CASH IN ON SPECIAL-INTEREST VIDEO, PAGE 44

VIDEO TOASTER® USER™

YOUR GUIDE TO VIDEO FX/LIGHTWAVE™ 3D/TV GRAPHICS

DECEMBER 1995

4.0: YOUR FIRST LOOK

LIGHTWAVE 3D TOP 10 TIPS FOR BEGINNERS

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an Avid Media Group, Inc. magazine

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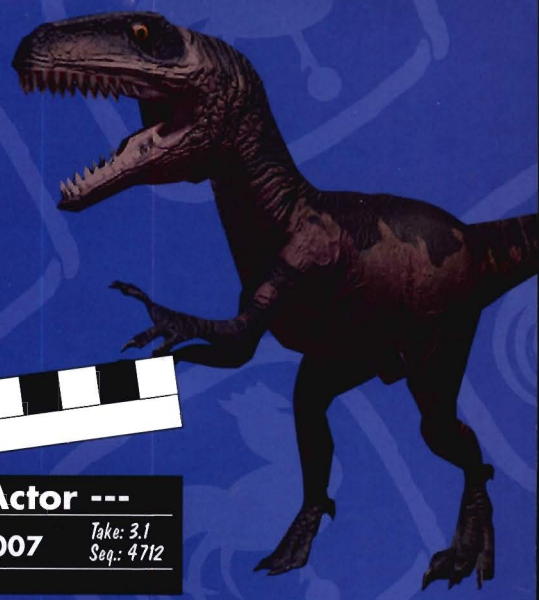
MainActor Broadcast



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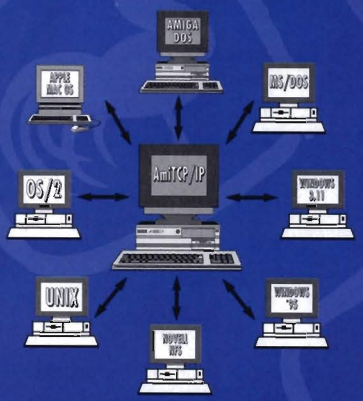

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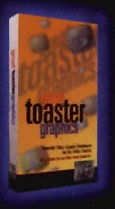

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YOUR GUIDE TO VIDEO FX/LIGHTWAVE 3D/TV GRAPHICS

VIDEO TOASTER USER

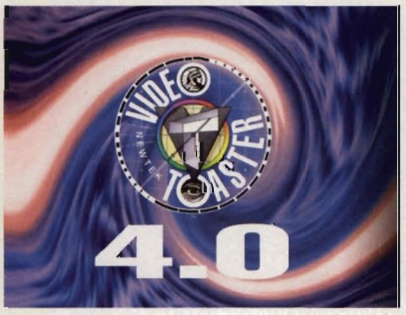
DECEMBER 1995 VOLUME 5 NUMBER 12

FEATURES

44 **SPECIAL-INTEREST VIDEO: FOOD FOR THE STARVING VIDEO ARTIST**
by Barbara Besteni
You don't need BetacamSP or lifelong experience to make money with custom video for a hungry audience. Just plug in your Toaster and follow our advice to tap into this exciting, growing segment of video production.

page 44

48 **VIDEO TOASTER 4.0—THE ULTIMATE AMIGA TOASTER UPGRADE?**
by Doug Nakakihara
The vigilance of the diehard Amiga user has been rewarded! With the newest version of NewTek's Toaster software, you've got more effects, an object-oriented storyboard interface, fingertip access, new TPaint and ToasterCG, LightWave 4.0 and more.



page 48

Cover Design by Michael Allen; LightWave Model by Bruce Brault; Computer Imaging by Brian Cowen

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COLUMNS

6 **TOASTER TALK**
by Tom Patrick McAuliffe

22 **TOASTER POST**
by Burt Wilson

26 **THE FLYER SUITE**
by Frank Kelly

30 **SLICES**
by James Hebert

36 **CYBERSPACE**
by Geoffrey Williams

40 **TAMING THE WAVE**
by David Hopkins

70 **DEAR JOHN**
by John Gross

92 **LAST WORD**
by Mojo

REVIEWS

52 **LIGHTWAVE IN.FOCUS**
by Dan Ablan
A CD-ROM and video package that'll help you become a LightWave legend.

page 52

56 **DECISION MAKER**
by Stan Shumlick
Be sure to explore this full-featured EDL interface for the Flyer and V-LAB Motion.

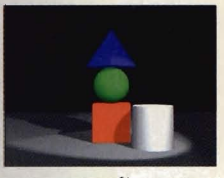
page 56

TUTORIALS

58 **AREXX-A-PHOBIA?**
by Brad Hayes
Build and execute complex commands in just minutes.

page 58

60 **LIGHTWAVE STARTUP CHECKLIST, PART I**
by Wayne M. Cole
Must-dos for new users who are eager to turn innovative ideas into unbelievable imagery.



page 60

62 **THE ZOOM FACTOR**
by Dick De Jong
Get some perspective on focal length and other aspects of LightWave's Camera.

page 62

DEPARTMENTS

8 **TOASTER TIMES**

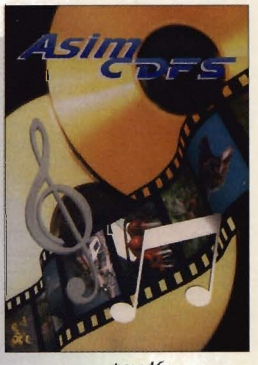
16 **NEW PRODUCTS**

66 **ADVERTISERS INDEX**

82 **DEALER SHOWCASE**

86 **MARKETPLACE**

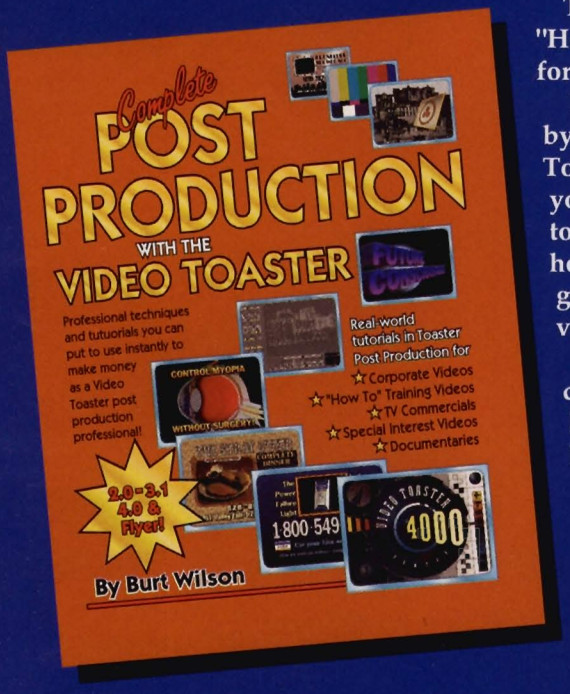
87 **CLASSIFIEDS**



page 16

"SHOULD BE THE FIRST PURCHASE OF EVERY TOASTER OWNER !"

...Video Toaster User Magazine



This is the most complete "How to" book ever written for the Video Toaster!

Not only are you led step by step through the Video Toaster editing process, you get tutorials and easy-to-follow directions on how to do eye-catching graphics and professional video transitions.

You'll also be given complete directions on how to do a flying logo which you can immediately sell for up to $500.

The bottom line is that this is a must-have book for anyone doing video with the Toaster!

The tutorials in this book do not come from the Toaster manual but from the real world of TV commercial and video post production by an award-winning producer/director. You are also taught how to negotiate fees, how to market your post production business and how to write a production contract. The big, 8 1/2" x 11" format allows you to lay it flat on the table so you can follow all the tutorials easily.

Fill out this coupon and send a check or Money Order for just $24.95 plus $2.55 postage and handling and your book will be sent out to you by First Class Mail. California residents add $1.80 tax.

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QUESTIONS AND TIPS Direct your Toaster-specific questions or tips to *VTU* Questions, John Gross.

NEW PRODUCTS & UPDATES Direct your press releases and new product literature to New Products Editor.

WRITER'S GUIDELINES Write to *Video Toaster User*, Attn: Writer's Guidelines.

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FOR INFORMATION CIRCLE 106

TOASTER TALK

New York and New Year

It's a Wonderful Life—I Think?!

by Tom Patrick McAuliffe

Perhaps David Letterman said it best—autumn in New York City is like a good pair of old pants! After a harrowing ride from JFK that would rival a Formula One event, I was getting out of the cab and ready to pay Raheed (his real name) when I split my pants. As I stood there on Broadway in the heart of the Big Apple, feeling the growing chill, I wondered if this is what Letterman meant, and how some Amiga users had felt until recently.

My hotel was right across from where *Late Night* does its nightly taping. Later, at about 2 a.m., as the Manhattan Drum and Bugle Corps struck up a reggae tune beneath my hotel window, late-night TV had several "local" programs that featured Toaster transitions and titles. I thought to myself, "New York is my kind of town!"

I had come to NYC to meet users at the 1995 Image World Expo, where *VTU* and *LIGHTWAVEPRO* gave away magazines and T-shirts to the Toaster faithful. My thanks to all the people who stopped by! With NewTek at the IBC show in Europe, representative and Toaster guy Larry Bragg single-handedly answered users' questions, and assisted several dealers who were demonstrating the Video Toaster Flyer and LightWave 3D on various platforms (NewTek was in NYC at the Digital Video show in November). The response from attendees was excellent.

Day One of the show featured a visit to the *VTU* booth by Al Robbins, Toaster SIG chairman, and Linus Lee, membership director, of AMUSE—the NYC Amiga users' group. Its weekly TV show, *AmigaTV*, produced by Giorgio Gomelsky, enjoys a loyal following. (A future episode will feature a message with yours truly.) AMUSE also distributes an outstanding monthly newsletter. On Day Two, I met with a group of members from the online CompuServe Toaster and Amiga forums. Among the things we discussed was *VTU*'s new Internet and World Wide Web home page at *http://www.portal.com/~amg*.

In addition, longtime *VTU* writer and award-winning author Cliff Roth came by the booth to demo the new Sony DCR-VX 1000 *digital* handicam and autograph his new book (see the new products section in this issue).

My pick of the show was the AirWorks Media booth, where *Tune Builder with Arpeggio* was being demonstrated. This PC, Mac or Amiga software is a cool digital nonlinear editor for music, and it's truly remarkable. We'll have a complete review for you in the very near future.

New Friends!

DeskStation Technology and NewTek, Inc. recently announced that they have formed a joint venture to create groundbreaking tools for 3D animation, graphics and computer video with complete workstations at affordable prices. NewTek Systems Group (NTSG) is a strategic alliance that will allow both companies to compete on a global scale while still being able to provide improved customer support with accelerated R&D. "The widespread use of LightWave in broadcasting, film, commercials and game development applications presented a need for a complete hardware/software solution to meet the demands of this market," said NewTek President Tim Jenison. "The logical choice was to bring the premier software together with the fastest workstations available in the market today." The team's first product is the NewTek Raptor Designer, a LightWave workstation with performance that is more than six times greater than systems based on a 90 MHz Pentium. Can you say *fast*? "You can anticipate that our future products will push the envelope of price and performance," said DeskStation President Don Peterson. NTSG synergistically combines the technical prowess of both companies and should produce the most compelling and cost-effective animation, graphics and video workstations in the industry. Look out, SGI!

Holiday Presents

If you attended the November *VTU* Expo '95 in Hollywood, you saw the new company Amiga Technologies GmbH exhibit in the U.S. for the very first time! *VTU* and *LIGHTWAVEPRO* were especially proud to have been able to bring you this event. We'll have the latest in confirmable information on the Amiga Technology and its future and a full feature on the *VTU* Expo in an upcoming issue. The awesome Amiga 4000 Towers with 060s and A1200s are just some of the gifts Amiga/Toaster users have been waiting for! Another one is NewTek's continued support of the platform with the Video Toaster for Amiga 4.0 upgrade, covered on page 48. Here are some other gift ideas I have for this holiday season and the new year:

- For users—manufacturers and developers expanding their Amiga/Toaster support, offering cost-effective and reliable tools with logical docs and upgrade paths.
- For hardware makers—effective laws and enforcement to protect intellectual property rights worldwide.
- For software developers—a sale for every pirated copy.
- For tech support reps—users who understand that it's not enough to say "It's broke!" and users who actually know their system's technical configuration.
- For *VTU* readers—our continued commitment to bring you the latest in actionable information to maximize your investment in the Video Toaster, Flyer and LightWave 3D.
- For everyone—random acts of kindness!

On behalf of all of us here at *VTU*, to you and yours, the happiest of holiday seasons!

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FOR INFORMATION CIRCLE 112

TOASTER TIMES

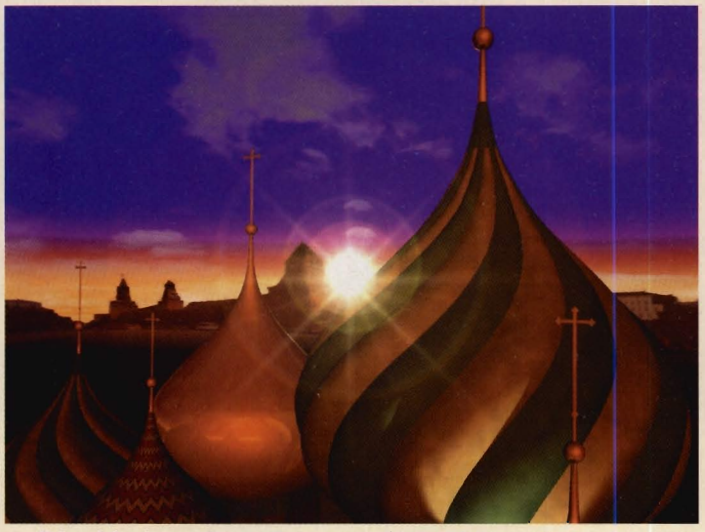
A ROYAL TREASURE

Russian Art in America.

T.P. McAuliffe

Recently, FryeAllen Advertising, Inc., *VTU*'s design team, was selected to handle one of the most exciting accounts in the country: *The Treasures of the Czars*, sponsored by the Kansas International Museum, Inc. Ad agencies from around the country were vying for the opportunity to handle the promotion of this prestigious and exclusive collection of Russian art. "Topeka was one of only two cities in America that were selected to host the exhibit, and almost every major ad agency submitted a portfolio," said Mike Allen, co-owner and creative director of the agency. "They interviewed a ton of people, and the seat was still warm when we sat down!"

What he showed must have been impressive, because the next day FryeAllen was told that the museum's directors had awarded the company the project by unanimous decision. Created in 1988 with the merging talents of Michael Allen and Dana Rulon Frye, the agency has enjoyed an inordinate amount of success in a short period of time. FryeAllen has received over 350 awards—including the coveted Telly and Addy awards—and has over 100 different clients, including cable giant TCI, NewTek, HBO and Motorola. "Not unlike most agencies, we do marketing and placement as well as concept and design," said Allen. "Our expertise allows us to take a single great concept into all forms of media: print, television and radio. Each of our eight staff members has an area of expertise." Evidently, this specialization is paying off.



The flyby of the domes of St. Basil's was created with LightWave 4.0.

The Czars show itself features over 270 pieces of art and historical artifacts from the Romanov dynasty (1613– 1917). Hidden in the Kremlin's vaults throughout the entire Soviet Union's domination, these works have never been seen by most Russians, much less the rest of the world. The show was allowed to travel to only two U.S. locations: St. Petersburg, Fla., and Topeka, Kan. It will return to Moscow on Jan. 1, 1996, never to be seen again outside of the Kremlin's walls. An estimated 500,000 people will view the exhibition in Topeka, and current indications suggest this goal will be exceeded.

"One of the assets our agency brings to the account is the Video Toaster," said Allen. FryeAllen uses Toasters networked with Macintoshes and DEC Alphas running LightWave for Windows. With these tools, the agency's designers can use the Toaster and LightWave for television production and integrate high-resolution images directly into print campaigns and interactive CD-ROMs, as well as the Internet and WWW.

A logo animation created for the exclusive Czar exhibition was rendered and dumped to an Amiga 4000 Personal Animation Recorder, then output to BetacamSP.

Intro scene reflected in tumbling jewels.

The ability to generate top-quality video and print on a timely basis was at the heart of the marketing plan for the *Czars* account, according to the agency. FryeAllen decided that the main thrust of marketing *The Treasures of the Czars* exhibition would be on television, by selling the feel of turn-of-the-century Russia and the beauty of the artifacts.

Of the many projects FryeAllen has developed and produced for the Kansas International Museum, perhaps the most notable and widely recognized are the animated television commercials. According to Allen, viewers report they like the spots and are genuinely surprised to find out FryeAllen produced it entirely in-house, thanks to LightWave 3D!

The *Czars* spot was essentially divided up into five segments. Each segment was rendered in its own scene file and then stitched together using LightWave's powerful compositing functions. The concept and storyboards were developed by Allen; Dana Frye developed and wrote the narration and produced the soundtrack. Head animator Bruce Branit brought the concept to life with some incredible 3D animation models and special little tricks. "Tight storyboards are essential for efficient production," said Allen. "Every move is planned out before we touch the computers. If the animators know exactly what the director is after, they can spend their time making the scenes more visually stimulating, instead of figuring out how to make the effect work."

FryeAllen's two DEC Alpha systems from Flight Technologies operate at 277 MHz, and each system has 64 MB of

continued on page 12

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FOR INFORMATION CIRCLE 122

The Way I See It

All Good Things...

Mike Danger

Well, it's the holiday season, and time for this month's fact-filled column. Buckle up for a ride down my information super-dirt road, guaranteed to have more turns and detours than Windows 95's frustrated customers. Relax—it's only a program. Continue reading.

From our overseas department, after logging many long-distance calls and faxes to the mighty Escom Central, both David "Pepe" Tiberio of New York and yours truly have uncovered some long-awaited Amiga information. We were told that, quite frankly, Escom was unsure of the American market and wasn't really certain how to approach it. Also discussed were future dealership and sales plans. Other subjects we talked about included Escom PC developments, with a card that, once implanted in your PC, allows it to effectively use most Amiga software. The state of the Amiga's future was also discussed. Much to my excitement was the possible use of RISC chips in future endeavors. I have also heard that Escom and NewTek have been talking, which can only help to put the Amiga technology back on the map as a formidable force in the computer world. In addition, sources in the United Kingdom report that Amigas have been showing up on stock manifests of such computer superstore chains as Escom and Silica.

Wavey award nominee Tom Rennen's unique Toaster image.

Entering the lifestyles-of-the-rich-and-famous part of this article, it seems that certain personalities have been quite active in the Toaster and Flyer community. From Iowa comes the story of commercial actor Mike Bigans, who is preparing *Blackout's Box*, a Toaster-driven experience for local television airwaves. The program centers around the misadventures of some nerdy computer hackers.

It also seems that a certain '60s sitcom star and brother to Jerry Van Dyke of Coach fame has been seen in the Santa Monica, Calif., area sporting a Flyer system. Yep, Dick Van Dyke was seen recently at the Anti-Gravity showroom. Sources confided in me that he was getting his towered Toaster system fine-tuned. Could a new situation comedy be in the works?

The much-talked-about-show *Weird TV*, which is produced on the Flyer and relies heavily on Chroma effects, has broken into the hardest markets for television airtime. Shadoe Stephens, Chuck Cirino, Dr. Reuhl and the weekly oddities they feature can be found opposite the *Saturday Night Live* time slot on KCOP in the Los Angeles area and many other major markets. A great feat considering that this show has nowhere near the budget of a *Babylon 5* or *seaQuest 2032*. Check your local TV guide for availability.

Since LightWave and other Toaster essentials have leaped to other platforms, such personalities as steamy romance novel heartthrob Fabio and a certain New York-based shock jock have made inquiries into owning a VT-based system of their very own. Of course, it remains to be seen if we will see a LightWaved romance novel cover or the personal parts of the king-of-all-media Flyerized. But then again, anything is possible.

I am often asked where I get the information for this column. Well, readers and readerettes, besides all the phone calls and letters from people like you, I often find myself surfing the Internet late at night via the Web Crawler and all the Web sites. Sites such as Prairie and Yahoo seem to harness a large amount of very useful and current information. For all you Flyer connoisseurs, the NewTek Web site has a large mother lode of software that can be easily downloaded. The Internet is not the pocket protector hangout it used to be. For more information, check out Intangible Assets Manufacturing's Dale Larson's book "Connect Your Amiga—A Guide to the Internet, LANs, BBSs and On-Line Services." It's an excellent resource manual.

As always, we commit space in this section for a piece of visual stimulation I refer to as the Framegrab of the Month. This month's purplish pick (and no, we're not talking about that artist-formerly-known-as-Prince character) was submitted by Intelligent Light's very own Tom Rennen. Tom, a Wavey Award nominee, is perhaps one of the most personable and talented animators in the state of Texas. As of a matter of fact, as you can tell by his rendering of the kiddie classic Barney, he's quite in demand. Tom's work is as good as or better than most, but it's his enthusiasm that sets him apart. Bravo, Tom! Your Framestore is to be commended.

Well, I have good news and bad news for you. The bad news is that, as all things must come to an end, this will be my last column. The good news is that I'm working on several new projects for various magazines, TV shows and on-line sites. I will continue to write for this and other venues so that my Toasty video dream of putting a Toaster and Flyer in every computer on the planet will live on. I hope that everyone out there keeps in touch with me. I also hope that you continue to support this magazine and the Toaster and Flyer technology, because without it, this world would be pretty boring. Take care, and have a hard-driving holiday! (Hopefully, it's Flyer-compatible.)

Mike Danger
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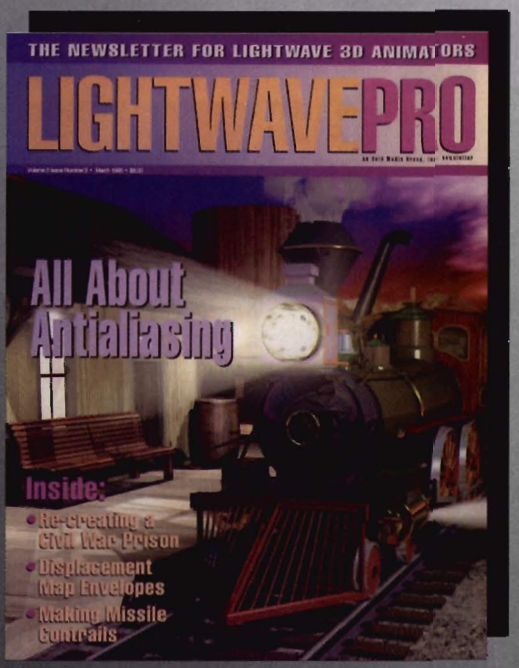

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A Royal Treasure continued from page 8

RAM and two 2GB hard drives, so the work is done quickly and efficiently. The operating system is Windows NT with LightWave 4.0 and ScreamerNet. "We also use Photoshop and Illustrator on the Mac, and FTP them into LightWave on the DEC's" said Branit.

The opening scene draws you into the world of the Romanovs as a camera moves through a field of waving banners. "The motions of the displacements were offset slightly both in speed and starting point to make the banner movements look more natural," asserted Branit. "The camera velocity was smoothed out in the motion path window by adjusting tension settings."

The next scene, the domes of St. Basil's cathedral, includes a close pass by the onion-shaped domes, while the Moscow skyline passes in the distance. Using numerous photographs of Moscow's buildings, the skyline was composited into an IFF file and surfaced on the inside of a giant sphere. "These spheres are an example of the things we can now do with a more powerful LightWave," said Branit. "We would have avoided this type of thing a year ago." The last frame of this scene is a starting point for the tricky composite that followed. The entire dome scene is revealed to be a reflection in a tumbling jewel!

"This scene was rendered with trace refraction, but the suggested refraction setting for diamonds and rubies didn't produce realistic results, so we used lower values," said Allen.

The middle portion of the spot shows some of the artwork on display in the exhibit, and the ending contains a gold emblem of a two-headed eagle. This object is actually very simple—a single polygon! The line art for the eagle was turned into a clip map using Photoshop. The same file was then colorized and used as a color texture. Also, the inverted line art was carefully blurred and softened as a grayscale image to form the bump map. Together, these maps—with high specularity settings and a reflective surface—make a convincing 3D object out of an otherwise flat polygon. "The same procedure was used for the modeling of the wings on the Flyer logo," revealed Branit. "Take a look at the box or an ad for the Flyer, and you'll see that these wings are actually one polygon."

The entire spot was developed and produced in just over one week, with each section of the commercial rendered nightly. "It's a wonderful feeling to sit down and imagine a sequence of scenes for a commercial and not have any creative restrictions," said Allen. "LightWave has become so intuitive and fast that you really are only limited by your imagination. What used to take the Amiga 4000 two weeks to render, we can now do overnight." This instant feedback has really given the artists at FryeAllen the confidence to make huge leaps forward in new areas they may not have attempted before under such stringent deadlines.

What's next for the innovative agency? They have just finished a 30-minute educational video for 10,000 primary and secondary schools dealing with the *Czars* exhibit. Yakov Smirnoff, a well-known comedian and actor originally from Russia, is placed in a 16th-century virtual world created with LightWave 3D. As Yakov would say, "What a country!"

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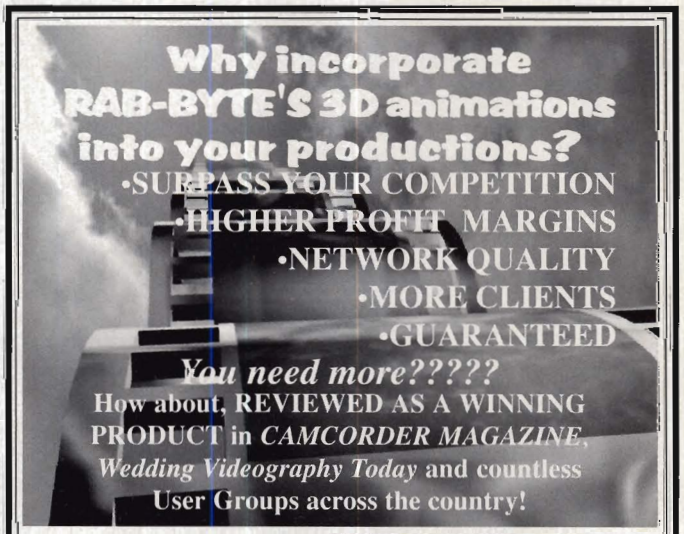

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FOR INFORMATION CIRCLE 123

News & Notes

Check Your Calendar

If you're going to be in the Dallas area Jan. 4–7, 1996, be sure to check out the Dallas Video Festival, one of the largest gatherings of its kind in the U.S. The four-day event, held at the Dallas Museum of Art, showcases new works by regional, national and international independents. If you'd like more information, call (214) 823-8909. DVF's web site is at http://www.vfest.org.

More to Come:

Here's a list of conventions and trade shows in the coming year:

January 5–8, 1996
CES Interactive Winter Show
Las Vegas Convention Center
Las Vegas, Nev.
(Electronic Industries Association, 202-457-8700)

April 15–18, 1996
NAB '96 and NAB MultiMedia World
Sands Expo Center
Las Vegas, Nev.
(National Association of Broadcasters, 800-342-2460)

June 3–6, 1996
COMDEX Spring '96
Location TBA
Chicago, Ill.
(The Interface Group, 617-449-6600)

August 4–9
SIGGRAPH and "The Wavies" 2nd Annual LightWave Animation Contest
New Orleans, La.
(Association for Computing Machinery, 800-342-6626)
(Avid Media Group, Inc., 800-322-2843)

October/November
(date TBA)
Video Toaster User Expo '96 and Training Seminars
Location TBA
(Avid Media Group, Inc., 800-322-2843)

November 18–22
COMDEX Fall '96
Las Vegas Hilton
Sands Expo Center
Las Vegas, Nev.
(The Interface Group, 617-449-6600)

Hard Drive Watch

NewTek is currently recommending the following drives for use with the Video Toaster Flyer and its HQ5 quality setting: the Quantum Atlas 2GB Model XP31250L with firmware 576D or F76D and the Quantum Atlas 4GB Model XP34300 with firmware 576D. For HQ5 support, a 4.8MB-per-second sustained data rate is required. Other drives supporting HQ5 are being added on a regular basis, and most drives do work in modes other than HQ5. Users are encouraged to check with NewTek Tech Support (913-228-8282) prior to purchase and/or to use the Flyer Hard Drive Speed Utility to determine if a particular drive is fast enough. Additionally, NewTek has created a hard drive utility that allows users to partially format a hard drive so that the problematic innermost tracks are not formatted.

Baby Toaster Alert!

