the Flyer will fundamentally change our lives. Now, making changes in your videos is interactive. The results you get are something so much better than anything you could have imagined."* Brad Carvey. Free Range Digital Imaging, Inc., Albuquerque, NM.



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Your Flyer card is the heart of the new Video Toaster. With your Flyer installed in the Video Toaster Bay™, it becomes the new Video Toaster system. Now, you have a portable field recorder. Plug your camera into the Toaster and record direct to hard drive.

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The Flyer installed in the Toaster Bay gives you the added flexibility of running it with your Amiga/Toaster system or any PC running Windows 95 or Windows NT. Everything you love about your Video Toaster Flyer and the freedom to use it anywhere.

*"With the Flyer it is phenomenal how fast and easily you can create A/B roll edits. I can put together 5 shots with dissolves in 5 minutes, before the Flyer, that same job would have taken an hour."* Rex Olson, Rave Video Productions, Burbank, CA.

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Flyer Requires: Amiga 2000 or 4000, Video Toaster Card and Video Toaster System 4.0 software with 9MB of RAM minimum, 100MB free on hard drive. Single SCSI II drive required for LightWave recording. For A/B roll editing two SCSI II drives and one SCSI drive is required. Input from video tapes must be time base corrected. Consult your dealer to configure a system suited to your needs. Some features require an Amiga with the AGA chip set. Specifications subject to change without notice. Amiga is a trademark of Commodore, Inc. Windows 95 and Windows NT are trademarks of Microsoft Corp. Video Toaster, LightWave 3D, Video Toaster Flyer, Video Toaster Bay, ToasterPaint, ToasterCG and Toaster are trademarks of NewTek, Inc. Design FryeAllen, Inc. © NewTek, Inc. 1995.