VTU founder and CEO Jim Plant and his wife, Laura, are the proud parents of a bouncing baby girl. Congratulations!

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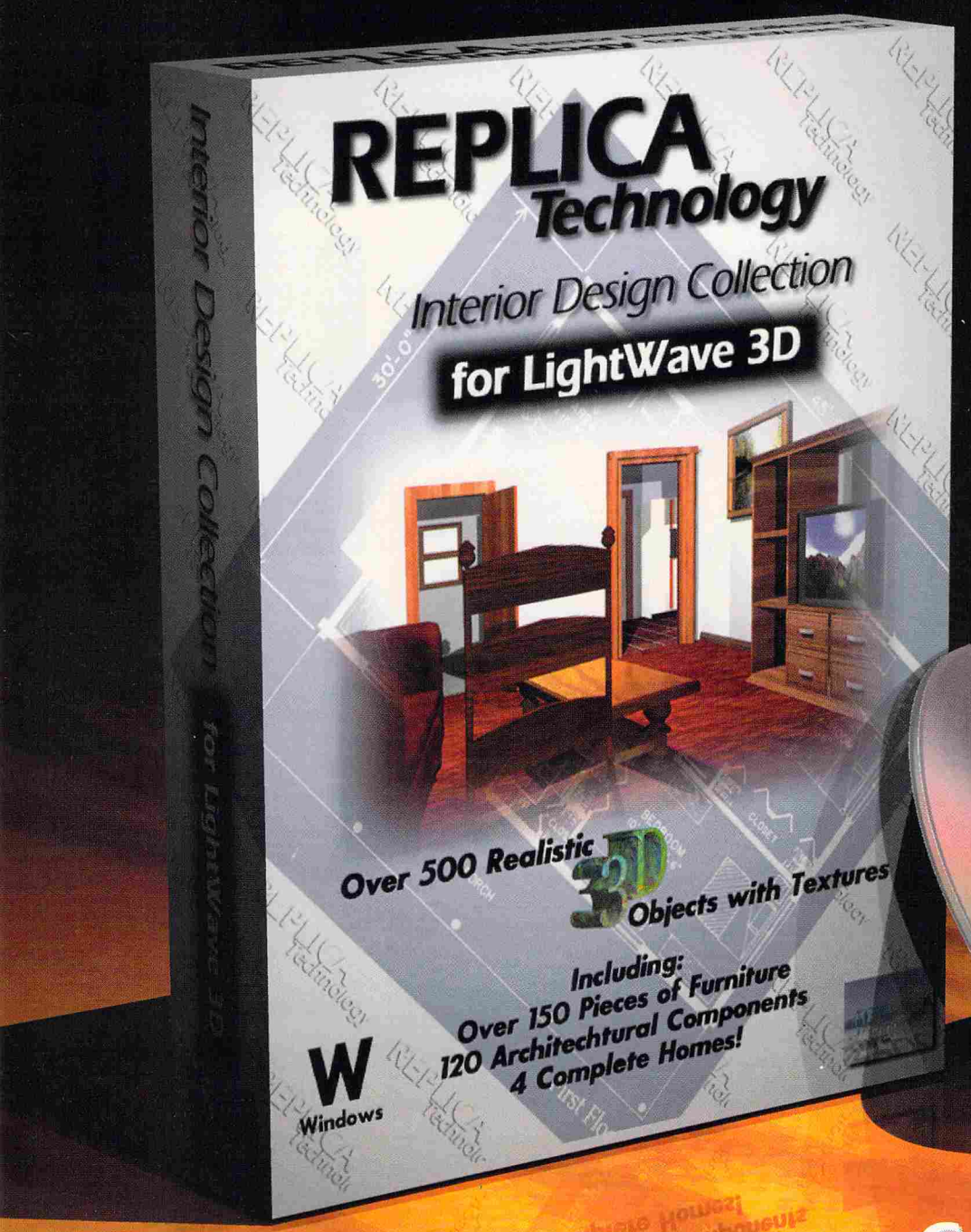

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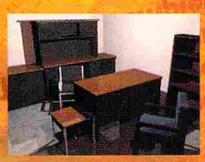

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FOR INFORMATION CIRCLE 138

NEW PRODUCTS

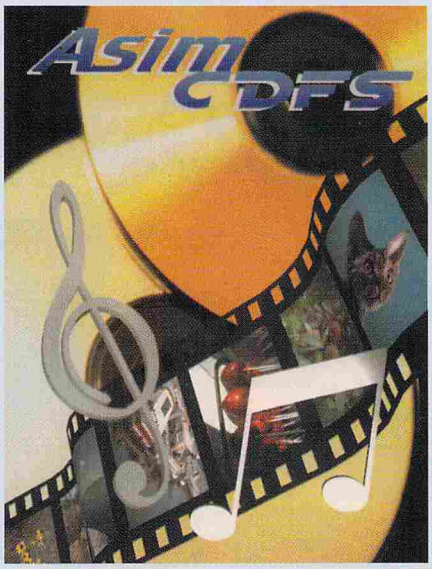
Compiled by Julie Sheikman

CD-ROM + Amiga = Success!

Product: AsimCDFS 3.0
Description: CD-ROM control software
Price: $79
Asimware Innovations
600 Upper Wellington Street, Unit D
Hamilton, Ontario, Canada L9A 3P9
(905) 578-4916

AsimCDFS 3.0 integrates CD-ROM technology into the Amiga operating system, allowing users to access CD-ROMs with an Amiga computer and a supported CD-ROM drive. The package includes AsimTunes, which provides advanced librarian and playback features; AsimCDFS, which lets users integrate PhotoCD images into any IFF-compatible program without separate conversion steps; CDTV and CD32 emulation modules; FishMarket, which contains the public domain Fred Fish collection; and a Preferences Editor for all AsimCDFS settings. The software provides access to ISO 9660, HighSierra and Macintosh HFS CD-ROM formats. It also supports Kodak2 and Corel PhotoCD discs. Other highlights of the package include Color WorkBench icons, transparent conversion to 24-bit IFF and support for resolutions up to 3072x2048.

FOR INFORMATION CIRCLE 1



Digitizing the World

Product: Freepoint
3D digitizers
Description: 3D modeling tool
Price: Starts at $4,995
Science Accessories
7125 Riverwood Drive
Columbia, MD 21046
(410) 381-6688

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designed to fit the needs of a variety of users, including those in computer modeling, animation and 3D graphics. The digitizers use an unrestricted handheld probe that, unlike the mechanical arms of other digitizers, are portable and can easily digitize any object. Freepoint 3D digitizers are available in three different size configurations: 1 m x 1 m x 1 m; 2.4 m x 2.4 m x 2.4 m; and 4.8 m x 4.8 m x 4.8 m. Freepoint 3D's Windows and DOS drivers are compatible with most of the leading 3D software packages, including VertiSketch, HighRES Studio and HyperSpace.

FOR INFORMATION CIRCLE 2

Storage Made Simple

Product: CDR-50
Description: CD-ROM desktop storage
Price: $24.95
Case Logic, Inc.
6303 Dry Creek Parkway
Longmont, CO 80503
(303) 530-3800

Case Logic has announced the release of its newest product, the *CDR-50*. This portable storage system holds up to 50 CD-ROMs that are stored using the

company's ProFile CD sleeve system. This sleeve system holds each CD in a see-through pocket with a soft inner lining that protects the disc from damage (see "New Products" section in May 1995's *Video Toaster User*).

FOR INFORMATION CIRCLE 3

Powerful Processing

Product: Timberline Power Workstation and Server
Description: Uniprocessor system
Price: starts at $13,825
Aspen Systems
4026 Youngfield Street
Wheat Ridge, CO 80033-3862
(303) 431-4606

Available in a variety of configurations, the *Timberline Power Workstation and Server* is based on DEC's 21164 Alpha processor, and its system architecture can process over 1 billion instructions per second. The processor, which runs at

speeds of 266 MHz and 300 MHz, is configured with six dedicated PCI slots (two full-length 64-bit and one full-length 32-bit), one dedicated ISA slot and one PCI/ISA slot. Also included are two size-independent RAM banks, two high-speed RS-232 serial connectors and a remote diagnostics port. The Timberline system supports Windows NT Workstation, Windows NT Server, Digital UNIX (OSF/1) and OpenVMS operating systems.

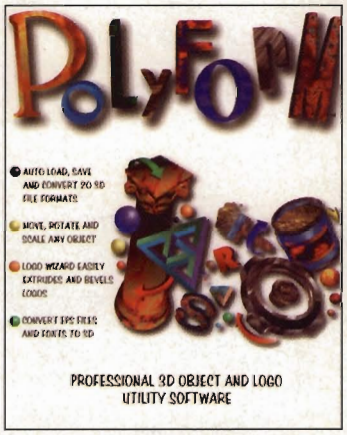
FOR INFORMATION CIRCLE 4

Logo Wizardry

Product: PolyForm
Description: 3D object and logo utility
Price: $299
Vivid Technologies
13000 Bluemound Road
Elm Grove, WI 53122
(800) 962-POLY

Vivid Technologies, developer of such Amiga products as Pixel 3D, Pixel 3D Professional and WaveMaker, has announced the release of its newest product, *PolyForm*. Available for Windows, Windows 95 and Windows NT, PolyForm allows the user to create 3D logos from bitmaps, EPS files or TrueType

fonts, and will auto-trace scanned logos and shapes to 3D. You can load, save and convert 20 different 3D file formats, including LightWave 3D,



Sculpt 4D, Caligari, 3D Studio, Imagine and Wavefront. PolyFrame's logo wizard will extrude and bevel logos with its user-definable router bits. The utility also enables you to move, rotate and scale any object in one of the five rendering modes: Phong, Gourad, flat, hidden and wireframe.

FOR INFORMATION CIRCLE 5

Physics 101—The Fun Way!

Product: Sparks plugin
Description: Plugin for LightWave 3D 4.0
Price: Intel version–$249.95
Alpha version–$299.95
MetroGrafx
625 Newton Drive
Lake Orion, MI 48362
Phone/Fax: (810)-693-5134

Sparks plugin, recently released by MetroGrafx, allows users to create high-end special particle effects as part of their LightWave 3D arsenal. The program fully integrates with the Layout environment, allowing you to set up and preview animations right from Layout. You can create comets, fireworks, explosions and rocket trails using Sparks' ultra-fast physics simulation and collision detection. Other features include the motion plug-in and scene-writing ability, which allows you to replace particles with hundreds of real objects. A

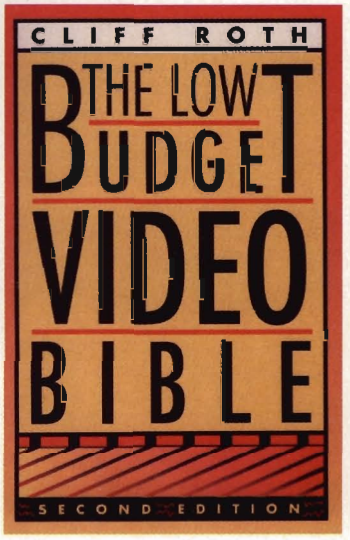
particle age shader allows you to control color and transparency over the lifespan of each particle or bounce. Sparks plugin is very memory-efficient and enables you to animate hundreds of objects without using excessive RAM.

FOR INFORMATION CIRCLE 6

Library Update

Product: The Low Budget Video Bible, Second Edition
Description: Do-it-yourself guide to video production
Price: $27.95
Desktop Video Systems
Box 668
Peck Slip Station
New York, NY 10272
(800) 247-6553

Cliff Roth, a versatile teacher, columnist and video producer,



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From DNA to PSA—The Toaster in Medicine; Raiders of the Lost Archives (3D WWW objects); Monitor Mania; Wavey [SOLD OUT] Chest tutorial; Awesome Underlines: TPaint Graphic Separators

September 1995

Taking Stock: Affordable Excellence With Stock Footage; Educating Agnes: The Toasterized Classroom; The Flyer Live; Reviews of Broadcaster Elite 2.0, MacroForm and Photogenics; Pushing Pencils tutorial

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teaches you how to create your own videos on a low budget with the second edition of his book, "The Low Budget Video Bible." The text covers all you need to know about getting into video production, from buying equipment to writing grants, with such topics as "Camcorder Production Tips," "Low Budget Tape Formats," "Non-Linear Digital Video Editing Technology," "Audio Basics," "Producing and Directing," and "Finding Funding." The book also includes an appendix containing information about support organizations, manufacturers and funding sources, and a glossary of terms and acronyms.

FOR INFORMATION CIRCLE 7

Tree Time

Product: The MECN Tree Factory
Description: Modeling tool
Price: $129
MECN Graphics, Inc.
P.O. Box 721226
Oklahoma City, OK 73172
(405) 721-4973

The *MECN Tree Factory*, designed to run on Windows NT 3.5 and Windows 95 platforms, is a 32-bit 3D modeling tool. It is designed to generate

realistic, polygon-based tree models, which can be exported as a LightWave 3D object or in DXF or RAW file formats for use in rendering or animating. The program provides an intuitive, easy-to-learn user interface that is designed to let the user experiment and then immediately view the results. MECN Tree Factory also features a tutorial that will introduce the user to the basic concepts of the program.

FOR INFORMATION CIRCLE 8

The New Wave

Product: PV-DV1000 Camcorder
Description: Digital camcorder
Price: About $4,000
Matsushita Consumer Electronics Company
One Panasonic Way
Secaucus, NJ 07094
(201) 348-9090

Panasonic recently announced the release of its digital camcorder, the *PV-DV1000*, which utilizes the first consumer Digital Videocassette (DV Cassette) for the U.S. market. The DV Cassette produces pictures with a 500-line horizontal resolution—an increase over Super-VHS and Hi8, which offer 400-plus lines of resolution, and live television broadcast, with 330 lines. It also records audio with CD quality. A 60-minute tape can store an amazing amount of information—11GB—in a cassette shell 1/12th the size of a standard VHS cassette. The camcorder itself is comfortable to hold and its design allows

users to easily reach commonly used buttons. The PV-DV1000 also has some handy new features: TopScan, which plays back the first few sec-

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(612) 787-0855
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FOR INFORMATION CIRCLE 131

onds of each segment, allowing for easy review; Record/Review, which plays the last 10 seconds of the last recorded scene; and Indexing, which encodes the first scene shot on a given day, allowing the user to find the starting point of each day's shooting. The camcorder's digital capabilities include Digital Electronic Image Stabilization (DEIS), which helps compensate for jittery video, and Digital Photo-Shot, which allows users to record a still frame for almost six seconds while the audio continues as normal. With the latter feature, the user can create video photo albums, storing up to 580 shots on a 60-minute cassette. Another plus with the digital format: There is virtually no degradation in picture quality, even after repeated use.

FOR INFORMATION CIRCLE 9

Easy Videotape Access

Products: Flite VTR, Flite POD
Descriptions: Flyer VTR transport control, Flyer remote control editor
Prices: Starts at $219 (Flite VTR), $599 (Flite POD)
Atomic Toaster
P.O. Box 9201
Salt Lake City, UT 84109
(801) 466-7330

Flite VTR, one of the newest products from Atomic Toaster, enables users, through its on-

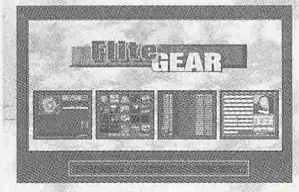
screen controls, to access videotape segments on the VCR for digitizing and recording to and from the Flyer. The program's digitizing operations speed preproduction and allow easy recording back to tape from the Flyer. If you own Flite Gear, plugging in Flite VTR creates a logging, digitizing and restore system for the Flyer. These programs function together to let users easily utilize Flite Gear's batch digitizing, logging and image-grabbing capabilities. And: Flite VTR uses very little CPU processing time or memory. *Flite POD*, Atomic Toaster's remote control editor, provides a fast, smooth way to edit with the Flyer, similar to shuttling around on your master VCR and changing edits. The editor's precision remote shuttle pod can sit on the desk or be hand held. Flite POD allows users to set split edits, auto-only edits, and the length of Stills and Frames. The user can move from clip to clip without opening a control panel on the Flyer. By moving the shuttle knob, the clip shuttles in order for the user to mark the in/out points. When selecting a button on the shuttlepod, Flite POD will set an edit point in the Flyer clip. All in all, the Flyer POD provides the positve shuttle and easy edit marking capability of a linear editing suite with the speed of the Flyer's non-linear power.

FOR INFORMATION CIRCLE 10 VTU

PRODUCT ANNOUNCEMENTS

Send your company's new product announcements and information to:
Video Toaster User
Attn.: New Products
1308 Orleans Drive
Sunnyvale, CA 94089
Or call us at:
(408) 743-9250
Fax (408) 743-9251

Flite Gear



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FOR INFORMATION CIRCLE 105

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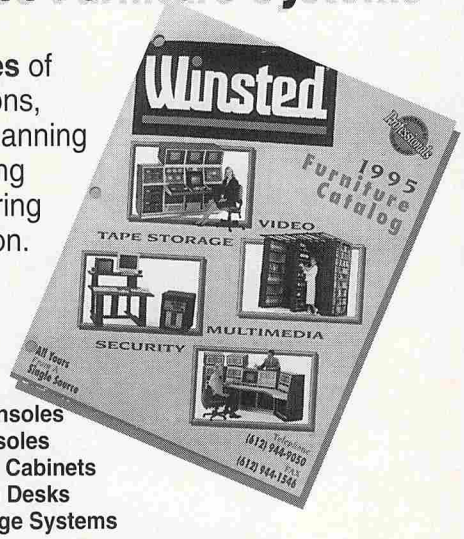
of Video Furniture Systems

132-pages of descriptions, system planning tips, pricing and ordering information.



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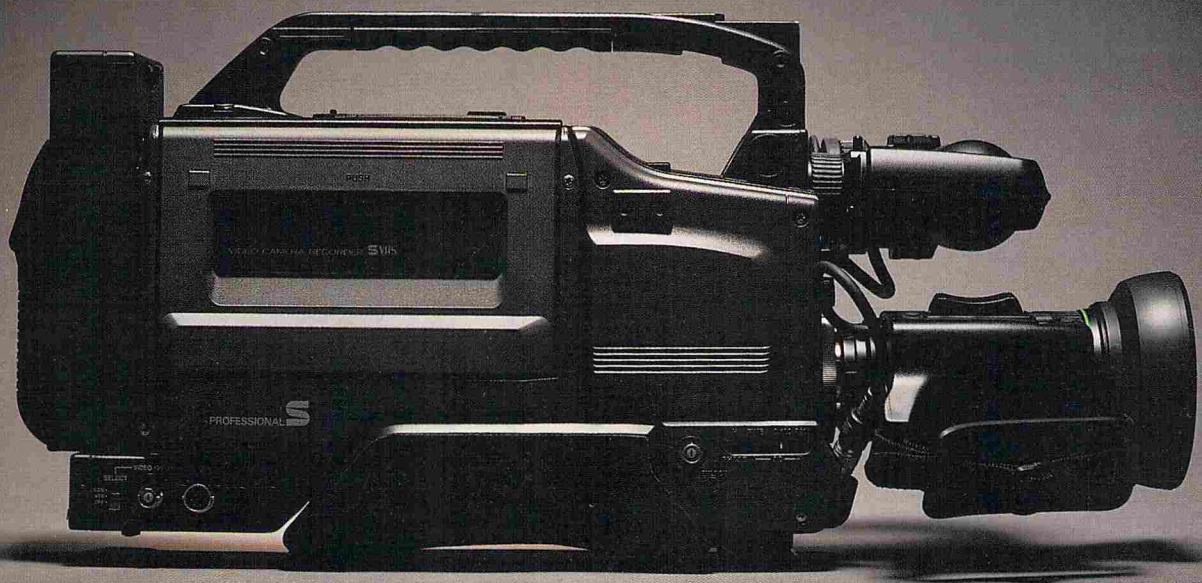
FOR INFORMATION CIRCLE 119

	CAM-X
Digital Signal Processing	**No**
Power Consumption	25.2 Watts
CCD Type	1/2" IT
Horizontal Resolution	750 Lines
Time Code Generator	SMPTE (Optional)
Time/Date	Optional
26-Pin VCR Connector	**No**
Phantom Power (+48V)	**No**
Scene Files	**No**
Menu Items	**4**
Minimum Illumination	1.5 Lux
Syncro Scan	Adjustable UP only
Weight	15 lbs



For more information call: 1-800-528-8601 (Upon request enter product code 38) One Panasonic Way, Secaucus, NJ 07094.

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SUPERCAM-H

Yes

20 Watts

1/2" FIT

750 Lines

SMPTE, Built-in

Hr., Min., Seconds

Yes, Component Out

Yes

6

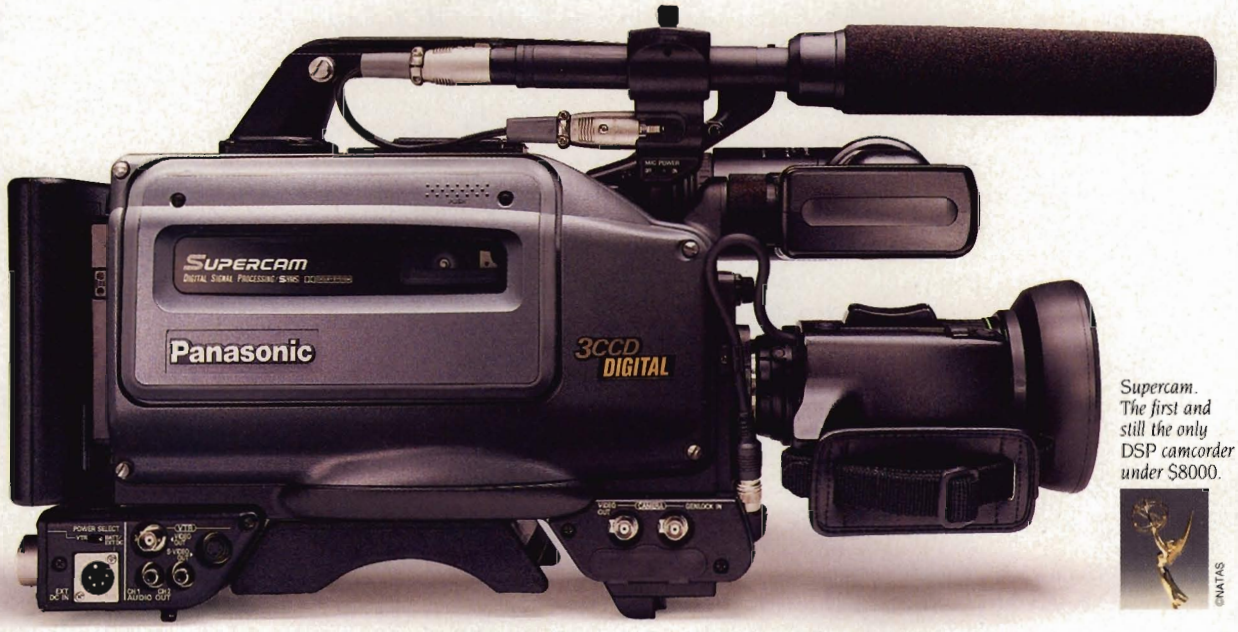
60

1.5 Lux

Adjustable UP/DOWN

13 lbs

Read it and Reap!



Supercam. The first and still the only DSP camcorder under $8000.

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Supercam selected to videotape 1995 Special Olympic World Games

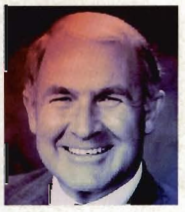
In any serious spec shoot-out, Panasonic's Supercam wins hands down on the strength of its Digital Signal Processing (DSP), FIT 3 CCD camera technology, 26-pin component output. No other camcorder in this category, or for this price, can approach Supercam's creative control and consistent high-quality images, hallmarks of Panasonic's Emmy Award-winning DSP. You can either buy analog technology and settle for less or buy digital and get more features. *Supercam. It's as obvious as black & white.*

Panasonic
Broadcast & Television Systems Company

TOASTER POST

Mall Merriness

This Year, Money'll Be Pouring in—Not out—in December



by Burt Wilson

Long before it became Christmas, the Winter Solstice was celebrated as a day of thanks, for it was on that day that the sun ceased rocketing toward Earth and began to back off in the other direction. I'd say that was as good a reason as any to give thanks, and call it superstition or what you will, it worked. The sun has not careened into the Earth for as long as we can remember. So, I am going to take a few lines to say thanks in the hope that this celestial body will once more halt its fiery plunge and again head back into outer space.

First, I'm going to give thanks to NewTek for developing the Video Toaster. This wonderful piece of computer artistry has indeed given me a life. I still remember the day I clicked on my first Toaster effect and watched in amazement at the cool transition it made from framebuffer to framebuffer. Thank you, NewTek, and all you good folks who succeeded in making a computer do what it was not intended to do. I want to give equal thanks to all of you Toaster enthusiasts out there who have written to me in response to this column. Your support is appreciated, and I hereby rededicate myself to more tips and tutorials for you in the new year—including Toaster 4.0.

The Toaster Can't Do It All for You

Now let's get down to the real world of Toaster editing. I would be remiss here if I did not point out something of great importance. Mojo touched on it awhile ago and I want to re-emphasize it: The Toaster is just a production tool that will assist you in putting a concept together professionally. It's really the *concept* that counts! Even with a room full of Toasters, if you don't come up with the visual idea that will make a 30-second spot stand out and be noticed, you ain't got nuttin', Charlie! If the guy down the street with DPaint III and a SuperGen has a great vision for a commercial and you don't, you'll lose the business every time.

If your demo reel doesn't show great writing and fantastic concepts, you'll lose the business. If your copy doesn't make a solid case for buying the product, somebody else's will. What you have to do is think things out beforehand and have a visual concept that works with the audio to sell the product. It can be as simple as doing a letterbox format rather than full-screen, or as complex as a series of multi-sound, quarter-second frames cut to the beat of the background music. The thing is, you have to have this all in mind—and down on paper—*before* you go out and shoot one scene. Don't listen to those guys who go out and shoot a lot of crazy stuff with the thought that they'll "get creative" in post. They're just covering

You can get very creative with letterboxs. Here I used just a Framestore with a logo overlay and title. The image can change while the titles remain the same.

up a lack of creative discipline. You should have every shot figured out in advance. Believe it or not, that'll give you the groundwork to see the offbeat shot and the creative angle when you're on the shoot. There is no substitute for preparation. It's really the basis of all invention. You have to think through the obvious before you can discover the unique!

Let's Make Some Money This Christmas

Here's a way you can do it. Go to your local mall and ask for space during the Christmas season to set up a living room scene in some prominent place. Tell them that it will be a draw—it will bring people into the mall. Then, build a fake fireplace and put a decorated tree and an easy chair in the scene, candles on the mantle, etc. In front of this scene, set up your Hi8 or S-VHS camera (or better), hook it up to your Toaster and connect the Toaster to a VCR. Next, rig a boom mike—maybe tape the mike to some thin pipe and then tape it all to a stepladder. Lastly, stock up on T-10 bulk, 10-minute VHS tapes. You are now in the "Merry Christmas video" business.

Ask the mall management to advertise that it is providing its customers with a chance to tape video Christmas greetings to send to their relatives and families back home. Heck, have 500 flyers made up and pass 'em out in front of the movies or at restaurants and big department stores. The thing is, you've got to produce this on the fly to make money at it. You'll be able to charge $20 to $25 per video and perhaps a handling fee to mail it. Stock up on mailing gear, too. Have the holiday music and effects all ready to go and on hand. Practice a few times with your own family and friends so you can knock these tapes out one after the other.

When your customers arrive, bring families into the set. Explain that they only get one go at it and if they make a mistake it's all right because it'll be human and funny and add to the spontaneity of the occasion. Then, set the boom mike and start the tape rolling with the prepared opening (perhaps a LightWave 3D animation!). Give the high sign to start and let 'em have at it for 10 minutes. Have their names (or just the family name) already prepared in the CG, so you can just load it and dissolve it in. Have such things as "Merry Christmas from [the family name]" ready to go. Give 'em a sign when there's only a minute left and then finish with a prepared ending. Two people can work this gig and make $60–$80 an hour on a good day. Hey, you can make enough money to put a down payment on a Flyer! Just remember, it only works if you do it on the fly—no editing or dubbing. Try it. Let me know how it turns out. But stay out of Simi Valley. I've got that all locked up.

More Christmas Tips

There's a whole bunch of nice little effects that you can access in the Toaster 2.0 AA book in the Toaster Setup Screen. If you're running 2.0, you already know about these effects, but if you're a 3.1 user or higher, you have probably neglected them. Check 'em out again and see if you can put them

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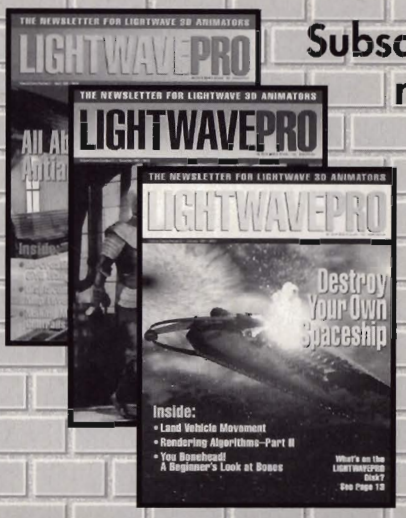

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Second Story
Space Available

Running out of space in your 4000?

The HIGHFLYER was designed for the Toaster 4000 user that would like to make use of all four Zorro III and three powered PC slots with the Toaster installed. The HIGHFLYER is also especially useful when used with the Flyer Editing System from Newtek. In addition to the extra slots it also provides an extra venting fan, room for up to six 3.5 X 1 inch or four 1.7 inch drives, three 50 Pin Cent.- two DB9 cutouts and an additional 250 W power supply. HIGHFLYER cable kit allows connection of external 9 Gig drives without removing the cover. The HIGHFLYER installs in minutes using just a screwdriver and maintains the same footprint. All metal double high cover is painted same color as the original.

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FOR INFORMATION CIRCLE 143

to work in a commercial. On the A Bank you'll find #24 & #25, the Tumble in and out Center Transitions. Remember, you can get the effect name by hitting the right parenthesis key at the top of your keypad. You'll also see #38, the Spin Explode effect. On the B Bank check out #37 and #38, the ever-popular Peel Fly Away and Sphere Join-Up. On the C Bank try #37, the Skyline effect. This works well for some real estate dealers. On the F Bank you'll find #13, the Overshoot effect, and #24, the Expanding Trails effect. These are not "old" effects simply because they happen to be a part of Toaster 2.0. Viewing them can help you get your creative juices going and expand your imaginative horizons. Try clicking on each effect and then running the T-Bar control frontward and backward. You'll get a lot of ideas on how to make your copy move, jump on and off screen, and expand and contract. Remember, these transitions are just a load-up away.

The Proscenium Effect!

If you are like me, your working conditions are such that you have to go out and shoot a cable TV commercial in a very short span of time. Let's face it: we're not getting paid enough to do a really first-class job of cross- and back-lighting and plotting unique camera angles. So sometimes we get back to the studio and take a look at the taped footage and think, "Hey, this really looks bare." The proscenium effect to the rescue! This creates a window in which your commercial appears. It's just like the Letterbox effect except it has the sides filled in to make a complete window. Your client will love it just as much as the Letterbox effect, too, because it allows you to have the client's name at the top of the screen and a phone number at the bottom throughout the entire 30 seconds.

The template is easy to build. Just go into ToasterPaint and click on a medium-size square brush, and then click down a brush point (using the Coordinates feature) at 77 x 77 at the top left corner and another one at 675 x 400 at the bottom right corner. Now, click on the rectangle tool and draw a rectangle out from the top left mark to the bottom right mark. This is the basis of your template.

Now You Can Get Creative!

Use Alpha Paint, ProFils or your favorite paint program to generate a nice background and a couple of complementary colors around the inner border to add some class. Make the name at the top or the phone number at the bottom project into the black area.

This Proscenium/Letterbox effect is ready for Framestores or live video.

Just remember that the inside black area has to be 0 black so it will key, and any black areas that you use in the template, including any borders or drop shadows, have to be 16 to 32 black or higher so they won't drop out if you're keying a picture behind this template. If you're not keying and just texture-mapping scenes inside the template, you won't have to worry about your black levels. To have the name or phone number project into the inside area, you'll have to put your original template in the Swap Screen and then texture-map the scene over the name and phone number in the main screen. Then, click on the RubThru mode and either the Rectangle or the Straight Line tool (depending on whether your projection is square or odd-shaped) and the Fill tool. Switching Swap Screens to get your coordinates, bring the name and phone number back into the texture-mapped scene. Be sure to save your work right away because it can get confusing going back and forth to your Swap Screen. Remember, too, that if you're using a cuts-only editing system you'll have to come up in and go out on a Framestore. And if you're putting live video inside the template, you'll only be able to do cuts between scenes, but don't worry about this because the novelty of the presentation more than makes up for the lack of effects. Also, the commercial world is monkey see, monkey do. You can see that for yourself just by watching TV. As soon as a new commercial technique appears, all the other producers jump on it and imitate it to death. So try to anticipate cycles in TV production. No, I'm not asking you to take up soothsaying, but watch for the right time to revive an old gimmick and the right time to bury a new one. Try to go against the grain and stand out, which is one of the goals of advertising.

One more tip: Try using the Soft Oval Wipe Out effect in the H Bank on the Toaster 4000 book as a template effect. You can drag this effect out over a textured Framestore and then leave it in the same place throughout the commercial while you pop in scenes inside it. Again, you can only do cuts and you can't use supers, but this effect gives a very pleasing—and new—look to your commercial.

Again, thanks to you all and I'll see you in the New Year!

VTU

Burt Wilson can be reached on the Internet at burtwilson@aol.com. His latest book is "Complete Post Production with the Video Toaster."

EDITORIAL EVALUATION
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Very Useful	Useful	Not Useful
Circle 027	Circle 028	Circle 029

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Thursday, December 14

8:30am - 10:30am

LightWave & Modeler Essentials ..... John Gross

John Gross, Supervising Animator of Amblin Imaging and Editor of LIGHTWAVEPRO is currently supervising effects for Star Trek Voyager. John is the writer of the LightWave Layout Users Guide for 4.0 and also writes Video Toaster User's popular monthly column, Dear John.

11:00am - 1:00pm

Organic Modeling ..... Grant Boucher

2:30pm - 4:30pm

Character Animation — Beginnings ..... John Parenteau

Friday, December 15

8:30am - 10:30am

Advanced LightWave & Modeler—Open Forum Q & A ..... John Gross

11:00am - 1:00pm

Advanced Displacement Mapping ..... Grant Boucher

Grant Boucher, Head of Special Projects at Amblin Imaging, has been animating for 18 yrs. and currently supervises CGI effects for Star Trek Voyager, seaQuest DSV, Baywatch, Legend and Slider.

2:30pm - 4:30pm

Character Animation — Motion ..... John Parenteau

Saturday, December 16

8:30am - 10:30am

Lighting & Camera Angles - Production Workshop ..... John Parenteau

John Parenteau, Vice President/General Manager at Amblin Imaging, is a seasoned expert in all aspects of production — lighting, cinematography, camera design and character animation.

11:00am - 1:00pm

3D Compositing for Video ..... John Gross

2:30pm - 4:30pm

Real-World Special Effects ..... Grant Boucher

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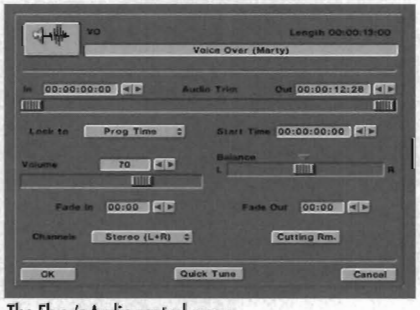
THE FLYER SUITE

Getting Better All the Time

Audio, Heat and Backups

by Frank Kelly

As we approach the end of the year, it's gratifying to see that NewTek is almost finished with the original release version of Toaster Flyer NLE software (version 4.1). Some feel that the celebration of Thanksgiving is an appropriate timing for such an event. Though I am truly "thankful" for the bounty I have received in the latest software, I have a special appreciation for those who are more than a bit frustrated at how long it has taken NewTek to "get it right." For those of you new to this column, I have been working with the Flyer since the initial 3.94 release, which was, to say the least, "under construction," and not stable enough for most professional applications. In fairness to NewTek, the company made no claim that 3.94 would be a finished product. But to those of us who invested large sums (even with rebates and other incentives), the time between the first version and version 4.06 (with several iterations in between) was practically unbearable from a professional standpoint. Incompatibilities with hard drive firmware (which were out of NewTek's control) have been—and will continue to be—handled quickly due to NewTek's direct intervention. Issues relating to Flyer software improvements are being given priority over other previously scheduled development. It would appear that NewTek is taking *all* the steps necessary to ensure that Flyer owners (present and future) will be satisfied customers. It's clear that NewTek understands that the success of Video Toaster for Windows will be heavily influenced by the perception of the Video Toaster Flyer product as it exists on the Amiga.



The Flyer's Audio control menu

At press time I am working with version 4.07, the most stable and productive software release to date. Some of the features I mentioned in last month's column have become invaluable in daily on-line edit situations, and in all but a few rare instances, the software has been relatively trouble-free.

Auto Split Edits

One of the most powerful features as of the 4.06 release is the "Auto split edit" function. Split edits, or "cutaways," are used a great deal in news and reality-based programs. A scene will usually begin with commentary by someone on camera. While the audio continues from the original clip, video (and some incidental audio) from another source or series of sources is displayed. For the sake of continuity, the sequence will usually conclude by returning to the original setting, all the while maintaining perfect audio sync. In a tape-based edit suite, you can easily insert video segments to audio cues. If effects are desired between edits or in live switch situations, a previously edited sequence is inserted or a multi-machine roll is required. The complexity of such an operation can be compounded by the back timing of audio cues and, in some cases, the desire to use video effects or graphic keys to emphasize a particular element. In many ways, the split edit is the most demanding test of both the skill of the person doing the editing and the equipment used. Thankfully, the Flyer allows the use of effects between clips with relative ease, and unlike its tape-based counterpart, effects and edit points are easily changed without extensive re-edits. Another new add-on is the Flyer's ability to display CGs across consecutive video clips (as long as they are not separated by effects).

In previous versions of the Flyer, the process of setting a split edit involved a great deal of experimentation with in/out points and duplication of clips before arriving at an acceptable result. Now the process is quick and painless. You start by placing the clip that will begin your split edit sequence into the edit window. For the sake of explanation, we'll refer to this clip as the "reference" clip. Before you set any in/out points, highlight this clip and select Duplicate. Now place the clip(s) that will contain your video cutaway(s) in between the two previously placed reference clips. Highlight the first reference clip in the sequence and set the outpoint where you would like the first cutaway to begin. (There is no need to set any in/out points on the second reference clip.) Once the outpoint is set for the first reference clip, click Continue.

The next step is to mark the in/out points for your cutaway(s). After these points are set, click-select (to select multiple clips) all the clips that will be involved in the split edit, including the duplicate reference clip at the end of the cutaway sequence. While the clips are highlighted, press the (Alt) and (S) keys simultaneously. This operation will automatically set the appropriate in/out timings so that the audio from the reference clip at the beginning of the sequence will precisely match the returning edit point for the reference clip at the end of the sequence. The result: a flawless split edit. Unlike the Edit-to-Music feature, this procedure works just as well with effects already placed between clips.

One of the first projects I edited with the new split edit function involved making dissolve transitions throughout the entire edit sequence. Had I tried to accomplish this with my A/B-roll, tape-based (linear) edit suite, I would have made at

least two separate B-roll copies of my footage and a great deal of match-frame edits. Though I have now become accustomed to some of the time-saving features of the non-linear Flyer, I am finding that its most promising role is as a stress reducer. In the past (when using my tape-based suite), if clients waited until several edits had passed before changing their minds about a nuance in a split edit, I would quietly (and sometimes not so quietly) go mad anticipating all the extra work that would be required. Today I sit in relative calm when such "creative input" comes from indecisive clients because the Flyer's features for the most part allow the flexibility and speed necessary to accommodate their whims with little fuss or bother. But enough raves—on with the tips!

The Freeze-Frame Effect

There are times when freezing the video at a particular point in a sequence is very effective. Essentially, there are two ways to accomplish this: (1) Do the freeze frame at the time you capture the footage into a clip (by using the Freeze Frame function of the TBC), or (2) Use TPaint's Process function to grab the frame or field you wish and edit (by straight cut) the clip from its original source sequence.

The downside to using the TBC method is that you are stuck with that particular field/frame for your edit. If you change your mind at some point, you need to recapture the sequence over again. It's also difficult sometimes to manually freeze the video at precisely the right place in the sequence. If there is any horizontal motion in the video at the time of the freeze, you must use the "Field" freeze mode, which occasionally degrades the picture to unacceptable levels. By using TPaint's Process command, you can grab a field or frame and send it to the framebuffer for capture as a Flyer clip. Then, editing directly to the clip from your source sequence will be easy. I originally tried this method by making both a Framestore and a Flyer Still, but this produced unpredictable results. The edit out point (the end of the original clip where the freeze was to occur) would shift depending on whether I used the "play from" or "play from beginning" methods. I later found this shift to be a problem induced by the Toaster framebuffer's loading of stills, and discovered that it would disappear if I replaced the still with a Flyer clip recording of the Framestore.

It's Like a Heatwave!

Lately, I've seen many posts on NewTek's BBS and CompuServe's Amiga Vendor NewTek Forum describing unusual Flyer behavior directly attributable to overheating: erratic playback of clips (they play back fine when you first start up the Flyer, but after awhile the clips display garbled video), audio left/right fluttering and mysterious lockups when saving files. In many (but not all) of these cases, the problems disappear when the computer cover is left off or some sort of ventilation improvements are made to the case where the Flyer is installed. I was told by NewTek that the

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FOR INFORMATION CIRCLE 183

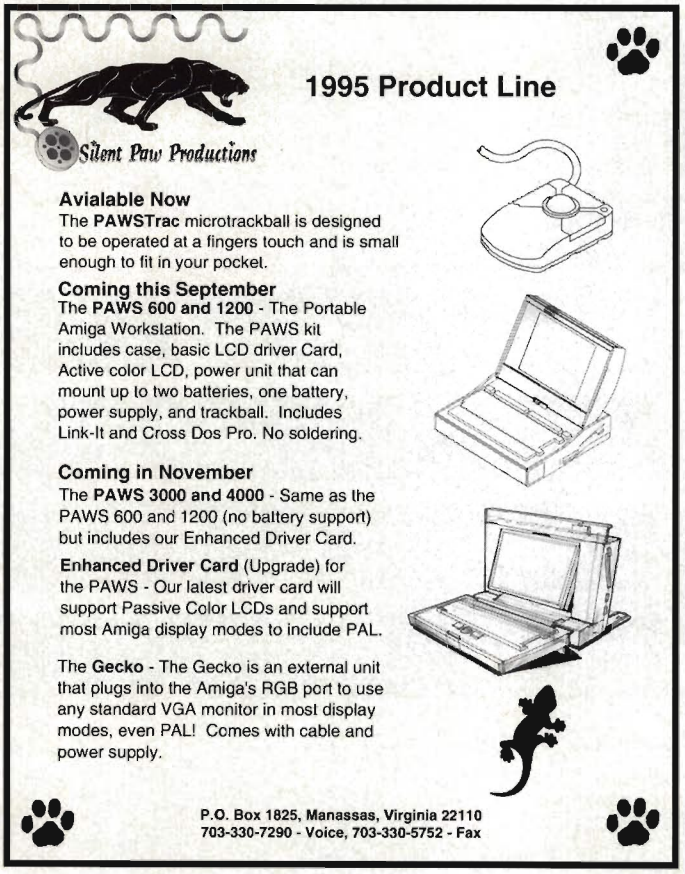
HQ-5 default settings significantly increase the clock rate of the chips on the Flyer board and therefore cause much more heat. So for those who previously had no visible problems under version 4.04 (or any version under which they did not use the HQ-5 default mode) and are now experiencing erratic behavior after changing to the HQ-5 default settings, it is likely a heat-related problem.

Before you rip the cover off your computer and go "topless" for dramatic effect, there are a couple of other things you might try. You could use the (F10) key to bring up the Preferences panel and turn off the HQ-5 default. Then, exit the Toaster software using Quit or (Ctrl–Alt–F10). Wait for the machine to cool off a bit, and try to live awhile working in SP mode for the capture/playback of clips to determine if the problems have disappeared. If this procedure solves your erratic Flyer behavior, then it's time to investigate ways of reducing the heat of the components inside the computer.

Incidentally, many of the A4000s originally came from the factory with the ventilation fan installed backward, which causes rapid overheating. You can easily check for this oversight by placing a piece of tissue paper near the fan when the computer is on. If the paper is drawn *toward* the fan, it's improperly installed. Another possible culprit to investigate is the A4000's power supply. Under optimum working conditions, it only pumps out about 160 watts. When strained to its limits, the power supply will throw off more heat (not to mention the heat from other components it's supplying power to). There is an upgrade available from Micro R&D that will replace the components of the existing A4000 power supply and provide a more-than-adequate 300 watts. This solution is well worth the expense and will reduce the heat.

The best way to decrease the heat, however, is to increase the ventilation. Even in non-A4000 cases, the Flyer board and other components can throw off a lot of heat. Accelerators are especially prone to giving off excessive heat and will perform poorly without proper cooling. There are a few "fan cards" available for PCs that can be used in larger cases such as Toaster Ovens or A2000 model Amigas. No special power connections are required since the fan cards use existing PC slots for power. There are also CPU fans that can be easily connected by using the extra drive power connectors available from your existing power supply. The mounting of these fans may require cutting larger vent holes into your computer case to allow better airflow.

Speaking of airflow, you should make certain there is some space (at least three inches) available on the top and sides of your computer casing. Another less obvious troublemaker is the computer monitor. Most of us have become accustomed to placing our monitors directly on top of the CPU case. Because heat rises, the top of your CPU case essentially becomes a heat sink. By allowing as much area as possible to be exposed to an airflow, your CPU can dissipate the heat more efficiently. One note left on NewTek's BBS suggested that a couple of wooden blocks placed on the edges of the CPU



FOR INFORMATION CIRCLE 137

FOR INFORMATION CIRCLE 148

casing to elevate the monitor would significantly increase the cooling of the computer case, and thus its internal components.

Exabyte Backup Relief

Backing up large projects (or even small ones) has left many Flyer owners searching for the most appropriate, cost-effective solution. One of the most reliable and popular large storage formats has been Exabyte tape. The largest uncompressed single-tape capacity in the Exabyte line is the 8505XL, which holds a full 7GB of information on a single tape and 14GB of compressed data. As of this writing, the Flyer backup utility has only proven to be completely reliable when working with systems that store and retrieve uncompressed data. Unfortunately, the 8505XL comes preconfigured at the factory to work in a "compressed" data mode. This mode slows down the Flyer's backup process considerably and cannot be relied upon to completely restore all clips. According to Exabyte, the compression on/off toggle has to be executed by the controlling software at the firmware level. At the present time, NewTek's backup utility does not provide this type of support. There are two ways for the end user to set the compression on/off toggle. One is to purchase an interface kit from Exabyte and then download the appropriate code from the company's BBS. This approach requires the use of a DOS computer to operate, but it will allow the end user to download the firmware code to set compression on or off as needed. It's the best method for those using the Exabyte on multiple platforms who want to take full advantage of the compressed data mode. On Flyer systems, the compressed data mode doesn't really have any impact because evidently the file structure for its video clips doesn't allow for any interpretive compression, so no appreciable advantage is obtained.

The other solution for setting data compression off on the Exabyte 8505XL is to purchase a DAT tape, which the tape drive will read and download the firmware code from automatically. The DAT tape costs $22 (part #313183-000); the phone number for Exabyte sales is (800) 392-8273. If you ever want to turn compression back on again, you will need to purchase a different tape (part #313167-000), which is also $22.

Flyer Recall

A few early Flyer boards had an improper value for a specific capacitor. In many instances, there was no problem in the performance of the Flyer card itself. However, NewTek advises Flyer card owners who haven't already been contacted regarding a recall to examine their Flyer cards to see if they might be among those affected.

If your Flyer card serial number is between 8001077 and 8002967, here's how to tell if your Flyer is covered by the recall. First, on the side of the card with all of the ports and most of the chips (nominally the "face" or front of the Flyer board), at the end that would be toward the front of the computer, look for the following notation etched just above the bottom edge of the card: Version 1 Release 1 CS445.

If your card has it, check for the recall fault as follows: Turn your board over and look at the back side. Orient the board so that the RCA connectors are pointing at you, with the S-Video connector on the left. Just over one inch in from the second RCA jack from the right is a row of two black rectangular components and one yellow component. If the first black component, the one closest to the RCA jack, is a part rated at 6 V rather than 12 V, you need to contact NewTek about recall and replacement of this part of the board.

One Last Thing

On some of the original 4.06 and 4.06b file archives, there was an error in a readme file that reported the wrong key combination for performing an auto split edit. The file reports that you should use (Alt–U), where it should read (Alt–S). VTU

Frank Kelly can be reached on-line at 76527.723@compuserve.com.

FOR INFORMATION CIRCLE 115

SLICES

Your Day of Happiness

TPaint Tips and Tutorial to Supplement the Manual

by James Hebert

Last month, I left off recommending a pair of 3D animation books, one of which was cleverly delayed by the shipping department of one of those overnight services. It is now in hand, and I heartily recommend it to anyone who wants to know more about 3D animation. Without further delay, here are the particulars:

The volume is titled "Principles of Three-Dimensional Computer Animation," by Michael

Figure 1

Figure 2

O'Rourke (W.W. Norton & Company, ISBN 0-393-70202-2). It's priced at $49.95. (Most textbook-style products tend to be priced in the $30-$75 range.)

The book is designed for people who work with, or intend to work with, 3D animation. It neither assumes nor requires prior 3D animation experience or mathematics expertise. On the other hand, it's not a beginner's primer either. I found that "Principles" enhanced my understanding of 3D animation immensely, but interestingly enough, it mentions nary a single 3D software package. The tome is written to be software-independent, yet at the same time I felt an eerie feeling of déjà vu while reading it. This book succeeds very well at describing functions in LightWave while never once mentioning the product! Overall, it's the best single volume I have found on 3D animation for novice and intermediate LightWave users.

On the other hand, I still notice a great lack of published information on animation *techniques*. Anticipation, fluid motion, dynamics, particles, fire and other advanced tricks of the trade remain at arm's length. Though this may sound like nepotism, I truly believe that the best source for training in animation techniques lies in the pages of *LIGHTWAVEPRO*. The recent videos on LightWave that I've seen advertised in the pages of *VTU* may also be of great benefit, but not having watched them, I cannot say either way.

On to Greener Pastures

A reader sent me a letter that I could not respond to in my last column for lack of space. He is new to the Toaster, and having the most recent set of documentation, he is having difficulty learning ToasterPaint. The manual serves as a terrific reference to the Toaster, but unfortunately, it doesn't delve into the friendly, user-oriented material that a manual needs in order to convey the strength of a program. Perhaps, in the case of TPaint, I can add to the documentation in the space allotted here.

TPaint is a subtle and surprising package. You can achieve wonderful results with a few keystrokes, yet if you're not extremely careful, you can confuse yourself 46 ways from Sunday. In fact, I sat in on the TPaint session led by Bob Anderson at SIGGRAPH and found that even Bob could be surprised by TPaint's little "gotchas," which made me feel better. The trick is that you just need to be aware of the things most likely to cause mistakes. If you are, these setbacks become minor nuisances. Ultimately, you consider them par for the course and simply correct things as you go.

For example, while in TPaint, you can turn on a function called Transparency, which changes the

nature of the paint you draw with. If you were drawing with a solid blue, in Transparency, the color would be a pale, see-through blue. It's easy to change from drawing solid colors to drawing in the Lighten or Darken mode and forget that Transparency remains active. Therefore, you may go to lighten a portion of the image and find that it turns only the slightest shade lighter. What happened? Obviously, another TPaint setting is interfering with the drawing style you want to use. The more familiar you are with TPaint, the more easily you can recover from this error.

The first step is to Undo the too-faint Lighten operation by clicking on the Undo button. The next step is to go to the Transparency/Warping control panel and turn off Transparency. The last step is to select Redo. This will redraw the area that had appeared too faint with the full Lighten effect.

You'll find as you use TPaint that a few specific controls will almost always catch you off guard, causing you to make a drawing error. Don't worry, because there's always the Undo button! Even better, once you turn off the offending control, you have the Redo button! In fact, the most talented TPaint operators I know do a lot of Undo-ing and Redo-ing as they work. They do this for two reasons, really. One, they are undoing an error caused by another TPaint control that was left on. Two, they are experimenting with different settings to find the right one or perhaps the right amount.

Typically, those controls that cause you to draw the wrong thing are the Transparency settings or the drawing mode. If you learn to pay close attention to the steps you follow and keep an eye on these things, you'll begin to recognize those moments when you're inclined to make an error. It's easy to forget these controls because they do not remain visible on screen when you go to draw. (If TPaint had a menuing system that displayed a constant status of the active controls for the current drawing mode, it would be much easier to see when you're about to err. This sounds like a feature for the next round of software.)

Here's a TPaint tip you'll find useful: Sometimes the new TPaint can become confused when drawing solid filled shapes (such as rectangles). It will draw only their outline. When this happens, press (u) (for Undo), (shift–r) (the keyboard shortcut for selecting filled rectangles), then (a) (for Again, or Redo). This resets TPaint properly and re-performs the drawing operation correctly.

The images that follow detail a simple TPaint tutorial on creating over-the-shoulder graphics from freeze-frames. Calling these over-the-shoulder graphics is too limiting, in truth. Using this technique you can resize any image to fit most any situation, shape or angle. Here I will show you how to load a full-screen image and resize it as an over-the-shoulder style graphic. I will also show you a couple of alternate images that came to mind as I built this short tutorial.

One aspect of this technique that you should be aware of is that it requires that no swap brush be currently active. (If you have already cut out one brush during the current session and you're using TPaint 4.0, you'll need to go to the Options panel and select the Delete/Swap Brush option. With TPaint 3.5 and earlier, you need to select the Brush menu, then the Swap submenu, and then the item titled Delete Swap Brush.)

Also, one benefit of this trick is that you can resize full-screen images into smaller brushes, even on low-memory systems, because you are not using the Swap Screen (or even cutting out and resizing a large brush). With the new Toaster and TPaint software, this may be a critical item on Amiga 2000-based systems.

Figure 1

Load an image. (In this case, I had handy a still from the wedding of my wife's sister, Candi, and her husband, Dainer.)

Figure 2

Now select the Rectangle drawing tool, followed by the Solid but-

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ton. Press the (g) key on the keyboard. (This key turns on the coordinate display, which appears on top of the Drawing Mode button on the Tools panel.) It's helpful when

Figure 3

you can see the coordinates for this step. The coordinate display treats the screen as a two-dimensional grid of pixels in the X and Y axes. The X axis runs from left to right, starting at 0. The Y axis runs from top to bottom, starting at 0. Therefore, a coordinate of 0, 0 means that the pointer is in the upper left-hand corner of the screen.

Go to any point on the screen and drag out a rectangle. If you plan to use the full-sized image, as I do, remember to drag out a rectangle that retains a rough 4:3 aspect ratio (i.e., 4 pixels wide by 3 pixels high, 40 pixels wide by 30 pixels high, or 200 pixels high by 150 pixels wide). This ratio keeps the graphic correct (and it looks correct on TV screens since they also use this ratio).

Once the rectangle has been drawn, press the (u) key (or click the Undo button). This removes it from the screen, as if you had never drawn it. However, TPaint remembers.

Figure 3

Now select the TxMap drawing mode from the drawing mode pop-up. (If you're into keyboard shortcuts, press 7 on your keyboard.) This puts TPaint into its texture-mapping mode. Go to the Transparency/Warp panel and turn on the Antialias button you see there. Click the Redo button.

TPaint will redraw the box, using the entire screen as your brush. The entire screen image will be drawn in miniature as it fills the box shape. The Antialias button causes TPaint to smooth the image that it resizes. In 99% of the cases where you will resize images, you will want Antialias turned on. Frankly, in over five years of Toaster usage, I have never turned it off!

Figure 4

In this figure, I have simply returned to the Normal drawing mode and, using a solid filled rectangle and the color black, blacked out the portions of the screen around my new graphic (since I do not need them).

At this point, you have a nifty

Figure 4

over-the-shoulder graphic. You can further modify this image in a number of ways to massage it into your video productions.

Figure 5

Here's one way to modify the image. I altered it slightly, then cut it out as a brush and placed it over a copy of the original image with all of the color removed. In fact, this shot demonstrates both a graphically interesting technique and a bad design flaw at the same time. Can you tell what they are?

The technique I consider visually interesting is one that makes the smaller graphic appear to be a 3D embossed tile. This is a simple application of the Lighten and Darken drawing modes. You can apply this look to any visual, but it's particularly effective with rectangular or square graphics.

With Lighten selected, I drew a horizontal box along the top edge of the image. Then I drew a vertical box along its left side. With Darken selected, I did the same for the bottom edge and the right side. The result is the appearance of highlight and shadow. (For more exact positioning, you can use the Set Grid and Use Grid buttons to overlay an invisible sheet of graph paper onto the screen. This makes for more accurate placement of the highlight and shadow effects.)

I also used Darken to draw an additional box just to the right of the graphic and one more just below it. The effect is something like a 3D shadow falling onto the image in the background.

The bad design flaw—have you noticed it? It's not subtle. In my zeal to show off some ideas for separating the graphic from the background, I inadvertently placed the over-the-shoulder graphic right over the bride's face in the background image! If the background image was fuzzy or out of focus, this might have been excusable. As it is, I'll never land that advertising job! Pay attention to your work and you'll be able to avoid mistakes like this. A better solution would have been to inset the smaller graphic over something more generic yet related to the wedding, like a shot of the bride's bouquet.

Figure 5

Figure 6

I like this shot because it's something similar to what you might see in a commercial for a perfume. It immediately sets a wistful, reminiscent mood. This effect came out of an experiment to see what an inset graphic would look like if I stripped the background of color.

The inset is, of course, the entire

continued on page 39

WHICH GIFT WILL STILL BE AROUND NEXT SUMMER?

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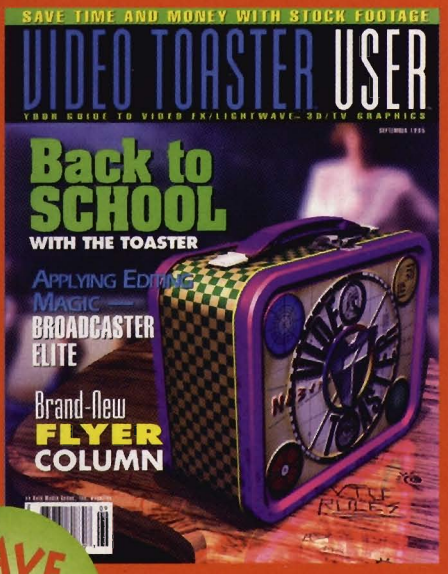

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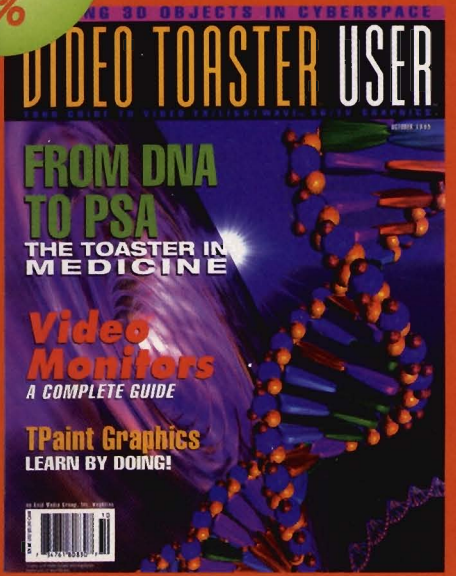

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CYBERSPACE

'I'll Take That...and That...'

Quick Fixes for ADPro, IFX and Virtual Memory Junkies

by Geoffrey Williams

Let's continue last month's wanderings through cyberspace with a look at a few more useful utilities available online.

CD-ROM Stuff

It's amazing how I can write about a program one month and find something significantly better weeks later. Last time I wrote about a way to play CDXL animations, the format used on Amiga CD-ROMs for animation. It was pretty basic and clunky, but I just came across a player by Stuart Tomlinson with a full user interface that is a whole lot easier to use and much more capable (Figure 1). It has automatic color correction for improving the quality of HAM playback, and you can select a playback speed, determine how long to hold the last frame and set the number of loops. This player even has a simple database for loading animations and backdrops.

CD-ROMs are great, but typically there are only a few things on any one that you actually use, and those items are usually nested down several levels in a subdirectory of some name that you may no longer recall. You can copy the utilities to an easy-to-find drawer on your hard drive, but that uses up valuable space and defeats the great advantage of having inexpensive discs for storage. An alternative is Carsten Schuberts' Scriptfile. If you drag an icon from any program on a CD-ROM over the Scriptfile appicon or appwindow, Scriptfile will generate a batchfile containing the complete pathname to that file and an icon with the same image as that of the original program. Both can be found in a preset drawer of your choosing. Double-click the icon and the program will be started from the CD, prompting you if you need to put it in the drive. Scriptfile can handle pictures, music, animations, text, and archives such as lha, arc, zoo, zip, tar, lhasfx, zoom, warp and dms.

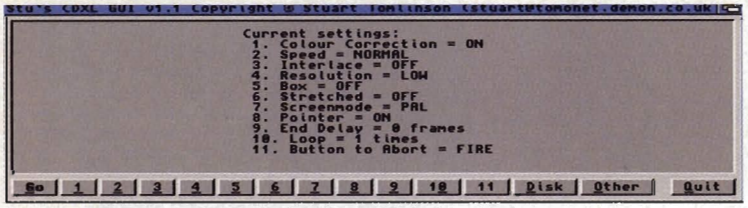

Figure 1: CDXL animations are easily played back with Tomlinson's utility.

Image-Processing Helpers

Some neat new goodies for ImageFX, the commercial image-processing program, are now floating around in cyberspace. Of the following four, the first three are by Paul Huxham and the last is by Paul Huxham and Steve Quartly.

Remember those booths at the mall that would take your picture with a video camera and convert it into an image made up of typewriter characters? (The kind that still looked like you if you squinted a little or looked at it from a distance?) The characters on your keyboard are called ASCII characters, the standard way to define the letters of the alphabet and symbols that are universally recognized. (ASCII text is readable by any computer.) ASCII saver (IFXASCII.lha) gives ImageFX the capability to turn any image into one made up of letters and symbols. These images can be easily sent as e-mail and viewed on any computer, or you can make them up just for your own idle amusement. It's amazing how good an image can look within the limitations of just letters and symbols.

PHBalance (ifxphbln.lha) provides an alternative to the ImageFX balance controls. It has the same features as the regular ImageFX balance control but also has a "Do & Stay" button that lets you continually adjust and experiment with the balance adjustments without leaving the balance control interface. There are also 10 presets where you can store and recall balance settings.

YCrCb is a loader that can load image files saved by GVP's TBCPlus timebase corrector. The TBCPlus uses its own file format, a digital color television transmission space that, like NTSC, separates the chroma and luma in the signal. It's called YCrCb 601-1, and this loader is able to load most images saved in this format directly into ImageFX.

PSDSird (ifxpssrd.lha) converts images into Random Dot Stereograms (RDS), those images that make people go cross-eyed in the malls trying to see the picture hidden within the random spray of dots. This saver can make three types of RDS images using black and white random dots, color random dots, or an image that it will repeat across the screen.

Krzysztof Sporysz vel Kiviks' name may be a mouthful, but he has written a rather impressive ARexx macro for ImageFX called Flood-It. Say, for example, that you have a picture with some text across the top. You can color in the text with a specific color and set the box region. Flood-It will replace pixels of that color by averaging them with the colors of adjoining pixels. In many cases, this macro gives remarkably good results, restoring the picture to a state fairly close to the original version.

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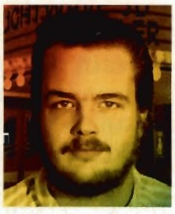
TAMING THE WAVE

Holiday Cheer

Our Gift to You: Modeling a Winter Favorite

by David Hopkins



Well, well, if it isn't the holiday season! Ho ho ho and all that good stuff. You know, I've been writing this column for a number of years now and never once have I offered a season-themed tutorial. So perhaps now is the time. Step up to your trusty LightWave and let's spread a little holiday cheer, eh?

To begin our festive learning experience, let's whip up a good old-fashioned candy cane (Figure 1). Sounds pretty simple, right? It doesn't? Well, it is!

Figure 1

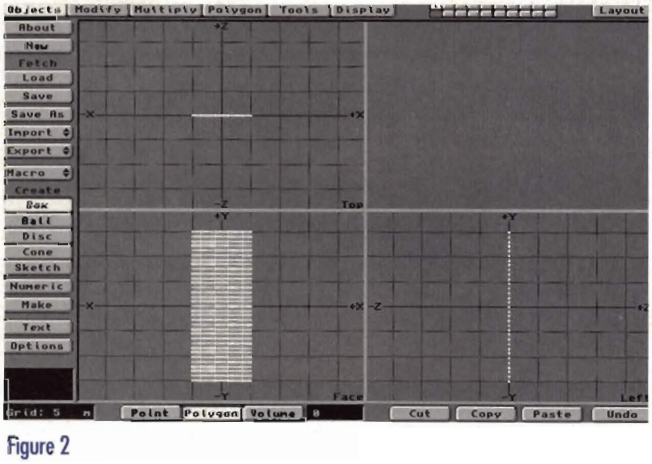


Figure 2

As usual, make sure that you have nothing loaded into LightWave or Modeler before beginning. In Modeler's layer 1, choose the Box tool, and then press the (n) key to bring up the Numeric options. Set the Lows to X = -5, Y = -15, Z = 0. The Highs should be X = 5, Y = 15, Z = 0, and the Segments at X = 32, Y = 32, Z = 0. Check that you're working in Meter units, click OK and hit Make. We now have a tall, thin, flat plane with many polygons (Figure 2). Weren't we making a candy cane? Just hang in there...

Now, press the (q) key to bring up the Surface Name requester and define the name as "CandyFlat". Switch to the Rotate tool (found in the Modify menu) and place your pointer at the 0, 0, 0 (World Center) position in the view labeled "Face". Hold the left mouse button down and rotate the object approximately -50 degrees, and then release the mouse button. It is important to perform this step in only one attempt, so if you don't get it right the first time, Undo and try again. You should end up with something like Figure 3. Export this object into LightWave and name it "Candy Cane_Flat.lwob", and then click Undo before you do anything else. The object returns to its upright position (assuming you really didn't click anything else), and we're ready for the next step.

Choose Bend from the Modify menu and, this time, place the pointer at the 0, 0, 0 position in the Left view. Click and hold the left mouse button while dragging the mouse to the right. You'll notice that the flat plane is now curling up in the Top view. Continue curling it until the readout in the bottom-left corner of Modeler's screen reads 360 degrees, release the mouse button and click Undo. Press the (N) key to bring up the Numeric panel again. Ensure that the Angle is 360 and the Direction is 90, then click Apply. Your plane coils into a perfect tube (Figure 4).

So why did we Do, Undo, and then Redo that bend? Because it is very easy to use the visual technique to get close to the form you want, and then edit the values so they are more exact. Since Modeler keeps the values you defined by manipulating the object yourself even after you Undo, you don't need to try to figure out if you were moving positive or negative, or even if you have exactly the right values. Also, Modeler only allows you to see a numeric readout of the Angle while you make your adjustments, and it is far too easy to disrupt the Direction. A *tiny* amount is all it takes. This little bit would, of course, seriously damage our candy cane.

To avoid confusion in the future, set the surface name for the polygons in the tube to "CandyTubed". Center the tube by pressing (F1), then export it to LightWave as "CandyCane_Tubed.lwob".

All right, it's time for some more bending. Create an Exclude Volume Selection box that encloses the top half of the tube in the Face view (Figure 5). Choose the Bend tool again, but this time just hit Numeric to begin with. Set the Axis to Y, the Angle to 193 and the

continued on page 42

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RAPID TURN AROUND!

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Direction to 0, then click Apply. Our candy cane is now hooked (Figure 6). The bend past a true 90 degrees was intentional, since few candy canes have a perfect hook. Set the surface name to "CandyHooked" and then Export it to LightWave as "CandyCane_Hooked.lwob".

We're done Modeling for the moment, so enter LightWave. You should see all three candy cane parts ready and waiting. The first order of business is to set up the Morph targets. For "CandyCane_Flat", set the Metamorph value (on the Objects panel) to 100%. The Morph Target should be "CandyCane_Tubed". "CandyCane_Tubed"'s Metamorph value should also be 100%, with "CandyCane_Hooked" as the target, and the Object Dissolve value should be 100%. Finally, set the Object Dissolve value for "CandyCane_Hooked" to 100%. Now, when you look at your Layout screen, you should see only the "Hooked" shape.

So, what about stripes? Bah humbug—did we actually forget to put stripes on our candy cane? Nope; that's why we tilted the "CandyFlat" object 50 degrees, remember? If you knew that already, reward yourself with another serving of eggnog.

In the Surfaces panel, choose the "CandyFlat" surface. Click on the Surface Color Texture button (that little T next to the Surface Color) and choose the Grid Procedural Texture. Set the Texture Size to X = 100, Y = 2, Z = 100, the Texture Color to a vivid red, and the Line Thickness to .5. Then click OK.

Set the Specularity to around 60% (or whatever you wish), Glossiness at Medium and Smoothing on. Save All Objects to assure that the texture stays put for future sessions. Turn the candy cane (by using the "CandyCane_Flat" object) so you can see it better, then render a frame. Now that's a candy cane.

Here's the gist of what's happening here: We've mapped grid lines across the "CandyFlat" surface. These lines (as generated by LightWave's Grid Procedural Texture) run only horizontally or vertically, right? Right, except the object containing this surface is rotated 50 degrees. By morphing this object into the "Tubed" object (which is *not* rotated), the grid lines appear to run diagonally up the tube. If you were trying to achieve a plastic straw or a barber's pole, you could stop right there. We, however, being the joyful Christmas souls that we are, demand a candy cane, and candy cane stripes must wrap properly all the way around the curve of the cane. By morphing that strawlike form into the cane shape, the lines come along for the ride.

You'll notice that we have no "ends" on our candy cane. This can be remedied by simply grabbing the appropriate points from the "CandyCane_Hooked" object in Modeler, copying them to another layer, and making polygons out of them. It's important that they be separate objects so that the morphs work appropriately. In LightWave, parent these pieces to the "CandyCane_Flat" object. Getting the stripes to flow over the ends is more complicated, but with a bit of experimentation, I'm sure you'll find a way.

Now that our holiday spirit is satiated, let's move on to a few of the more mundane items. Have you ever tried to use the same image sequence more than once in a single animation? You know, like when you want multiple explosions in a shot? (Perfect for blowing up candy canes!) Of course, each one needs to have a different frame offset so that all of the explosions don't go off in unison. The problem is that LightWave only lets you have a single off-

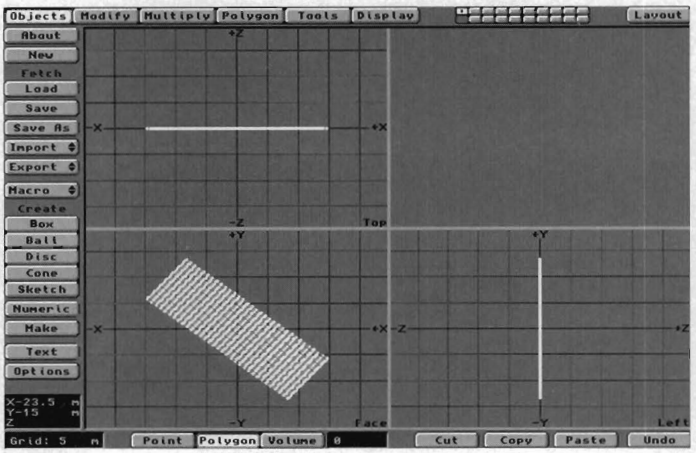

Figure 3

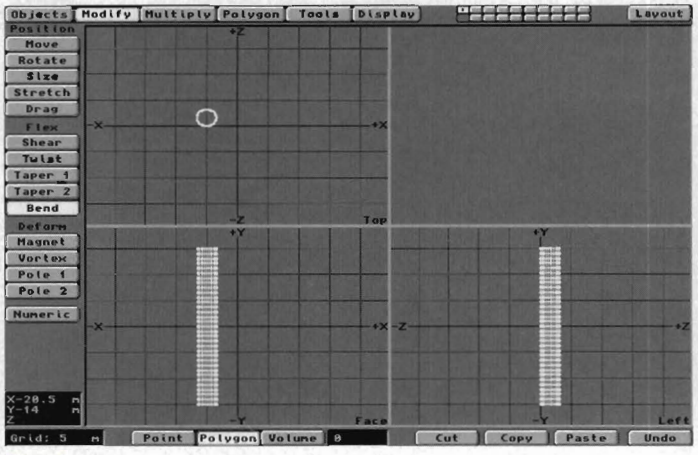

Figure 4

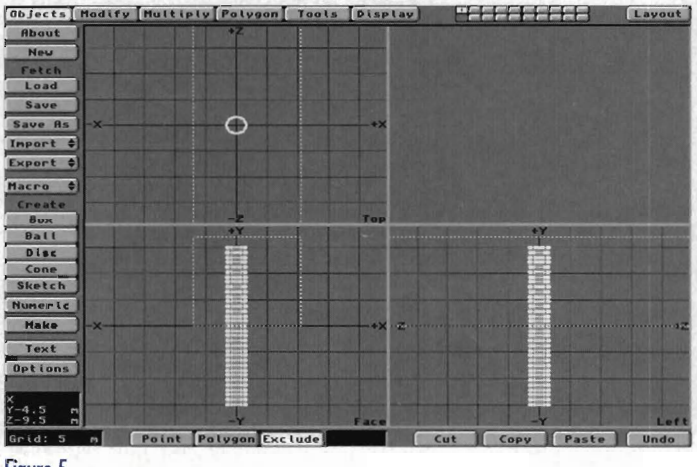

Figure 5

set per sequence, and selecting the same sequence twice doesn't have the desired result. The solution is to reload the sequence with a different name. Does this mean having to make a duplicate of the original image sequence? Well, that would work, too, but it would waste a lot of hard drive space. The secret is to load the sequence as normal the first time, but with a different combination of upper- and lowercase characters the second time (e.g., "MySequence" would become "MYSequence", "mysequence", mySequence, etc.). LightWave thinks that a single difference in the filename means a whole new sequence, while the AmigaOS knows it's really the same one. Now you can set the offset for each "version" of the original sequence to whatever you need.

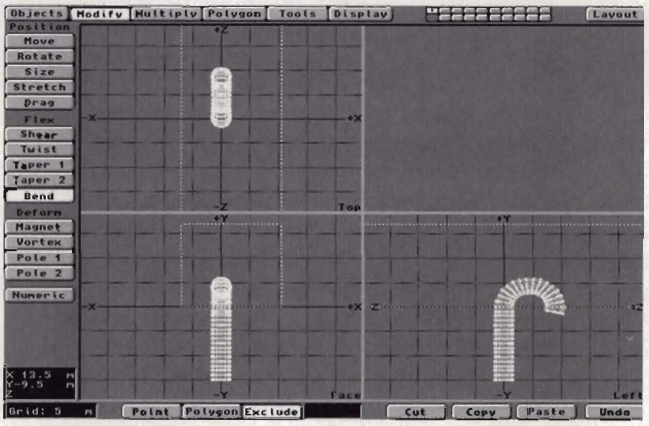

Figure 6

All right, I stand corrected on a tip I passed along last month. I referred to the (+) and (-) keys on the numeric keypad as Clone and Delete in the Layout window. In fact, the (+) key simply adds a new NullObject, not a copy of the selected object. It just so happened that I discovered the keys while dealing with Nulls, so I didn't realize the limitation. Also, I should point out that using the (-) key allows you to delete an item without deleting any associated children. Of course, if you *want* to delete the children (and wouldn't we all?), you'll want to use Clear Object in the Objects panel.

That's about it for this month. Hopefully, you will take this tutorial at more than face value. In a previous article I explained how to use a similar technique to create diagonal hazard stripes on an object. The possibilities inherent in angled objects and morphing are vast. It's the seemingly minor tricks like this one that pile up and make you a better animator. If you come up with any more great uses, drop me a line (and an image). Best of luck and Happy Holidays! VTU

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SPECIAL-INTEREST VIDEO:

Food for the Starving Video Artist

by Barbara A. Besteni

As a Video Toaster user, you have at your disposal one of the greatest tools known to the video universe. It wasn't long ago that what you're now doing on your desktop was impossible to accomplish outside of a multi-million-dollar broadcast television studio. The Toaster revolutionized the industry and made high-end technology accessible to mere mortals like ourselves.

But are you being paid what you're worth for using this high-tech tool? Or do you subscribe to the starving artist theory? You know, the one that says: "I'm an artist. Money corrupts my craft. Leave me alone to produce and create, and let someone else take care of the business details."

Throughout the ages, the starving artist has been romanticized to the point where we believe it's noble to live like one. But starving artists aren't noble. They're just bad business people. Unfortunately, most video producers fall into this category without even realizing it. We're so busy creating that we don't notice that other people are making money off the videos we produce. We move on from project to project without really making the kind of money or getting the kind of recognition we deserve.

If you're tired of starring in this scenario, I'd like to introduce you to special-interest videos (SIVs), one of the hottest business opportunities available to video producers in the 1990s. SIVs, an often overlooked segment of the market, offer video producers the perfect opportunity to be creative and prosperous at the same time. Many of you who are already making money with SIVs know exactly what I mean.

Now, the words special-interest video may conjure up visions of *Jane Fonda's Workout Video* or

Richard Simmon's Sweatin' to the Oldies. In other words, Hollywood-style productions with big-name stars and big-time budgets. Traditional SIVs target large, general audiences who typically spend between $9.95 and $19.95 for a tape. Because of their low price, these SIVs require hundreds of thousands of sales, and lots of financial backing to generate a profit.

Special-interest videos, also known as "how-to" or instructional tapes, target very specific niche markets, providing specialized information to audiences who can't find it anywhere else. And since the information is not widely available, the people in these niche markets are willing to pay more for one of these videos than what most people would pay for one of the Jane Fonda variety.

Unlike their Hollywood counterparts, independent SIV productions cost only a few hundred to a few thousand dollars to produce and market. So it's not necessary to sell hundreds of thousands of copies to turn a profit. Most SIVs, in fact, may sell only between three and four thousand copies in their lifetime. That's not bad when you consider the average price for one of these videos is $49.95. And some can sell for as high as several hundred dollars.

Coming Up With a Topic

Now that you've been introduced to the SIV concept, you may already have dozens of great ideas for videos. And your first inclination is to write a script, shoot and edit your video, and then sit back and let the big bucks roll in. Stop! This is a surefire formula for failure.

The first step in SIV production is to find an audience, not a topic. Furthermore, that audience must not only be interested in the topic, it must also be willing to pay for the information. For instance, producing a video that teaches poverty-level people how to make money is a great idea. But, if the members of that audience don't have money to meet basic human needs, they certainly don't have the money to pay for a video.

So, how do you find an audience? It's as easy as taking a trip down to your local newsstand or bookstore. There you'll find dozens of books and magazines that target specific niche markets. Exercise, music, computers, hobbies and sports are among the most popular topics for these publications. The more magazines or books you find on a particular subject, the larger the audience will be.

But you'll also find several smaller publications covering obscure topics, such as coon hunting and raising cashmere goats (these really do exist). Don't overlook them as potential topics for a video. In fact, these may offer the greatest opportunity for SIV success. The less information available on a particular topic, the hungrier an audience will be for that information. If you create a video for a small audience for which no videos have been targeted, you stand a greater chance of success than someone who produces a video for a larger audience that has a variety of videos from which to choose.

But finding an audience is just half of the equation. The other half is finding a topic that interests you. If you don't care about the topic, it will be difficult to dedicate the time and commitment necessary to ensure your success in the SIV industry. So, when looking for an audience, think about your own hobbies and interests.

An alternative is to find someone who is an expert in a particular area and approach that person to co-produce a video with you. Once you're sure there's an audience for your video, the next step is the easiest one of all, and it's the one you're most comfortable with.

Production

Producing a special-interest video is no different than producing any other type of video. You begin with an outline, follow with a script and storyboard, shoot the corresponding footage and compile the edited master.

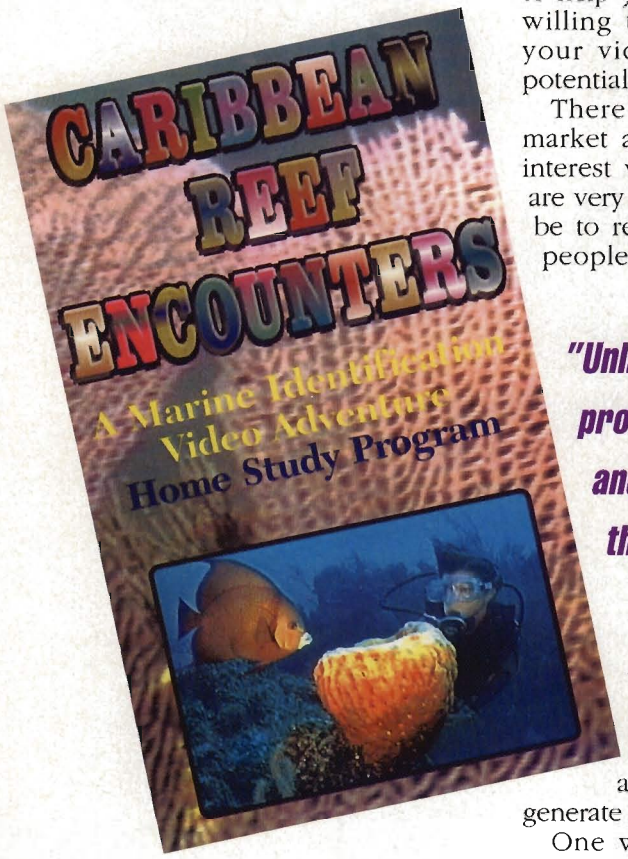
Many producers talk themselves out of SIV production because they think they need qualifications and skills beyond their capacity. Or else they think they'll need a lot of high-end equipment that they can't afford. Both of these assumptions are false.

If you're currently producing videos professionally, you already have all of the skills and equipment you'll need to produce an SIV. I produced my first few special-interest videos using two Panasonic AG-450 camcorders, two AG-1960 decks and an Amiga 1000 computer. Those videos earned my company

over half a million dollars in only two years.

I know that many of you will scoff at the idea of producing a video for mass distribution on anything less than Beta-SP. But while you're waiting for the right time, the right equipment and the right amount of money to produce your first SIV, hundreds of independent video producers are producing and profiting from these videos.

Remember, in SIV production, the information is the focus, not the video quality. Your audience is paying for knowledge. They couldn't care less about lines of resolution. But let's get one thing clear: Though there are many high-quality, low-budget SIVs on the market, there are also a lot of tapes out there that don't deserve to be on the market at all. Unfortunately, many producers use the fact that the information in their videos is the focus as a license



to break even the most basic rules of production. Don't get caught in that trap.

The point is to use the equipment you have to produce the best video you can within your capacity. And though you shouldn't let a lack of equipment keep you from producing an SIV, you should push the gear you do have to its limits. Keep in mind also that scripting, lighting, audio and editing techniques are the tools of the trade. Without them, even the best equipment is useless.

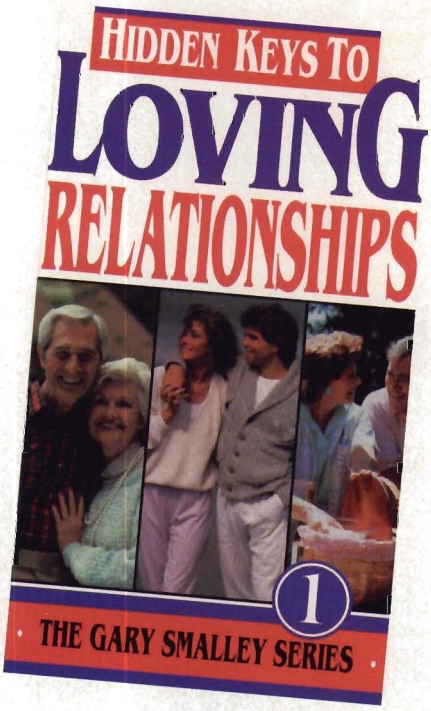
Marketing Is Everything

Marketing is an area that sends most video producers running back to their comfort zones. But without marketing, your SIV is dead in the water.

Although SIVs offer tremendous profit potential, they are not a get-rich-quick scheme. Whether you enter the SIV marketplace on a full-time basis or whether you intend to produce one or two videos to supplement the income you generate from all the other video services you provide, you must be willing to dedicate the time and effort needed to help your SIVs succeed. If you're willing to work hard and market your videos correctly, the profit potential is enormous.

There are hundreds of ways to market and advertise your special-interest videos. Unfortunately, most are very expensive. Your goal should be to reach the greatest number of people in the most cost-effective manner possible. That's why placing classified and display advertising in magazines that reach your target audience is the easiest way to generate sales of your SIVs.

One word of caution, however. Don't be tempted to place a large display ad in a publication before first testing the response with a classified ad. If the results of your classified ad are positive, then you may want to try display ads. Initially, you should spend about $300 placing a series of classified ads in the magazines your target market is most likely to read. Since classified ads are relatively inexpensive, you'll reach a large number of people throughout several publications for that amount of money.



By the same token, $300 isn't even enough to buy a 1/6-page display ad in most national publications. So spread your ad dollars over several sources. Then, based on the results of those initial ads, you can move up to display advertising in the publications that generate the most response.

"Unlike their Hollywood counterparts, independent SIV productions cost only a few thousand dollars to produce and market. So it's not necessary to sell hundreds of thousands of copies to turn a profit."

Distribution

If you look on the back of the boxes of the videos in the special-interest video section of your neighborhood store, you'll find names like Time-Life, Disney, Buena Vista Video and Vestron.

These companies distribute video titles to retail shops, libraries, video stores and anywhere else people buy videos.

You'll also find that most of the titles that these companies distribute have a broad market appeal. In other words, they were produced for general audiences. And they have the potential of selling hundreds of thousands of copies.

As an independent SIV producer, you may think that getting a major distributor to carry your titles is the next best thing to winning the lottery. Think again. Most

mainstream distributors have no interest in a video that's only going to sell a couple thousand copies. And even if they did agree to carry your title, these distributors would keep about 65 percent of your profits.

That's why most independent SIV producers choose to self-market and self-distribute their own videos. Sure, you're responsible for placing all of the ads and doing of all the work, but you also get to keep all of the profits. And since it's easy to reach people in your target market through the magazines they read, distributing your own SIVs is relatively simple.

The key to selling a large number of videos is to be consistent in your advertising. Always allocate a percentage of the profits your video generates toward advertising. Consistency builds credibility. Credibility leads to sales.

Ten Steps to SIV Success

The following are a series of simple steps you must follow to increase your chances of success in the SIV industry:

(1) *Produce a video for an audience that's already waiting to buy it.* As video producers, our first inclination is to produce a video and then find buyers for it. But as we mentioned earlier, with SIV production you must find viewers willing to pay for the information your video contains *before* producing it.

(2) *Clearly identify your target market and direct all of your promotional efforts toward them.* Once you know that an audience exists for your video, you should create a marketing plan to reach that audience. Find out as much as you can about them, and put your advertising dollars into marketing campaigns designed specifically for that group of people.

(3) *Always test market an idea before producing a video.* Once you find an audience, you must test your idea on that audience to make sure there's a need for the video you want to produce. If by chance there isn't enough response, simply redirect your focus, find another topic, and begin again with enthusiasm. If you find the market is not responsive to your idea, you'll know when to let go, and you will ultimately save a lot of money. There are hundreds of books that teach the mechanics of test marketing. Study them and implement their techniques before spending time and money on a video that your audience isn't interested in.

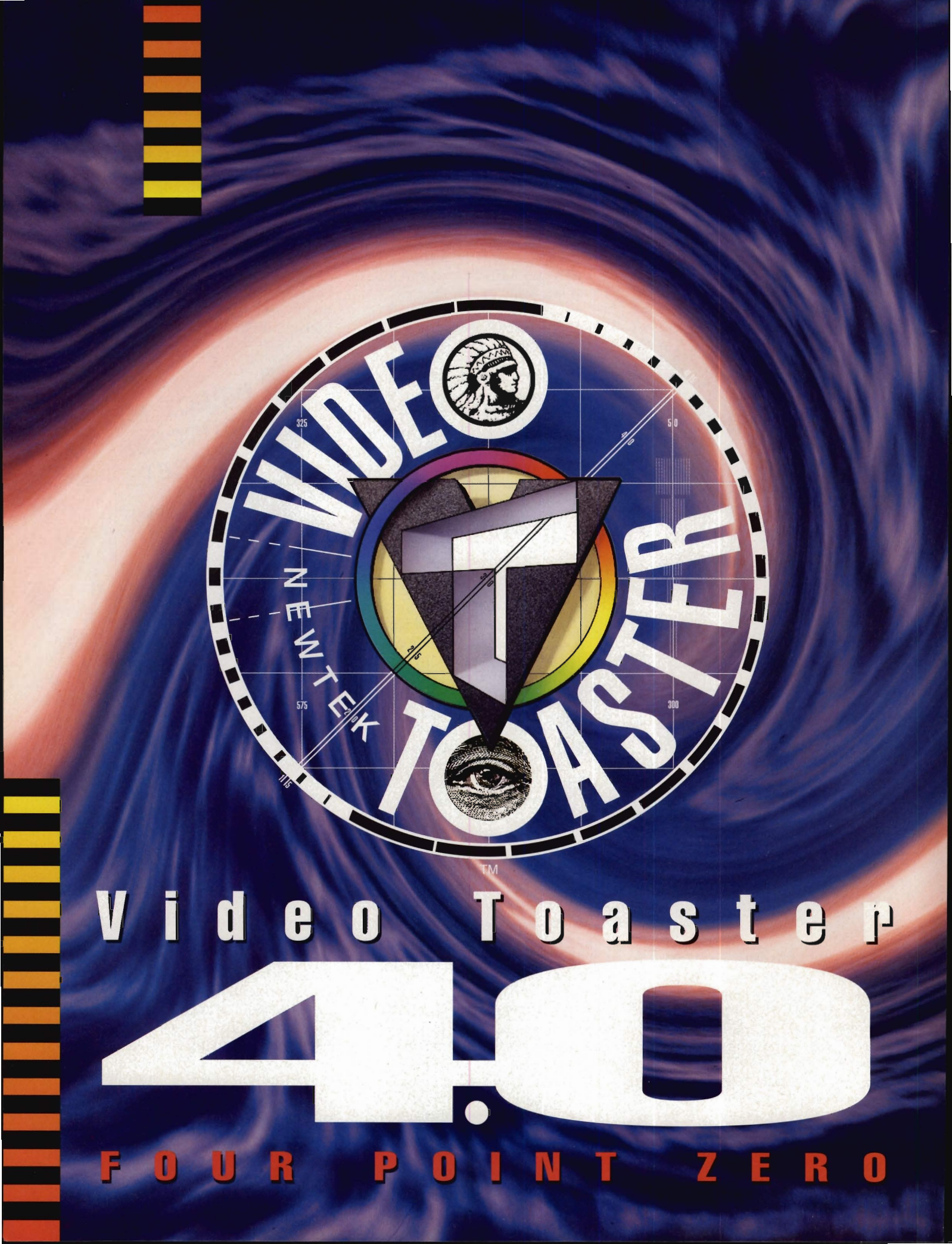
(4) *Keep your videos simple but highly informational.* Remember, you're not competing with Hollywood. Your focus should be on offering valuable information to specific groups of people who share the same interest.

(5) *Strive to give your videos perceived value.* Inspect each copy individually. Check the audio and video quality to ensure they meet with your high standards. The information in

the video is the primary focus, but the quality should be as high as you're capable of achieving with the equipment you're using.

(6) *Never stop searching for effective ways to promote your videos.* Marketing is everything. In this respect, you should follow Hollywood's lead. The major studios may spend $10 million to produce a film and then $30 million to promote it. Your budget certainly isn't that high, but your ratio of production to advertising dollars should be the same as theirs. Don't pull the plug on your marketing. The minute you do that, you pull the plug on your SIV business.

continued on page 72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The Ultimate Amiga Toaster Upgrade?

by Doug Nakakihara

With all of the attention directed toward the Flyer, you might think that NewTek had forgotten about the regular Amiga Toaster user. Well, nothing could be further from the truth. Many of the new features of the upcoming Flyer 4.1 software are just as applicable to a Toaster system running without a Flyer as they are to one with a Flyer installed. The revamped software provides Toaster users with new features and functionality.

You can still use the Toaster pretty much as you always have. You'll just have to go about things a little differently. Do make sure to tip your hat to NewTek for allowing longtime Toaster users to share the benefits of the new technology. The company could have taken an alternate approach and developed proprietary software for the Flyer.

Installation

Toaster 4.0 will be available on a single CD-ROM ($549) or—get this—60 floppy disks ($595)! However, you'll want to opt for the CD-ROM version if at all possible. Besides being a million times easier to install, it also has more effects and many other supplemental files. The main objective of the floppy disk version was to give non–CD-ROM owners an upgrade path to the new applications, but only content up to the level of Video Toaster version 3.1. You should be able to pick up a used CD-ROM drive for near the $50 upgrade price differential. Heck, just borrow one for the installation.

The full CD-ROM installation uses about 300MB of disk space on my A4000, though the installation script indicated that much more would be filled. (Maybe NewTek will provide more in a future release.) You are given the option to do less than a full installation—selectively loading different portions of the Toaster—but it's kind of a hard pill to swallow if you're not really sure what feature sets you aren't installing.

The effects alone occupy about 150MB of space—there are supposedly over 100 new ones. There are a ton of Preview Anims, Framestores and images and over 9MB of LightWave objects! If you have to leave out anything, skip the Preview Anims. However, if you have the disk space, I'd recommend you install everything and later delete what you don't think you'll need. If you have the CD-ROM version, re-installing files is as easy as copying them over using a directory utility program.

NewTek has implemented a new directory structure that places everything under a directory called "NewTek" and leaves existing Toaster directories untouched. You'll want to keep this in mind before installing the new software. Be careful not to blindly delete your old files, though! You'll probably want to move over Framestores, LightWave scenes and objects, and CG Pages first. Make sure you hang on to all your PostScript fonts, too. They aren't included anymore but are still supported, and there are 34MB of new color fonts.

If you've been holding off increasing your storage capacity, it's probably time you faced the music and purchased a larger hard drive. The new Toaster has a large appetite for disk space. CG Pages, Framestores, Previews and ChromaFX filters all need room, now more than ever!

With 4.0, users can upgrade via computer disks or a CD-ROM packed with software, images and objects.

The New Interface

The new object-oriented 4.0 interface works much like the Amiga Workbench. Video sources, Framestores, CG Pages and effects all have croutons. Like Workbench icons, these croutons represent actual physical files.

The croutons appear in the Files window and generally depict thumbnail images indicating what they represent. This really helps to quickly identify Framestores, CG Pages and more. Using 64 colors, an A4000 will give you a nice representation, but this feature should still be helpful on non-AGA machines that use four-color dithered grayscale.

The croutons are automatically generated when you save files from Toaster applications, and most of the installed files come with them. The crouton files will load into a paint program as an IFF, but they must have some special header information; I was unable to create my own by saving an image. A nondescript default crouton appears when no thumbnail image exists.

When you are trying to locate something, you navigate through the directories much like you would Workbench drawers. There are also user-definable "tabs" at the bottom that allow you to quickly jump to a pre-set directory folder. For example, one of these tabs brings up the Effects directory. Effects, by the way, are now grouped into drawers with names like Animals, Blinds, Dissolves, PagePeel, People and Wipes.

The File Information screen tells the user an image's name, size and date of creation.

The Toaster 4.0 Image Control menu determines the display length of a Framestore or image.

You can have various combinations of the Project, Files and Switcher windows. A pop-up requestor gives you access to LightWave, ToasterPaint, ToasterCG and ChromaFX.

Fingertip Access

With the new 4.0 Toaster software, you can place everything you need right at your fingertips: effects, Framestores, video source and CG Pages. You won't waste time hunting down effects or Framestores. Think about it! No more fumbling through the Framestore pop-up requestor trying to find the right picture. Just identify the Framestore crouton by its thumbnail picture and double-click on it to load the image. Plus, the crouton can represent a Framestore stored anywhere on your system. You aren't handcuffed to a single directory anymore.

Building a Project

A Project is now created by dragging croutons from the Files window to the Project window. Plus, you can do limited programming of your Toaster's activities, even without a Flyer. For example, if you were going to create a slide show of Framestores, you would pick and choose what Framestore and effects you wanted to use and graphically place things in the order you want them executed, like a storyboard. Such a Project sequence might have up-from-black, Framestore, page-peel, Framestore, wipe, Framestore, Framestore, etc.

The playing order of the events can be changed by simply dragging the icons around. When you are satisfied, just click the Play gadget. Now if a playback problem occurs, an information requestor appears and the offending crouton is highlighted. The problem is often that video for an effect is not long enough to complete the transition and the next effect comes up before the last one is finished. The timing of each event is set by selecting the crouton and clicking the Controls gadget. The available options vary depending on the type of icon. Note: You cannot double-up effects (e.g., doing a wipe while a dissolve is occurring).

Incidentally, if you've been using PEGGER to automatically JPEG your Framestores, you will not be able to play those images back using this slide-show technique without decompressing them first. The decompression process apparently takes too long.

Ready, Set, Go!

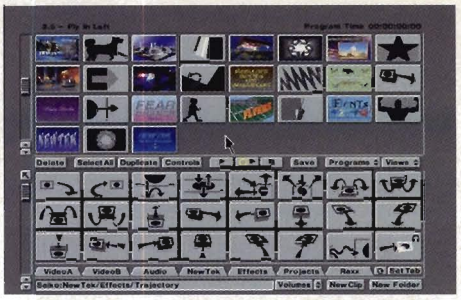
If you don't need to "play" the sequence, you can arrange a Projects croutons so that everything is in an order that suits your needs. You might keep your Framestores together and your effects together, or you might place them in the order they will be executed. It's all up to you.

I think most users will create a time-saving default Project that contains all of their favorite effects to act as a starting point for future Projects. Note that it is possible to execute croutons right from the Files window, but this really isn't practical in a live (real-time) situation. It may sound unwieldy to always build individual Projects, but in the long run, you'll find it faster.

Since you'll most likely set up a different Project folder for each piece you work on, which you probably don't do now, the concept of Toaster Projects is much more important than it was before.

TPaint's interface has been totally redone and now takes full advantage of the A4000's AGA chipset with full-screen painting and image processing. The new Air Brush tool features beautifully feathered edges and transparency.

Video Toaster 4.0's CG is full of new text features and functionality. For example, various brushes are now represented by an outline, and there's also a spell-checker.



A Toaster sequence above an open Transitions folder. Users can drag different transitions up to the storyboard-like Project screen between the different images.

ToasterPaint

TPaint is no longer a stepchild and now features the standard Toaster look. No more pull-down menus—everything is button-driven. Fortunately for old-timers, all of the previous versions' functionality has been retained. A4000 owners will love the fact that TPaint takes advantage of the AGA chipset and lets you work in full-screen HAM8 mode. This environment is visually very close to the actual video output.

The new Air Brush tool is very responsive and features beautifully feathered edges. Text handling is improved, and you now have control over height, width, shear (slant) and rotation. If you've spent the last decade accumulating Amiga bitmap fonts, I'm sorry to report that they are history. You now must use PostScript Type 1 fonts in TPaint, exclusively.

You can now freeze frames into either DV buffer from any of the four video inputs directly from TPaint. As before, either buffer can be subsequently imported into TPaint.

Toaster 4.0's storyboard (above) with an open project folder beneath it. Together they provide a fast way to create a digital slide show. With no transitions between the images in the storyboard, a cut is automatically performed.

The new color palette bar consists of 24 color wells, a large current color well, 16 grayscale wells and a color range area. Colors can be adjusted using RGB values or an HSV color wheel.

continued on page 72

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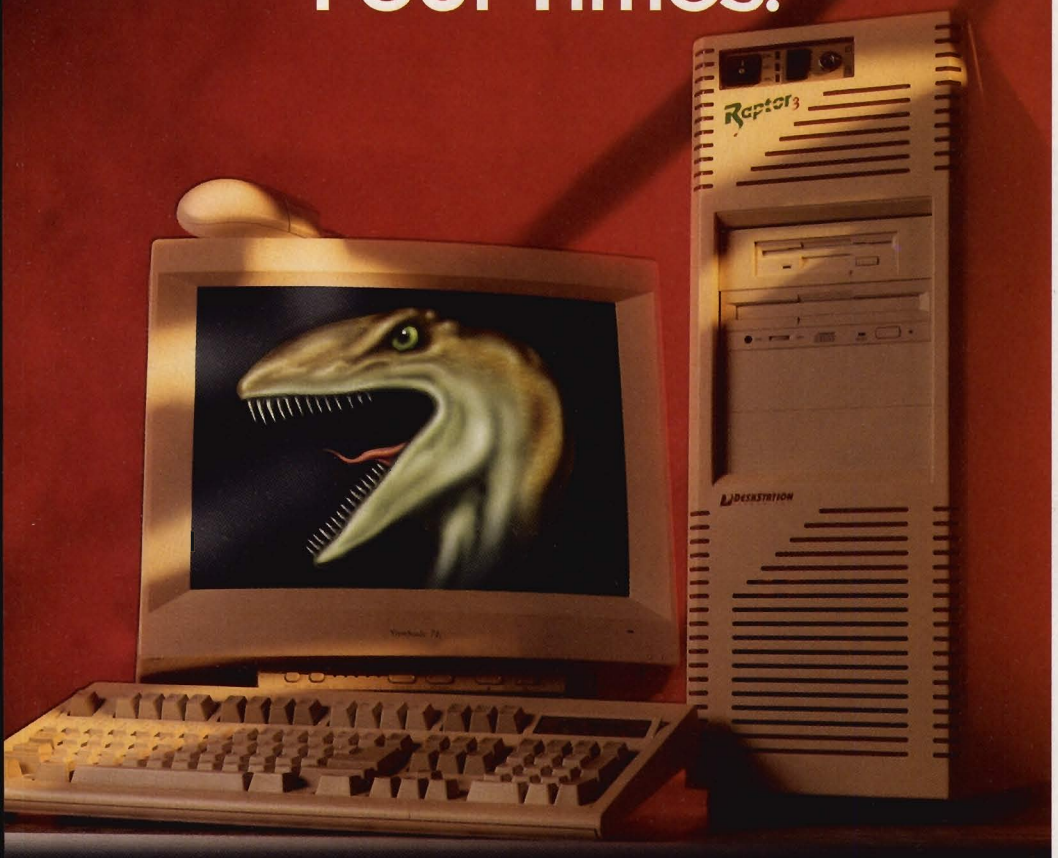

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FOR INFORMATION CIRCLE 111

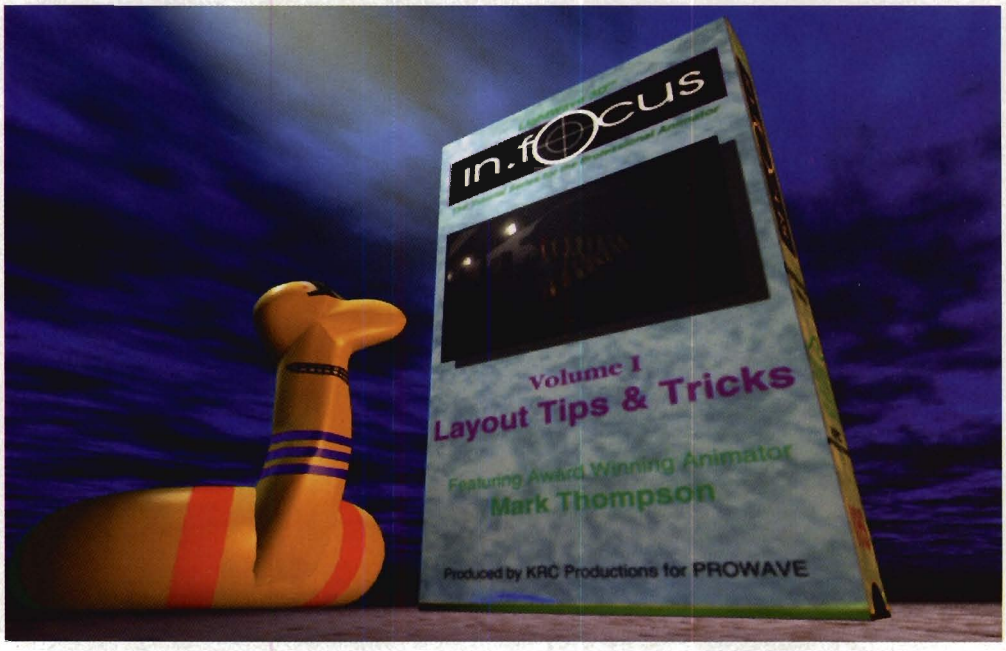
LightWave 3D in.focus

Animation Tutorials With a Twist

by Dan Ablan

ProWave recently released the first of what appears to be an extensive LightWave training series. The LightWave 3D in.focus Volume 1: Layout Tips and Tricks training tape and jam-packed CD-ROM shipped on the promised shipping date, a refreshing change. There are so many great reasons to order a copy of in.focus, I'm not sure where to begin. Overall, what's important is the quality of information that Wavey award-winning animator Mark Thompson relates to the viewer. But the specifics are just as enticing.

The included CD-ROM is worth the cost of the whole package. Whether you are working with LightWave for the PC, Amiga or SGI, you can use the CD. It contains full scenes you can load into LightWave on any of these platforms to follow along with the videotape, step by step. This is a real plus: You can work with the same scene as Thompson while he guides you through different LightWave Layout practices.



What makes this product so desirable is the fact that most training tapes don't go far beyond the introductory level. If they do, only one or two topics are covered. And although some videos get deeply involved with complex modeling or character animation, in.focus provides clear-cut examples of animation techniques that you can apply in any animation session. For instance, Thompson takes you step by step through powerful animation techniques for compositing, Inverse Kinematics, neon lights and more. All of the scenes Thompson works with, as well as the objects and images, are included on the CD-ROM, so all you need to concentrate on are the techniques. The disc includes scene files from Thompson's *One Stormy Night With Fred Floaty*. You'll see how these methods are applied in a final animation.

The CD-ROM also includes a vast library of other images you can use in your own work. Time is extremely valuable to the full-time animator, and reading through pages of manuals to learn one simple technique is not very productive. I've always picked up more by reading a brief description and having the technique demonstrated step by step. With in.focus, you simply watch Thompson's explanation and try it for yourself. And if you have a Personal Animation Recorder from Digital Processing Systems, these techniques can be even easier to understand. The in.focus CD includes a number of animations, in PAR format, that can be copied to the PAR's hard drive and played over and over. You can study the animations and apply the same techniques to your own work. People say the best way to learn is by doing; with in.focus, you do exactly that.

After a brief cross-platform layout and systems configuration description, Thompson gets right down to business. It's refreshing to see that time is not wasted explaining where the Objects panel is and what splines are. Of course, not everyone is completely familiar with LightWave, but the simplistic elements such as menus and basic introduction are left for the LightWave manual. The first topic Thompson covers is compositing. Compositing is usually left to experimentation by many

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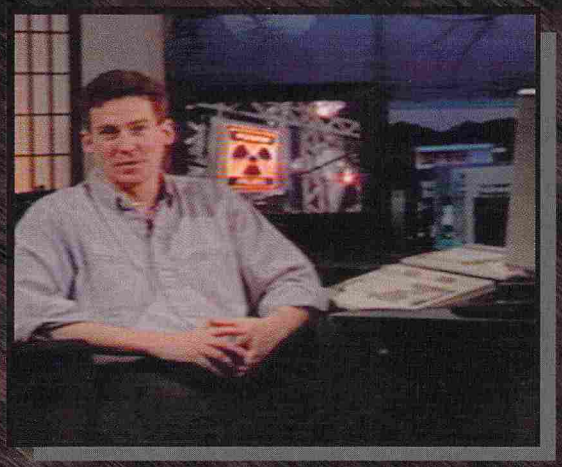

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FOR INFORMATION CIRCLE 127

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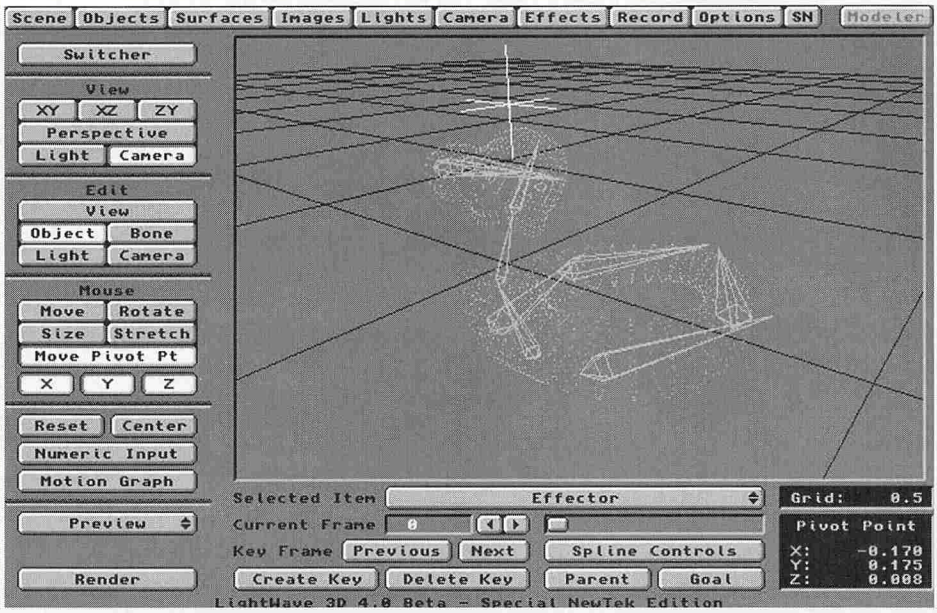
animators or the high-end production houses. It is often overlooked as a feature in LightWave, but when it's set up properly, the results are stunning. Thompson first shows a clip of a 3D pool ball, composited with real video of a pool table. In the final composited clip, it's difficult to find the 3D pool ball when it is animated with the real pool balls and table. It's funny how simple it is to set up a composited shot in LightWave when you see how Thompson does it. If you're skeptical, try it for yourself. The included CD gives you not only the scene, with objects and images, but the entire background image sequence as well, so you can completely set up a composited scene yourself.



Thompson makes using Inverse Kinematics and Bones quick and easy. Here character Fred Floaty is manipulated.

Later, Thompson moves on to Inverse Kinematics. Still new to many animators, IK makes fluid and complex motions exceedingly simple once a hierarchical structure is set. To make things simple, a snake object is built in Modeler. From there, Thompson loads the snake into LightWave's Layout. One Bone is added to the object. Then the Add Child Bone feature is used to create a simple Bone parented to the Bone structure within the snake. A spine is created, so to speak. Once you've added one null object, the entire spine of Bones is controlled in one move. Before IK, you would have to individually keyframe all Bones. If any of you have worked with something like this, you know how tedious it can get, trying to set up simple movements. Back when *One Stormy Night With Fred Floaty* was created, LightWave did not have IK or Bones. Thompson had to set up multiple morph targets to get Floaty to turn his head. Since IK with Bones is now a simpler, smoother way to animate, understanding how morph targets work is still very important.

As you work your way through in.focus' videotape and tutorials, you can load the scenes directly from the CD and animate alongside Thompson. His *One Stormy Night* animation incorporated many very useful techniques even though it was generated a few years ago. Thompson goes through the steps of the animation from making rain and its puddles on the street and sidewalk to rays of light falling from a street lamp, a glowing neon sign in the window of store and even an electronic message display unit. After the informative section, Thompson begins explaining the animation techniques used for Fred Floaty. As mentioned, Floaty originally morphed. An explanation of morphing gives the pros and cons of this operation.

Next, a comparison is made by showing the same Fred Floaty object animated with Bones. The movements are much smoother and more fluid than using a simple morph. Thompson goes on to explain that adding a null object and setting Inverse Kinematics makes moving Fred Floaty's head that much easier. Any of these techniques, of course, can be applied to your own animations.

So, there you have it: Volume 1 of LightWave in.focus. It shouldn't go unmentioned that ProWave owner Ray Cronise played a large role in the production of this tape. Cronise's background in video, combined with Thompson's experience in creating sensational animations, has made a great training video. I've seen many training tapes come and go, and LightWave in.focus was the first one in a long time that I didn't find myself fast-forwarding through because of boredom. Thompson keeps things interesting and goes in-depth on a wide variety of topics, but he always keeps sight of his initial goal.

VTU

Dan Ablan is president of AGA Digital Studios in Chicago, Ill. He's done work for Kraft Foods, Ameritech, 3M Corporation and others. Call Ablan at (312) 239-7957, or e-mail him at dma@mcs.com.

Companies mentioned:

Digital Processing Systems
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NewTek
(LightWave 4.0—$995)
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EDITORIAL EVALUATION

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FOR INFORMATION CIRCLE 144

Decision Maker

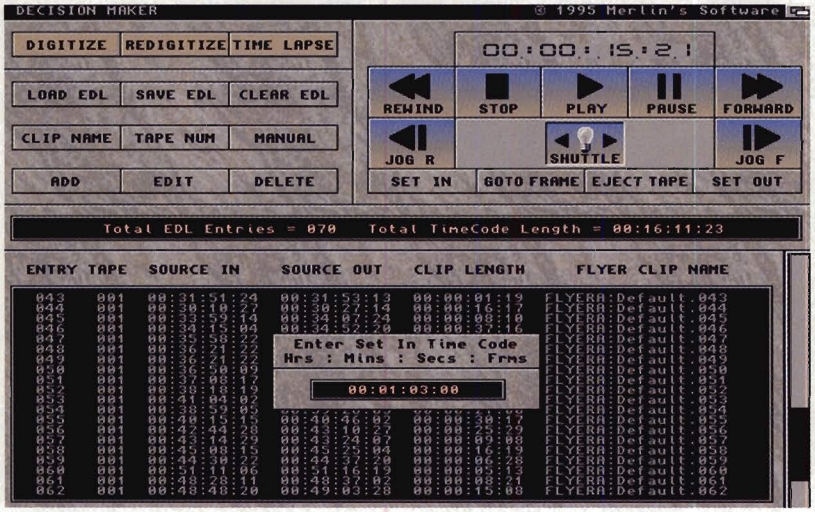
Taking Control of Your VTR

by Stan Shumlick

At first glance, Decision Maker (DM) seems like a simple edit controller. Upon further examination, however, I discovered that it is a full-featured interface for the NewTek Video Toaster Flyer and NoahJi's V-LAB Motion non-linear editing systems. The package allows users of AmiLink, BCD single-frame controllers and several popular single-frame-capable VTRs to control their video decks and to import/export or create Edit Decision Lists compatible with CMX and Grass Valley edit controllers. (You can now interface with that expensive post house down the street quickly and easily.) You can then have DM ($399.95) batch-digitize your source elements for manipulation on your NLE.

Installation was easy, and I was prompted to choose the type of NLE system I had (the Flyer). Then I was asked about my deck control. I used an AmiLink system, but the controller also supports the following single-frame controllers and VCRs: V-LAN, BCD, Sony EVO-9650, Sony BetacamSP UVW 1400 and Sanyo GVR S-950. Visual Inspirations Inc.'s subsidiary Merlin's Software, creator of DM, plans control for other video decks and protocols.

Once I had deck control, I was very quickly able to create an edit decision list from several reels of time-coded source materials. I had an actual project from one of my clients and used it as my test model for real-world conditions. Once it was selected, I specified an offset (to allow for a leader and tail end to the pieces) and clicked on Digitize. Wham! DM started compiling my clips on the Flyer drive I specified. A bonus feature is the ability to select a common base name for each clip or to individually name each one. (V-LAB Motion users don't need to do this.)



A user-friendly interface lets you control your video decks directly from the screen.

This type of automation is why I got a computer in the first place. You can also enter the video's timecode in and out edit points manually and have complete control over the digitizing process. Using the Redigitize feature is great for quickly roughing in a project in lower resolution and then redoing the finished piece in a higher resolution. It definitely saves precious hard drive space. The software even offers the ability to do time-lapse recording with either NLE system. I am often asked to do this type of special effect, and DM offers an easy way to provide it.

One of the more flexible features—I know most of you will love it—is the ability to work on an Edit Decision List (EDL) from almost anywhere (CMX and Grass Valley formats). You can bring in someone else's off-line EDL and compile it on your Flyer or V-LAB Motion System, or use your NLE to create an EDL to take to that expensive post house down the street for a more traditional on-line edit session. This ability will give you confidence to tackle those higher-end jobs and the knowledge that you will be able to interface effortlessly with other systems.

The documentation is well-written and even has a sense of humor, something that is rare in the technical text I am often forced to read. A quick phone call to tech support also provided solid answers to my questions. Visual Inspirations (813-935-6410) offers a 24-hour BBS (813-935-6513) for technical support, ideas and software downloads. Overall, I found DM to be a useful addition to my ever-growing software arsenal. VTU

Stan Shumlick is the Flyer SIG director of the Los Angeles Video Toaster Users group and a partner in 2 Tall Video, based in Glendale, Calif. E-mail him at stans@ecn.com or 71612,1725 on CompuServe.

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ARexx-a-phobia?

Batch Processing Made Simple!

by Brad Hayes

Every time I hear people talking about ARexx, someone invariably describes it as "easy to use" or "simple English commands." Have these people ever taken the time to look at an ARexx script? To me it's as confusing as UNIX. Unfortunately, most of the muscle behind the more powerful programs on the Amiga is locked inside their ARexx functions. Now, I know very little about software programming, but I will admit that I can occasionally open an ARexx script and change a variable here or there, if I absolutely must. But to sit down and write a custom function from scratch—forget it!

That attitude changed once I found ImageFX 2.0's Learn macro and the new AutoFX Hook program. Together, these two features give anyone the power to quickly and painlessly create their own custom batch-processing scripts.

By the time you finish this tutorial, you'll be able to create and execute a complex series of commands repeatedly on a sequence of frames, in minutes instead of hours. The Learn feature has been in ImageFX since at least version 1.5, which was the first version of the software I started using. I tried once or twice to see if it could do anything useful, but since I was already suffering from ARexx-a-phobia, I never really got the program to do too much. By itself, ImageFX 2.0's new Hook program, AutoFX, gives you batch-processing control over many of the software's effects features. When you use the two features together, you can unlock the processing power hidden just below the surface.

Hook programs—like Cinemorph and Cinematte, for example—work together with their main programs. Cinemorph and Cinematte are examples of Hook programs. The basic idea with AutoFX is that you can select a sequence of frames from a video or animation, and then select a list of ARexx scripts to perform image effects on the sequence. AutoFX will automatically load your images and run each of the scripts on them. It comes with about 135 pre-written scripts for AutoFX and another 48 for ImageFX. (Some of those 48 may not work directly with AutoFX. I haven't tested them all.)

Once you have started ImageFX, simply click on the Hook button (or right Amiga–H). Select AutoFX from the requester, and you're on your way. AutoFX runs on the Workbench and has three main sections. The first and largest, the File Selection area, is much like a standard Amiga file requester. A feature of note here is the sequence selector. Just select any one of the files in a long sequence and click on the button

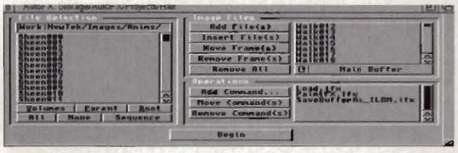
marked Sequence. All of the files with that root name will be selected automatically.

After you have selected all the files you wish to work with, click on the Add File(s) button in the Images area. All the selected files will move to the Source window. Here you can arrange them in any order you want. You can really load two separate lists here: one for the Main buffer and a second in the Swap buffer. These lists come in handy if you want to do rub-through or compositing operations.

The last section of AutoFX is the Operations area, where everything comes together. The purpose of this area is to create a list of operations that you want to perform on every image in the Source window. You can make this list by adding different ARexx scripts. Click on the Add Command button to see a list of what is available to you.

The first script you need when doing any AutoFX operation will always be "load.ifx," so AutoFX loads it for you by default. Without it, ImageFX can not load any file on which to operate. Select a few scripts. (Don't forget to add a Save script at the end of the list. Once you have created your list you can save it as a project for repeat use.) When you are ready, click on Begin, and ImageFX will come to the front, beginning the operation. The software may need some additional information to begin. Requesters will prompt you for data like Save path or the amount of effect to apply. Once you've entered the information, just sit back, make some phone calls, catch

The image from page 64 after it has been batch-processed using an oil paint filter via ARexx.



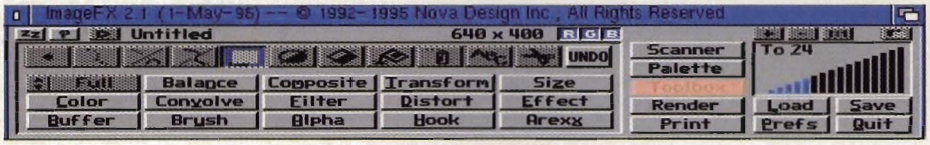
The AutoFX Hook program included with ImageFX 2.0.

up on some reading and let the machine do the work for you.

"OK, that's great," you say. "Anyone can load a bunch of prewritten scripts, but what if I need to do something very specific?" I'm glad you asked that question and want to Learn. ImageFX's Learn function is so simple to use that it's easy to overlook. (Shift–1) opens a Save requester. Name your new macro and remember to add the ".ifx" extension. It will ask you if you want to record the current Draw settings. Say No to start from scratch. Click on OK, and everything you do from that moment on will be part of your macro. If you select a color and draw a box, that's what your macro will do. If you then rescale the image, your macro will do that, too. You can do whatever you want and make it as complex as you like, but it's a good idea to rehearse once. If you perform an Undo, for example, that will also become part of your macro, and it'll waste time undoing functions when the macro is ran. Hitting (Shift–2) will stop the process.

That's it. You just wrote your first macro. You can run your macro directly from ImageFX or, of course, from AutoFX, where the real power comes from. Now you, who just a few minutes ago had a somewhat limited relationship with ARexx, can, with confidence, start writing scripts to automate some of ImageFX's most incredible features and effects.

I recently produced an animated bug for one of my clients. You know, one of those annoying transparent logos down in the lower righthand corner of your TV. I put the bug on the right, where I thought it should go, but my client wanted it on the lefthand side of the screen. It would have taken me about an hour and 45 minutes to rerender the whole animation, so I turned to ImageFX. I loaded one image of the animation, started the learn macro, then picked up the bug as a brush, cleared the screen, pasted the bug down where I wanted it and stopped the Learn macro recording process. Then I loaded all the frames from the animation and the frames from the Alpha Channel sequence and let AutoFX do all the work. I also converted all the frames to TARGA format and resized them to work with our logo inserter. The whole process took a quarter of the time it would have taken to re-render the animation.



ImageFX offers a plethora of processing options. The new 2.1 version also offers complete Toaster support.

One last tip: As I said at the beginning, I didn't know very much about ARexx programming when I first started. Now I go through every script I create to find out exactly what happens when I hit what buttons. I may not be a master programmer (yet), but I do have a basic understanding of what is going on under the hood. Hopefully, you now share this knowledge. Learn is a great tool and a very powerful timesaver.

VTU

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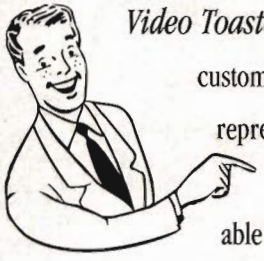

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LightWave Startup Tips, Part I

by Wayne M. Cole

In this era of omnipresent decalogues and decalists, you would think that the last thing the world needs is another one. But far be it from me to buck a winning trend. So here, starting this month and continuing next time, are [drum roll, trumpet fanfare] The First 10 Things You Should Do With LightWave 4.0. However, before we get to the list, let's get the caveats out of the way.

This advice is basically for new LightWave users. Not all of the items are actual uses of the software, but rather they provide external resources that I have found useful in conjunction with it. Keep in mind that the list's primary focus is to introduce you to a few things that will free more of your time and energy for the act of creation. They'll also minimize the effort devoted to the mechanics required to bring your creative vision to the screen.

I have found that, with few exceptions, LightWave is so feature-rich that the limits to what I can make have more to do with creativity and talent than the program itself. It also has enough flexibility that I never even feel close to knowing everything about it. I am constantly learning new techniques and features of LightWave, both from other users and while solving problems presented by the requirements of animations I am working on. So, with that said, on to the list.

(1) Create your very own LightWave tips and tricks notebook

Here's how the book is going to work: Every time you discover a useful parameter setting, a nifty technique or a valuable reference (like World Wide Web pages with lots of great models, or magazine articles with tips you need), make an entry in the book. Don't go into "how-to" details so much.

As an example, and to get you started, here are the very first two tips that were jotted in my tips and tricks notebook from the days of LightWave 1.0:

"Globes—Make with Segments = (Sides/2) + 1"
"Texture maps on globes must have dimensions that are multiples of 16 pixels."

These hints were not original: I found them in another reference so long ago that I don't remember the source. But the point is that since I am not on the *Babylon 5* animation team, I don't make texture-mapped globes very often. So those two tips relating to making a nice smooth globe and getting a texture map to wrap on it seamlessly seemed worthy of noting. I have referred to them so many times since then that I don't need to look up the second one any more, but in the case of the first one, I always look to be sure I don't swap "Sides" for "Segments" in the formula.

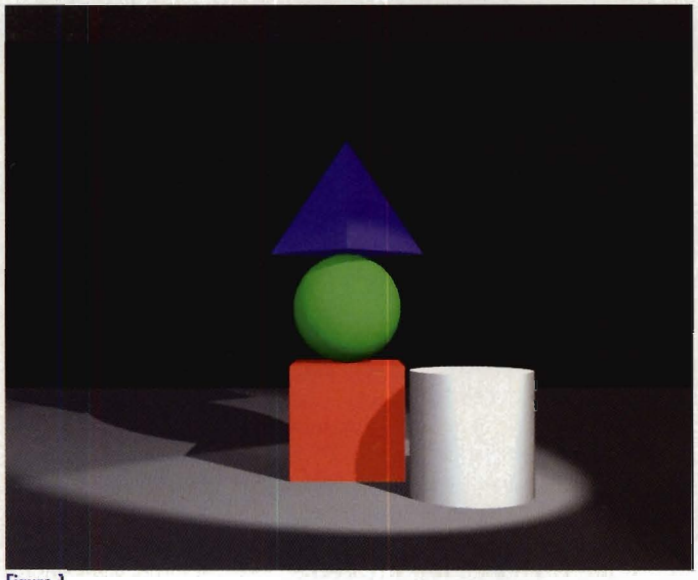

Figure 1

(2) Work the LightWave tutorials

A caveat is in order here. Ever since LightWave became unbundled from the Toaster, it has gotten further out of sync with its documentation (which, most would agree, was not that good to begin with). So some tutorials may require modifications in order to complete them, depending on the version of the software and the documentation you have. Also, don't expect that the tutorials will teach you everything you need to know to join the ranks of the *seaQuest 2032* animators. What they will do is provide you with a working knowledge of where to access most of the more important features of LightWave, and give you a peek at its power and flexibility.

(3) Create a set of calibration objects

If you plan to extract money from clients, you have to know how to obtain certain stylistic "looks." And if you intend to make a profit, you have to be able to produce those looks efficiently. That's where calibration objects come in. Not only can any malfunction be detected, traced and corrected, but any desirable effect can be re-created at will, using calibrated objects.

You might argue, "Why create a bunch of so-called calibration objects when I can just use some of the many objects that ship with LightWave?"

The reason is that you want to keep the objects and their surfaces simple. When you use these objects to study the effect made by changes in a certain LightWave parameter, you don't want to have textures that may alter or mask the basic action of the parameter you are testing. You also may not want to wait for the time it takes the machine to do the extra calculations that textures and mapping require, along with the time necessary for handling complex objects with lots of polygons. And herein lies the calibration objects' main advantage: they provide tools for achieving the specific look you want in the minimum amount of time without having to use the complex objects of the finished scene.

My calibration set (Figure 1) consists of a red box, one meter on a side (RGB settings: 200, 48, 48); a green ball, one meter in diameter (RGB settings: 48, 200, 48); a blue tetrahedron—which some people call a square pyramid—one meter high with a base that is one meter on a side (RGB settings: 48, 48, 200); and a white cylinder one meter high and one meter in diameter (RGB settings: 200, 200, 200). The surfaces of the box and pyramid do not have Smoothing turned on, but the sphere and cylinder do. I've found that, with LightWave's default smoothing angle, the minimum number of sides you need to get a smooth shape is 24 for round objects. So my sphere has 13 segments and 24 sides, and my cylinder has 24 sides. The surfaces have no textures, reflection maps or bump maps.

OK, so what do we *do* with these objects? Well, name something and I've probably used them for it. But I'll mention just a couple of uses that should benefit those just starting out with LightWave.

You'll find that for every animation you'll do multiple renders just to get the lighting and motions adjusted to your satisfaction. Instead of using the final models with their texture, bump and reflection maps and their zillions of polygons, use the calibration objects to set up the scene's lighting and the actor's (objects' and camera's) blocking. For lighting purposes you may want to look at your proposed actors with a cubist's eye. How can you build a proportional object that mimics the general shape of the actor object by just using your calibration objects? With these "stand-in" actors, you can set lighting and motion much more efficiently. Due to the simplicity of the stand-ins (low number of polygons, no complex maps to calculate), you can actually create the finished animation file before the final actors are even available. Then you will only have to make one rendering pass with the high resource utilization and slow-performance penalties that the "fully dressed" actors need for accurate rendering.

Calibration objects also let you try out surface definitions more efficiently than with your final object, and get a sense of how they will look with the final lighting of the scene. Because the calibration objects likely have fewer polygons and less complex edging than your final object (even if you've built the cubist equivalent from your calibration object set), the many "render-parameter-tweak-render" cycles you go through will also take less time.

(4) Make up your project organization rules and stick to them

You are eventually going to want to move all elements of a project to someplace other than your on-line storage. If you've allowed your projects' scenes, objects and images to be saved in LightWave's default locations, you will have a bit of a collection job on your hands when it comes time to use them. Additionally, if you move your project to another system or want to share it with another animator, you will have to do extra work to modify the scene file so that it can locate the objects, images and motion files in their new locations.

The Amiga has the ability to designate any directory as a logical volume (a look-alike for a disk drive). So you could, for example, create a drawer named for your project, and then use the AmigaDOS Assign command to designate that drawer as a logical volume with a project name. On this logical volume, you could create separate subdirectories for scene files, objects, image files and other file types that relate to the project. Then, in LightWave Layout's Options panel, simply set the content directory to your logical volume, and all the elements you create will have default locations properly located within that volume. If you move the directory to another location—even another machine—all you have to do is make the logical volume assignment to the new base directory where the project's subdirectories and files are located. Ninety-eight percent of the time you will be able to render or open and work with the scenes of your project without further modification.

In Windows, there is a facility similar to the Amiga Assign command that may also work. (Note: Because I have no access to LightWave on a Windows or NT machine yet, I have not been able to verify that it does.) The SUBST command allows a drive letter to be assigned to a directory. So, for example, suppose your project's main directory was C:\MyProj\ and you didn't have an L: drive on the system. Or suppose your LASTDRIVE command in AutoExec.bat didn't set your available drives to a letter before L. You could issue the command "SUBST L: C:\MyProj", and then in LightWave, set the Content Directory to L: while you build your project. In theory, you could then move your project directory to another location on the same machine, or to a different machine, and use the SUBST command to point L: to the new location of the project directory.

Now, with the preliminaries out of the way, you are ready to become what most serious LightWave users have before you: something of a hybrid between a perpetual student and a research scientist. If it hasn't become obvious to you by now, let me warn you that producing LightWave animations is a process involving lots of experimentation, trial and error, and outright creative play. In other words, once you start using LightWave seriously, the concepts of "spare time" and "free time" may become meaningless.

Look for the six other steps next month in Part II of "LightWave Startup Tips."

Wayne Cole owns Infinity Heart Productions, a video and multimedia studio in Goleta, Calif. His Internet address is 76370.621 at compuserve.com.

The Zoom Factor

Working With LightWave's Camera

by Dick De Jong

One of LightWave Layout's little secrets is that you have to switch to the Camera control screen to zoom the camera in or out. And then you have to switch back to Layout to see how your new setting looks.

If you're like me, you forget about zooming and simply move the camera back or forth in Layout because you can instantly see what you are framing. Why worry about changing the default "Zoom Factor"? Because there's a *big* difference between moving the camera on the Z axis and zooming. When you move the camera, you are retaining the camera's focal length. When you zoom, you are changing the focal length.

Figure 1

The term "focal length" harkens back to a time when cameras had real lenses and optics weren't all virtual. But even in the CGI world, we need to be aware of the focal length of our camera, because it can affect in great and subtle ways the images and animations we create.

Let's make an example to see the differences focal lengths can cause. Go into Modeler and call up the Text macro. (You'll be making a logo.)

My settings were:
Font = Olnova Bold
Text type = Block
Place = Center
Depth = 1,000 (I wanted fat letters for this example)
Edge width = 50
Text = OLOGO (in caps)
% Leading = 100

When OLOGO appears on your Modeler screen, choose the "Center" macro and center the object. Then hit (Q) and name the surface "OLogo.sur". Save the object as OLOGO. If you followed the directions, the letters should be about 750 mm high and 1 m deep, and the object should be about 4 m wide.

Return to Layout, clear your scene and load the OLOGO object. Go to the Surfaces menu and paint OLogo.sur any color that appeals to you. Click on Smoothing.

If you now go to the Layout screen, the camera's position should have defaulted to -8.023 on the Z axis. Switch to the Camera menu and check the Zoom Factor. It should read 3.2. (What do those default values mean? See the sidebar on page 63.) To render the image, push F9.

We now have a nice fat OLOGO (Figure 1). Notice that you can barely see the background through the middle of those chunky O's.

Now go back and set the Zoom Factor to 6.4. The lens equivalent changes to 48 mm. You've just zoomed in, as you can see when you return to the Layout screen. This is the most obvious effect of different focal lengths—they change our angle of view.

To obtain the previous framing, move the camera back to -16.046 on the Z axis. (Use the numeric input feature and remember to create a keyframe.) Earlier you doubled the Zoom Factor; now you're doubling the camera's distance from your logo. When you render this time, the OLOGO letters seem to have shrunk, especially on the Z.

You're witnessing a subtle but fundamental effect of focal lengths: they change our perspective. Actually, the change is caused by a combination of the camera's focal length and its distance away from the objects. Longer focal lengths allow you to move the camera farther away from the objects and still maintain the same angle of view.

The simple rule is that the greater the distance the camera is from the objects, the more depth seems to be compressed. With a wide-angle lens,

Figure 2

you can exaggerate depth by moving the camera closer to the objects.

For a graphic demonstration, go back to the Zoom Factor and create an envelope. Reset the value to 3.2 at frame 0. Make a keyframe at 60 with a value of 25.6. In Layout, return the camera to -8.023 on the Z axis and create a keyframe at 0. Now slide the camera back along the Z axis to -68.184 and make a keyframe at 60. Build a 60-frame wireframe preview and watch the letters shrink (Figure 2).

To show how you might use the perspective characteristics of focal lengths, let's fly OLOGO in past the camera. To begin the scene, we want a formidable OLOGO, but by the end of the scene, the letters should be flat for maximum legibility. A wide-angle lens

Figure 3

at the beginning of the scene will exaggerate the depth of the letters and produce a more dramatic flyby.

So go to the Zoom Factor envelope and change the value at frame 0 to 1.6 (a wide-angle lens). Set frame 120 to 6.4 and delete frame 60. Move the camera to -4.0115 on the Z axis and create a keyframe at 0. At 120, change the value to -16.046. Make a keyframe at 120 for OLOGO. For the fly-in, move OLOGO to -4.42 on the Z and create a keyframe at 0. Make a 120-frame wireframe preview. To increase the effect at the beginning, don't move OLOGO until frame 60.

The perspective changes are even more pronounced if you are constructing scenes with numerous objects at different distances from the camera. To illustrate this point, load two or three of your favorite objects into this scene. Try to pick ones that are similar in size to OLOGO.

Place at least one object behind OLOGO and one in front and create a keyframe for your objects at 0. I put a floor lamp off to the right and 10 m back on the Z axis, and a file cabinet off to the left at -5 m in front.

Also, reset OLOGO to 0 on the Z at frame 0 and delete any other keyframes for it. In the Zoom Factor envelope, set the value to 25.6 at frame 0 and 3.2 at frame 120. In Layout, make the corresponding camera moves (-64.184 on the Z axis at frame 0 and -8.023 at frame 120).

Create a 120-frame wireframe preview. It looks like the objects in front and behind OLOGO are on skateboards. Focal length and camera position not only compress depth, but also affect the apparent size of objects (Figures 3 and 4).

Finally, let's create a shot that you see in the movies occasionally. I call it the "Who me?" shot. You know, the one where the kid is fooling around in class and the teacher calls on him. All of a sudden the students in the desks behind him recede deep into the background as we zoom into his "deer in the headlights" stare.

For our example, we'll make do with OLOGO and two or three objects. This time, place all the objects behind OLOGO. Instead of maintaining the angle of view throughout the scene, move the camera to -2.5 on the Z axis and create a keyframe at 120. Make a wireframe preview and you have the flying logo version of "Who me?"

As you can see, adjusting the Zoom Factor of your camera can produce dramatic results. Changing the camera's focal length will also affect your depth of field if you have that option selected. But that's a discussion for another day.

For now, think about your Zoom Factor when you're laying out your scene. Experiment with a couple of settings to see which one gives you a better perspective.

And please, for the sake of your viewer's equilibrium, zoom in moderation. Also, consider rendering your scene in two shots: a wide-angle and a close-up. If it was good enough for Nora Desmond... VTU

The Meaning of Default Values

If you examine the Zoom Factor feature, you'll notice that there is a default value and a corresponding millimeter value. You also have the option of choosing a different format from a pull-down list.

Figure 4

The default values and their millimeter equivalents represent "normal" lenses in that particular format. A normal lens has a focal length that approximates the diagonal of the image. For example, a 35 mm still camera frame is 24 mm x 36 mm and its diagonal is 43 mm. (If you pick the "size 135"—35 mm SLR—format from the Zoom Factor list, you will see that the default is 43 mm.) By the way, the viewing angle of a normal lens (standard SLRs come with a 50 mm lens) is similar to the viewing angle of the eye.

The general rule of thumb is that a focal length twice the normal lens is called a telephoto. (In LightWave terms, it's a Zoom Factor twice the default value.) A focal length that is 70 percent or less of normal is in the wide-angle territory.

One last thing to remember: Setting the Zoom Factor is critical when you're trying to match the perspective of a background Framestore or sequence of images that you are compositing into your scene. VTU

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ADVERTISER INDEX

These companies have advertised their products or services in this issue.
Use the reader service number to obtain additional information from our advertisers.

RS#	Advertiser	Page
—	AC Graphics & Animation	87
—	A & M Computer	82
—	ACS Computers	85
—	Amigo Business Computers	85
163	Anti Gravity	88-91
126	Area 52	86
105	Atomic Toaster	19
129	B & H Photo Video	73-77
107	The Burt Wilson Company	4
109	Bushey Virtual Construction	12
122	Canon	9
—	Chameleon Music	43
136	Computer Basics	69
—	Computer Video Associates	84
—	Compuvideo	86
112	Contemporary Cybernetics	7
—	Creative Support Services	86
—	Darke International	86
114	Datavision	64-65
183	DCG Computers	27
111	DeskStation Technology	51
188	Desktop Images	1
121	Devine Computer Sales	80-81
152	Digital Solutions	41
102	Digital Solutions	31
118	Dimension Technologies	Cover III
116	Dynamic Realities	11
—	Electronic Connection	86
143	Expansion Systems	23
115	Faro Technologies	29
—	Graphic Impressions	86
—	Hammond Photographic	86
—	Integrated Technology	84
125	International Software Engineering	2
—	LIGHTWAVEPRO Subscription	23
—	Markertek	86
154	MetroGrafx	57
—	MicroSearch	83
—	MicroTech Solutions	84
—	The Music Bakery	86
138	NewTek Inc. Flyer	Cover IV
123	NewTek Inc. LightWave 3D	13
144	Nova Design	55
—	N.Y. Camera & Video	85
117	One And Only Media	37
148	Paxtron	28
124	Precision Computer Graphics	14
127	ProWave	53
128	Rab-Byte	12
131	Radiosity	18
138	Replica Technology	15
—	Ring Video	82
137	Silent Paw Productions	28
—	Timeless Entertainment	82
128	Tri-State	78-79
—	T.S. Computers	85
106	Unlimited Potential Inc.	5
—	Video Toaster User Subscription	35
—	Video Toaster User's Hawaii Training	25
149	Village Tronic	Cover II
119	Winsted	19

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2	17	32	47	62	77	92	107	122	137	152	167	182	197
3	18	33	48	63	78	93	108	123	138	153	168	183	198
4	19	34	49	64	79	94	109	124	139	154	169	184	199
5	20	35	50	65	80	95	110	125	140	155	170	185	200
6	21	36	51	66	81	96	111	126	141	156	171	186	201
7	22	37	52	67	82	97	112	127	142	157	172	187	202
8	23	38	53	68	83	98	113	128	143	158	173	188	203
9	24	39	54	69	84	99	114	129	144	159	174	189	204
10	25	40	55	70	85	100	115	130	145	160	175	190	205
11	26	41	56	71	86	101	116	131	146	161	176	191	206
12	27	42	57	72	87	102	117	132	147	162	177	192	207
13	28	43	58	73	88	103	118	133	148	163	178	193	208
14	29	44	59	74	89	104	119	134	149	164	179	194	209
15	30	45	60	75	90	105	120	135	150	165	180	195	210

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2	17	32	47	62	77	92	107	122	137	152	167	182	197
3	18	33	48	63	78	93	108	123	138	153	168	183	198
4	19	34	49	64	79	94	109	124	139	154	169	184	199
5	20	35	50	65	80	95	110	125	140	155	170	185	200
6	21	36	51	66	81	96	111	126	141	156	171	186	201
7	22	37	52	67	82	97	112	127	142	157	172	187	202
8	23	38	53	68	83	98	113	128	143	158	173	188	203
9	24	39	54	69	84	99	114	129	144	159	174	189	204
10	25	40	55	70	85	100	115	130	145	160	175	190	205
11	26	41	56	71	86	101	116	131	146	161	176	191	206
12	27	42	57	72	87	102	117	132	147	162	177	192	207
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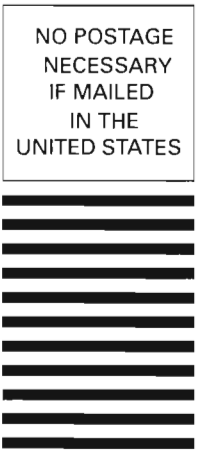

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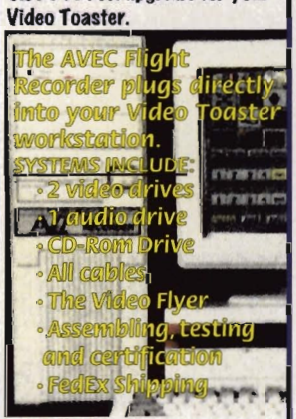

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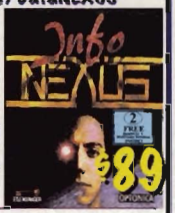

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FOR INFORMATION CIRCLE 136

DEAR JOHN

Amiga and PC Relations

The Solution's in the Content Directory

by John Gross

With the final release of LightWave 4.0 comes a whole slew of new questions. In particular, I've received a lot of queries regarding the new Content Directory feature that are very similar to the following:

Q: I am having a terrible time getting my PC and my Amiga to read the same scene files correctly. I was told that one machine should have no problem reading scene files created on the other. The Amiga always says it can't find my objects (and it has a little box at the end of the object name) and images if the scene was created on the PC, and the PC has trouble finding objects that are named in a scene that the Amiga created. I am using LightWave 3.5 on the Amiga and LightWave 4.0 on the PC. I know this has something to do with the Content Directory button (?) but I can't seem to get the two to like each other's scenes. Please help!
Bill Russel
Los Angeles, CA

A: OK, there's a lot to go through here, so bear with me.

In the past, LightWave has always used a fixed "content directory" structure. What this means is that the software uses "relative" paths in a scene file for objects and images that are located in a directory called 3D, which in turn is located on your hard drive in a directory called Toaster.

On your Amiga, when you first select Load Object, LightWave defaults to looking in a directory called Objects, located in the Toaster/3D directory. If you use an object from there in your scene, you may get a line in the scene file that reads:

LoadObject Objects\Animals\Cow

However, if you load an object that is in another directory on another drive on your system, you may get a line that reads:

LoadObject DH2:Objects/Animals/Cow

Notice the difference between the two. The first line uses a "relative" path and does not contain the drive information (DH2:). When LightWave writes a scene file that just says "LoadObject Objects/..." or "LoadImage Images/..." the program knows to look in the Objects or Images directory located in its content directory (Toaster/3D).

The second line instructs LightWave to load an object that is not located in its content directory, but on another drive. If an object or image is not located within LightWave's content directory, the full path is written to the scene file in order to instruct LightWave where to look when reloading the scene.

LightWave knows of a few different directories in its content directory structure. On the Amiga, these directories, named Objects, Images, Scenes, Surfaces, Motions, Envelopes and Previews, are all located within the Toaster/3D directory. This directory structure is known as LightWave's content directory, and you can "hard wire" these paths by editing the LW-config file.

Normally the config file has lines such as:

ScenesDirectory Scenes
ObjectsDirectory Objects
ImagesDirectory Images

If you do not "hard wire" the path locations by editing this file so it reads something like ObjectsDirectory DH2:Projects/Objects, but instead leave it as shown above, LightWave will write the relative path names (just Objects/... or Images/...) in scene and object files.

Why is all of this important to your question? Well, LightWave 4.0 allows you to change where the content directory (the "Toaster/3D" directory) is located. By selecting the Content Directory button (Options panel—see Figure 1) and choosing a "root" location that contains your Objects, Images, Scenes, Surfaces, Motions, Envelopes and Previews directories, you can have LightWave write out relative paths in scene and object files if you load all of your objects and images from these directories. Additionally, when you elect to load an object, image or scene, LightWave will default to look in these directories located in the root location specified.

As a simple example, let's say that you had Objects, Images and Scenes directories located in a directory called NewTek on the D:\ drive on your PC. Setting the Content Directory to D:\NewTek would default LightWave to looking for scenes in the D:\NewTek\Scenes directory and objects in the D:\NewTek\Objects directory. However, when you save the scene, the "D:\NewTek" part would not get written into the scene file, just as "DH0:Toaster/3D" is not written when a scene is saved on your Amiga.

This doesn't mean that all of your objects or images have to be located in the main Objects and Images directories. They can be located within directories that are within these directories as long as the top directory is named Objects or Images. Loading an object whose full path name is D:\NewTek\Objects\Animals\Bovine\Cow would be written into a scene file as LoadObject Objects\Animals\Bovine\Cow.

Hopefully this all makes sense as you continue reading. Getting your scenes from the PC read on your

Amiga involves a couple of steps (because you have LightWave 3.5 on your Amiga—more about that later).

Since you now know how the content structure is laid out, the first step to get scenes to load on your 3.5 version is to create the same content structure on your Amiga that exists on your PC. Using the D:\NewTek example above, loading the cow object would require you to create a directory structure that reads Toaster/3D/Objects/Animals/Bovine and copy the cow object used on the PC to this location. However, because you are using 3.5, that's only half the battle.

Let's say that you get all of your objects copied over so they exist in the same type of content directory structure on your Amiga that was used on the PC. You also have to deal with the problem of the PC using forward slashes (\) to separate directories and the Amiga using backslashes (/). You can either select a new object/image whenever LightWave can't find one as it attempts to load the scene, or you can edit the scene file to replace each (\) with a (/).

How about those little boxes you mentioned? They are simply carriage return symbols that are found in the scene file at the end of every line because it was written on a PC. You can get rid of them easily in one of two ways: If you have a text editor that can locate these (CygnusEd, for instance), you can generally strip them out. Selecting all the text in a scene file as a block and choosing Strip CR Block from CygnusEd's Cut/Replace menu will quickly fix your entire scene. Another easy method is to copy the scene from your PC disk to your Amiga using the built-in CrossDOS, but make sure to turn on Text Filtering in the CrossDOS commodity (located within your system drive's Tools/ Commodities directory). This procedure will automatically strip all of the carriage returns.

Sound complicated? Well, there's an even easier way around the whole thing: Buy LightWave 4.0 for the Amiga. Not only can you change the content directory, but 4.0 on the Amiga (and PC for that matter) doesn't care which way the slashes face and/or if there is a carriage return symbol on the end of a line. The program knows what to do and will load the scene/objects/images files without a hitch, assuming that you have a similar content directory structure. If you have 4.0 on both your PC and your Amiga, scenes can go back and forth without a problem. You could even set up your content directory structure on a floppy and just set it to PC0: (Amiga) or A:\ (PC) and load your scenes direct from the floppy without a problem!

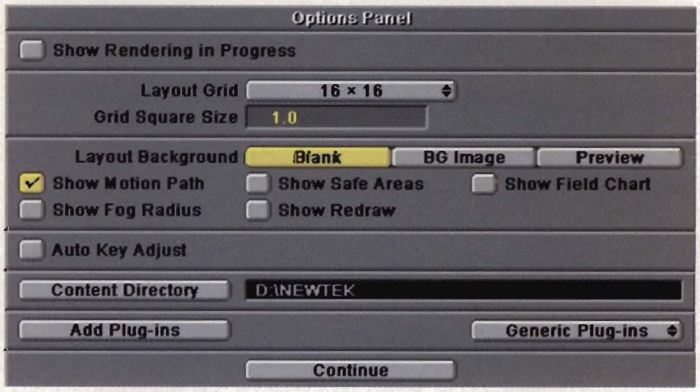

Figure 1

If you are going to render on both machines, you will want to have 4.0 on the Amiga anyway, since it contains features that you may be using in your scene, which aren't available in 3.5. Also, it's always a good idea to use the same version of LightWave whenever doing multiple machine rendering to make sure that frames match when played together. Different versions of LightWave may also have different changes in rendering algorithms that can show up as slight (or dramatic) differences in the final image output.

OK, now that you know all about your content directory, here's some more useful advice:

- Don't change your content directory during the middle of a LightWave session. You will most likely get confused as to which is your "true" content directory, and depending on what it is set to when you save your scene, you may get unwanted results in the scene file.
- Most users will not need to have more than a single content directory setup. Depending on how you like to organize your directories, however, you may want to use multiple content structures for different clients and/or projects. This can get tricky if you use some of the same objects or images for different projects. When in doubt, it's easiest to have a single content structure with separate directories within Objects, Scenes, Images, etc., for different projects.

At Amblin Imaging, since we don't use any of the same objects or images for *seaQuest 2032* that we use for *Star Trek: Voyager*, we maintain a completely different content directory structure for the two. Therefore, we have an SQ directory and an STV directory on one network drive. Found within each of these directories are Objects, Images, Scenes, Surfaces, etc., so if you are working on a *seaQuest* shot, you set your content directory to X:\SQ. If you are working on a *Voyager* shot, the content directory is set to X:\STV. Of course, there are multiple directories nestled within the main content directories to differentiate between individual episodes or ships.

It's up to you how you wish to set up your directories. Just remember that if you are set to one content directory but are loading objects from a location "outside" this structure, you will receive full paths rather than relative paths in your scene file. This will be a problem when you try to load an object from D:\NewTek on your Amiga when the Amiga only understands DH0:NewTek.

VTU

John Gross is a supervising animator and co-director of outside projects at Amblin Imaging, and the editor of LIGHTWAVEPRO. *E-mail him at jgross@netcom.com.*

EDITORIAL EVALUATION
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Very Useful	Useful	Not Useful
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Special-Interest Video continued from page 47

(7) *The most important words you can attach to your video are "Volume One."* Once you produce a video for a certain market, you may want to produce subsequent volumes for that same market. It's easier to sell to an existing customer than it is to get someone to buy something from you for the first time. Once you've sold a video to someone, that person is likely to buy from you again provided you delivered a quality product the first time around.

(8) *Establish an effective order-taking and distribution system.* The importance of keeping track of customers, orders and shipping information cannot be stressed enough. Learn to keep accurate records from the outset. If you can't handle order-taking and fulfillment yourself, there are dozens of service bureaus that can do the job for you.

(9) *Stop procrastinating!* If you're waiting for the right time to come along to produce an SIV, you're always going to find reasons to talk yourself out of it. Focus on people who are already producing SIVs and let them be your inspiration.

The author at work in her studio.

10. *Have fun.* SIV is serious business, but you should never forget that most of the reward of being in the video business is that it's also a lot of fun. You'll have total control over an SIV project, so you can work at your own pace and have all the fun you want without having to worry about client deadlines.

The best part of special-interest video production is that you do the work once and profit from it over and over again. Though often overlooked as an outlet for your Toaster, SIVs can provide a part-time or, with some work, a full-time income source.

The starving artist theory is dead. Let's eat!

VTU

Barbara A. Besteni is a special-interest video producer and owner of Special EFX Productions in Miramar, Fla. She can be reached at (305) 430-5626 or on-line at barbbest @aol.com.

EDITORIAL EVALUATION

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VIDEO TOASTER 4.0 continued from page 50

You can also create four- or eight-bit grayscale alpha channel images to be used with the Switcher to key TPaint graphics over live video or in LightWave. Some tools built into TPaint allow batch processing of Flyer clips.

Although the interface has changed dramatically, as far as painting tools are concerned, not a whole lot has really been added. TPaint remains a basic, solid paint package. If you find it limiting, there are many other powerful paint programs on the market.

ToasterCG

ToasterCG has changed quite a bit. One of the most significant updates is that CG Pages must be rendered before you can use them. You no longer have an option. The benefit? You don't have to go through the sometimes painstakingly slow process of loading all of the Pages in a Project's Book, even if you only needed one Page.

The concept of Books still exists but now acts more as a way to organize and archive sets of Pages. ToasterCG now supports ARexx, and the nice folks at NewTek have provided a macro that individually renders and saves each Page in a Book. This could save you a lot of time if you have a library of Books that you'd like to use with the 4.0 ToasterCG. There are many other ARexx scripts, including a spell-check macro.

Like TPaint, ToasterCG includes control over height, width, shear (slant) and rotation of PostScript fonts. Sizing is accomplished by dragging a sizing gadget, but rotation and slant must be typed in. Brushes are now displayed in gray using an outline of the actual picture. This should help a great deal when you are trying to align titles and graphics on a Page.

ChromaFX

The ChromaFX screen has changed very little except for the addition of Load and Save effect buttons. As with the new ToasterCG, using ChromaFXs with the new Switcher requires saving the rendered effect to a file first. A l l Toaster applications are supporting a variety of image formats using HIIP (Host-Independent Imaging Protocol). These formats are derived from the Art Department Professional (Elastic Reality) image loaders and savers,and include Alias, BMP, Framestore, IFF, JPEG, PCX, PICT, SGI, SoftImage, TARGA, TIFF, Wavefront and YUV, plus many more.

There is no longer a required naming convention for Framestores, CG Pages and Projects. Yippee! You can name files anything you want. However, you'll probably want to use an extension to identify the file type or save like-kind files in their own subdirectories. There are pre-set directories for the latter method.

Missing in Action

The (Control–Control–Alt–Alt) keystroke sequence that got you out of the Switcher and back to the Workbench is gone. It's being replaced by (left Amiga + M or N). If you use an A4000, you might even miss the colorful Please Stand By logo, which has been replaced by a simplified grayscale logo.

Although it may require some getting used to, I think the software allows you to be more productive. Moreover, you'll be getting a host of new things, including more effects, new TPaint, new ToasterCG, LightWave 4.0, and more LightWave objects and scenes. Plus, you'll be all set when you add the Flyer to your system at a later time. Make no mistake: Video Toaster 4.0 for the Amiga is a major upgrade for non-Flyer users!

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AG-456 2-HOUR S-VHS CAMCORDER

- Now includes manual zoom control.
- Laminated amorphous heads assure exceptional picture quality, high resolution, and superb color reproduction.
- 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 for frame accurate editing
- Audio/Video fade-In /fade-Out for smooth transitions
- Automatic iris and manual control for fine adjustment
- **Digital Mix** – soft fade-over between memorized images
- **Digital Tracer** – to add an after-image effect to moving subjects
- **Digital Still** – freeze a scene for as long as you like, without interrupting sound recording
- **Digital Gain-Up** – delivers clear, distinct images in low-light
- **Digital Strobe & Digital Wipe** – add professional effects to your shooting.

Canon

L2 Hi-8 Camcorder

- 1/2" CCD with 410,000 pixels delivers over 450 lines of horizontal resolution
- VL Mount System allows use of a full range of interchangeable lenses from extrawide angle to super telephoto plus, optional EOS-VL adapter allows mounting of over 65 Canon EOS 35mm Autofocus lenses.
- Records RC Time Code while shooting and can also "stripe" RC Time Code to tapes already recorded on other equipment. With RC Time Code the L2 can connect to an edit controller with RC Time
- Provides stunning AFM stereo with the choice of auto or manual level control. To match the audio with video the L2 has a high performance stereo/zoom microphone.
- Provides two different grips with independent start/stop and zoom controls. Also has built-in sports finder.
- 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 1/60 to 1/8,000 of a sec.
- Includes a wireless controller which to make it a highly sophisticated edit deck.
- Automatic exposure plus manual control lets you lock the aperture at any setting.

- The L2 has a variety of special effects:
  Close-up – instantly doubles the magnification of the lens
  Overlap – (dissolve) Slowly dissolve from the last frame of the preceding scene to the action being recorded.
  Freeze – freezes the picture while sound recording continues uninterrupted.
  Art Freeze – records your scenes as colorful paint-like images.
  Strobe and Art playback modes – six-speed strobe playback can be combined with three levels of solarization effects.

Optional VL-Mounts:

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

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

250mm Super Telephoto
The CL 250mm Reflex Lens achieves the same magnification as a 1,350 mm lens mounted on a 35mm SLR. A built-in neutral density filter system provides easy four-stage brightness adjustment equivalent to f/32,16,8 and 4 — a remarkably bright maximum aperture for a lens of this power.

10x Zoom w/Optical Image Stabilizer
The Image-Stabilizing Zoom Lens CL 10-100mm can deal with everything from the slow movements that show up during hand-held telephoto recording to the fast vibrations encountered when shooting from a moving car, making it effective in every situation. It is equally effective in low-light conditions and during zooming.

EOS-VL Adapter
The EOS-VL Adapter allows over 65 high-quality Canon EOS lenses to be used with the L2. Because of the difference in size between 35mm film and the L2's 1/2" CCD, the effective focal length of still camera lenses is multiplied by 5.4 times. A 600mm lens, for example, becomes an incredible 3,240mm super-telephoto.

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

MILLER

Fluid Heads & Tripods

The silky, smooth action of each Miller Fluid Head is the product of the finest quality cast and machined parts functioning together in a fluid environment. They are engineering masterpieces, built to operate under extreme conditions. They're engineered to exceptionally fine tolerances and their mechanisms are protected effectively against ambient moisture and dust.

Miller 20 - Series II Fluid Head
- Continuously adjustable fluid drag control
- Sliding/Quick Release camera platform
- Weighs only 4 lbs. will handle cameras up to 22 lbs.
- Counterbalance system designed to compensate for nose heavy or tail heavy camera configurations, and permits fingertip control of the camera throughout the tilt range.
- Includes independent pan and tilt locks, bubble level, dual pan handle carriers and integrated 75mm ball levelling.

#440 -Lightweight Tripod
- Weighs only 4.5 lbs., supports up to 30 lbs.
- Minimum height down to 24", maximum height to 57".
- Extremely portable, folds down to 33"
- Engineered from thermoplastic moldings, diecast alloy and hard anodized tubular alloy.
- Fast one turn, captive leg locks
- Includes 75mm (3") ball levelling bowl

#420 -2-Stage Tripod
- Two extension sections on each leg. Operates at low levels as well as normal heights without the use of mini legs.
- High torsional rigidity, no pan backlash
- Weighs 6.6lbs., supports 50 lbs.
- Very portable, folds to 27"
- Includes 75mm (3") ball levelling bowl with model 420 model 402 includes 100mm (4") ball levelling bowl.

System 20 Catalog #338
- Miller 20 II fluid head
- 440 Lightweight tripod
- 410 tripod spreader with foot pads **1549.00**

System 20 ENG Cat. #339
- Miller 20 II fluid head
- 420 2-stage tripod
- 410 tripod spreader with foot pads **1895.00**

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 fluorescent 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 and User Bits.
- A variety of automatic adjustment functions for different lighting conditions are incorporated into the EVW-300:
  - ATW (Auto Trace White Balance) – when ATW is turned on optimum white balance is always ensured during recording, even for changes in color temperature. Conventional white balance adjustment is still provided with the Auto White Balance.
  - AGC (Automatic Gain Control) – in addition to manual Gain Up AGC provides linear gain up in the range of 0 dB to 18 dB.
  - Intelligent Auto Iris – for situations where the lighting between subject and background is different (subject is underexposed) the Intelligent Auto Iris automatically examines the scene and adjusts the lens iris for proper exposure.
- Selectable Gain-up from 1 dB to 18 dB in 1 dB steps for Mid and High positions.
- Clear Scan function – provides a variety of selection of shutter speeds ranging from 60-200 Hz allowing recording of almost any computer display without flicker.
- Compact, lightweight (12 lbs with NP-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 achieves over 700 lines of horizontal resolution, a S/N ratio of 60dB and remarkable sensitivity of f8 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 unsteady 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.

porta brace

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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 outpoint 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. An RS-422 9-pin connector is utilized for communicating edit command and time code data. The 8mm time code is output as SMPTE time code through the RS-422 connection to the edit controller.
- With the optional EVBK-100 the EVO-9850 inputs and outputs SMPTE time code data via BNC connectors. Accordingly the EVO-9850 can feed time code to another VCR or can lock to an external time code.
- The Jog/Shuttle mode provides high speed picture search from -17 to 17 times normal speed.
- With the optional RMM-980, the EVO-9850 can be installed into a 19-inch EIA standard rack.
- External sync input to lock onto external reference video signals. This allows for synchronization with other video equipment.
- For customized operation there is a Dial Menu. You can set VCR operation modes like time code preset, time code superimpose, self-diagnostics display, with the search dial.

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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 DOC and Chroma Process improvement, they deliver the consistent picture quality so essential to editing. They also incorporate a wide video head gap and track width (58mm) for stable and faithful picture reproduction.
- Each has a built-in TBC plus an advanced Digital Noise Reducer (DNR) for both the chrominance and luminance signals to eliminate noise during playback. At the same time, a field memory incorporated in the noise reducer removes jitter to provide sharp, stable pictures.
- They also incorporate Chroma Process Improvement circuitry for excellent color picture quality in the playback mode. This advanced circuitry greatly improves the chroma bandwidth, thus enabling sharper and clearer color picture reproduction.

ADVANCED EDITING FUNCTIONS

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

FOUR CHANNEL AUDIO SYSTEM

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

MULTIPLE INPUTS AND OUTPUTS

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

USER FRIENDLY OPERATION

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

COLOR MONITORS

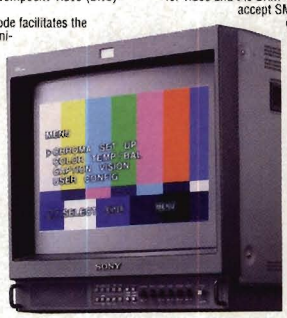
PVM-1350 13″ Presentation Monitor

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

PVM-1351Q 13″ Production Monitor

Has all the features of the PVM-1350 *PLUS* -

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



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

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

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

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GVR-S950 S-VHS Single Frame Recording VCR

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

GVR-S955 S-VHS Single Frame Recording VCR

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

JVC

S-VHS EDIT-DESK SYSTEM

BR-S500U Player • BR-S800U Edit Recorder

RM-G800U Edit Controller

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

OPEN ARCHITECTURE

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

CONTROL TRACK TIME CODE SYSTEM

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

SUPERB VIDEO PERFORMANCE

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

32X VARIABLE-SPEED SEARCH

Front-panel search dials featured on both the BR-S800U and BR-S500U provide fast, accurate picture search at up to 32x normal speed. This is possible due to the incorporation of a heavy-duty direct-drive mechanism similar to that used in JVC's "22 Series."

FOUR-TRACK AUDIO

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

RM-G800U EDIT CONTROLLER

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

TAO EDITIZER 3.0

A/B Roll Edit Controller for PC or Macintosh

Hardware Features:

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

Software Features:

- VCR Control – up to three VCR controllers on-screen simultaneously. Jog and shuttle control. You can use either your mouse or keyboard.
- Tape Logging – Multi-event search, copy directly into edit list, multiple log windows may be opened simultaneously, log files or selected events may be printed to a window.
- Includes non-linear editing support
- Time code generator in 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 Edtizer-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-1290 VHS Video Cassette Recorder

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

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

The AG-5700 is an easy to use S-VHS Hi-Fi Editing VCR flexible enough to be used in a wide range of applications from video production to educational, medical and business. It delivers exceptional recording and playback images, plus high quality audio sound. With its platform independent RS-232 interface you can choose from a myriad of software package to suit your applications.

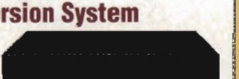
- Uses amorphous video heads which are clearly superior to conventional ferrite heads. They are better because their magnetizing strength is much greater, yielding a higher signal-to-noise ratio.
- Incredibly accurate with optional AG-A570 Edit Controller, an accuracy of ± 3 frames can be achieved.
- Built-in 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 Amiink, 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.

AG-1970 S-VHS Hi-Fi Editing VCR

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

AG-W1

VHS Hi-Fi Video Cassette Recorder w/World TV Broadcast Signal Conversion System



The Panasonic AG-W1 breaks down the barriers posed by different TV broadcast systems. Its advanced digital standards conversion circuitry lets you play back VHS tapes recorded in any of the world's major TV broadcast systems – including PAL, SECAM and NTSC – on any ordinary monitor. Using a second VCR for playback, you can also convert your NTSC videotapes and send them for viewing in countries using PAL or SECAM systems.

- Just slip in a pre-recorded VHS or S-VHS tape and the AG-W1 will automatically detect the TV broadcast system that it was recorded on, it then proceeds to set the tape and cylinder speed to match it, and begin playback. Before playback though, you select the TV broadcast system to be output - NTSC, M-PAL, N-PAL, SECAM, MESECAM - using the control panel system selector or the world map geographic display on the front panel. You can watch the tape en any monitor, anywhere in the world.
- The AG-W1 also does standards conversion. You can convert pre-recorded NTSC tapes into PAL or SECAM, PAL into NTSC or SECAM, whichever you require.
- The AG-W1 is VHS but has S-VHS Quasi playback function for playing back S-VHS tapes recorded in NTSC and PAL system. It accepts regular VHS tapes recorded in any TV system.
- Automatic functions includes: Auto Power-On, Auto Play, Auto Rewind, Power-Off , Rewind Auto Shut-Off.
- Has two rotary Hi-Fi heads for NTSC and two rotary Hi-Fi heads for PAL/SECAM. They each have a dynamic range of 90dB and frequency response from 20Hz to 20,000 Hz. There is also a stereo headphone jack with volume control.
- Playback functions include Still, Frame Advance, Variable Slow (½ to ¼ normal speed), and Speed Search (5x SP normal speed). These functions apply to any broadcast system.
- The AG-W1 also features: Digital Tracking, Edit Switch, Memory/Search Lock, and a Linear Time Counter.
- Has one set of audio/video inputs in the rear plus one set in the front. Has two sets of audio/video outputs in the rear of machine.
- Worldwide 110-127/220-240VAC, 50-60Hz power sources.

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 (-½, -⅓, -¼, -⅙, -⅛, +⅛, +⅙, +¼, +⅓, +½).
- 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 Chrome 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 slo-mo playback.
- Employs amorphous video heads that have a higher magnetic coercivity than conventional ferrite heads. Expanded frequency response from the amorphous heads enhances picture quality by minimizing color blurring.
- Built-in LTC/VITC (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 of 90dB 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.

B&H PHOTO-VIDEO

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OR FAX (24 HOURS): 800-947-9003 212-444-5001

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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 A/V 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 DOC (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
- 1KHz, 0dB sinewave audio tone output, locked to video
- Outputs can easily be configured to meet specific user and equipment needs $269

CSG-50
Color Bar/Sync/ Tone Generator

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

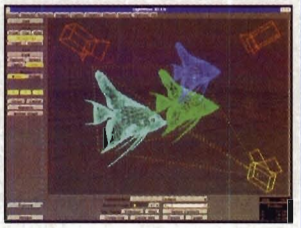
WE STOCK THE FULL LINE OF HORITA PRODUCTS INCLUDING:

WG-50-	Window Dub Inserter
TG-50 -	Generator/Inserter
TRG-50 -	Generator/Inserter/Search Speed Reader
TRG-50PC-	Has all of the above plus RS-232 control.
VG-50 -	VITC Generator, LTC-VITC Translator
VLT-50-	VITC-To-LTC Translator
VLT-50PC -	VITC-To-LTC Translator / RS-232 Control
RLT-50 -	Hi8 (EVO-9800/9850)TC to LTC Translator
TSG-50 -	NTSC Test Signal Generator
SCT-50 -	Serial Control Titler "Industrial" CG, Time-Date Stamp, Time Code Captioning
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 soundstage and your personal computer. Within LightWave Layout, create dramatic lighting effects, photo-realistic surface materials and intricate camera movements. Render still images or entire animations in 24-bit color. Create new props with the powerful tools in LightWave Modeler. From technical geometric forms to free-flowing organic shapes this model shop does it all. LightWave 3D's new plug-in architecture is supported by a growing number of independent developers. This allows you to customize LightWave with additional features such as gravity, particle systems, image processors, and more surfaces.



FEATURES:

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

DIGITAL PROCESSING SYSTEMS INC.

VT-2600 Personal TBC IV

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

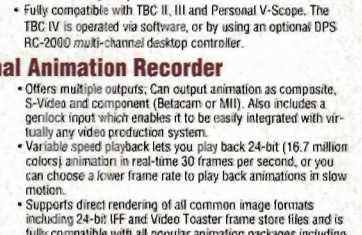
DR-2150 Personal Animation Recorder

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

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

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 gets 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 the new NT versions of Lightwave 3D, Autodesk 3D Studio, Crystal Graphics TOPAS 5.1 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 daughtercard, 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.
- 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 GUI 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 unparalled performance at an unbeatable price.

PROFESSIONAL VIDEO TAPE

FUJI

H471S S-VHS Double Coated

ST-30	7.69	ST-60	8.49
ST-120			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.

8Q Certified 8mm High-Grade

P6-60 HG 8Q	5.09	P6-120 HG 8Q	6.69

8Q Certified Hi-8 Metal Cassettes

P6-60 HM 8Q	6.09	P6-120 HM 8Q	7.99

P/I PLUS Expitaxial VHS

T-30 Plus	1.69	T-60 Plus	1.99
T-90 Plus	2.09	T-120 Plus	2.19

HGX-PLUS Expitaxial VHS (Box)

HGXT-60 Plus	2.69	HGXT-120 Plus	2.99

8Q Broadcast Quality Expitaxial VHS (Box)

T-30 8Q	5.49	T-60 8Q	6.19
T-120 8Q			7.39

8Q Certified Professional S-VHS (In Box)

ST-31 8Q	7.19	ST-62 8Q	8.09
ST-126 8Q	8.39	ST-182 8Q	14.99

SONY

Hi-8 Professional Metal Video Cassettes

P6-30 HMPX	4.59	P6-30 HMEX	7.99
P6-60 HMPX	6.59	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			20.19

PR Series Professional Grade VHS

T-30PR	2.39	T-60PR	2.59	T-120PR	2.79

PM Series Premier Grade Professional VHS

T-30PM	3.49	T-60PM	3.99	T-120PM	4.79

BA Series Premier Hi-Grade Broadcast VHS (In Box)

T-30BA	3.59	T-60BA	3.99	T-120BA	4.79

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BRS 3/4" U-matic Broadcast Standard (In Box)

KCS-10 BRS (mini)	8.29	KCS-20 BRS (mini)	8.99
KCA-10 BRS	8.19	KCA-20 BRS	8.69
KCA-30 BRS	9.69	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
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BCT Metal Betacam SP Broadcast Master (In Box)

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Incorporating all the features of the original Primera, the PrimeraPro delivers incredible 600 x 300 dpi, photo-quality output. The PrimeraPro also offers laser-quality text, LocalTalk or parallel interfaces and optional Adobe Postscript Level 2. The PrimeraPro is ideal for producing professional quality comps, photos, illustrations, scientific and architectural renderings, video captures, fabric transfers and even final artwork. The PrimeraPro's output is so good it exceeds printers costing thousands of dollars more.

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- Delivers laser-quality 600 x 300 dpi text - in color or B&W
- LocalTalk port or Centronics-type parallel interface for Windows and Amiga. Ethernet is available for Macintosh. Apple's ColorSync color matching software is also supported.
- Available for PC, Macintosh and Amiga platforms. Third party drivers are also available for Auto Desk, ADI, Unix and others
- Optional Adobe Postscript Level 2 for compatibility with nearly all page design, illustration and desktop publishing programs.
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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 ..... **653.95** 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**

lowel

VIP Video Lighting System

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

i-light

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

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

V-light

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

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

Pro-light

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

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

MACKIE

Micro Series 1202

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-LineMixer

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

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 of 12-bit audio 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 (DVLS) 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 clean, reliable RF performance for up to 250 feet. The Pro Series includes handheld and lavalier mic systems as well as the WMS-PRO which includes a lavalier and handheld mic.

They All Feature:

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

COMPLETE SYSTEMS

WMS-PRO

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

WLX-PRO

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

WHX-PRO

- Handheld microphone with built-in transmitter
- Operates on one AA battery for up to 8 hours
- Has a combination on/off-mute switch for quiet switching
- Includes shoe mount, velcro, earphone monitor **199.95**

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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NRG

POWER BELT SERIES

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

880 Power-Pro +

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

970 Power-MAX

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

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

VARA-LITE PRO

Professional DC On-Camera Light

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

- Accomodates bulbs from 20W to 100W 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.
- Outstanding 300,000 hour mean time between failure is far in excess of any other manufacturer.
- Ultra-efficient PWM regulation generates far less heat than linear type supplies.
- Provides the ultimate in performance and reliability in a universally compatible and compact package.

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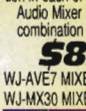

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Edit in Hi8 w/great precision & accuracy. Built-in TBC creates sharp images & noise reduction. Absolute frame accuracy is featured & single frame recording is possible while in shuttle mode. An RS-422 interface is onboard and the unit features a quick response mechanism.

EVO-9650 SINGLE FRAME VCR

Designed from the ground up a single frame record VCR. A Single Frame Recorder is built in, as well as a tremoundous range of editing features specific to computer animation & editing. Includes DNR, a framebuffer to free up the computer sooner and an advanced remote system

SONY V DECK VISCA HI-8MM DRIVER

The Sony V-Deck Visca Hi-8mm Driver is the first VCR to be designed as a computer peripheral. Viscal Protocol enables this machine to be controlled with great accuracy from a PC, Macintosh or Amigat RC Time Cose is also Present as well as fades and Audio Mixing

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Another breakthrough product from Go-Video! This Dual Deck VCR has Hi-8mm quasi playback & computer control for a truly affordable desktop video editing solution. Combines with Dual Deck Director for automated computer controlled editing, incorporating titles, effects & more.

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P6-120 HMPX	10.45
E6 30 HMEX	7.69
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E6-120 HMEX	14.49

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P6-30 HMP M221	4.89
P6-60 HMP M221	7.09
P6-120 HMP M221	9.09
P6-30 HME M221	8.59
P6-60 HME M221	11.09
P6-120 HME M221	14.29
ST-30 H471 S-VHS	7.39
ST-40 H471 S-VHS	8.19
ST-120 H471 S-VHS	8.49

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351 VR/LT WIRELESS LAPEL MICROPHONE	199.95
351 VR/LT WIRELESS HANDHELD	229.95
551 VR/LT W/SX-30 TRANSMITTOR	564.95
551 VR/HT HANDHELD SYSTEM	564.95
101 LT-10 WIRELESS LAPEL MICROPHONE	214.95
101 HT-10 WIRELESS HANDHELD	234.95
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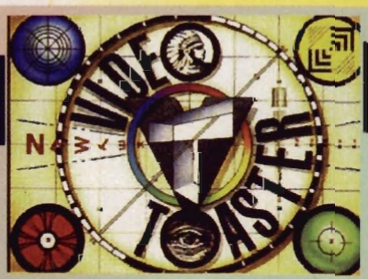

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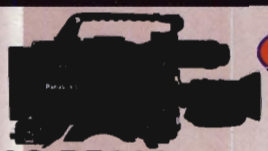

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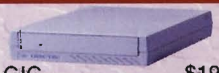

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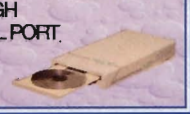

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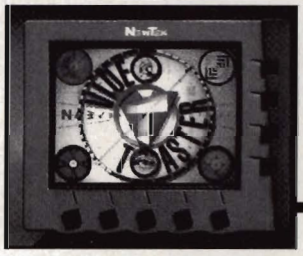

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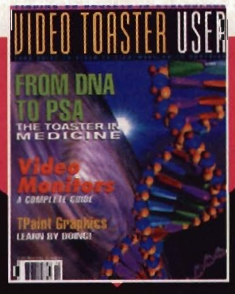

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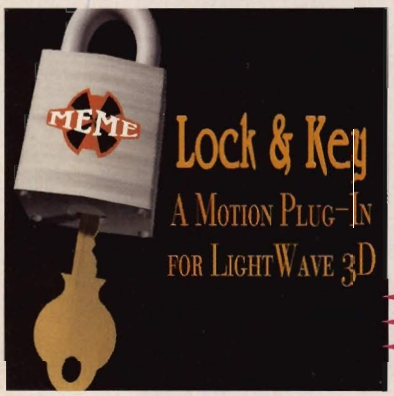

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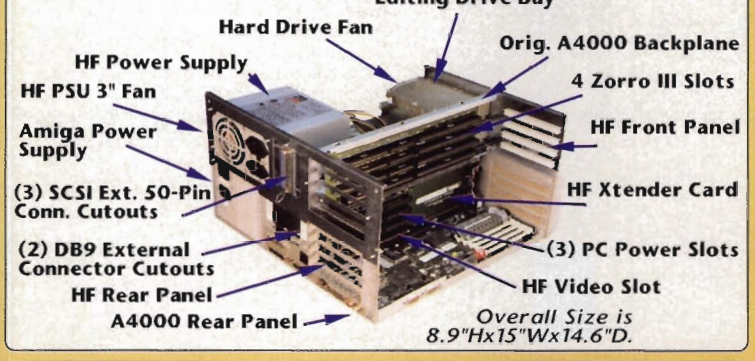

Overall Size is 8.9"Hx15"Wx14.6"D.

HighFlyer	$ 395
HighFlyer PS *with Power Supply*	$ 495
Cable Kit	$ 85
Fan Kit	$ 45

DataFlyer 4000SX	$ 90
DataFlyer 4000SX-25	$ 95
DataFlyer SCSI+ 4000 Does not use Zorro Slot	$ 95
270MB IDE SyQuest A4000	$Call

FLYer Factory!

In Celebration of Escom's purchase of the Amiga Technology

NEW LOW SYSTEM PRICES

FLYer DRIVES

Minimum 2 Video Drives

2GB	$Call
4GB	$Call
9GB	$Call
4X CD-Rom	$295
CABLES:	
Octopus Cable	$165
Warp A4000 External SCSI-2 Kit	$120
High-D Term.	$ 25
T-OvenGT Cables	
Flyer	$195
Warp	$ 45
Terminator	$ 15
TAPEBackUp Drives:	
5-10GB 2.5GB/Hr	$1295
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10-20GB 5.4GB/Hr	$3495
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FLYer SYSTEMS

High FLYer System $14,995 — $365 A MONTH

A4000/25MHzLC040/18MB Ram/800MB IDE HD/ HighFlyer w/ PS, Cablekit, FanKit
FLYer/Toaster/TBC IV/
Two 2GB Flyer HD's and 2X CDRom

TO-060 GT Tower System1 $18,495 — $450 A MONTH

ToasterOvenGT-4000 Tower System/
50MHz-060/18MB Ram/1GB SCSI-2 HD/
FLYer/Toaster/TBC IV/
Two 4GB Flyer HD's and 2X CDRom/ASIM

TO-060 GT Tower System2 $23,495 — $570 A MONTH

ToasterOvenGT-4000 Tower System/
50MHz-060/32MB Ram/
2GB 7200 RPM SCSI-2 HD/
FLYer/Toaster/TBC IV/
Two 9GB Flyer HD's and a 1GB AudioHD/
4X CDRom/ASIM

**Balboa Lease Box is average credit lease for 60 months*

ANTI GRAVITY HANGER™

Anti Gravity Hangers are external exspansion cases for the FLYer! They Feature High Wattage Power Supplies, Cooling Fans, Individual SCSI-ID selects, FLYer SCSI-2 Ports, plus...

Hanger Model	# BAYS	# Watts	# Fans	# IDs	FLYer Ports	Pass Through	Total Price
AGH-4	4	200	3	4	2	No	$275
AGH-7	7	250	3	7	3	Yes	$395
AGH-9	9	300	3	9	3	Yes	$475

FOR INFORMATION CIRCLE 163

SCALA is MultiMedia

Now almost anyone with a message to get across can present it with maximum impact. *Scala MM300* gives you hundreds of visual effects, animations, sound files, and clip art to create your presentation or Interactive Application.

Common SCALA applications include:
- Business Presentations Desktop Video
- Stand Alone Interactive Kiosk

Scala MM300 $295 InfoChannel $3995

WaveMaker 2.0 $185

Flying-Logo Animation Scene Builder For Lightwave3D.

New Features:
Image Factory, PAR Convert, 72 New Elements, ...More!

You don't have to be a Lightwave expert to create eye-catching, professional-quality flying logo animations.

MacroForm $215

Photo MAX $95

When it comes to incorporating framestores, photos, and slides into your productions nothing makes it easier than Photo Max.

Wipes I / Wipes II

Pro Wipes Vol 1 75 effects $75
Pro Wipes Vol 2 66 effects $95

Visual Inspirations

Visual FX & Decision Maker $435

SUPER BUNDLES
Surface Pro, Road Signs, & Batch Factory 2.0 $125

SURFACE PRO Now Available for PC **$85**

ROAD SIGNS $45

BATCH FACTORY $45

New Flyer & V-Lab Motion EDL generator and VTR controller

Decision Maker takes the drudgery out of moving selected chunks of video tothe harddisk. You control your video deck directly from your Amiga! And when you find useable footage simply add it to the EDL. When you need to switch tapes, just name the new tape and continue. When you are done, click ***DIGITIZE*** and the disired footage will move to the harddisk. Then when the Edit is done you can take the EDL to an ***ON-LINE SUITE*** or ***REDIGITIZE*** at a higher resolution!

Features:
- Import, Create, Export EDL's (CMX & GrassValley)
- Online Editing
- Control over your deck from your computer
- Keeps track of multiple source tapes
- Digitize and Redigitize
- User-Configurable Screen Backgrounds
- Ease of Operation
- Time Lapse Record
- Requires NewTek Flyer or VLab Motion
- Compatible with V-LAN, AmiLink, & BCD single-frames, & the EVO-9650 and Sanyo GVRS-950, Single Frame VCRs.

VISUAL FX $125

You don't have to go all the way to Hollywood anymore to get first rate fx.

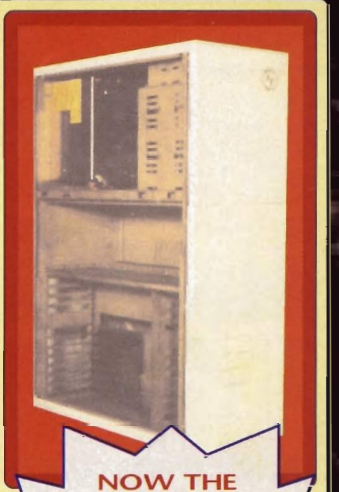
Volume one by Leo Martin and volume two by Mark Thompson are State-Of-The-Art Fx. The impressive front end of ***Visual FX*** gets you into production now, no previous Lightwave experience needed. The transition volumes are perfect for use with the NewTek Video Flyer or the DPS Personal Animation Recorder, just select what images or video sequences you want to use and ***Visual FX*** will do the rest. The Logo volumes are just as easy. Simply select what object you wish to replace our default and you are off on your way to creating professional quality animations that you never thought possible. ***Visual FX*** requesters actually open up on the LightWave screen and walk you through each step. ***Visual Fx*** is perfect for batch processing. Each volume comes with 20 effects, each of which has a full 30 frame preview animation attached to it so you will know exactly what the effect will look like. ***Visual FX*** works with both the Video Toaster and stand alone LightWave.

Ambitious Technologies A3000 & A4000 ToasterOven GT

The Most Powerful DeskTop Video System In The World! JustGot More Powerful !!!

The ToasterOven GT has been Completely Redesigned. Its bigger and greatly expands the versatility of the your system.

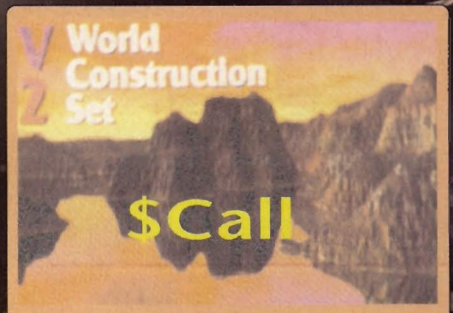
The new ToasterOven GT has:
- Room for 7 Full-Height 9GB Drives.
- More System Cooling Power.
- 3 External Flyer SCSI-2 Ports
- All Metal RF Enclosure
- Switches Monitor On/Off
- 300watt Switchable Power Supply
- 18 Bays (2- 31/2 ; 16- 51/4 Bays**)
- Greater Cooling capacity



Options

ToasterOven Thermoneter	$Call
ToasterOven Zorro Adapter	$100
SCSI-2 External/Internal Kit	$120
HighDensity SCSI-2 Terminator	$ 25

NOW THE TOASTEROVEN GT IS AVAILABLE FOR THE A3000 FOR A LIMMITED TIME ONLY FOR THE LOW PRICE OF **$895**



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A Stunning advance in 3D Landscape Imaging!

New Features:
- Reflective Water Rock Strata
- Fractal Displacement
- Animated Waves
- Terrain Creation and Editing Volumetric Clouds
- 24-bit Field Rendered Output
- Animate Motion, Colors, Vegetation, Clouds, Water
- Import Terrain Models from Many Sources

Available for Amiga, SGI and Windows

Lightworks $40

this CD includes many objects and textures from the famous Amiga 3D artist .....*Tobias Richter*

INFONEXUS $90

A new Amiga directory utilitie with a twistSend and receive email & realtime chat over an Enlan DFS Network File Manager. Play Anims and CDXL's Image Browse with Thumbnails. Online Help and for a limited time includes DataNEXUS a new powerful Amiga Database.

ImageFX ver2 The Complete Image Processing Solution!

ImageFX $195 Ver 2.0

Incredible Display Abilities:
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Fantastic Special Effects:
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Complete Image Conversion:
Amiga, Mac (MacPaint, PICT, TIFF), DOS(Gif, PCX, PIC, JPeg, Targa...), SGI (SGI RGB, Softimage, Wavefront), Animations(ANIM, ANIM7, ANIM8, MPEG, FLI...), Others

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Batch Digitizing
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Special FX Clip Recording
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Project Control and Tracking
EDL Flyer Interface and Output

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Seven Powerful Flyer Modules for Any Flyer User! Works with Flite VTR, SFC, Personal Editor, Future and Amilink controllers for automated VTR control, Special Studio16 version available.

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Kiosk
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Video on Demand Applications

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Easy Flyer Recording On Screen VTR
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Simple Digitizing Controls
Special FX Clip Recording
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Time Code or Control Track
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Available in a stand-alone version or as a powerful plug-in to Flite Gear for a complete batch digitizing, project restore
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Flite POD $565

The fastest, smoothest way to edit with the Flyer! Flite POD includes a precision remote shuttle pod that sits on your desk or can be hand held. Easily move from clip to clip (In a Flyer Project) and shuttle to mark your in and out points for both video and audio. Get the positive shuttle and easy edit marking capablity of a linear editing suite with the speed of the Flyer's non-linear power!

Replica Technology

Homes: $95

Four complete, scaled homes for Lightwave. Exteriors, Interior rooms. Doors and windows ani- mated. Over 120 surfaces per home.

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Over 50 Real-World Scaled Furniture Objects:
beds, tables, chairs, cabinets, and more.
Doors and drawers can be animated!

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Lighting Objects, appliances, cabinetry, sinks, vanities, bathtubs, toilets and toiletry, and more. Doors and drawers can be animated!

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Over 50 Real-World Scaled Office Objects:
chairs, desks, book cases, file cabinets, shelves, PC workcenters and more.

Interior Construction: $95

Create rooms and interiors with over 100 Objects: doors, windows, stairs, fixtures, mold ings, walls, floors, ceilings and rooms.

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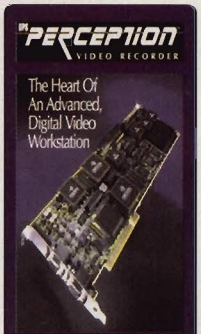
PERCEPTION VIDEO RECORDER

The Heart Of An Advanced, Digital Video Workstation



PERSONAL ANIMATION RECORDER (PAR):

Amiga	NTSC	$ 1595
	PAL	$ 2995
PC (ISA bus)	NTSC	$ 1595
	PAL	$ 2995

Our standard PVR Windows NT™ application software includes basic video editing tools.

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MICROPOLIS
2GB $1050
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CYBERSTORM 060

NEW - 060
Now Anti Gravity has them!

The world's first fully implemented 68060 accelerator from the developers of the Fastlane Z3 and the Blizzard accelerators.

FEATURES:

- FULLY MODULAR
- UPGRADABLE TO 128 MG
- ASYNCHRONOUS INTERFACE
- DMA 32 BIT FIFO BUFFER
- EXPANDABLE
- FULL ON 68060 PROCESSOR

CYBERSTORM 68060 50 Mhz	$Call
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IO MODULE	$545

CYBERVISION 64

Pioneering a new generation in graphics performance. It has a combination of extremely fast 32 bit Zorro 3 interface and a 64 bit wide graphics controller.

CYBERVISION 64: -2MB $465
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IMPACT!

The Ultimate Choice For A Physics Simulation Package For Lightwave3D!

IMPACT! Windows	$425
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IMPACT! Amiga	$Call

Physics Features:

Automatically computes phisics properties of objects including mass, centroid, and inertia. Accurate and friendly collision detection ensures your objects do not penetrate.Objects don't get the 'jetters' when resting.Make your objects out of a variety of predefined Materials or create your own by modifying the density, elasticity, and roughness. Create 'Engines' and apply them to objects to make them move realistically. Choose among Gravity, Motor, Thruster, Spring, Force Field, And More. Materials & Engines can be saved separately and selectively loaded into other projects.

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HANGAR 7 BAY	395
HANGAR 9 BAY	475
HIGH FLYER	395
FAN KIT	45
WITH POWER SUPPLY	495
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KITCHEN SYNCH GENLOCK OPTION	395
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OCTOPUS-FLYER CABLE	170
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FOR INFORMATION CIRCLE 163

✕ DOS ✔ AMIGA
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LAST WORD

Take Your Time

Lessons From the Foundation Hall of Shame

by Mojo

Foundation Imaging recently needed to hire a few new animators. Not too long ago, ABC gave a green light to Ron Thornton's *Hypernauts*, a Saturday morning, live-action TV adventure show due in fall '96. Without a doubt, we're all very excited about the prospect of making our very own show, but it's also a daunting one—there's so much work to be done! We're still doing the effects for *Babylon 5*, of course, so the first step was to find a few talented new LightWave jockeys to help with the extra load.

We couldn't think of anyone off the top of our heads, so we decided to dig out the stack of demo reels we had accumulated over the months to see if anything extraordinary had slipped by. (We never throw them away.)

What we saw was beyond imagination. Well, perhaps *below* imagination would be more appropriate. Out of more than 40 reels, only two were of "hire them now" caliber, and maybe four deserved phone calls to check up on current work (i.e., have they gotten better). The rest were...lacking.

It's not just that the tapes were disappointing—many of them were downright insulting! I know that some of you reading this are responsible for a few of the reels in question, so please try not to get too upset, but ask yourself, "When was the last time I saw a flying logo or a morphing cow on *Babylon 5*?" Probably not in a while, I would reckon. So it might stand to reason that this kind of material would give someone less of a chance at getting hired than, say, a demo of spaceships and explosions. I mean, you wouldn't bring a hockey stick to baseball tryouts, would you? You wouldn't ask Tina Turner to audition for the lead role in "The Abe Lincoln Story," right? I think you catch my drift.

If anyone thinks I'm being overly condescending, I apologize. On the other hand, you weren't the one who received more than a dozen tapes of flying logos that made public access from the '70s look good. We're talking moves with no splines, stock lighting and so many lens flares they would make Douglas Trumbull blush. It's not that we don't want to see flying logos—a really good one can tell us a lot about an animator's skill—but most of the "channel 58" demos lacked that certain *je ne sais quoi*.

Of course, there were some tapes that broke all boundaries of creativity (in the wrong direction). There was the demo that showed a stock director's chair object rotating 360 degrees in front of the camera for five minutes (I think the animator added fractal noise to it or something). Another claimed to display "2D animation skill" that consisted of a 10-minute short film containing two stock Toaster wipes. The best, however, was the reel consisting entirely of public domain *Star Trek* objects bouncing around in spastic jerks and exploding in a flurry of triangles. Better still, it came with a letter explaining how the "artist" had now "mastered LightWave," though he apologized for the PD objects because he was "in a rush" to get the reel out.

In a rush?! For *what*? Rejection? There's no deadline. There's no sign in our window saying "Reels in by January 1 or you'll never get a job here." In the end, it doesn't matter if you were in a hurry or just got started or don't have access to the school's equipment anymore. All that matters is what's on the tape. If what we see is crap, that's it. We don't care *why* it sucked. We forget about you within seconds. Sound cruel? Welcome to Hollywood.

Try to see it from our point of view. We *love* getting demo reels. Whenever one comes in, we *instantly* crowd around the TV and watch it, hoping to see something new and exciting. Usually we're let down (unless it's a 120-minute cassette and we can use it to tape *The Simpsons*) and left scratching our heads, wondering what possessed someone to share a jumping teapot with us. Could any of these people actually have watched their tape and, considering the level of work Foundation puts out, thought, "Yeah, this will knock their socks off!"? I doubt it. I think what happens is that people simply get eager. They want to get in on the action so badly that they jump the gun and make a move before they're ready. However, part of being ready to take the Big Step is knowing *when* you're ready.

I don't think most of the people who sent in these tapes thought they were going to be offered a job. Maybe they just wanted our opinions and suggestions (we don't have time), maybe they think we train people (we don't) or maybe they're just lonely (send a picture). In the end, shipping out a bad reel may actually *hurt* you—certainly we won't be able to look at the next tape by *Star Trek* Boy or Mr. Chair without a skeptical eye.

Don't rush it. If you're determined and keep working at it, I can guarantee that you'll make all your dreams come true sooner or later. How can I be so sure? Three out of those 40 people who sent in tapes are sitting a few feet away from me with a mouse in their hand and *Babylon 5* on their screen. Take your time. You may be next!

VTU

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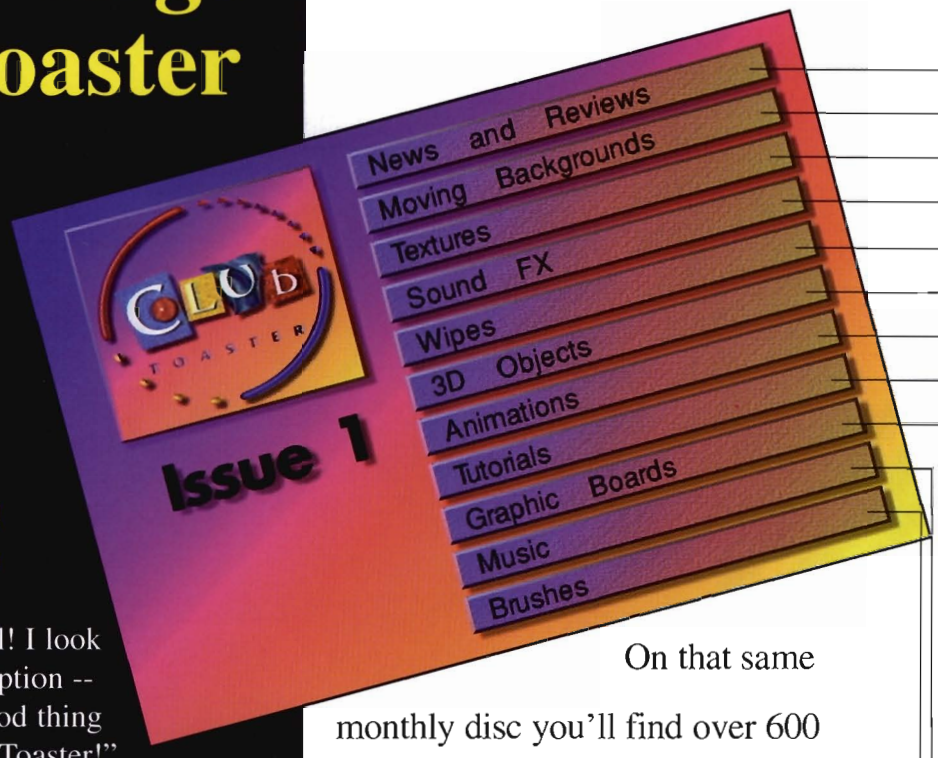

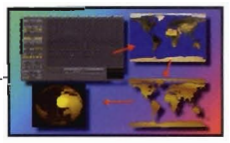

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FOR INFORMATION CIRCLE 118

VIDEO TOASTER

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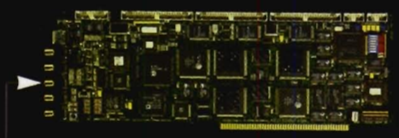
Of course, great video requires great audio. A powerful DSP chip provides up to eight tracks of 16-bit, CD quality audio for music, sound effects and voice overs.

"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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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.